A STUDY OF THE CHALLENGES BEING FACED IN FUNDING THE ZAMBEZI RIVER AUTHORITY PENSION FUND

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This dissertation has neither been nor is it being submitted to any other university.

Yours truly,

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ABSTRACT

Companies and indeed governments all over the world have tried to secure the future of their employees by setting up pension schemes (Wallace 2002). However, pension contributions might become a huge unbearable expenditure for some organizations, as this presentation will show. While initially most companies willing to set up a pension scheme would almost always regard the Defined Benefit (DB) Pension Scheme as the scheme of first choice, the trend has since changed (Ross and Wills 2002) over the years. Possible causes responsible for this shift in focus are many (Twinney 1995). The shift could have contributed to some companies sponsoring Defined Benefit schemes to have a rethink on which type of pension scheme to operate.

Zambezi River Authority is a quasi-government entity operating in both Zambia and Zimbabwe. It set up a DB pension scheme for its employees in 1987 and has not been spared from this pressure to re-examine its pension fund. In recent years the Zambezi River Authority Pension Scheme has recorded huge shortfalls (Zambezi River Authority Pension Scheme Accounts 1999 to 2004). This has resulted in the employer struggling to pay up his pension obligations. Sooner or later, if nothing is done, the pension scheme will probably not be able to meet the objectives for which it was set up.

The purpose of this study is to investigate and discuss the problems being faced by the Zambezi River Authority Pension Scheme. The paper outlines the different types of pension funds and compares them with the type of fund the Zambezi River Authority operates.

The results of this study show that while the benefit structure of the Zambezi River Authority Pension Fund could have been relevant at the time the fund was set up, circumstances have substantially changed from what they were then. It is

argued in the study that if no action is taken, the Zambezi River Authority Pension Scheme is likely to collapse.

It is recommended in the study that the Zambezi River Authority Pension Scheme should be changed from a Defined Benefit Scheme to a Defined Contribution Scheme. It is also recommended that the management of the scheme should be changed and that the scheme should invest in portfolios that bring positive returns. Above all, it is recommended that members should take a more active role in the affairs of their pension scheme.

1.1 Chapter 1 Introduction and Problem Statement

1.2 Background

Corporate pension schemes have been in existence since the nineteenth century but it was only after the Second World War that they became widely adopted (Fox 2006). Apart from attracting and retaining skilled workers it became fashionable and a show of social responsibility for Western governments and companies to set up pension schemes for their employees (Wallace 2002). State pension schemes were predominantly pay as you go schemes, which were not backed by any assets or investments while private pension schemes were mainly Defined Benefit (DB) schemes (Blake 2000).

In recent years some private company pension schemes have recorded substantial pension shortfalls on their DB pension schemes. According to a survey conducted by Watson Wyatt in 2003, the percentage of employers with fully funded pension schemes in the US declined from 84% in 1998 to 37% in 2002 (**http://watsonwyatt.com/news**). The same survey reports that at the end of 2000 General Motors reported a shortfall of US$19,3 billion on its DB pension scheme. As a result of these shortfalls, companies sponsoring DB schemes have been forced to prop up the schemes by putting in additional funding. Reasons for the emergence of pension shortfalls vary from country to country and organization-to-organization. It would seem that DB pension schemes may need additional funding other than normal pension contributions, from the sponsor organization. Questions have, however, been asked as to the sustainability of pension funds that require to be periodically bailed out by the sponsoring organization. Indeed some organizations like Zambezi River Authority are struggling to meet shortfalls on their DB pension schemes as this paper shows.

The financing of Pension Funds can constitute a huge financial burden for companies (Fox 2006). It may be financially crippling where the sponsoring organisation is periodically called upon to put in additional funding to meet

shortfalls arising. However, companies would have failed in their social responsibility duties if they were unable or unwilling to provide reasonable pension benefits to their employees. Therefore, in structuring a pension scheme, organisations need to strike a balance between the financial security needs of their employees at retirement and the cost to the organization of financing such a pension scheme.

There are two main types of pension schemes: the Defined Benefit (DB) Scheme and the Defined Contribution (DC) Scheme. Initially, it was the Defined Benefit pension schemes which were dominating. The trend is, however, changing with the coming on stream of the DC schemes (Blake 2000). Wallace (2002) argues that when they were set up, defined benefit pension schemes could have had their merits but have now outlived those merits and are no longer relevant for today's aging populations in the West and in Japan. Since the structure of these pension schemes may now be irrelevant to present day circumstances, they need to be reformed to survive. Governments and companies throughout the world have realised the cost implications of Defined Benefit Pension Schemes and have embarked on various reforms, some of which could be defined as radical (Wallace 2002).

The reasons why DB schemes are recording pension shortfalls are many (Twinney 1995). While the greatest threats in the West could be the benefit structure and the aging population (Watson Wyatt), in poor countries such as Zimbabwe the major problems could be different. The Zimbabwe Association of Pension Funds, in their bulletin (2003), identified galloping inflation as the greatest threat to pension schemes in Zimbabwe. Other causes of pension shortfalls are the benefit structure, limited investment options and, lack of investment expertise as this paper shows.

In order to financially secure the retirement of its employees, Zambezi River Authority (ZRA), set up what is now known as the Zambezi River Authority

Pension Fund. ZRA came into being in 1987 following the reconstruction of its predecessor, the Central African Power Corporation. The Authority's main function is to ensure the effective use of the waters and other resources of the Zambezi River and more specifically that part of the river, common to the borders of the two states (Zambezi River Authority Act Article 9 (a) of the laws of Zambia and Zimbabwe). The Zambezi River Authority, amongst other functions was given the mandate to recruit and employ staff necessary for the discharge of its responsibilities (Zambezi River Authority Act Article 9(h) of the laws of Zambia and Zimbabwe). It is this provision, which also requires the Zambezi River Authority to maintain a pension scheme for all its permanent employees. In order to fulfill the obligation, the Central African Power Corporation (now Zambezi River Authority) established an internally administered Pension Fund in 1978. Following the re-construction of the Central African Power Corporation, the fund is now known as the Zambezi River Authority Pension Fund.

Initially, membership to the pension scheme was open only to senior employees (CAPCO Pension and Life Assurance Fund Rules Section 8 (1) (a)). However, from July 1993 it became a condition of employment that all permanent employees of Zambezi River Authority had to be members of the ZRA Pension Fund upon joining ZRA (ZRA Pension and Life Assurance Fund Rules Section 8 (2)). Since ZRA has offices in the two states of Zimbabwe and Zambia, it operates two pension schemes, one for Zambian and the other for Zimbabwean nationals. This study will focus on the pension scheme set up for the Zimbabwean nationals.

According to the ZRA Pension and Life Assurance Fund Rules Section 17 (1) both the employee and the employer are obliged to make monthly contributions to the Fund. Since the Fund is a Defined Benefit Fund, any shortfall that may arise is the responsibility of the employer, ZRA (ZRA Pension and Life Assurance Fund Rules Section 17 (3)). It is therefore paramount that the contributions by the employees and the employer are invested in high yielding investment portfolios if

the employer is to avoid having to periodically put in additional money into the Fund. To what extent this can be achieved in a hyper-inflationary environment like Zimbabwe is debatable.

Just like some DB schemes elsewhere in the world, the ZRA pension scheme has recorded pension shortfalls in recent years. Consequently, the sponsoring employer, ZRA, has been called upon to put in additional funding in the pension scheme so that the fund is able to meet its obligations. However, such additional funding has become a strain on ZRA and indications are that ZRA cannot afford to continually bail out the scheme for too long.

The ZRA pension scheme is a self-administered scheme. A Principal Officer who is a full-time employee of the Zambezi River Authority administers the pension scheme (ZRA Pension and Life Assurance Fund Rules Section 4(2)). The scheme has a Board of Trustees consisting of five officials, which supervises the administration of the scheme (ZRA Pension and Life Assurance Fund Rules Section 4(2)).

1.2 Motivation for Research

The Central African Power Corporation, the predecessor of Zambezi River Authority, set up a pension fund in 1978. The Pension Fund was set up as a Defined Benefit Pension Scheme where the benefit to be paid out at retirement is defined (ZRA Pension and Life Assurance Fund Rules Section 9 (9)). In this type of pension scheme, employees receive pension benefits that are linked to their final salary and the period they would have served the sponsoring employer. The organization bears the risk that investment returns may not perform to expectations.

The Fund was set up when the economy of Zimbabwe was still stable with inflation in single digits i.e. 8.1 percent per annum (Central Statistics Office,

Zimbabwe). The members of the pension scheme were very few, with relatively low salaries and fewer years in service than is the case at present (CAPCO and ZRA Annual Accounts). Membership to the Pension Scheme was not mandatory and as such only a few members joined the Scheme. The organization then could therefore afford to sponsor the pension scheme with ease. In fact, when the pension scheme was established, no contributions were required from members as the employer was taking care of everything (CAPCO Pension and Life Assurance Fund Rules Section 17 (1).

Things however changed, first in 1993 when it became a condition of employment for all employees to become members of the Zambezi River Authority Pension Scheme (ZRA Pension and Life Assurance Fund Rules Section 8 (2)). This meant a dramatic increase in the number of members and as such more contributions into the pension scheme from the employer. As early as 1995, an actuary who was engaged to assess the financial soundness of the Pension Fund recommended that ZRA should increase its funding of the pension fund by almost three times (Watson Wyatt 1995, p. 8). The actuary, while acknowledging that the funding level on an ongoing basis (that is the value of the assets expressed as a percentage of liabilities allowing for future salary increases) was one hundred and two percent (102%) (Watson Wyatt 1995, p. 6), still recommended that the employer should increase his contributions.

According to another actuarial report by Pentact Limited (2004), the funding level of ZRA Pension Fund had gone down from one hundred and two percent (102%) of the past service liabilities at 31 December, 2000 to seventy-two (72%) as at 31 December, 2002. Yet another actuarial valuation, carried out by Pentact Limited as at 30 June, 2004 showed that the funding level had even dropped further to twenty-two percent (22.2%) of the past service liabilities.

Alarm bells started ringing as the sustainability of the fund was now questionable. It became clear that the state of affairs of the pension fund called for some urgent

action to stop the trend and thereby prevent an imminent collapse of the ZRA Pension Fund. Questions were then asked as to whether the benefit structure was appropriate, whether the contributions were realistic, the returns adequate and above all, whether the pension scheme needed to be revamped to make it sustainable.

1.3 Problem Statement

The level of funding that is required to be put into DB type pension schemes to keep them afloat could be substantial, as ZRA found out. It would seem that ZRA is not coping with the financial demands placed upon it by the ZRA Pension Fund. Time may have come to ask the question whether the benefit structure of the ZRA Pension Fund is sustainable. Other questions that are pertinent to the debate are:

- Apart from the benefit structure what other factors could be contributing to the shortfalls? Is the pension fund being properly managed? Are contributions levels adequate? Are the investment portfolios of the fund balanced?
- What are the global trends in the structure and funding of pension funds?
- How can the fund be saved from collapse for the benefit of the members who are present-day employees of Zambezi River Authority?

The research will also try to show that problems being faced by ZRA in funding its pension scheme are not unique to ZRA or indeed Zimbabwe but are common even in developed countries, with all their financial muscles.

1.4 Objectives of the Study

The study aims to provide a researched solution to the problems being faced in the running of the ZRA Pension Fund by analyzing the following:

- The benefit structure of the ZRA pension Fund

- The adequacy of contributions being made to the fund by both the members and the employer
- How the fund is being managed and its financial performance

The study concludes with recommendations on what could be done to make sure the ZRA Pension Fund continues to meet the objectives for which it was set up.

1.5 Limitations of the Project

Due to time and financial constraints, some of the methodologies and techniques which could have been employed to show the effects various factors had on the ZRA Pension Fund could not be employed in this research. Some of the reasons behind the poor performance of the Pension Fund could be qualitative and therefore their impact cannot be quantitatively measured. The inflation rates and exchange rates to be used are official versions while the unofficial rates could be much higher. This is particularly so in Zimbabwe where at times the official prices (where goods and services may not be available) do not in any way relate to the prices in the parallel market where goods and services are available.

1.6 Brief Outline of the Study

Using the Zambezi River Authority Pension Fund as a reference, the study aims to show how unsustainable it has become for companies in general, and those operating in Zimbabwe in particular, to sponsor a Defined Benefit Pension Scheme. The study will end by making recommendations on what is needed for ZRA to operate a sustainable pension scheme.

The first chapter of this paper focuses on the background to the research, the motivation and the problem statement. The second chapter dwells on the review of literature on the structure of pension funds. This chapter discusses various types of retirement pension funds and the advantages and disadvantages of each, problems being faced in funding them and the global trends in the architecture and financing of pension funds.

Chapter Three outlines the research methodology that was employed in the collection and analysis of data. The fourth chapter presents the research results obtained. More specifically, the chapter gives a brief background of the sponsor of the ZRA Pension Fund, details about the fund, membership, administration and the financial performance of the fund over a nine-year period. The chapter also gives some statistics on the kind of environment the ZRA Pension Fund operates in.

Detailed discussions of the results are done in Chapter Five. The chapter examines the implications of the Defined Benefit promise, the choice of the fund's investments and how the fund's investments have performed over the years in comparison with other investment portfolios available and in comparison with inflation and increases in salaries and benefits to members. The chapter will also look at the contribution rates and how these have affected the performance of the fund. Finally in Chapter Six, the study concludes by recommending how the Zambezi River Authority Pension Fund can be restructured, managed and funded so that it can continue to meet the objectives for which it was set up.

1.7 Conclusion

From the foregoing it is evident the ZRA Pension Fund is experiencing some problems which need to be resolved. Literature is available in abundance showing that the problems the ZRA Pension Fund is experiencing are not unique. The next chapter dwells on the problems other pension funds in selected countries are experiencing and how they have dealt or are dealing with the problems.

Chapter 2 Literature Review

2.1 Introduction

According to a report by the World Bank (2005) entitled "Pensions in The Middle East and North Africa, Time to Change" (http://www.siteresources.worldbank.org), funding of pension schemes has become a topical issue not only in the developed world but through out the world. Concerns have been raised on the sustainability of Defined Benefit Pension Schemes and the implications this has on members of the pension schemes. As a result, the last two decades have seen wide ranging transformation of the private pension schemes (Mitchell 2000). Indeed, many factors affecting pension schemes have changed over the years. Some such factors include rising life expectancy, the regulatory environment and the rise and fall of world stock markets. All these factors and more have transformed the pension environment.

In order to have an understanding of the subject under review, this chapter gives background information on pension funds; what they are, the main types of pension schemes, their merits and demerits. The chapter outlines the broad perspective of problems being faced in funding pension schemes. The chapter also gives an outline of the global trends on how pension schemes are being financed and the underlying reasons responsible for the trends. The chapter shows in brief how some companies in selected countries have dealt with problems being encountered in the financing of their pension schemes. The literature review will act as a reference point of how the ZRA Pension Fund may need to be restructured and managed so that it survives the problems it is currently facing. The chapter concludes by noting lessons that could be learnt by the ZRA pension fund.

2.2 Pension Fund Definition

Pension Funds can be described as "systematic arrangements or plans governed by a set of rules whereby an individual member or an individual member and their employer periodically contribute some money into a "savings basket" or a "retirement fund for a specified period" (Choruma 2005, p. 2). The periodic contributions could be monthly, quarterly or any period that could be deemed to be convenient for the members and the employer. As contributions are made, they are invested in various asset types to make some investment returns (Mitchell 2000). The returns, when added together with the contributions overtime are paid in the form of pension benefits to a member who would have retired or to a surviving beneficiary in the event of a member's death. The pension benefits to be paid may or may not be related to what a member would have contributed (Choruma 2005).

Membership to a pension scheme can either be voluntary or mandatory. Pension schemes can be funded or not funded, like most state pension schemes (Blake 2000). The schemes can either be sponsored by a single employer or by more than one employer. The pension funds can be financed internally or put in a separate pension fund that invests in investment options, which are external to the sponsoring organization (Wallace 2002). Examples of pension schemes include retirement annuity plans, individual pension plans, preservation funds and group pension plans (Choruma 2005). The focus of this study will however, be on group pension plans.

The principal objective of a pension plan is to provide decent and secure retirement and other benefits to members once they leave employment or to help beneficiaries in the event of a member's death. There are basically two main types of pension plans; defined benefit pension plans and defined contribution plans (Twinney1995), whose merits and demerits are discussed below.

2.3 Defined Benefit (DB) Scheme

A defined benefit pension scheme, as the name implies, is a pension scheme where the pension benefits to be paid to members are defined in some way. The pension to be paid out is based on some known formula, usually related to a member's length of service to the organization and his/her earnings (Bezooyen 1997). Under the DB scheme, the pension benefit to be paid out is neither related to the amount contributed by the member and/or employer nor to the investment return of such contributions. The focus under the DB scheme is the pension benefit to be paid out to the members and not the contributions (Li 2003). It therefore means that the employer bears the risk that investments of the fund may not meet with expectations of returns.

There is a popular DB scheme known in the UK as the occupational final salary scheme (Blake 2000). Under this scheme, the employee/member may be promised a percentage or a fraction, say 1/55, of his salary at retirement for each year of service completed. Another variation of the DB scheme is where members are promised an annuity based on the final average pay. Under this arrangement members may be promised a percentage of the highest average pay multiplied by the number of years served (Wallace 2002).

One feature of the DB scheme is that members would earn the most valuable benefits in the later years of their working lives. This is so because benefits under the DB schemes are calculated with reference to the highest pay earned which in most, if not all cases, is earned in the employee's final years of service (Wallace 2002). When an employee's pay increases, this causes an automatic increase to the benefits payable to a member even for the period one would have served the organization prior to the increment.

2.3.1 Advantages

- Defined benefit pension plans provide guaranteed income security to workers after their retirement, it does not matter how the pension fund performs.
- Employees do not carry the investment risk, as pension benefits do not depend on the contributions by the members, they depend on the employer's contribution.
- DB schemes can provide some cost of living adjustments and pension formulas that are tied to the highest paid years which protect employees from the effects of inflation.

2.3.2 Disadvantages

- Where investments perform better than expected, members do not benefit as benefits are paid on the basis of a pre-determined formula. Instead, the employer benefits in the form of reduced contribution rates in future.
- Funding DB schemes could be costly to the employer where inflation and salaries increase more than expected or where the return on investments does not meet with expectations.
- The cost to the employer, of providing a DB scheme is not known in advance, it fluctuates according to the funding level of the scheme as such makes planning difficult.
- It is administratively arduous as benefits to each individual member have to be tracked.
- Under DB schemes, those who leave the sponsoring employer early lose out whereas those who stay do well.
- DB schemes are not portable once an employee leaves the sponsoring employer membership ceases.

There is one form of defined benefit scheme, which deserves mention, the pay as you go pension scheme, which will be considered separately below.

2.3.3 Pay as you go (PAYG) Schemes

This is basically a form of defined benefit scheme, whereby the pension to be paid out is defined in some way. The difference with the traditional DB scheme is that they are not funded instead current pension benefits are paid from current contributions. This type of pension scheme is popular with state pension schemes (Blake 2000). Under the PAYG scheme, pension benefits of retired employees are paid from pension contributions of current employees. For the scheme to be viable in the long term it requires sufficient employees making adequate contributions to pay for the pension of those who would have retired (Blake 2000). The PAYG scheme was popular amongst developed countries after the Second World War and as of 2002 it was the biggest source of pension benefits in the developed world (Wallace 2002).

The advantages and disadvantages of the ordinary DB scheme apply to the PAYG scheme as well. One peculiar feature of the PAYG pension scheme is that it is premised on the assumption of a growing population, without which it is not viable.

2.4 Defined Contribution (DC) Schemes

A Defined Contribution Pension Scheme is defined by The US Employee Retirement Income Security Act of 1974 (ERISA) as a plan which has an individual account for each member of the scheme and for benefits based only on the amount contributed to the member's account and any income (Iwry 2002). Deriving from the above definition, the following are the features of a DC scheme:

- Though the pension scheme is treated as one, each member has an individual account created for him/her.
- As member or member and employer contributions are periodically made they are credited to the member's individual account.
- At the end of each year/period, members' accounts are debited and credited with member's forfeitures and shares of the scheme's investment return respectively.
- All assets in the scheme are allocated to an account maintained for each individual member.

The two most common defined contribution schemes are the money purchase scheme and the profit sharing scheme. Under the money purchase scheme, the company contributes a fixed percentage of members' salaries whereas under the profit sharing scheme the company contributes a percentage of profits during profitable years but it makes no contributions during unprofitable years (Li 2003).

2.4.1 Advantages

- The cost (to the employer) of providing a pension is known in advance as it does not fluctuate.
- The benefit to members is not limited by some formula as long as the fund performs, members will receive all the returns.
- DC schemes are portable; accumulation of benefits does not depend on a members staying with the same employer through out their working careers.
- The members are in control of their investments.
- Certain DC schemes can provide for loans to be made to members against the accumulated entitlements.

2.4.2 Disadvantages

- Pension benefits to members are not guaranteed as they depend on the performance of the fund's investments.
- DC schemes do not make provision for subsidies for employees who may opt for early retirement.
- The scheme places the responsibility of investment decisions on members some of whom may not have the expertise in investments.

2.5 Global Trends and Reasons Behind them

The last two decades have witnessed tremendous changes not only in state pension schemes but in private pension schemes as well (Mitchell 2000). Initially, companies willing to set up a pension scheme for their workforce would almost always regard the Defined Benefit Pension Scheme as the scheme of first choice, but the trend has since changed in a number of countries (Ross and Wills 2002). Throughout the world there appears to be a discernable shift away from DB pension schemes to DC schemes. Blake (2000) reports that about eighty-five percent of new schemes being established in the UK are DC schemes. Watson Wyatt (2002) also reports that in 1979 two thirds of workers with pension coverage were under the DB plans but by 1998 only one third of those workers were covered under the DB scheme. The reasons for the shift away from DB pension schemes are varied. The following paragraphs detail the reasons behind the trend.

2.6 Reasons behind the Trends

Possible causes of the move away from DB to DC schemes are many. Some of the causes are common to many countries while others are peculiar to certain countries.

Wallace (2002) argues that the PAYG and DB Schemes were established during a time when poverty amongst the elderly was of concern and for this reason, its reduction and income redistribution was paramount in the design of DB schemes. Wallace (2002) further argues that there was a baby boom when PAYG pension schemes were established, but there has since been a baby bust of the 1970's, which puts paid to the assumption that there will always be more people in employment than there will be in retirement. Since the two schemes were designed, the world has significantly changed.

Fox (2006) also argues that the DB pension scheme was designed in the 1950's when it was paramount for industry to retain employees with skills, which were specific to their manufacturing industries. However since then manufacturing has lost ground to the service industry whose skill requirements span across companies (Watson Wyatt 2002).

One of the reasons partly responsible for the shift from the DB schemes is that the DB schemes generally favour employees who remain with the same employer throughout their working lives. This is so because the final salary schemes have a retrospective effect on pension benefits to be paid. Early years of service count for more as the rate of pay increases (Wallace 2002). Present day employees are unlikely to see DB schemes as an attractive option. Present day employees are more likely to change employers during their working lives than was the case when DB schemes were designed. Blake (2000) reports that in the UK only about five percent of present day employees would spend all their working lives with a single employer while on average a worker has been found to change jobs up to six times. Given that early leavers lose out on accumulated pension benefits and that the average worker frequently changes jobs, it is not difficult to see why there is a strong movement away from the DB pension schemes.

President of the Japan Centre for Economic Research, Yashiro (Wallace 2002, p. 7) reports that in Japan "Companies are over-manned with middle - aged workers who lack motivation and skills". Employees in that position will most likely stay put because they stand to lose much while on the other hand legal restrictions may make them extremely difficult to get rid of. For this reason some companies may find DB schemes unattractive; such companies are more likely to set up DC schemes than they would set up DB schemes.

Another reason responsible for the trend towards Defined Contribution pension scheme is the increase in life expectancy. Ross and Wills (2002) report that the life expectancy of a sixty year old has been increasing by about two years per decade and that the trend will continue for the foreseeable future. For pension funds, however, this is a worrisome development because it means there has been a significant increase in the cost of providing DB pension benefits. According to Everness, (Ross and Wills 2002) serious doubts have been raised on the capability of employers who have offered their employees DB pension schemes in the past being able to provide a comparable level of benefits in the future.

Japan is one of the countries that have been affected by the increase in life expectancy at older ages. Takayana (Wallace 2002, p. 6), an economist at Hitotsubashi University in Tokyo, explains "In Japan today all the problems are coming from defined benefit pledges that cannot be met". With this unfolding crisis very few organisations can be persuaded to set up or even to continue with DB schemes for their employees.

Another reason cited as responsible for the change to DC schemes is to do with Accounting Standards. The relatively new regulations on accounting for Pension Fund liabilities as enunciated by the Financial Reporting Standard No. 17 (FRS 17) are cited as having a contributory effect on the shortfalls. FRS 17 requires that assets and liabilities of the pension fund should be valued at market value

and that any loss or gain should be immediately reported rather than being spread over a period. Watson & Wyatt as cited by Gosling (2004) attributed a combined pension deficit of sixty billion British pounds suffered by FTSE 100 companies in 2002 in the UK to FRS 17. Due to the losses being reported in compliance with FRS 17 some companies have decided to switch from the DB to the less costly DC scheme. However, according to Payne as cited by Ross and Wills, (2002) FRS 17 is only being used as a scapegoat while the valid reason is the fact that employers are now realizing the exact cost of providing DB plans.

Ostaszewski (Ross and Wills 2002) outlines the reasons for the shift from DB to DC schemes as: -

a) The Risk Averse Employer Theory

Under this theory, Ross and Wills (2002) see the volatility of today's capital markets and the unpredictable nature of money markets, dissuading employers from setting up DB pension schemes. DB pension schemes would ordinarily invest on the stock market but since values of investments on the stock market fluctuate, employers would be reluctant to set up a pension fund whose assets fluctuate from time to time, as they would be called upon to make good what would have been lost on the stock market. Because of this investment risk employers have opted for pension schemes whose costs are more predictable.

With increased risks of continually having to bail out pension schemes under the DB structure, employers have opted for a lesser costly pension scheme, the DC.

b) Excessive Regulation Theory

Ross and Wills (2002) see governments as having a hand in the trend from DB to DC schemes. They argue that governments throughout the world have passed laws in an attempt to preserve retirement contributions made to pension plans.

This has often involved the imposition of strict funding and solvency laws. This they argue has been the case particularly so for the DB schemes.

In the US companies operating the DB schemes are required to pay periodic premiums to the Pension Benefit Guarantee Corporation, a government corporation, which would pay vested pension benefits to members if a DB scheme winds up without adequate funding to pay members (Iwry 2003). Parallels can also be drawn with Zimbabwe where the Pensions and Provident Act Section 17 (1) requires that an actuary should value DB Schemes at least once every three years. To escape from this legal requirement and the attendant additional cost, companies would rather set up pension schemes which are not as regulated as the DB schemes. It is ironic that the laws and regulations that were put in place to protect members' interests have dissuaded some employers from continuing to operate a DB scheme for their employees.

c) The New Economy Theory

Under this theory, Ross and Wills (2002) argue that unlike years gone by, today's employees are quite mobile and are not likely to spend their entire working lives with a single employer. Today's worker is therefore unlikely to be attracted to a pension fund which offers an incentive to employees who serve only one employer over their whole working lives. Modern day workers would prefer a pension scheme which would offer exactly the same kinds of benefit to a worker who frequently changes jobs as the one who would prefer to stay with a single employer. Watson Wyatt (2002) report that women entering the labour force have fuelled the demand for more portable forms of pension schemes, as they make employment choices that accommodate home demands. For their portability, DC pension schemes are finding favour with today's workforce.

Some observers have cited the rising costs of regulatory compliance as a factor which played a key role in the shift. Quite a significant portion of the costs of

compliance are fixed and as such migration from DB to DC has been more pronounced among small to medium enterprises (Watson Wyatt 2002). Some of the reasons cited by the World Bank as responsible for the change are reduction in full time salaried jobs and an increase in part time work, self employment and temporary jobs, globalisation and its competitive pressures (http://www.siteresources.worldbank.org).

2.7 Country Specific Trends

2.7.1 The United States

In the US, the traditional pension scheme was often the Defined Benefit Scheme. Altmann (2001) as cited by Ross and Wills, reports that the change from DC to DB has been significant over a couple of decades with about ninety-seven percent (97%) of companies in the United States having moved over to DC plans.

The Employee Benefit Research Institute (cited in Ross and Wills 2002) estimated that the number of employees covered by DC plans in the US increased by about six hundred percent (600%) between 1987 and 2002 from seven million to forty-two million. In the US both the number of DB schemes and members participating in them have been declining but the decline has been faster on the number of schemes than on the number of members (Iwry 2003). What cannot be denied is the fact that for many years very few if any new DB schemes have been established. The reasons for the shift are many but the fundamental one is the cost to the employer, associated with sponsoring a DB scheme (Twinney 1995).

In the US among the companies that have abandoned the DB pension scheme include IBM, Verizon, Sears, Hewlett-Packard, United Airline, US Airways and Motorola (http://knowledge.wharton). Mitchell (2000) sees the rush to freeze DB schemes as a continuation of a long-term trend particularly that even well

established companies, which seemed to be viable were also joining the bandwagon.

The change in the mix of jobs in the US economy has had a bearing on the trend from a DB to a DC scheme. DB schemes were more popular in the public sector and in the manufacturing sector but because of the changes in culture, technology and education, workers have grown increasingly familiar and comfortable with the stock market and mutual funds (Iwry 2003). This has, therefore, seen a marked decrease in demand for DB schemes where all investment decisions rest with the employer.

2.7.2 The United Kingdom

The private pension schemes in the UK like in the US have largely been DB schemes. As is the case with other Western countries, life expectancy in Britain has risen and has continued to rise in recent years. According to Randall (2004), some forecasts indicate that by the year 2040 more than twenty-five percent of the population in the UK will be over pensionable age. He further says if that happens, there will be too many people drawing out money and not enough paying money in. This would be an unhealthy situation as corporate funds coffers could be dried up paying out pension benefits.

The rise in life expectancy in the UK, as in other countries has seen pension shortfalls being reported for DB pension schemes. Britain's biggest companies are grappling with a fifty to hundred billion British pound shortfall in corporate pensions (Randall 2004). The BBC (2004) quoted Farnish, head of the National Association of Pension Funds in Britain, as having said that three quarters of final salary pension schemes (DB schemes) in the private sector are closed to new members and in some cases to existing members as well and that DB schemes could close within five years. Farnish is further quoted as having said that in

future firms would be able to switch from final salary to money purchase schemes without members' consent.

A number of factors have been cited as responsible for the emergence of shortfalls in DB schemes in the UK. Wallace (2002) reports that one of the major reasons is the abolishment in 1997 of the rule that allowed pension funds to receive dividends gross of tax. The change meant that the cost of funding pension funds was going to substantially increase given that British private pension funds were heavily invested in the stock market. According to Randall (2004), this change is costing pension funds about five billion British pounds per annum.

2.7.3 Other Countries

Like in the US and UK, the pensions' environment has not remained static in other countries. Watson and Wyatt (2002) reports that both Germany and Japan, with their rapidly aging populations, have adopted reforms that are meant to keep their pension systems in check by linking pension benefits to demographics like workforce and life expectancy. Wallace (2002) also reports that things are changing in German where company pension schemes, which provide about five percent of retirement income, have predominantly been DB schemes. The following is the position on selected countries as reported by Wallace (2002, pp. 4-8);

- In Japan for the first time companies are now able to offer DC pension schemes.
- In Sweden private pension plans are being switched from DB to DC schemes. Variants of the Swedish model have been implemented in Poland and Latvia; the effect however is the same, shifting from the DB to the DC scheme.
- Chile moved from the DB to the compulsory DC private scheme.

- Canada is one country yet to undergo any major shift away from DB plans, seen in other countries. DC schemes in Canada are marginally more than DB schemes but DC membership is far less than DB membership.

The World Bank (http://www.siteresources.worldbank.org) reports that there is a misplaced belief that because demographics are favourable in the Middle East and Africa, financial problems in the pension industry are far off in the future. To the contrary the World Bank says in almost all countries in the Middle East and Africa the aging of populations is occurring at a faster pace than in developed countries.

From the foregoing, it would seem the challenges facing pension funds even in the developed world are so serious that reform is inevitable. The problems are such that something has to be done. Either benefits have to be cut or contribution rates have to be substantially increased. If not introduced now it could be too late in the future since it may take time for the effects of reform to make an impact. The good news is that pension schemes are being reformed in most of these countries (Wallace 2002).

In Zimbabwe the Zimbabwe Association of Pension Funds (2005) reported that over the last two years as much as ninety-four employers changed their schemes form DB to DC schemes due to the high cost of providing DB schemes to members. One of the biggest DB schemes in Zimbabwe, the Zimbabwe Electricity Supply Authority Staff Pension Fund reported in its 2004 Financial Statements (p 3) that an actuarial valuation carried out on its DB pension scheme revealed a shortfall of nineteen billion Zimbabwe dollars (US$ 3 707 920 using the then ruling exchange rate). The extent of the shortfalls forced it to change from a DB to a DC pension scheme.

2.7.4 Analysis of the Trend

With rising pension shortfalls on DB schemes, companies have been caught up in an intricate web. On one hand companies want to provide for their employees' retirement needs by setting up pension funds while on the other hand the pension funds they have set may have become too huge. Caught in that situation even the well-meaning companies may no longer completely shield their employees from the impact of the harsh reality that DB pension schemes could be very costly to sponsor. Realising the cost implications of sponsoring DB pension schemes, it has come as no surprise that some companies are now switching from DB to DC schemes where shortfalls that may arise are the responsibility of the individuals not their employer (Wallace 2002).

The pension reforms sweeping across most countries in the developed world are transforming both state and company pensions into funds that allow individual employees to take active steps in the management of their pension investments. On the other hand, it also means many members of pension funds will face new forms of risk particularly investment risk for which members may not have been adequately prepared. Ross and Wills (2002) state that placing investment risk on members of pension funds can be beneficial if the members concerned know their responsibilities or where a close connection between the members and their retirement savings plan, exists. That may, however, not be the case for most members and, when this happens; Ross and Wills (2002) conclude that individuals concerned could have a rude awakening at retirement, as the amount they would have accumulated would be nowhere near the amount they hoped for.

From the above literature review, there is overwhelming evidence showing a clear shift from DB to DC schemes. The question that needs to be addressed is whether members would be worse off under a DC scheme than they would have been under the DB scheme. Bezooyen (1997) argues that whereas in theory it

may seem as if employees are better off under a DB scheme than they would be under a DC one and employers are better off because of the difference in who bears the investment risk, in practice this may not be so. Studies carried out by Samwich and Skinner as cited by Li (2003) showed that DC plans could have comparable returns with DB plans. They indicated that the reason why DC plans can fail to provide comparable benefits to members is inadequate contribution rates. Ross and Wills (2002) argue that both DB and DC participants have concerns. DC participants are worried about the amount they have to invest, whereas DB participants worry about whether the employer will be able to fully fund their pension scheme.

While there has been a perception that DB schemes are safe and guaranteed, the developments in the last decade should have proved that DB schemes are risky too (Mitchell 2000). Researches carried out in both the US and the UK, showed that most DB schemes are under-funded. Watson and Wyatt report that the percentage of employers with fully funded pension schemes in the US declined from eighty-four percent in 1998 to thirty-seven percent in 2002 (http://www.watsonwyatt.com). At the end of 2002 General Motors reported that its pension scheme obligations were under-funded to the tune of nineteen billion US dollars (http://www.knowledge.wharton.upenn.edu). All this shows that the DB scheme has potential to provide a stable income to members when they reach retirement age. However, in reality this may remain an unfulfilled potential (Mitcell 2000). Under a DB scheme, it is the employer who benefits through lower contributions rates when investment returns exceed expectations but under a DC scheme, participants get the full benefits. On the other hand, the employer bears the brunt of lower-than-expected returns. This does not make DB schemes safe, as events have shown. Both types of schemes have their merits and demerits; it could be individual circumstances, which determine which scheme an individual would be more comfortable with.

In developed countries cited above, the trend has shown that the present pension structures may no longer be relevant to today's circumstances. The DB type pension funds were set up when the population was still young and the life expectancy after retirement so short. Demographic changes that have taken place, the crush of the stock markets, the emergence of a young educated workforce, the entrance by women on the employment scene and the new accounting requirements have all connived to influence drastic changes in how the pensions in the developed world are structured.

2.8 Conclusion

From what has happened to other DB pension schemes, it seems there are lessons to be learnt by the ZRA Pension Fund. The ZRA Pension Fund has been recording pension shortfalls to the same, if not to a worse, extent than what has happened in other organizations which reformed their pension schemes. The only difference could be in the underlying reasons causing the shortfalls.

Going by the trends in the developed countries, reform of the pension fund structures is inevitable. It would be worse for the developing world with their little resources than it has been for the developed world. The sooner the reforms are carried out, the better. The greater the delay, the more time and money are wasted. Every year that passes by without any reform adds more to the liabilities of pension funds. Reform could be a bitter pill to swallow for members of the ZRA Pension Fund but it would seem it is inevitable.

Chapter 3 Research Methodology

3.1 Introduction

This chapter describes the methods that were employed to collect and analyse the data. The chapter also details which sources the data was collected from.

This research is a case study on the Zambezi River Authority Pension Fund. The research questions have been identified in the first chapter. This has been followed by the review of literature on pension funds. A comparison of the different types of pension schemes was done in the second chapter. The second chapter also detailed the problems being faced in operating pension schemes and solutions being proffered to keep the schemes afloat. Chapter Four dwells on the goings on in the ZRA Pension Fund, the benefit structure and the performance of the fund. This will be followed by the discussions of results in Chapter Five and recommendations on the best way forward in Chapter Six.

3.2 The Research Design and Methodology

3.2.1 Sampling Design and Sampling Technique

The sampling frame is the number of pension schemes in Zimbabwe. The Registrar of Pension Funds in Zimbabwe has put the number of pension funds at two thousand seven hundred as at December 2004, (Zimbabwe Association of Pension Funds 2005). The sample size is however limited to the Zambezi River Authority Pension Scheme. The ZRA Pension Scheme was compared with other Pension Funds in Zimbabwe and elsewhere in the world.

3.2.2 Design and Analytic Techniques

An expost facto design was used in this study as a report can only be made on what is and what has happened to the Zambezi River Authority Pension Scheme.

The study critically looks at the benefit structure of the ZRA pension fund and its suitability to today's circumstances. The financial performance of the fund, including the choice of investment portfolios, was scrutinized, and so were the levels and appropriateness of pension contributions by the members and the employer. The general management of the ZRA Pension Fund was reviewed. A comparison with other comparable funds was made as well as a comparison with the trends elsewhere in the world. The study looked at the financial performance of the ZRA pension fund from 1996 to 2004.

The design is a longitudinal case study design. The variables, which are, the benefit structure, the average rate of return, foreign exchange rates, the inflation rates and the level of contributions, were measured over time. The impact of these variables was analysed. The objective was to get insights into the causes of the pension shortfalls being recorded and to come up with possible solutions. The research is mainly quantitative as it involves collection of data from the Pension Fund, the Central Statistics Office and analysis of investments performance by Fund Managers. Data was also extracted from literary publications on Pension Funds.

3.2.3 Data Collection Methods

The records of the Pension Fund were the main source of the data used. In particular, extensive use was made of the ZRA Pension Fund Rules, the Annual Accounts and the Actuarial Reports produced during the period under review. Records of the ZRA Pension Fund were, however, supplemented by interviews held with the Trustees of the Pension Fund, reading through analysis of Fund Managers and other publications on pension funds. Board and Management minutes were also used as sources of information. In order to make a proper comparison of the fund's financial performance, the performance of alternative investment options was considered. Publications on the property, stock and money markets in Zimbabwe, were analysed.

The historical exchange rates used by ZRA were obtained from ZRA records. This is particularly relevant as salaries of ZRA employees are quoted in US dollar terms though paid in the local currency. In order to get a better understanding of the funding of pension funds, unstructured interviews were conducted with a number of pension fund managers. Rates of inflation in Zimbabwe were obtained from the Central Statistics Office of Zimbabwe in order to measure the returns of the Pension Fund against annual inflation rates.

3.2.4 Data Analysis

In order to identify the causes of the pension shortfalls, the first thing was to critically look at the structure of the pension benefits payable to members upon retirement. Examples were used to illustrate the growth in pension benefits for members.

The study also critically examined the financial performance of the ZRA Pension Fund from the period 1996 to 2004. The returns realized from the investment choices made by the trustees were critically analysed with questions being asked on whether higher yielding investments could not be found. Line graphs and tables were used to illustrate the relationships between investment returns and the increase in pension benefits over time.

The limitations imposed by the law on investment choices were also reviewed. The level of pension contributions by members was scrutinized comparing the levels to other pension funds in Zimbabwe. Tables and histograms were used to visualise the levels of pension contributions. The role of trustees and indeed members were reviewed with the aim of finding a solution to the problems being faced by the ZRA Pension Fund.

3.3 Conclusion

This study is a case study, centering on collection of historical data about the ZRA Pension Fund. Having outlined the methodology used in the gathering of the data, in this chapter, the next chapter presents the results of the research.

Chapter 4 Research Results

4.1 Introduction

Like every responsible employer, the predecessor to the Zambezi River Authority, the Central African Power Corporation, set up a pension scheme for its employees. According to the rules of the ZRA Pension and Life Assurance Fund Section 4 (1), the scheme was to be a self-administered fund. The fund was to maintain its own accounts, separate from those of its main sponsor (Section 4 (8) of the Rules) and was to be separately audited (Section 4 (10) of the Rules). Membership to the scheme was initially restricted to a certain category of staff but this changed over the years (ZRA Pension and Life Assurance Fund Rules Section 8). This chapter gives a brief background of the sponsor of the fund, details about the fund, membership, administration and the financial performance of the fund over the period under review.

4. 2 Background of the Sponsor

Zambezi River Authority is a successor organization to the Central African Power Corporation (CAPCO). CAPCO was set up as a government entity in 1956 by the then Federal Government of Rhodesia and Nyasaland (The Central African Power Act Section 3 of the laws of the then Federal Government of Rhodesia and Nyasaland). It had the mandate to "construct, establish, acquire, maintain and operate undertakings including main transmission lines" (The CAPCO Act Section 3 (a)). This meant that ultimately CAPCO was to operate the Kariba Dam and the two hydro- power stations on the banks of the Zambezi River, one on the Northern Rhodesian (now Zambian) side and the other on the Southern Rhodesian (now Zimbabwean) side. CAPCO had also the mandate to transmit the power generated from the two power stations to the mines and industries within the federation.

Due to the developments in the political and power sectors in the two countries, CAPCO was dissolved in 1987 (Minutes of the Higher Authority on the Reconstruction of CAPCO, 1987). From the ashes of CAPCO, Zambezi River Authority was born, through the passing of parallel legislation in both Zambia and Zimbabwe. However the functions of power generation and transmission were transferred to the power utility of the country in which the power stations and transmission lines were domiciled. According to the Zambezi River Authority Act of the laws of Zambia and Zimbabwe, Article 9, ZRA was mandated with the main function of operating, monitoring and maintaining the Kariba Dam wall and its reservoir whose waters feed the two power stations.

The other functions of ZRA as set out in the schedule to the Zambezi River Authority Act of Zambia and Zimbabwe Article 9 include:

- Construction, operation, monitoring and maintenance of any other dam on the Zambezi River common to the two states.
- Collection, accumulation and processing of hydrological and environmental data on the Zambezi River.
- Regulating the water levels in the Kariba reservoir and in any other reservoir owned by the Authority.

Currently ZRA gets its revenue from billing the two power utilities, ZESCO limited in Zambia and the Zimbabwe Power Company in Zimbabwe, who draw water from the Kariba Dam for power generation. The water bills are denominated in the United States dollars but payments are made in the currency of the country in which the power station is situated (Water Purchase Agreement ZRA/KNBC/ZPC Article v of 2000). The exchange rate used is the rate of exchange of ZRA's bankers, and is adjusted every quarter (Water Purchase Agreement ZRA/KNBC/ZPC Article vii).

ZRA has its Head Office in Lusaka, Zambia, a liaison office in Harare, Zimbabwe and an operational office in Kariba, at the dam site.

4.3 The Pension Fund

Like its sponsor, The Zambezi River Authority Pension Fund is a successor fund to the Central African Power Corporation Pension Fund, which was set up in 1978. ZRA took over the sponsorship of the ZRA pension scheme from October 1987, following its enactment. ZRA sponsors two separate pension funds, one for Zambian nationals and the other for Zimbabwean ones.

This presentation will focus on the Zimbabwean pension scheme. Some comparisons will, however, be made between the two funds. Both schemes were set up as a self-administered defined benefit schemes and to a large extent are similar.

4.3.1 The Objective of the Fund

The objective of the pension fund is to provide pension benefits to members on their retirement through old age or ill health and for their dependents when they (members) die (ZRA Pension and Life Assurance Fund Rules Section 2).

4.3.2 Administration of the Fund

The pension fund is vested in and administered by five trustees of whom the employer appoints two, while the rest are elected by members every three years (ZRA Pension and Life Assurance Fund Rules Section 4 (1)). Of the trustees appointed by the employer, one who is the chairman of the trustees is the Finance Director of ZRA and the other is the principal officer of the fund. The principal officer, who is also an employee of ZRA, does the day-to-day running of the pension fund (The ZRA Pension and Life Assurance Fund Rules Section 4 (2a)).

The ZRA Pension Fund trustees are empowered to make any arrangements and regulations for the administration and control of the fund without doing anything that is inconsistent with the provisions of the rules (The ZRA Pension and Life Assurance Fund Rules Section 5). The trustees are also empowered to make investment decisions in accordance with the provisions of the Pensions and Provident Funds Act of Zimbabwe (The ZRA Pension and Life Assurance Fund Rules Section 5). The business of the trustees is conducted at meetings at which a quorum of not less than four trustees is to be present (ZRA Pension and Life Assurance Fund Rules Section 4 (3)).

The Pensions and Provident Fund Act Section 18 (1), of the laws of Zimbabwe, preclude the trustees from investing outside Zimbabwe any amount of a pension fund registered in Zimbabwe. The ZRA Pension and Life Assurance Fund Rules Section 4 (8b) prohibit trustees from investing more than twenty-five per centum of the aggregate value of all the assets of the fund in immovable property.

The trustees are to ensure that full and true accounts of the fund are kept and annually audited by a registered auditor, appointed by them (ZRA Pension and Life Assurance Fund Rules Section 4 (10)). The trustees are also required by the provisions of the Pension and Provident Fund Act Section 17 (1) of the laws of Zimbabwe, to cause the fund to be evaluated every three years by a registered actuary.

4.3.3 Nature of the Fund's Benefit Structure

The ZRA pension scheme promises to pay to members a defined pension benefit which is linked to period of service and final salary (ZRA Pension and Life Assurance Fund Rules Section 9 (5)). The pension benefit is paid upon retirement. The normal retirement age of the ZRA Pension Fund is sixty years, members may however, retire from the service of ZRA upon reaching their fifty-fifth birthday (ZRA Pension and Life Assurance Fund Rules Section 9 (1&2)).

Membership of the pension fund also ceases when members leave their employment with ZRA through death, dismissal or resignation (ZRA Pension and Life Assurance Fund Rules Section 8(2)).

According to the ZRA Pension and Life Assurance Fund Rules Section 9 (4 -11), the pension benefits payable to members when they leave the employment services of ZRA can be summarized as follows:

(i) An item called the Aggregate Basic Salary is calculated by multiplying the member's highest annual basic salary by the member's period of continuous service.

(ii) A lump sum benefit is then calculated by multiplying the Aggregate Basic Salary by a percentage which varies in accordance with the member's completed period of continuous service as shown in table 4.1 below.

(iii) Where a member retires or dies in service, he or his beneficiaries can opt to be paid a lump sum commutation of one third of the total amount payable as a pension benefit. Where a member ceases to be a member by any other reason other than death or retirement, the lump sum benefit is paid in full, less statutory deductions.

(iv) Where a member retires his pension benefit is increased by a "pension escalation factor". The "pension escalation factor" is based on a sliding scale starting at zero at the age of fifty-five rising to a maximum of fifty-four percent (of the amount calculated in (ii) above) at the age of sixty years.

(v) The resultant amount (less the one third lump sum commutation, where a member so opts) is used to procure from an insurer to be nominated by the member, an annuity from which the member would draw monthly pension payments.

(vi) A member who dies, resigns or is otherwise fired before reaching retirement age, is treated the same way as the one who retires. The

only difference is that there is no escalation factor added to his pension benefit.

(vii) Where a member is discharged from ZRA on the grounds of redundancy, or on grounds of ill health the pension benefit payable is increased by an additional benefit.

An unusual feature of the pension fund's benefit structure is that more or less the same benefit is payable in the event of death, retirement, and withdrawal. The only difference is the pension escalation factor, which is paid to retirees on a sliding scale as explained above. Table 4.1 below gives percentages that are applied to the aggregate basic salaries of members to arrive at the pension benefits payable to members, depending on their period of continuous service.

Table 4.1 Member's Benefit on Leaving ZRA

CONTINUOUS SERVICE	APPLICABLE PERCENTAGE
Less than 3 years	0%
3 or more but less than 5 years	12,5%
5 or more but less than 7 years	15%
7 or more but less than 9 years	17.5%
9 or more but less than11 years	20%
11 or more but less than 13 years	22.5%
13 or more years	25%

Source Zambezi River Authority Pension Scheme Rules

4.3.4 Membership of the Fund

The ZRA Pension Fund was set up in 1978 and membership was restricted to members of staff occupying senior positions in the organization. It was not until July 1993 when it became a condition of employment that all employees of the Zambezi River Authority were to be members of the pension fund (ZRA Pension

and Life Assurance Fund Rules Section 8 (1)). This meant that all persons who became employees on or after 1 July 1993 were to be members of the scheme from the date of their becoming eligible employees. When the Fund was set up in 1978 it had a total of fifteen members (CAPCO Pension and Life Assurance Fund Reports). Over the years membership of the ZRA Pension Fund grew as depicted in the table 4.2 below.

As can be seen from the history of membership of the Pension Fund, membership more than doubled during the 1993/1994 financial year. This was due to the change in the conditions of employment alluded to above. The increased membership was to have a bearing on the financial position of the pension fund more so because the new members had their membership to the pension fund backdated to the time they joined the organization. This meant that even though the new members were not members at the time they joined the organization, they were going to benefit as if they had been admitted into membership at the date of joining CAPCO or ZRA.

Table 4.2 Annual Membership of the Zambezi River Authority Pension Fund

YEAR				
	147	0	7	140
	156	0	9	147
	163	0	7	156
	170	0	7	163
	167	15	12	170
	174	4	11	167
	183	5	14	174
	186	10	13	183
	188	0	2	186
	194	4	10	188
	79	122	7	194
	84	1	6	79
				15

Source: ZRA Pension Fund Annual Statements 1996 to 2004

4.3.5 Contributions

The current rules provide that members should make monthly contributions to the fund from the date of commencement of their participation (ZRA Pension and Life Assurance Fund Rules Section 17(1)). However, when the Pension Fund was set up in 1978, only the employer was required to make contributions to the fund. The rules were amended in 1982 and since then each member has been making a monthly contribution of two and half percent of his pensionable emoluments while the employer contributes eight and half percent of the pensionable emoluments of each member. However, since the fund is a Defined Benefit

scheme, ZRA as the main sponsor still remains responsible for any shortfalls that may arise on the fund.

The ZRA Pension and Life Assurance Fund Rules Section 17(3)) stipulate that if on any valuation of the fund, the assets of the Fund exceed the Fund's liabilities to its members such excess will be retained in the Fund for the purpose of offsetting future contributions. However, where there is a shortfall, the employer is to make good such a shortfall (ZRA Pension and Life Assurance Fund Rules Section 17 (3). Apart from meeting pension shortfalls that may arise, the employer is also responsible for making special contributions for members who will be entitled to a pension escalation upon their retirement (ZRA Pension and Life Assurance Fund Rules Section 15A). No contribution is required from qualifying members. The employer is also responsible for meeting all the administration costs like the actuarial valuation, the annual audit etc (ZRA Pension and Life Assurance Fund Rules Section 4(9)).

The employer deducts members' pension contributions from their monthly salaries. The deductions together with contributions by the employer have to be paid to the pension fund by the 21st of the month following the one in which deductions are made (ZRA Pension and Life Assurance Fund Rules Section 17(5)). When payment is received by the fund it is deposited into the fund's account, after which a decision is made on how to invest the money.

4.3.6 Exchange Rates Used By ZRA

It is important at this stage to mention that a decision was made by the Board of Directors of ZRA to quote salaries and allowances of ZRA employees in a common currency, the United States dollar (ZRA Administration Manual Section 2.3.1). However, payment is made in the local currency of the country in which the employee resides. The rate of exchange to be used is a commercial bank's selling rate. The exchange rate is adjusted once every quarter (ZRA Administration Manual Section 2.3.1).

From January 2000 to December 2003 the government of Zimbabwe was maintaining a fixed exchange rate of the local currency to that of other currencies. During that period the exchange rate used by ZRA to convert the US dollar to the local currency was as determined by the Board of Directors from time to time (Minutes of the 63rd ZRA Board Meeting 2000). No strict formula was being applied in coming up with the exchange rate for this period.

In December 2003 a decision was then made to use the Zimbabwe Consumer Price Index (CPI) differential to adjust the exchange rate every quarter (Minutes of the 70th ZRA Board Meeting, 2003). From January 2004 to July 2005 the CPI differential was being applied to the previous quarter's exchange rate to arrive at the present quarter's exchange rate. For the ZRA pension scheme this means that the final salary, on which the pension benefit is based, is quoted in the US dollar. It is therefore important that returns on investments of pension funds should at least match the exchange rate fluctuations if the employer is to avoid having to bail out the pension fund. Whether or not this has been the case, the next chapter shows. Table 4.3 below shows the exchange rates used by ZRA over the period.

It is also pertinent to mention that with effect from October 1994 each employer and employee were required by a new law, to contribute three percent of the employee's annual basic salary of the first Z$48 000 (then about US$6 000) to the National Social Security Scheme (The National Social Security Act Section 3 (2) of the laws of Zimbabwe) which was introduced by the government. The contribution to National Social Security Scheme (NSSA) then was equivalent to US$ 180 per annum each from the employer and the employee. The contributions were over and above contributions to the pension fund. This meant that the employer was now paying more towards pension related expenses as there were no changes made either to the contributions payable or to the benefits payable from the ZRA pension scheme.

Table 4.3 EXCHANGE RATES USED TO CONVERT US$1 TO ZW$

Year	*Exchange Rate*	*Percentage Increase in Exchange Rate*
31/8/05	11131	117
31/12/04	5139	506
31/12/03	848	465
31/12/02	150	163
31/12/01	56.93	4
31/12/00	54.85	45
31/12/99	37.73	16
31/12/98	32.57	181
31/12/97	11.57	24
31/12/96	9.36	8
31/12/95	8.68	

Source: Compiled from ZRA Records

4.3.7 Salary Increases for ZRA Pension Fund Members

Salary increases awarded to employees of ZRA were going to make an impact on pension benefits payable to members. Table 4.4 below gives the increments awarded to ZRA employees from 1996 to 2005.

Table 4.4 Salary Increases Awarded to ZRA Pension Fund Members

Year	*Increase In Salaries %*
2005	10
2004	5
2003	2.5
2002	5
2001	10
2000	7.5
1999	10
1998	10
1997	10
1996	7.5
Cumulative '96 to '05	91.2

Source Compiled from Various ZRA Records

4.3.8 Legal Requirements

The Pensions and Provident Fund Act of 1976 govern all Pension Funds in Zimbabwe. Notable among the provisions of the said act are the following, that,

- Defined Benefit Pension Schemes are to be valued by an actuarial expert at least once every three years (Pensions and Provident Funds Act Section 17 of the laws of Zimbabwe).
- A registered fund should at all times hold no less than forty five percent of the aggregate cost value of all its assets in Zimbabwe in the form of prescribed assets (Pensions and Provident Funds Act Section 18(2a) of the laws of Zimbabwe). Such prescribed assets include Treasury Bills, Government Bonds or Bills and Stocks issued by local Authorities or Parastatal companies.

- All investments of Pension Funds are to be held in Zimbabwe and be denoted in the Zimbabwean currency (Pensions and Provident Funds Act Section 18(1) of the laws of Zimbabwe).

From the above provisions it is clear that the ZRA pension scheme could not legally hedge itself against the fluctuations of the home currency to that of the US$, in which pension benefits are effectively denominated. What the pension fund can do is to find within Zimbabwe, investments whose returns match any such exchange rate fluctuations. Whether this is possible, is debatable and is discussed in the next chapter.

4.3.9 Financial Performance of the Fund over the Years

The Annual Financial Statements of the pension fund in tables 4.5 and 4.6 below show the financial performance of the fund over the years.

Table 4.5

ZAMBEZI RIVER AUTHORITY PENSION FUND

FINANCIAL STATEMENTS FROM 1996 TO 2004

INCOME STATEMENT

	1996 Z$000's	1997 Z$000's	1998 Z$000's	1999 Z$000's	2000 Z$000's	2001 Z$000's	2002 Z$000's	2003 Z$000's	2004 Z$000's
INCOME									
Balance of Fund at beginning of Year	16644	24815	30382	86746	116555	228009	326643	697107	3848408
Contributions By Members-Compulsory	289	360	955	1257	1848	2660	5716	19504	36032
Contributions By Members-Voluntary	83	89	173	161	208	259	637	1064	2158
Contributions By Employer-Normal	3203	4548	51843	14473	57743	49118	304336	3089048	7029682
Contributions By Employer-Special	519	402	2037	1290	2189	1257	3032	30720	0
Income from Prescribed Assets									
Income from Investments	5094	5424	14641	21068	60910	46274	103559	288795	677767
Transfer from Reserve	20	881	606	685	1239	1016	3347		0
Increase in Invest. Valuation	0	0	0	0	13	12584	0		2041808
	3575	4997							
	25852	**41516**	**100637**	**125680**	**240705**	**341177**	**747270**	**4126238**	**13635855**
Increase in Contributions		0.39776	9.60056	-0.7	2.76307	-0.1298	4.97054	9.00877	1.2729083
Return on Investment (Average)	0.19135	0.1854	0.24089	0.20041	0.34178	0.1623	0.19877	0.12579	0.0834124
EXPENDITURE									
Pension Award on Retirement	74	4316	4706	2899	6081	9592	31367	176882	1307711
Pension Award on Death	84	664	945	884	4213	1775	8389	54586	38937
Pension Award on Resignation/dismiss:	313	502	3932	1162	213	1643	4777	0	59425
Property Maintenance	0	0	0	0	0	267	148	4585	1594
Investments writedown	47	253	2271	2890	0	0	2450	11058	
Transfer to Reserve for future liability	519	402	2037	1290	2189	1257	3032	30719	
Balance of Fund at 30 June	24815	30382	86746	116555	228009	326643	697107	3848408	12228188
	25852	**36519**	**100637**	**125680**	**240705**	**341177**	**747270**	**4126238**	**13635855**

Source Zambezi River Authority Pension Fund Financial Statements 1996 to 2004

Table 4.6 ZRA Pension Fund Balance Sheets From 1996 to 2004

FINANCIAL STATEMENTS FROM 1996 TO 2004

BALANCE SHEET

	1996 Z$000's	1997 Z$000's	1998 Z$000's	1999 Z$000's	2000 Z$000's	2001 Z$000's	2002 Z$000's	2003 Z$000's	2004 Z$000's
LIABILITIES									
Amount of Fund	24815	30382	86746	116555	228009	326643	697107	3848408	12228188
Reserve for future liability	1625	1146	2577	3182	4132	4373	4058	34777	34778
Sundry Creditors	181	363	0						5430
Benfits Payable			345	842	3712	3350	6446	1040	98362
	26621	**31891**	**89668**	**120579**	**235853**	**334366**	**707611**	**3884225**	**12366758**
INCREASE IN LIABILITIES		0.197964	1.8117	0.34473	0.956	0.41769	1.11628	4.48921	2.183842
ASSETS									
Buildings	0	0	0	9238	9313	20000	124289	124288	1990000
Shares in Companies	0	0	0	0	0	233	1539	13438	184756
Govt/Local Authority Stocks	12330	16427	13706	7816	11478	54374	53424	41217	31436
Money Market Investments	12584	14112	30869	61369	142146	192814	232073	524277	1143239
Contributions Receivable	672	6	43529	40436	64505	62393	264425	2994819	8668155
Interest Accrued	698	676	978	924	7711	2752	23875	68579	56218
Cash at Bank- Current A/c	337	670	586	796	700	1800	7986	117607	292954
	26621	**31891**	**89668**	**120579**	**235853**	**334366**	**707611**	**3884225**	**12366758**
INCREASE IN ASSETS		0.197964	1.8117	0.34473	0.956	0.41769	1.11628	4.48921	2.183842
Percentage of Cont. Receivable	0.03	0.00	0.49	0.34	0.27	0.19	0.37	0.77	0.70

NOTES

1. Assets in the accounts are stated at market value

Source Zambezi River Authority Pension Fund Financial Statements 1996 to 2004

Notes to the Accounts

1. Transfer to Reserve

The transfer to reserves represents the fund's added liability to members who would be entitled to the pension escalation benefit on retirement only.

2. Transfer from Reserve

The transfers from the reserve account represent payments made/due to members entitled to the additional pension escalation benefit

3. Decrease/Increase In Value of Investments

The amounts represent the decrease or increase in the estimated current value of investments held, were they to be terminated at the balance sheet date. The estimated current value is based on a valuation list issued by the main dealers in the stock.

4. Reserve for Future Liability

The amounts represent the estimated future liability in respect of members aged 55 or above for escalation of Pension Benefits on retirement only.

5. Amount of or Balance of Fund

The amount is equal to the liability for members' benefits accrued at the balance sheet date.

6. Contributions By Employer-Special

The special contributions by employer represent amounts that are contributed by employer specifically to meet the added liability to members who will be entitled to pension escalation at the time of retirement.

7. Contributions Receivable

The rules of the fund provide for the calculations of contributions quarterly. The Contributions Receivable represents the amount owed by the employer at the balance sheet date, after the quarterly calculations.

4.4 The Macroeconomic Environment

In recent years the macroeconomic environment of Zimbabwe has presented unprecedented economic challenges to the business community in general and to companies which sponsor a DB schemes in particular. Pension Funds have witnessed a serious erosion of the value of the local currency by hyperinflation. Table 4.7 below gives inflation rates obtaining in Zimbabwe since 1996 as well as

percentage increases in the exchange rates (ZW$ to US$) used by ZRA over the same period.

Table 4.7 Inflation Figures for Zimbabwe and Increases in ZRA Exchange Rates ZW$ to US$

Year to 31 December	Inflation Rates %	Increase in Exchange Rates %
2005*	**411**	**406**
2004	**132.7**	**506**
2003	**598.7**	**465**
2002	**198.9**	**163**
2001	**112.1**	**4**
2000	**55.9**	**45**
1999	**58.5**	**16**
1998	**31.7**	**181**
1997	**18.8**	**24**
1996	**21.4**	**8**
Cumulative to 2004	**84378**	**54804**
Cumulative to 2005	**247200**	**277688.46**

* Data shown up October 2005

Source ***Compiled from data obtained from The Zimbabwe Central Statistics Office and ZRA records***

4.5 Conclusion

At the time the Zambezi River Authority pension fund was established in 1978, members were not required to make contributions to the fund. Contributions from members were only required from 1982. From July 1993, every employee was to become a member of the pension scheme, for those who were already in the service of ZRA, their membership was backdated to the time they joined ZRA, with obvious financial implications.

From the financial statements it is clear that most of the investments of the pension scheme were short-term, in the money market. However, pension fund obligations are long term in nature. The mismatch between the two would obviously create problems for the fund.

The salaries of ZRA employees were denominated in US dollars and paid in the local currency. By extension it also meant that pension benefits were denominated in the US dollar though payable in the local currency. The stability of the local currency was therefore going to play a part in the sustainability of the fund. The fact that pension benefits were denominated in the in the US dollar but in line with the laws of Zimbabwe, all investments were to be held in the local currency was also going to have an effect.

The Zimbabwean law requires that a pension fund should invest a percentage of its assets in prescribed assets, but the question to ask is whether the interest rates offered under these prescribed assets were competitive. The Pensions and Provident Fund Act also provides that a DB pension scheme is to be valued every three years, after which the employer is to meet any shortfall arising. This also was to present challenges to the ZRA Pension Fund. The macro-economic environment was also going to present challenges to both the pension scheme and ZRA. These issues and more are examined in the next chapter.

Chapter 5 Results Discussion

5.1 Introduction

The setting up of a pension scheme for employees of CAPCO (now ZRA) showed noble ideas on the part of the employer to take care of the financial needs of the employees and/or their beneficiaries, when they retire or die. However, this on its own was not going to ensure that the financial security of employees was guaranteed. The first requirement for survival of the pension scheme is that the main stakeholders, the employer and the employee, must be willing and able to continually finance the fund. This can only be possible if the benefit structure of the fund does not place unrealistic funding demands on the employer and the members and the operating environment is enabling. In other words the benefits have to be realistic, while the social, economic and regulatory environment must be supportive, or at the very least, non-inhibiting. Yet in the past five years it is generally agreed that the economic, demographic and political conditions in Zimbabwe have been less than ideal for the survival of pension funds in general and defined pension funds in particular.

The Chapter on literature review revealed that organizations in the Western world were struggling with DB pension shortfalls which have been occasioned by rising life expectancy, the benefit structure of the DB schemes and the volatility of the stock market amongst other reasons. This chapter shows that the benefit structure of the ZRA pension fund may have been sustainable when the fund was set up but conditions have gradually deteriorated. As such the benefit structure is no longer sustainable. Apart from the benefit structure and the macro-economic environment being less than ideal, the chapter also highlights the importance of the employer having to play its part. The contributions from both the members and the employer have to be adequate.

5.2 Membership of the ZRA Pension Fund

Though the period prior to 1996 is outside the purview of this study, a brief review of the background will put issues into context. Membership of the ZRA Pension Fund shown in table 4.2 shows that when the fund was set up in 1978 it only had fifteen members. Membership then grew to seventy-nine by June 1993. Due to the change in the pension rules on qualification of members referred to earlier, membership doubled during the financial year 1994 to reach one hundred and ninety four. Since then membership has been on the decline as a result of the employer's deliberate policy to reduce its staff establishment.

The change in membership rules of the ZRA Pension Fund meant that more employees were now entitled to pension benefits than had been the case previously. Since the benefit structure of the pension fund was not changed, this also meant that the employer had to put in more money in the fund to cater for the increased obligations of the fund. It must also be noted that the new members were to be entitled to pension benefits as if they had been members of the pension fund from the date of their joining the ZRA.

What started as a small fund for a few employees had now grown by more than ten times by 1994 and yet no change had been made to the benefit structure nor to member contributions to take account of the additional burden. At the time a decision to allow new members was made, no analysis was made to determine whether the employer was going to comfortably carry the added responsibility.

It was a noble idea to have admitted the new members who were the lowly paid junior employees who probably needed to be covered by the pension fund much more than senior employees did. However, it was also important to have considered the impact it was going to have on the finances of the employer. If that had been done the effects could have been minimized by, for instance, reducing on the pension benefits payable to members or by increasing membership contributions.

The membership history of the fund (table 4.2) shows that the decrease in membership from one hundred and eighty-six members in 1996 to one hundred and forty members at the end of 2004 was mostly a result of members retiring. As members were retiring they were being paid their accrued benefits. From 1996 to 2004 a total of eighty-two members withdrew from the ZRA Pension Fund while a total of thirty-four new members joined the Fund during the same period.

It is pertinent to mention that the most significant awards have been paid out on account of retirement as such death through HIV related illnesses has not had much of an adverse effect on pension payouts.

5.3 The Implications of the ZRA Pension Fund Benefit Structure

One of the criticisms of the DB pension scheme at least from the point of view of the employer, is that the costs of operating such a scheme are not predictable. It could be costly to the employer in cases where salaries and inflation exceed expectations.

Holding inflation constant, the decrease in membership mentioned above would have seen a reduction in the accrued benefits of members. Indeed in US dollar terms, the accrued benefits of members reduced by fifteen percent from US$ 2 844 124 (ZW$26 621 000) in 1996 to US$ 2 406 452 (ZW$ 12 366 758 000) at the end of 2004 as shown on table 4.6. The reason for the reduction in accrued benefits is three fold. The reduction in the membership of the Pension Fund of about twenty five percent from one hundred eighty-six in 1996 to one hundred and forty in 2004 (refer to table 4.2). Secondly, new members who joined the pension fund were still to accumulate substantial pension benefits. Their length of service was still low compared to the members who they were replacing. Thirdly, members who were retiring had accumulated the highest possible pension benefits and were being paid off as they retired.

However, even with the three favourable factors chipping in, there was still an increase in accumulated benefits of members in Zimbabwe dollar terms over the period 1996 to 2004. There was an accumulated pension benefits increase of 46 355 percent from ZW$26 621 000 in 1996, to ZW$12 366 758 000 in 2004. The question that needs to be addressed is whether the magnitude of the increase in Zimbabwe dollar terms i.e. 46 355 percent could have been achieved through normal pension contributions and return on investments of the pension fund. Table 5.2 below may help to illustrate the point.

The table below shows that the return on average assets that the pension fund has been realizing on its investments was fluctuating between eight percent and thirty-four percent. The table shows that in the later years (2001 to 2004) the ZRA Pension Fund was achieving lower returns on average assets than it was achieving in earlier years (1996 to 2000). This was despite the fact that between 1996 and 2000 annual inflation rates were much lower than they were between 2001 and 2004. One would have expected the return on average assets to substantially go up in proportion to inflation rates. This could be partly attributed to the fact that the employer was increasingly finding it difficult to meet his obligations as is explained under 5.5. Low returns on prescribed assets also contributed.

Table 5.2 Statistical Figures on Zimbabwe and the ZRA Pension Fund 1995 TO 2005

Year at 31 Dec.	Inflation Rates (%)	Increase in Exchange Rates (%)	Increase in ZSE Industrial Index (%)	Prescribed Assets Weighted Average Interest Rate (%)	Average Return On ZRA Pension Investments (%)
2005*	411	406	1118.33		
2004	132.7	506	173.94	68	8
2003	598.7	465	287.98	30	13
2002	198.9	163	123.28	30	20
2001	112.1	4	157.74	29	16
2000	55.9	45	24.66	27	34
1999	58.5	16	125.12	20	20
1998	31.7	181	(5.16)	21	24
1997	18.8	24	(23.09)	20	19
1996	21.4	8	0.00	20	19
1978	8.1				
Cumulative to 2004	84378	54804	12420	973	480
Cumulative to 2005	247200	277688.46	152434.36		

* Data shown is up to October 2005

Source **Compiled from data gathered from The Zimbabwe Stock Exchange, The Central Statistics Office and the Annual Accounts of the Zambezi River Authority Pension Fund.**

Similarly when the Zimbabwean dollar was depreciating at an increased rate to the US dollar between 2001 and 2004, the return on average assets was decreasing. Over the period 1996 to 2004, the cumulative increase in the return on assets of the pension fund was only 480 percent compared to 54804 percent being the percentage by which the Zimbabwean dollar depreciated against the US dollar. The cumulative return on average assets on the pension fund's benefits was simply nothing compared to the cumulative depreciation of the Zimbabwe dollar against the US dollar.

The situation would even be worse if the cumulative salary increase of ninety-one percent (refer to table 4.4) that was awarded to staff between1996 and 2004 is taken into account. This means that the growth in the assets of the pension fund was nowhere near the growth in the liabilities of the fund. It was therefore inescapable that shortfalls on the pension fund were going to emerge. It can therefore be argued that operating a DB scheme exposes the employer to unpredictable costs. This is so because the DB pension scheme promises to pay a defined amount to members even if the returns on investments of the pension fund are below expectations.

The costs of operating a DB scheme emanates mostly from the fact that the pension benefits to be paid from a DB scheme have a retrospective effect. A series of examples is used below to illustrate this point. The examples will make extensive use of data on tables 4.1, 4.3 and 4.4.

Take for instance an employee who joined ZRA four years prior to 2003 and was earning US$ 2 000 per month on 31 December 2003 when the exchange rate was US$1 to ZW$848. At that moment the employee's pension benefits would be calculated as follows:

Basic Salary	US$2 000
Exchange Rate	US$1 to ZW$ 848
Total Period of Service	48 Months

Aggregate Basic Salary Earned	ZW$ 81 408 000 (2000*848*48) or US$ 96 000
Accrued Pension Benefit	ZW$ 10 176 000 (81 408 000*12,5%) or US$ 12 000

Assuming no annual increment in the basic salary, on 31 December 2004 (twelve months later), when the exchange rate moved to US$1 to ZW$ 5 139 his benefits would be as follows:

Basic Salary	US$2 000
Exchange Rate	US$1 to ZW$ 5139
Total Period of Service	60 Months
Aggregate Basic Salary Earned	ZW$ 616 680 000 (2000*5139*60) or US$ 120 000
Accrued Pension Benefit	ZW$ 77 085 000 (616 680 000*12, 5%) US$ 15 000

This equates to an increase of 658 percent on the Zimbabwe dollar amount and 25 percent in US dollar terms over a period of one year. Of the total increase in the Zimbabwe dollar amount, 506 percent represents the extent to which the Zimbabwe dollar depreciated against the United States dollar while the remainder is a combination of the depreciation of the Zimbabwe dollar and the additional twelve months service. The increase on the US dollar amount is due to the additional 12 months employment service.

The magnitude of the increase would be more if the general annual increment awarded to employees is taken into account. Take for instance the five percent annual salary increment awarded in 2004. The pension benefits would further be escalated as follows:

Basic Salary	US$2 100 (2000*1.05)
Exchange Rate	US$1 to ZW$ 5139
Total Period of Service	60 Months
Aggregate Basic Salary Earned	ZW$ 647 514 000 (2100*5139*60) or US$ 126 000
Accrued Pension Benefit	ZW$ 80 939 250 (777 016 800*12, 5%) or US$ 15 750

The increase in benefits over the twelve months ended 31 December 2004 was in this case 695 percent on the Zimbabwe dollar amount and 31.25 percent on the US dollar amount. The huge increase on the Zimbabwe dollar amount was due to a combination of the change in exchange rate, an increase in the monthly salary and an additional twelve-month period of service.

The magnitude of the increase would even be more if we were to assume that as at 31 December 2003 the employee had five years of employment service with Zambezi River Authority. The following pension benefits would be payable to the member on 31 December 2003

Basic Salary	US$2 000
Exchange Rate	US$1 to ZW$ 848
Total Period of Service	60 Months
Aggregate Basic Salary Earned	ZW$ 101 760 000 (2000*848*60) or
	US$ 120 000
Accrued Pension Benefit	ZW$ 12 720 000 (101 760 000*12, 5%) or
	US$ 15 000

On 31 December 2004, with an annual salary increment of 5% and a change in exchange rate the benefits will be as follows

Basic Salary	US$2 100 (2000*1.05)
Exchange Rate	US$1 to ZW$ 5139
Total Period of Service	72 Months
Aggregate Basic Salary Earned	ZW$ 777 016 800 (2100*5139*72) or
	US$ 151 200
Accrued Pension Benefit	ZW$ 116 552 520 (777 016 800*15%) or
	US$ 22 680

In this case the increase in pension benefits over a period of one year would be a whopping 816 percent in Zimbabwe dollar terms and a high of 51.2 percent on the US dollar amount. The increase was due to a combination of reasons stated above as well as the fact that the percentage applied to the aggregate basic salary increases as the number of years of service increases.

Generally for every three years that an employee stays with Zambezi River Authority, the percentage factor that has to be applied to his aggregate basic salary increases by two and half percent. Back to our example, the increase in pension benefits could actually be higher if the presumed employee in the example gets a promotion during the year since his salary would be higher than the US$2100 above.

A further analysis of what actually happened to the benefits of a member of the ZRA pension fund from 1996 to 2004 can be illustrated by the same example. In this analysis the cumulative annual salary increases of 91.2 percent in US dollar terms, awarded to members, over the period 1996 to 2004 will be taken into account. The same example as above will be used this time with the assumption that on 31 December 1996 the employee had five years of service to ZRA but earning US$ 2 000 per month. His pension benefits would be as follows:

Basic Salary	US$2 000
Exchange Rate	US$1 to ZW$ 9.36
Total Period of Service	60 Months
Aggregate Basic Salary Earned	ZW$ 1 123 200 (2000*9.36*60) or US$ 120 000
Accrued Pension Benefit	ZW$ 140 400 (1 123 200*12, 5%) or US$ 15 000

However on 31 December 2004 (96 months later) the same employee's pension benefits would be as follows:

Basic Salary	US$3 824 (2000*1.91)
Exchange Rate	US$1 to ZW$ 5139
Total Period of Service	156 Months (60+96)
Aggregate Basic Salary Earned	ZW$3 065 639 616 (3824*5139*156) or US$ 596 544
Accrued Pension Benefit	ZW$766 409 904 (3 065 639 616*25%) or US$ 149 136

The employee in the above example would have his pension benefits increased by a staggering 545 776 percent on the Zimbabwe dollar amount and 894 percent on the US dollar amount over a period of eight years. Like in the previous example above the reasons for the increase in benefits is a result of the increase

in the length of service, the annual salary increases, the fact that the pension benefit has a retrospective effect and the depreciation of the Zimbabwe dollar against the US dollar.

Assuming that over the period 1996 to 2004 no ZRA employee left the organization, and that no employee joined ZRA, the pension's assets needed to have grown at the same magnitude as the accrued benefits to members, i.e. 545 776 percent on the Zimbabwe dollar amount or 894 percent on the US dollar amount. The growth should come from the investment returns and the monthly contributions that both the employer and the employee make. However the 545 776 percent growth that is needed for the assets to match the growth of the pension fund's obligations is no mean growth rate, even for an economy like Zimbabwe's, whose annual inflation rate is over one hundred percent.

It can be concluded that such a growth rate was never going to be achieved as no investment portfolio could have matched such a phenomenal growth in whatever economy the ZRA Pension Fund could have been operating in. The employer (ZRA) was always going to be called upon from time to time to plug the holes in the pension fund's finances.

Even though the Balance Sheet of the ZRA Pension Fund does not show this, this is the potential growth in obligations that the fund faced. Since no investment could have brought in the kind of return required to offset the growth in obligations, the employer remains liable. It is beyond doubt that the employer with its limited sources of revenue would not have been able to fund such huge pension obligations, as discussions below would show.

Having analysed the scenario using hypothetical examples, it is now time to turn to the situation at ZRA Pension Fund. The Balance Sheet at 31 December 1996, shows that the accrued benefits for members amounted to 26, 621 million Zimbabwe dollars; this amount had grown to 123.7 billion Zimbabwe dollars by 2004. This is despite the fact that an amount of 1.725 billion Zimbabwe dollars

had been paid out as pension benefits. This means that from 1996 to 2004 the assets of ZRA Pension Fund should have grown by 52800 percent in order to meet pension payouts and members' accumulated benefits. On the other hand, investments on the Zimbabwe Stock Exchange would only have yielded the ZRA Pension Fund an accumulated growth of 12420 percent over the same period. ZRA as the sponsoring organization is supposed to bridge this gap. It is therefore evident that the structure of the pension benefits offered by the ZRA Pension Fund may not be sustainable.

5.4 The Pension Fund's Investments and their Returns

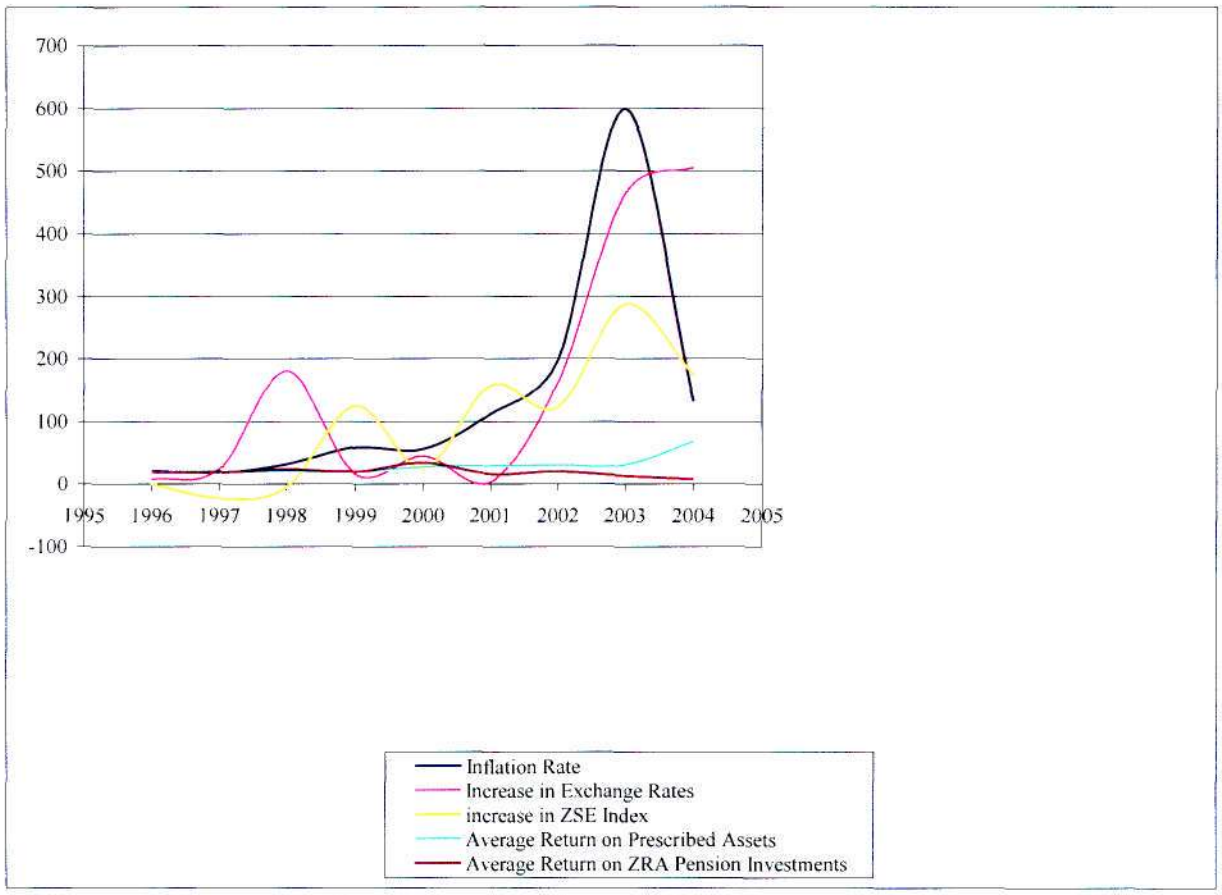
The rules of the ZRA Pension Fund provide for the monthly payments of pension contributions by both the employer and the members. As in any other pension fund, the contributions are to be put in interest or return bearing investment portfolios in order to be able to eventually pay members' pension benefits when they fall due. The essence of making periodic pension contributions and investing them is that such contributions together with their return should be able to meet pension benefits as and when they are payable.

The graph in figure 5.1 below shows how over the period 1996 to 2004, the inflation rate, the exchange rate of the Zimbabwe dollar to the US dollar and the Zimbabwe Stock Exchange (ZSE) Indexes have moved. The graph taken together with table 5.2, shows that most of the investments portfolios in which the ZRA Pension Fund was investing in were bringing in negative returns. Their yields were below the rate at which the Zimbabwe dollar was depreciating against the US dollar. The graph also shows what the weighted average return on prescribed assets and what the average return on the ZRA Pension Fund's investments were over the same period.

The graph shows that from 1996, the Zimbabwe dollar has been depreciating against the US dollar, reaching a peak of 506 percent during the year 2004. On a cumulative basis since 1996, the Zimbabwe dollar depreciated against the US

dollar by 277 271 percent, from ZWD9.36 to USD1 in 1996 to ZWD26001 to USD1 by August 2005. For the ZRA Pension Fund this means that the average

Figure 5.1 Percentage Increases in Inflation, ZRA Exchange Rates, Zimbabwe Stock Exchange Indices And Average Return on Assets of the ZRA Pension Fund For the Period 1996 to 2004



Source Compiled from Data gathered from the Zimbabwe Central statistics Office, the Zimbabwe Stock Exchange the ZRA Pension Fund's Financial Statements and the ZRA Records 1996 to 2005

return on its assets had to match the percentage depreciation of the Zimbabwe dollar to the US dollar. What is even worse for the ZRA pension fund and indeed other defined benefit pension funds is that the nature of the benefit to be paid has a retrospective effect. Since the benefit to be paid out is based on the final

aggregate salary, and since the salaries of ZRA employees are quoted in the US dollar and paid in the local currency, each time the local currency depreciates against the US dollar, this causes the accrued benefit to increase by at least the magnitude of the depreciation as was shown in the previous paragraphs.

The graph shows that throughout the period under review (1996 to 2004), the average return on the Pension Fund's assets was far below the rate at which the Zimbabwe dollar was depreciating against the US dollar. On a cumulative basis, from 1996 to 2004 the average return on assets grew by a mere 480 percent against 54 804 percent by which the Zimbabwe dollar depreciated against the US dollar over the same period. This clearly shows that at the rate at which assets were growing, they were never going to match the rate at which liabilities were shooting up.

In the US many pension plans invest between 60 to 80 percent of their assets in the equities market (Mitchell 2004) because of the potential return the equities market has. If the ZRA Pension Fund had followed the example of other pension plans in the US, it would have invested a significant portion of its assets in the Zimbabwean Stock Exchange (ZSE). The graph in Figure 5.1 clearly shows that it was only in 1997, 1999 and 2000 that the average return on assets of the ZRA Pension Fund out-performed the growth in the ZSE industrial index. In the other six years under consideration, the growth in the ZSE industrial index was far greater than the average return on assets. The graph can also be shown in the form of a table as depicted in table 5.2. The table (5.2) shows that on a cumulative basis from 1996 to 2004 the industrial index of the ZSE grew by 12420 percent compared to 480 percent by which the average return on pension investments grew over the same period. This represents a growth rate of more than twenty five times of what was achieved by the ZRA Pension Fund.

Apart from the capital growth of shares of the counters listed on the ZSE, most, if not all, of the companies listed on the ZSE were declaring dividends. From the foregoing it is clear that the ZRA Pension Fund would have realized more returns

by investing on the ZSE than it did elsewhere. It was only in the year 2000 that the pension fund invested on the ZSE registered counters, even then the amount invested was only1.5 percent of the total assets of the pension fund. It can therefore be said that the choice of investments portfolios contributed to the low returns that the pension fund was getting from its investments. Table 5.3 below shows the composition of the ZRA pension fund's investments.

As can be seen from table 5.3 below the bulk of the investments of the pension fund were in the short-term money market deposits from 1996 to 2001. Investing the bulk of the pension fund's assets in the money market could have helped in dealing with the short-term volatility of the stock market. However the period of focus of a pension fund's investment is long term as such short term swings should have been of less concern to the trustees. The ZRA Pension Fund initially, enjoyed high interest rates compared to inflation on these short-term deposits, particularly in 1995 and 1996 when interest rates were above inflation. However, money market investments, which are short-term investments, are not suitable for a pension fund (Mitchell 2000).

Table 5.3 Investments of the ZRA Pension Fund

Asset Type	1996	1997	1998	1999	2000	2001	2002	2003	2004
Buildings	0	0	0	7.7	3.9	6.0	17.6	3.2	16.1
Shares in Companies	0	0	0	0.0	0.0	0.1	0.2	0.3	1.5
Govt/Local Authority Stocks	46.3	51.5	15.3	6.5	4.9	16.3	7.5	1.1	0.3
Money Market Investments	47.3	44.3	34.4	50.9	60.3	57.7	32.8	13.5	9.2
Contributions Receivable	2.5	0.0	48.5	33.5	27.3	18.7	37.4	77.1	70.1
Interest Accrued	2.6	2.1	1.1	0.8	3.3	0.8	3.4	1.8	0.5
Cash at Bank-Current A/c	1.3	2.1	0.7	0.7	0.3	0.5	1.1	3.0	2.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Compiled from the ZRA Pension Fund Annual Accounts 1996 to 2004

The ZRA Pension Rules allow the trustees to invest as much as twenty five percent of the value of the assets in real estate, but the trustees steered clear of such an investment option. It was not until 1999 when the trustees decided to invest in growth assets such as real estate and later in 2000 when they ventured into the equities market. Even when the trustees did invest in growth assets the amounts that were being invested were too insignificant to make a significant impact on the returns of the fund's investments.

To date, the ZRA Pension Fund has only invested in four real estates all of which are residential properties whose growth is not as phenomenal as commercial or industrial properties. It can therefore be argued that failure by the trustees to invest part of the fund's assets in growth assets helped in constraining the investment returns of the fund. Apart from the capital growth of the assets in the form of appreciation of asset values, the fund would also have reaped rewards in the form of rentals receivable from these properties.

Having noted the failure by the trustees of the ZRA pension fund to invest in growth assets such as equities and property, it is necessary to compare the growth of such investments with the growth in liabilities of the fund. Table 5.2 and Figure 5.1 would show that the ZSE industrial index grew at a lower rate than the obligations of the fund. Table 5.2 and Figure 5.1 show that it was only for the years 1996, 1999 and 2001 that the percentage increase in the ZSE industrial index was higher than the percentage increase in the exchange rates. In the other six years the magnitude of the percentage increase of the change in exchange rates was much higher than the percentage increase in the industrial index of the ZSE.

Table 5.2 show that the cumulative increase in the movement of the ZSE industrial index from 1996 to 2004 was 12 420 percent while from 1996 to October 2005 it was 152 434 percent. This may sound an impressive growth. However, if it were to be compared with a cumulative depreciation of the Zimbabwean dollar of 54 804 percent from 1996 to 2004 and 277 688 for the period 1996 to October 2005 the growth in the ZSE industrial index becomes inadequate in meeting obligations of the pension fund. This means that in a space of nine years, the exchange rate moved almost three times as much as the indices of the investment portfolio in which the ZRA Pension Fund could have obtained the highest return on its investments. Even if the trustees had invested the entire assets of the ZRA Pension Fund on the ZSE, they were not going to get a return that could have covered for the magnitude of the increase in the exchange rates. Being unable to match the returns of the pension fund to the

depreciation of the local currency meant that pension shortfalls were going to arise. From the above analysis, pension shortfalls were arising due to the structural design of the ZRA Pension Fund benefits. It can therefore be argued that pension promises of the ZRA Pension Fund were too large and unaffordable given the investment environment in Zimbabwe.

5.5 Late Remittance of Pension Shortfalls

According to the ZRA pension rules, Section 17 (3), quarterly accounts should be produced, showing the aggregate accrued benefits of all members of the pension fund and the total assets of the fund. If the accrued benefits exceed the total assets of the fund, the employer should make good the shortfall. The Pension and Provident Fund Act of Zimbabwe Section 17 (1) also require that a DB pension scheme should be valued every three years by a registered actuary. In line with this provision of the Zimbabwean law, the ZRA Pension Fund was being actuarially valued from time to time.

According to an actuarial report of the pension fund that was prepared as at 30 June 1995 the assets of the fund were more than sufficient to cover for the accrued benefits of members as at that date. The assets were 102 percent of the accrued benefits (Watson Wyatt 1996). Another actuarial report prepared as at 31 December 2000 showed that the assets of the fund had dwindled to seventy-two percent of the liabilities of the fund (Pentact Limited 2001). Yet another valuation carried out as at 30 June 2004 showed that the assets of the fund constituted only twenty-two percent of the liabilities of the fund (Penact Limited 2004). The employer, as per the rules of the fund was supposed to increase its funding of the pension scheme. However, the employer was not always able to make good the shortfalls as is illustrated below.

The balance sheet of the pension fund shows that as at the end of 1996, only three percent (US$ 71 795) of the assets of the fund was in the form of contributions due from the employer. The figure had grown to seventy percent of

the assets of the fund (US$ 1 686 740) by the end of 2004, having at one time reached seventy-seven percent. Judging from the increase in outstanding contributions, it could be said that the employer was increasingly finding it difficult to pay pension contributions. The outstanding contributions from the employer were not attracting any interest. It could therefore be said the employer was partly responsible for overall low returns that the pension fund was realizing on its assets. The use of a table will better illustrate how outstanding contributions were increasing from year to year.

Table 5.4 below shows how the employer was increasingly finding it difficult to continue funding the pension fund.

Table 5.4 Contributions Receivable 1996 to 2004

Year	*Contributions Receivable ZW$*	*Total Assets ZW$*	*Percentage of Contributions Receivable Over Total Assets*
2004	8668155000	12366758000	70
2003	2994819000	3884225000	77
2002	264425000	707611000	37
2001	62393000	707611000	9
2000	64505000	235853000	27
1999	40436000	120579000	34
1998	43529000	89668000	49
1997	6000	31891000	0
1996	672000	26621000	3

Source **Compiled from ZRA Pension Fund Annual Accounts 1996 to 2004**

The table shows that by 2003, pension fund contributions outstanding from the employer had become the biggest single asset of the pension fund. It can be

argued that if the employer was timeously funding the pension fund the returns to be realized from the fund's investments were going to be much higher than has been the case. However, the employer may argue that the amounts it had to pay to the pension scheme were too high. The amounts were mainly a result of the benefit structure of the pension fund as illustrated in the preceding paragraphs.

The delays by the employer to pay up pension shortfalls have a bearing on the continued operation of the pension fund. If for some reason the pension members who are entitled to the fifteen highest pension benefits were to leave the employment services of ZRA, and the employer is not able to pay for the pension benefits, then the pension fund will have to disinvest from all its investments to be able to pay. Table 5.5 below shows 15 employees who have accumulated the highest pension entitlements. The exact names have been concealed for confidentiality reasons.

From table 5.5 below the total accumulated pension benefits for the 15 members was ZW$ 4 459 000 000 as at the end of 2004 whereas the total investments (excluding outstanding contributions) of the ZRA pension fund was
ZW$3 698 603 000, (see Balance Sheet under table 4.6. The total investments of the fund were only able to cover for the benefits of about twelve members (with the highest accumulated benefits) of the pension fund out of a total membership of one hundred and forty. This shows how precarious the situation is for the pension fund. If nothing is done the ZRA pension fund may collapse.

Table 5.5 Members with Highest Accrued Benefits as at 31 December 2004

Date of Birth		
	Mercy Bage	394 000
	Zoro Kwai	380 000
	Sheu Shita	359 000
	Musa Zhowi	367 000
	Natsor Bishop	342 000
	Vudza Bindu	328 000
	Tari Tamara	359 000
	Joe Ezy	322 000
	Marg Nelo	299 000
	Vic Shoko	275 000
	Rick Tarisai	251 000
	Pal Gomo	239 000
	Phil Rura	182 000
	Mutema Tatenda	182 000
	Cole Fadzi	180 000
		4 459 000
		297 267

Source ZRA Pension Fund Financial Statements 2004 p 12

5.6 Prescribed Assets

The low returns on the investments of the fund could be attributed to many factors. One such factor is the pension legislation in Zimbabwe. As alluded to in Chapter Four, the Pensions and Provident Fund Act of Zimbabwe, Section 18

(2a) stipulates that forty-five percent of the assets of any pension fund should be invested in prescribed assets.

Table 5.2 shows that the weighted average return on prescribed assets, which the pension fund invested in, ranged between twenty and sixty-eight percent per annum for the years 1996 to 2004. Though the weighted average return on prescribed assets was higher than the average return on total assets, the return on these investments was too low compared to other investment options. On a cumulative basis, the return on the prescribed assets for the period 1996 to 2004 was a 973 percent compared to 54 804 percent for the depreciation of the ZW dollar against the US dollar over the same period, (see table 5.2). The only time that the weighted average return on these investments exceeded the percentage increase on the depreciation of the Zimbabwean dollar against the US dollar was in 1996, 1999 and 2001.

Prescribed assets could have the advantage that their returns are less volatile than the returns on equity investments (Davis 2000) but the scenario in table 5.2 shows that they are very susceptible to increases in inflation. Some of the prescribed assets in which the ZRA Pension Fund invested in, are long term, their interest rates fixed and the principal is to be repaid at face value. As an example some of the City of Bulawayo stocks that were purchased in 1996 and were to mature between 2005 and 2012 had very low interest rates (see Appendix I). At the time of purchase, interest rates of between 20 and 25 percent were relatively attractive as inflation was around 21 percent (see table 5.2) and predictions were that it was going to fall to single digits. However, inflation did not fall; instead it picked up to reach a peak of 623 percent in January 2004. This meant that the pension fund assets had been tied in investments which were yielding negative returns and these assets could not be redeemed until maturity, some years later.

The prescribed assets were purchased mostly because legislation required that a certain percentage of a registered pension fund had to be invested in these

kinds of assets. The issue of prescribed assets compels pension funds to invest huge sums of their assets in non-performing investments causing pension shortfalls for DB schemes. It can therefore be argued that the law on prescribed assets contributed to the low returns that the ZRA pension fund was getting from its investment and as a result shortfalls on the pension fund arose. The situation could have been made worse by the choice of long term investments which appeared as good buys but as events later confirmed they were not good buys after all.

5.7 Foreign Investments

According to the Pensions and Provident Act of Zimbabwe, Section 18(1) all investments of the pension fund have to be invested in the Zimbabwean currency and within Zimbabwe. This means that amounts of the pension fund should be maintained in the Zimbabwean currency and only invested in the Zimbabwean currency within Zimbabwe. This creates a problem for the ZRA Pension Fund in that the salaries of the employees of the Zambezi River Authority are quoted in US dollars and paid in the local currency at the ruling rate. However, in accordance with the Zimbabwean law, investments cannot be held in any other currency other than the Zimbabwean dollar.

The fact that the salaries of ZRA employees are quoted in the US dollar means that the ZRA Pension Fund is exposed to currency risk. This calls for the management of currency risk, for instance by matching assets (investments) and liabilities (members' pension) in the same currency. If the trustees of the ZRA pension fund were to manage the currency risk to reasonable levels they would have invested quite a significant portion of the assets of the pension fund in assets denominated in US dollars. However, the Zimbabwean law took this option away from the trustees.

Investing some of the assets of the fund was not only going to hedge the fund against currency fluctuations but was also going to be part of the diversification

strategy of the fund. For a pension fund operating in Zimbabwe, with its high inflation and associated political risk, investing outside the country would have provided greater diversification benefits than investing only in Zimbabwe. This is so because events obtaining in a developing country (like Zimbabwe) have a lesser bearing on events, say, in developed countries (Buckley 2000). However, this specific provision of the Zimbabwean laws means that the ZRA Pension Fund cannot hedge its investments against currency fluctuations though currency fluctuations is the biggest risk that the fund faces.

The laws in Zimbabwe do not also allow any forward cover transaction of any sort to be undertaken. It can therefore be said as far as managing the currency risk is concerned, the hands of the trustees are tied by legislation. Some may however argue that even if the trustee's hands were not tied the effect of hedging was going to be limited given that the ZRA Pension Fund has a small asset base. It can however be said that international portfolio diversification would have yielded for the ZRA Pension Fund an improved risk-return pay-off.

5.8 Pension Contributions

The rules of the ZRA Pension Fund provide for the payment of monthly pension contributions by the employer as well as the employee. For the latter, the contribution rates are pegged at two and half percent of the employee's basic salary. The table below shows the contribution of each income source to the total income of the ZRA Pension Fund

Table 5.6 Zambezi River Authority Pension Fund

Pension, Income by Type

Type	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Contributions By Members-Voluntary	83	89	173	161	208	259	637	1064	2158
Contributions By Employer-Normal	3203	4548	51843	14473	57743	49118	304336	3089048	7029682
Contributions By Employer-Special	519	402	2037	1290	2189	1257	3032	30720	0
Income from Investments	5094	5424	14641	21068	60910	46274	103559	288795	677767
Transfer from Reserve	20	881	606	685	1239	1016	3347		0
Increase in Invest. Valuation	0	0	0	0	13	12584	0		2041808
Total Income	**8919**	**11344**	**69300**	**37677**	**122302**	**110508**	**414911**	**3409627**	**9751415**
Member Contribution Percent	**0.93**	**0.78**	**0.25**	**0.43**	**0.17**	**0.23**	**0.15**	**0.03**	**0.02**
Employer Contribution Percent	**41.73**	**43.64**	**77.75**	**41.84**	**49.00**	**45.58**	**74.08**	**91.50**	**72.09**

Source **Compiled from ZRA Pension Fund Financial Statements 1996 to 2004**

As table 5.6 above shows, contribution by members over the years was less than one percent of the total income of the pension fund. In contrast, contributions by the employer ranged between a low of 41.73 percent to a high of 91.5 percent of total income. This shows that contributions by members are very negligible. Given that members are supposed to be saving for their retirement through these contributions, the percentage of what they contribute to the total income makes a mockery of the whole setup.

Pension contributions by members in Zimbabwe are generally lower than those in the EU average of between 7.5 and 12.5 percent of a member's basic salary (Wallace 2002). If contributions were to be pegged at a higher rate, certainly higher than the contributions currently being made, contributions by members would constitute a more significant source of income of the ZRA Pension Fund. More significantly if pension contributions were seen by members to be taking a significant portion of their income, members would most likely take interest in the management of the pension fund.

Currently, the employer contributes almost all of the ZRA Pension Fund's income as such employees take a back seat in the management of the pension fund. Trustees can therefore get away with mediocre returns on the investments of the fund. It has to be emphasized here that ZRA is a quasi-government entity and as such the pressure that is applied by the employer on the management of the pension fund is less than what would have been the case were ZRA a private or public company owned by shareholders.

5.9 Management of the Fund and Composition of Trustees

A principal officer of the pension fund who is supervised by mostly an elected board of trustees runs the ZRA Pension Fund. The principal officer has other duties as an employee of ZRA and is not well trained in the field of pension management nor is he a professional in the field of finance. The principal officer makes all investment decisions. On a day-to-day basis the principal officer

makes all investment decisions. It has been shown in the discussions above that if appropriate investment decisions had been made, the ZRA Pension Fund would have been in a better position than it is currently in. Part of the reasons for the wrong investment decisions emanate from use of untrained persons.

The principal officer is not the only one who is not trained in treasury functions but the board of trustees as a whole. The composition of the trustees leaves a lot to be desired. Apart from the Finance Director of ZRA who is the chairman of the board of trustees, members popularly elect other trustees every three years. Like most popular elections, the election of ZRA Pension Fund trustees is not always won by members well versed in pension administration. Having trustees who are not well versed in pension administration presiding over pension issues would result in inappropriate decisions being made. It can also be said that since members know that any shortfalls on the pension fund are the responsibility of the employer, they are not much worried about the performance of the trustees they elect. If pension shortfalls were to be the members' responsibility it is most probable that things could have been different.

5.10 Conclusion

Setting up of a pension fund to provide for the financial security of its employees was a commendable act on the part of Zambezi River Authority, more so in a country where an employer is under no obligation to do so. However, the setting up of the pension fund was just one step; more was to be done in terms of the funding, the benefit structure and the management. Going by the presentation above telltale signs are there that the ZRA Pension Fund may collapse if nothing is done to arrest the decline. The next chapter makes recommendations on what can be done to stem the tide.

Chapter 6 Conclusion and Recommendations

6.1 Introduction

The Zambezi River Authority Pension Fund was set up when the membership to the fund was just a handful. The few employees, who joined had accumulated small amounts as pension benefits. The economy then was very stable and there were not many financial demands placed upon the employer. The employer had the capacity to finance the fund without any problem.

The previous chapters illustrated that the following changes took place over the years:

- Employees who were not eligible to be members when the fund was set up have been admitted as members.
- Members have accumulated substantial pension benefits having been in the company for several years.
- The Zimbabwean economy has not been performing as well as it should and with it the value of the Zimbabwean dollar has crashed against the US dollar.

All these factors conspire to present huge challenges to the ZRA pension fund.

If nothing is done the pension fund is likely to collapse. From the previous chapter it would seem that a lot could be done to save the pension fund from certain collapse. This chapter will recommend that the defined benefit structure of the pension fund should be changed to a defined contribution, the investment portfolios of the ZRA pension should be diversified, member contributions should be increased and the management of the pension fund itself need to be revamped.

6.2 Structure of the Defined Fund

The previous chapter dealt with what could have gone wrong with the ZRA Pension Fund. More than anything else it was shown that the structural design of the pension benefit under the Defined Benefit Scheme was responsible for the pension shortfalls. The experience in the West as shown in Chapter Two of this presentation indicated that Defined Benefit schemes are no longer sustainable. It could also be argued that if Defined Benefit funds are no longer sustainable in developed countries, they can not be sustainable in poorer countries such as Zimbabwe which has very limited resources, limited investment options and whose economy is shrinking.

The previous chapter showed that Zimbabwe does not have investment options which could have matched the rate at which ZRA Pension Fund benefits were accruing. If investment returns cannot match the growth in obligations it means the employer has to periodically pump in additional funding into the pension fund if the fund is to be saved from collapse.

In the case of Zambezi River Authority, the previous chapter alluded to the fact that the low returns on investments that were being realized were due to many factors including the delay by the employer to timeously pay up the due amounts. Adding additional amounts to be paid by the employer would only worsen the plight of the employer and may in the end lead to the employer having to declare bankruptcy. This would not in any way help anybody, let alone the members of the pension fund who are themselves employees of ZRA.

As has already been pointed out in this presentation, the DB pension scheme was the scheme of first choice but since the 1980's DC schemes have become critically important mechanisms for retirement provisions. Most companies wishing to set up pension funds for their employees now opt for defined contribution type of pension schemes; even those with DB schemes are

changing in droves to DC plans, as has been the case particularly in the US and the UK.

This has also been the case in Zimbabwe where a number of companies, realizing the extent to which they are indebted to their pension funds, have decided to change from a DB scheme to a DC scheme. As much as ninety pension schemes changed from DC to DB schemes in the last two years (Zimbabwe Association of Pension Funds Bulletin Issue No. 2 of 2005). There are quite a number of explanations for the trend as mentioned in this presentation.

Probably the most appealing advantage of the DB pension scheme to the members is its potential to provide a stable income for members when they reach retirement age, while capital market and longevity risks are taken care of by the employer (Li 2003). However events of the past decade or two have shown that this is only a potential, which in practical cases may remain unfulfilled (Mitchell 2002). Most DB pension schemes have been shown to be under-funded. This is the situation that the ZRA finds itself in whereby its pension fund for Zimbabwean nationals is funded only to the tune of twenty-two percent. It could be of no use for the members to hold on to a promise for a pension, which is unlikely to be fulfilled. It could be better for employees to switch to a fully funded pension scheme where they are assured of their pension than stick to one which promises to offer so much, and in the end may deliver nothing. In Zimbabwe, if a pension scheme is under funded the loss falls on the members, unlike in the US where the employers insure against DB schemes' under funding.

As the literature review section of this presentation showed, there is not much to choose from in terms of the welfare of members, between the DB and the DC pension schemes. Samwich and Skinner (as quoted by Li 2003) also found out that the realization of earnings and asset returns were identical for each worker in both schemes. Based on these researches it would be better for ZRA and indeed members of the ZRA pension fund for the pension fund to be changed

from a DB to a DC pension scheme. The advantage to the employer would be that the costs of pension contributions would be known and manageable. The advantage to the members is that they will receive a pension upon retirement and not a promissory note as is likely to happen if the ZRA pension scheme is not reformed.

Once a pension scheme has been formed and pension rules put in place, they are not cast in stone. Circumstances are bound to change and so should the rules, if the pension scheme is to remain relevant. The ZRA pension scheme should therefore move with the times in order to survive. In amending the existing rules of the ZRA Pension Fund, affordability to the employer is cardinal; this is exactly what the Defined Contribution scheme offers.

Before any changes to the pension rules can be made, observance of the law is important. The Statutory Instrument 119 of 1995 (Section 39), of the laws of Zimbabwe, which governs the conditions of service of ZRA employees only states that the Authority shall operate a pension scheme. It does not specify what type of pension plan ZRA should adopt. The choice of a pension plan in terms of design and benefit structure seems to have been left to the employer. In making that decision, it is imperative for ZRA to take into account its financial ability to meet the pension contributions to the new scheme. It would appear, therefore, that it is possible for the employer to change from the defined benefit plan to a defined contribution plan. However, there is still a process to follow when changing from one pension fund benefit to another as enunciated by the Pension and Provident Fund Act, Section 8 of the laws of Zimbabwe.

The process to be followed includes dissolving the DB scheme and applying for registration of the new DC scheme. Legal advice needs to be obtained before ZRA proceeds to change the structure of the pension fund. Consultations would also need to be held with employees explaining the reasons behind the change as well as the advantages and disadvantages of each of the two schemes.

6.3 Alternative Investment Options

It is important to note that the most important factor affecting the finances of the fund is inflation. In the case of the ZRA Pension Scheme, inflation manifests itself through the depreciation of the local currency against the US dollar. Pension benefits to be paid are based on the highest annual salary, which has been without exception the salary immediately before retirement, withdrawal or death. The ability of the fund to finance these benefits out of contributions received depends solely on its ability to achieve a rate of return which at least matches the growth of its liabilities.

The previous chapter has shown that a significant portion of the ZRA Pension Fund's investments have been in the form of volatile money market deposits. While the ZRA Pension Fund could have periodically enjoyed high interest rates on these investment types, short-term investment options are not suitable for a pension fund whose planning horizon is long term (Davis 2000). In the case of Zimbabwe it has always been expected that while there could be brief periods when interest rates would be high, the rates would decrease in the medium to long term. It would therefore be prudent for trustees to use some of the Fund's cash assets to buy long-term investments. Trustees should consider investing some of the monies in growth assets such as equities and properties or even property development as such investments better match the real liabilities of the fund.

Long-term investment options may have a high risk of being illiquid and volatile, but the market may compensate investors for those risks by a higher return than what could be obtainable from the money market (Davis 2000). Investment in property can protect assets during market downturns and from inflation thereby ensuring capital appreciation over the long term. A report by Knight Frank in 2004 revealed that the majority of office space in Harare was dilapidated due to lack of maintenance (www.knightfrank.com). This lack of quality stock and congestion in the city center presents an opportunity for pension schemes such

as the ZRA one to build offices in suburban locations. Other than the returns and the capital appreciation, investing in such assets as property development would ensure a relatively low correlation with investment in the money markets.

Investing in alternative investments can reduce the overall risk of the pension fund's investment portfolio and thus enhance the risk adjusted return (Buckley 2000). It should also be acknowledged here that the Zimbabwean capital market is not as advanced as the ones obtaining in developed countries. As such there is a limit to which the trustees could go in search of alternative investment options. However, even in the context of limited long-term investment options obtaining in Zimbabwe, the ZRA Pension Fund can do much more than investing the bulk of its assets in the money market. The trustees will need to consider the liquidity, limitations on transferability and uneven patterns of returns of the alternative investment options before they invest.

6.4 Management of the Pension Fund

The present set up of the ZRA Pension Fund is that it is self-administered with its only employee being the principal pensions officer. All the decisions are made by the trustees who themselves are not at all professionals in the field nor have they received training on pension administration. This is not healthy for the ZRA Pension Fund. The selection of performing investment portfolios has been a major problem mainly because of the shortage of expertise in the field of investments. It would therefore be in the interest of both the employer and the members to contract out the management of the ZRA Pension Fund to professional pension managers who perform similar services elsewhere for other pension funds. It should be noted that assets of the fund need to be invested in performing investments because if the long term investments returns turn out to be lower than the long term increase in staff salaries the DC scheme will offer lower retirement benefits than a similar version of the DB scheme. It is important for the sake of the employees that experienced personnel in Fund Management are appointed to manage the scheme.

The other aspect of investment managers is that they provide a means for funds to participate in the property market by arranging for a number of funds to have shares in a particular property in cases where none of the funds would be large enough to buy that property outright (Pentact Limited 2001). This arrangement allows funds to diversify their property investments. As long as the legal arrangements on joint ownership are worked out with fund managers, this is an acceptable way for the ZRA Pension Fund to participate in property investments. This could be very advantageous for the ZRA Pension Fund, which is a relatively small pension fund and on its own may not have the financial muscle to fully participate in what is potentially a lucrative Zimbabwean property market.

The downside of this investment option is that these growth assets do not have capital guarantee and their market values fluctuate from time to time. However when carefully chosen, in the longer term the returns on such investments will ordinarily exceed those which could have been realized on fixed interest stocks, and/or deposits. The trustees will need to take this into account in making decisions. It will be important for them to take expert advice before investing in a particular share or property to make sure all the loose ends are tightened.

Changing from a DB to a DC and appointing professional pension managers would not solve all the problems the ZRA Pension Fund is facing. Trustees and indeed members still need to play their part. The trustees of the ZRA Pension Fund have been operating with no documented investment strategies and no investment targets or benchmarks for the pension fund. There was therefore no basis on which to measure the performance of the fund. This has to change if the ZRA Pension Fund has to find its feet again. The trustees need to come up with a properly formulated investment strategy and the attendant targets. This may call for the trustees going for relevant courses to arm themselves with necessary skills to properly give policy direction to the fund. This will obviously cost money but it could be money well spent if the ZRA Pension Fund is turned around. The members of the fund have to demand performance from their representatives, the trustees.

The members of the ZRA Pension Scheme on their part have been disinterested onlookers, not taking active steps to ensure that their investments are not eroded by inflation. Members need to play their part by ensuring that the persons they elect to be trustees have the skills and drive to ensure that their contributions are invested in high yielding investments. Trustees should be able to do this by taking expert advice, even at the cost of the pension fund.

6.5 Member Contributions

On average member contributions being made by pension funds in Zimbabwe ranges from about 7.5 percent of a member's basic salary to about 12.5 percent (Zimbabwe Association of Pension Funds 2003). However in the case of ZRA the member contributions are quite low at two and half percent of a member's basic salary. The main purpose of a pension fund is to secure financial security of pensioners by keeping benefits stable over time. Pension benefits are important and of concern to all workers as in each member's life, a time will come when he will have to rely on pension payouts for livelihood. It is therefore important for every worker to make an important contribution towards his or her pension. This will call for the upward review of pension contributions being made by ZRA pension fund members to a more realistic level of, say, at least 7.5 percent of basic salary.

6.6 Conclusion

This presentation has highlighted the problems being faced in running the ZRA Pension Scheme. The biggest problem is the benefit structure of the pension fund. It has to be realized that the pension fund was established when the members of the pension fund were very few and relatively young and therefore the benefit structure could have been appropriate. Over the years, the fund has since grown, the members have accumulated substantial benefits and the macro-economic fundamentals of Zimbabwe have significantly changed.

The employer is now struggling to meet its obligations to the pension fund. At the rate at which pension shortfalls are being realized, the employer will not be able to meet the pension shortfalls. That will spell doom for the ZRA Pension Fund and indeed the lives of the present day ZRA employees who were looking forward to a deserved rest in retirement.

It is however a good thing that most of the problems being faced are well within the control of both the employer and the members. What is needed is to reform the ZRA Pension Fund. It is important for the sake of the members that the problems that should be corrected are fixed now otherwise the fund may collapse. Some of the problems facing the pension fund are beyond the control of the employer and the members. Such problems can only be referred to trustees to continue to lobby the government for it to pass legislation that is friendly to the running of pension funds. For instance, trustee could lobby government to reduce or altogether eliminate the prescribed asset ratio and to authorize pension funds to invest at least a percentage of the assets of pension funds offshore. The other factor which is beyond the control of the trustees is the improvement in the economic fundamentals of the Zimbabwean economy. For this and related factors the trustees and indeed members can only wait in hope.

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36 Zimbabwe Association of Pension Funds Bulletin Issue No. 2 of 2005

Appendix I

FINANCIAL PERFORMANCE OF PRESCRIBED ASSETS

Year 2004

Details	Maturity Date	Interest Rate Per Year %	Cost Z$	Weighted Average Interest
Government of Zimbabwe Stock	2006	34.87	1300000	0.9850
	2005	47.57	223000	0.2305
	2007	43.32	500000	0.4706
	2005	50.72	1000000	1.1021
	2004	82.72	10000000	17.9736
	2004	81.26	10000000	17.6564
	2004	76.78	7000000	11.6781
			30023000	
ZESA Stock	2006	100	4000000	8.6913
	2012	12.95	2000000	0.5628
	2012	28.66	2000000	1.2455
			8000000	
City of Bulawayo Stock	2012	40.24	2000000	1.7487
	2006	11.2	2000000	0.4867
			4000000	
Fuel Company of Zimbabwe	2005	62.97	4000000	5.4729
			4000000	
Grand Total			**46023000**	**68.3041**

Year 2003

Government Stock	2006	13.25	1300000	0.2918
	2005	14.8	223000	0.0559
	2007	23	500000	0.1948393
	2005	21.5	1000000	0.364264778
	2004	30	5000000	2.541382173
	2004	30	3000000	1.524829304
	2004	30	5000000	2.541382173
	2004	30	10000000	5.082764346
	2004	30	10000000	5.082764346
	2004	30	7000000	3.557935042
			43023000	
ZESA Stock	2006	40	4000000	2.710807651
	2012	15.5	2000000	0.525218982
	2012	34.37	2000000	1.164630737
			8000000	

Source ZRA Pension Fund Financial Statements 1996 to 2003

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UNIVERSITY OF
KWAZULU-NATAL

27 NOVEMBER 2006

MR. Z SHOKO (202524422)
GRADUATE SCHOOL OF BUSINESS

Dear Mr. Shoko

ETHICAL CLEARANCE APPROVAL NUMBER: HSS/06780A

I wish to confirm that ethical clearance has been granted for the following project:

"A study of the challenges being faced in funding the Zambezi River Authority Pension Fund"

Yours faithfully

MS. PHUMELELE XIMBA
RESEARCH OFFICE

cc. Faculty Office (Christell Haddon)
cc. Supervisor (Henry Mkhize)