

# **PUBLIC PENSION FUND MANAGEMENT IN GHANA**

Prepared by:

Henry DEI

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# **PENSION FUND MANAGEMENT IN GHANA**

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## **1.0 INTRODUCTION.**

Historical Development of Social Security in Ghana.

Historically in Ghana there existed a traditional system of social security amongst the rural folk that ensured that the extended family had the responsibility of taking care of the aged, the infirm and in the final analysis the dead in the community. The advent of modern society that is highly migratory and the introduction of social security have disrupted this traditional extended family system of care, as we now know it.

The missing link however is that some sections of the population have been missed out in the provision of social security in the transition from the rural extended family care to the modern social security and these are the people working in the informal sector and to some extent the rural folks.

These people unfortunately form the majority of the population and the challenge is to design schemes to cater for the needs of this broader sector of the population.

The introduction of pension in Ghana dates back to the colonial times when Government introduced pension for a select group of civil servants who were known as pensionable officers.

In the early sixties Government established a more national scheme to cover all workers both in the private and public sectors. The scheme was initially started as a Provident Fund to provide lumpsum payments for old age, invalidity and survivors benefits.

During this period the funds generated from the contributions were invested in special government bonds with very low interest rates and very long maturity periods. As a result of the low interest rates and the rising inflation at the time the lumpsum benefits due to retiring beneficiaries were meaningless.

Conversion of the Provident Fund into a pension payment introduced some element of adequacy into the retirement package for the workers.

The conversion of the Provident Fund was accompanied by the shift from investments in special government bonds to investments in a broad portfolio.

The transition to a very broad investment portfolio required considerations that satisfied the needs of government on the one hand, the need to satisfy some social needs of the contributors and the need to generate commercial rates of return to balance the lower rates from the other portfolios.

## **2.0 SOCIAL SECURITY & NATIONAL INSURANCE TRUST ( SSNIT )**

The institution was established by the Social Security Act in 1965 (Act 279) which set up a Social Security Fund and provided for the payment of lumpsums through a Provident Fund Scheme.

In 1991 the Social Security Law (PNDCL 247) converted the Provident Fund Scheme to a Pension Scheme.

Over the years the institution evolved to a very decentralised institution to enable the collection of contributions and the payment of benefits at the district level.

The institution operates a scaled premium scheme with the following contributions and benefits:

**Contributions:** All workers are expected to contribute 17.5% of their monthly salaries made up of 5% by the employee and 12.5% by the Employer. The self-employed are also encouraged to contribute but they contribute the whole total of 17.5% themselves.

**Benefits:** There are three basic benefits and these are old age pension, invalidity pension and death-survivors payment.

**Indexation of Benefits:**

Pension benefits are indexed annually using the average rate of increase in the contributions inflow for the previous year. This is to prevent any distortions in the financial equilibrium of the scheme.

Specialised departments such as IT, Investments and Projects were created to handle the expanding job schedules that were related to the investment of the fund.

The institution has become fairly large over time and is now going through restructuring to concentrate on the core business of pension payments whiles other related activities would be spun off and new institutions or subsidiaries created to handle these activities.

### **3.0 ACTUARIAL PROJECTIONS**

Social Security schemes by their very nature require actuarial projections and analysis to ascertain the viability and sustainability of the schemes into the future.

In the case of SSNIT actuarial projections are reviewed every three years. These projections are based on a set of assumptions that are reasonable to the actuaries.

The principal assumptions have been grouped into three categories:

- Demographic (e.g. population distribution and life expectancy data)
- Economic (e.g. general economic growth data projections)
- Programmatic (e.g. derived from operational & administrative experience of SSNIT over the years.)

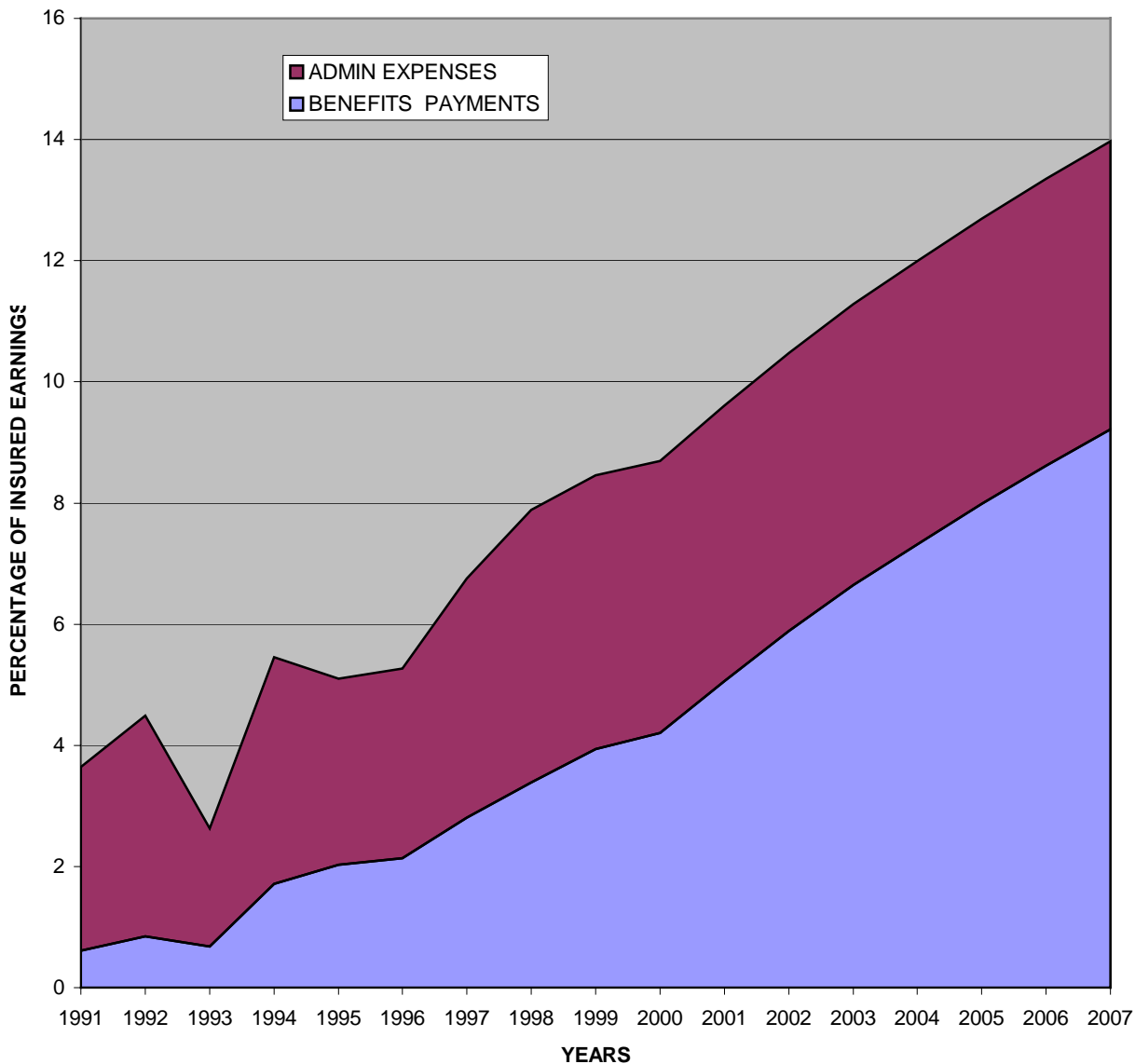
The analysis entails determination and projection of contributors over the next 20 years or more and the determination of the funds inflow expectation from contributions and from investment returns.

Based on the available data and projections the number of expected pensioners, invalidity and death cases are computed to arrive at the future funds outflow. Combining these and the administrative and operational costs the results of the actuarial projections are determined.

The results of the actuarial evaluation carried out in 1998 are presented in the tables and graphs below.

The graphical presentations show the results more vividly.

### SSNIT COST COMPOSITION



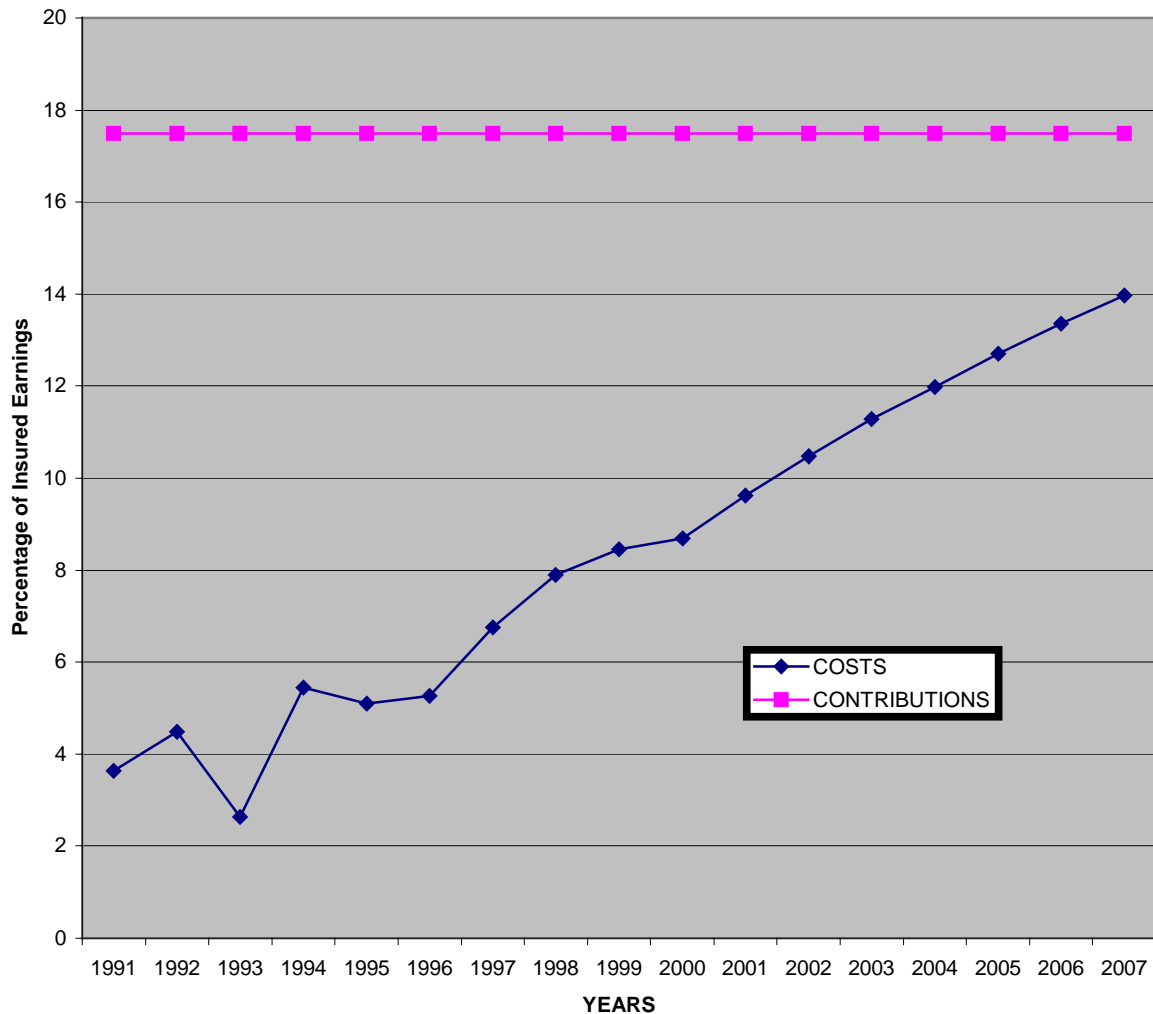
The graph above shows the rising trend of both pension payments and administrative expenses based on the actuarial projections for running the scheme.

The rising trend of benefits can be expected for a young scheme since at the start there were very few contributors who had qualified for pension but with time the numbers were expected to rise. The Actuaries would however need to examine the formula for pension computations to assure themselves that the formula is acceptable.

In the case of the rising trend of administrative expenses the Management needs to review the procedures and the organization structure to streamline operations aimed at cost cutting and costs reduction to keep this within manageable limits.

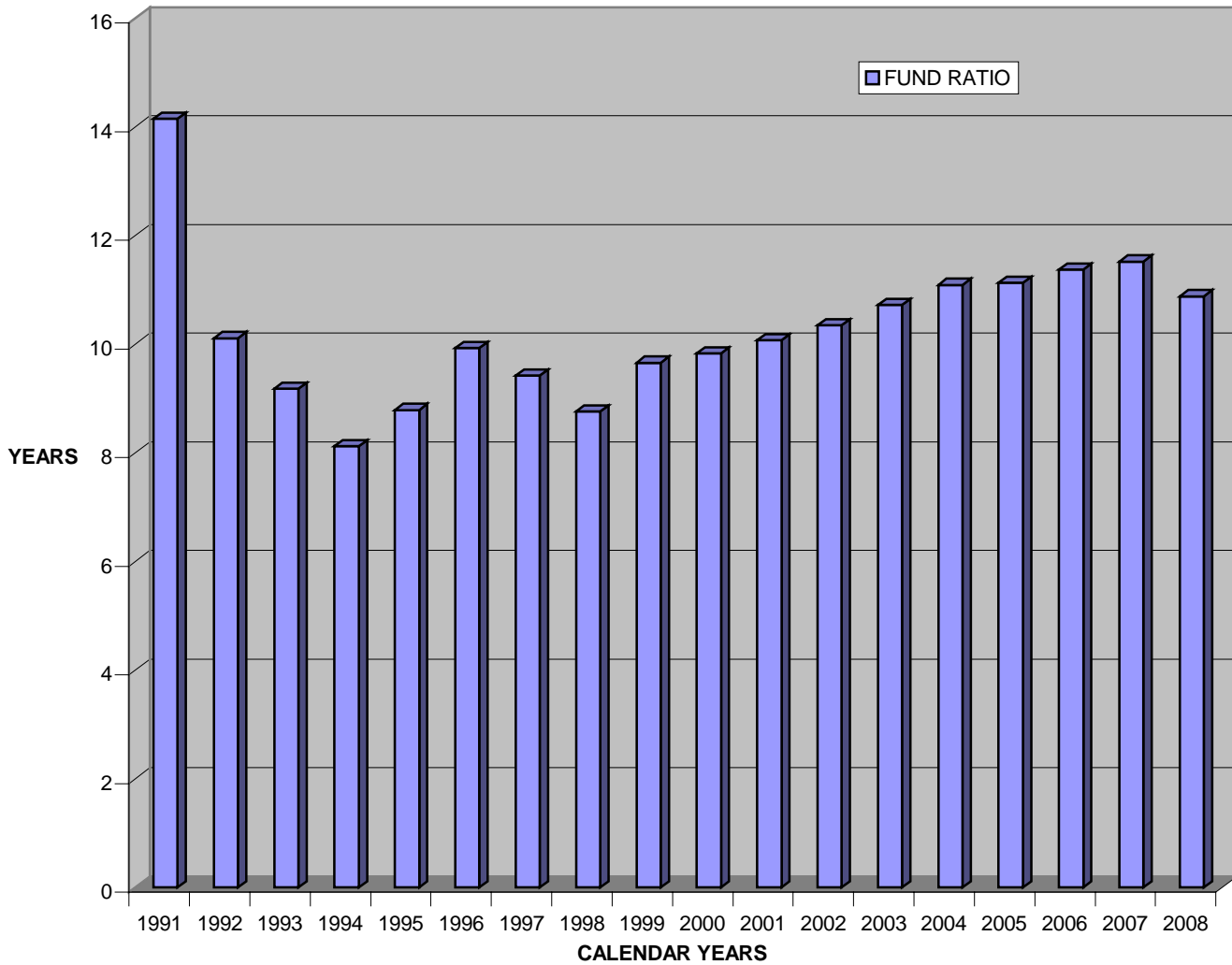
The next graph shows the funds available for investment from this analysis. In the early years the funds available for investment are relatively high but over

**SSNIT COSTS-G2**



the years as the scheme matures this begins to diminish. It is therefore evident that the Investment policy needs to be a derivative of this trend over the years. The sustainability of the scheme is further verified using the Fund Ratio and the graph below indicates the results of this analysis.

## SSNIT FUND RATIO



The Fund Ratio is an actuarial index that can be used to assess the financial viability of a social security scheme.

The Fund Ratio is defined as the ratio of the funds available at the beginning of the year to the projected expenditure in that year.

The results show that the ratio started at a high of about 14 years and dipped to a low of about 8 years and started to climb again and is expected to reach 12 years in the year 2008.

The major conclusions to be drawn from the analysis towards the formulation of an investment policy are as follows:

- The fund does not have any problems of liquidity in the early years
- The longer-term minimum return on investments can be determined
- The fund should aim at longer-term investments, which would carry with it, higher returns and capital appreciation.

Other conclusions with regard to the pension formula review and contributions review could also be derived from the actuarial analysis

## 4.0 INVESTMENT POLICY

The development of a policy guideline for investments of the Social Security Fund are guided by two major objectives:

- The need to maintain financial viability for the scheme
- The need to provide investments, which are development, oriented

### 4.10 Financial Viability

The financial viability is ascertained by ensuring that an optimum Fund Ratio is maintained and also that positive rates of return as determined in the actuarial projections are achieved in the longer term.

The major sub –objectives in achieving the above are as follows:

- Ensuring SAFETY of selected investments
- Ensuring adequate YIELD
- Ensuring LIQUIDITY for meeting obligations when due
- Ensuring DIVERSIFICATION of the portfolio

### 4.20 Development Oriented Investments

This aspect recognises the fact that we live in a developing country and the contributions are the collective savings of the population and these savings should be directed towards improving some basic provision of services that will generate some return as well as benefit the population.

There is the need to be very selective in this sector so as to pick on areas that can be formulated to provide cost recovery and a modest return.

Included in some of these sectors are :

- Housing Finance scheme
- Students Loan Scheme
- Industrial Estates

## 5.0 FINANCIAL VIABILITY

In general the investments of the fund are grouped into:

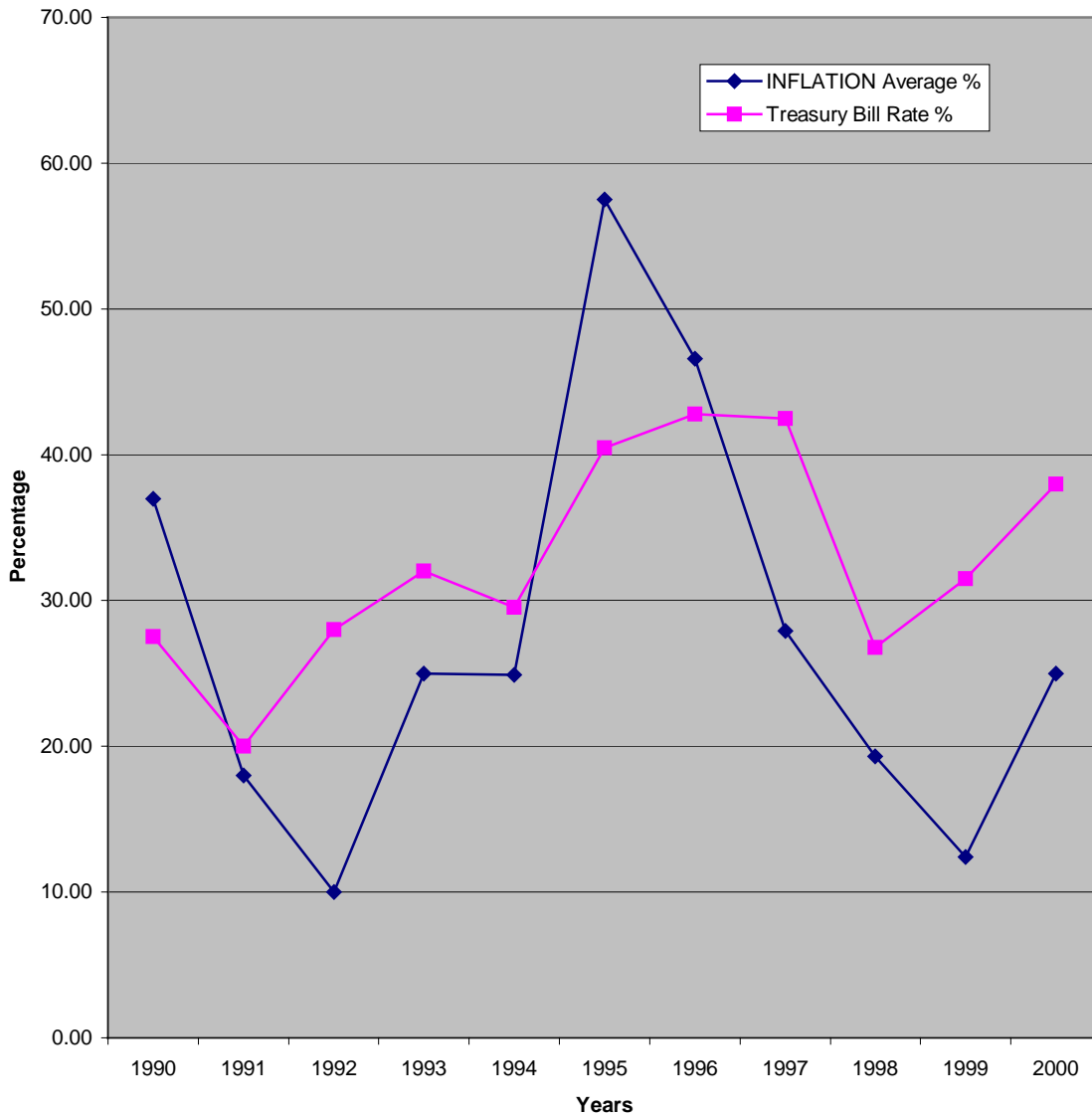
- Fixed-Income Investments
- Non Fixed-Income Investments

**5.10 Fixed Income Investments** are those whose returns are pre-determined or known at the time of making the investment. The Fixed Income Investment may include the following category of investments:

- Treasury Bills
- Fixed Deposits
- Bonds
- Bank Deposits
- Corporate Loans

In general this category of investments have been short term in nature. In addition to this is the fact that the economy of Ghana has been running fairly high inflation over the years and as such with the exception of index linked bonds this type of portfolio could suffer from capital erosion over longer term. The results from the actuarial projections indicate that liquidity is not a problem for the young scheme and as such more emphasis needs to be placed on longer term investments to meet the future liabilities of the pension scheme. term investments to meet the future liabilities of the pension scheme. As shown below very often inflation resulted in negative rates for even Treasury Bill returns.

**Treasury Bill Rates & Inflation**



**5.20 Non Fixed Income Investments** These investments are variable in the value of their returns and tend to have longer gestation periods but in the long term have the advantage of capital appreciation, developmental in nature and generally create jobs within the economy. Included in this category are the following:

- Equities (Both listed and unlisted)
- Properties (Both commercial and residential)
- Unit Trusts
- Special Economic & Social Utility Schemes

#### **5.21 Equities.**

These comprise shares traded on the Ghana Stock Exchange and other shares in companies that are not quoted on the Exchange.

The GSE is relatively young and the opportunity for buying large volumes of shares as the Fund would want to purchase are not readily available in the companies that have the good potential for high performance.

The market is only now beginning to evolve but the Fund is one of the major players on the GSE.

The graphical presentation shows the performance of the GSE over the first ten years of its existence.

There are clearly some instances where the GSE recorded negative real rates of return because of the high rate of inflation in the national economy.

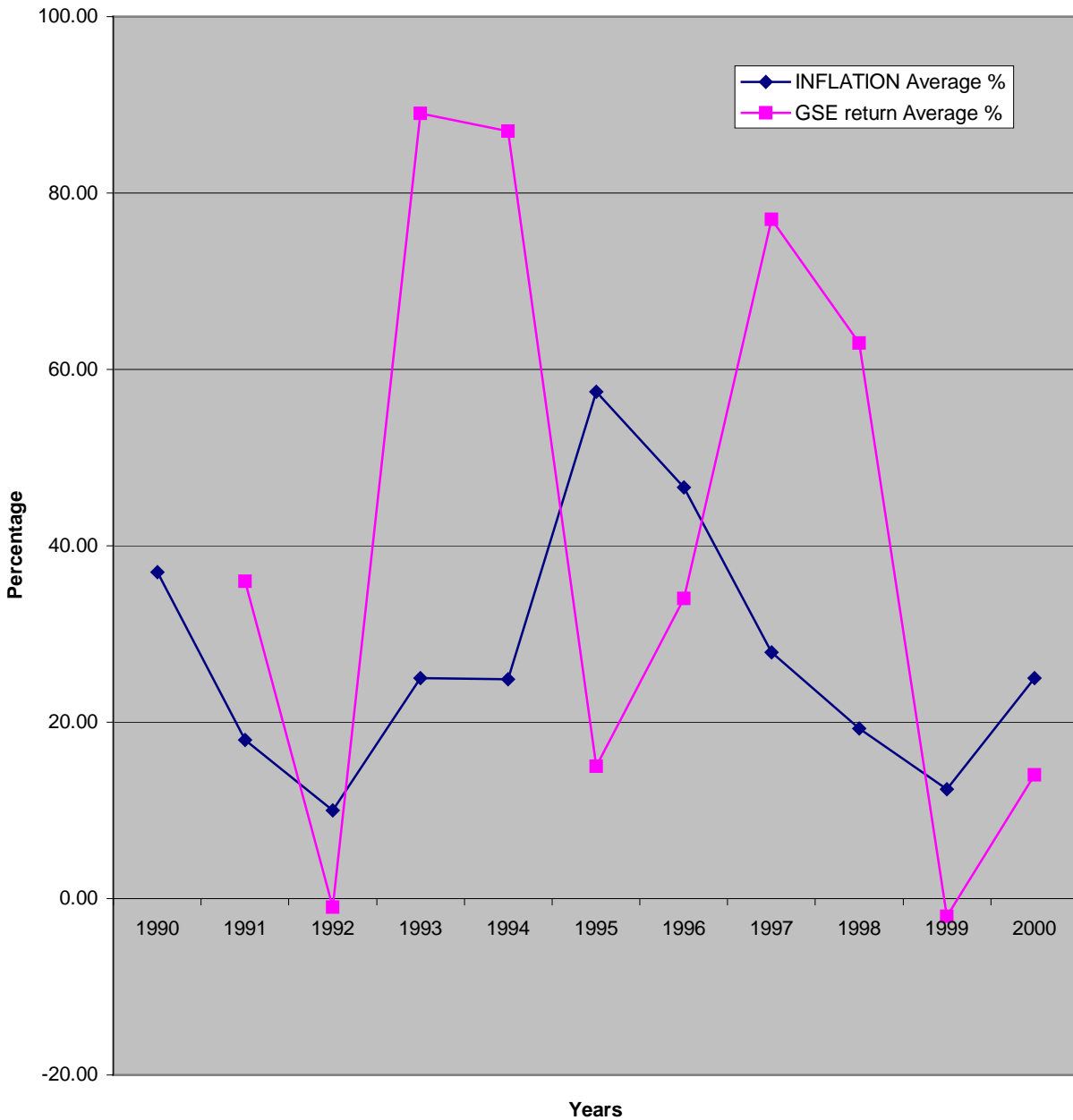
#### **5.22 Properties.**

The Trust has invested in both commercial and residential properties as a major aspect of the longer-term investment.

The returns from the completed commercial sector properties are very high and those under completion are expected to boost the returns even further.

Returns from the residential properties in the middle to low income sectors are low and as a result of this a new policy was evolved to sell these properties and replace this aspect with a special scheme for the housing sector (Home Finance Scheme)

### GSE RETURN & Average Inflation



The above graph shows the returns recorded on the Ghana Stock Exchange over the period 1990 to 2000 and this is plotted against the average inflation rate over the same period. This period covered the first ten years of the birth of the GSE when new companies were regularly still being admitted on to the exchange.

## 6.0 INVESTMENT MODEL

In the absence of well-defined and historic information on investment performance indicators in Ghana about how various asset classes perform, there is the need to start with a simple model which could be improved with time for the purposes of finding an optimal as well as an appropriate mix to give the desired yield on investments.

### 6.10 Portfolio Grouping.

In view of the varying rates of return on the asset mix, a model was developed to guide the Trust and ensure that the long-term returns are positive.

The total investment portfolio is divided into two classes:

- Fixed-Income Investments (FI)
- Non-Fixed-Income Investments (NFI)

For the overall investible funds being held, it is expected that the real rate of return on investments is some rate  $\alpha$  ( $\alpha$  is some units above rate of inflation)

With this information the expected income from all investments becomes known. We assume the following:

Let  $\delta$ , ( $0 < \delta < 1$ ) be the proportion of the total income from the FI portfolio

Then the proportion from the NFI portfolio is  $(1-\delta)$ .

Let  $\theta$  be some units above inflation, which is the real rate of return from FI.

The remaining portion of the total income from NFI is expected to give a certain return  $\beta$ , which may or may not be above inflation, as this cannot be known a priori.

The model continuously adjusts the parameters  $\theta$  and  $\delta$  with a fixed  $\alpha$  to obtain the  $\beta$  which will give the proper mix. The model is detailed below.

## 6.20 Model for Selecting Asset Mix

This shows how the model for selecting the proper asset mix is obtained.

The model is based on the assumption that there is a pre-fixed level of return above inflation. With the two categories of portfolio's namely Fixed Income and Non Fixed Income, we simulate what proportions of investible funds should go into FI and NFI.

Assumptions:

- Let
- $I$  be annual inflation.
  - $\theta$  be level above or below inflation for FI portfolio
  - $\delta$  be the proportion of investible funds in FI
  - $I_t$  be the inflation in month  $t$
  - $\beta$  be the level below or above inflation for month  $t$  for NFI portfolio

The requirement is that :

$$\sum_{t=1}^{12} (I_t + \alpha) = \delta (1 + \theta) + (1 - \delta) \sum_{t=1}^{12} (I_t + \beta_t)$$

or

$$I_a + \alpha = \frac{\delta}{12} (1 + \theta) + (1 - \delta) (I + \beta_a)$$

Where:

$I_a$  = average annual inflation

$\beta_a$  = average real rate of return for the NFI.

Thus if we assume  $I_a \approx I$  then

$$\beta_a = \frac{[12\alpha + 11\delta I - \theta\delta]}{12(1 - \delta)}$$

Now with the values of  $\alpha$ ,  $I$  and  $\theta$  fixed we can vary  $\delta$  till we get a desirable  $\beta_a$  or we may also vary  $\beta_a$  until a proper mix is obtained.

### 6.30 Analysis of the Model

The fund position was used to create scenarios of what the mix should be to obtain between 2% and 4 % real rate of return. The results indicated the mix that would achieve the returns as indicated below:

PORTFOLIO MIX DETERMINATION					
Proportion of Funds %		Points above Inflation %		Overall Yield Above Inflation	
FI	NFI	FI	NFI		
66.62	33.38	3	0	0.02	
74.99	25.01	4	0	0.03	
80	20	5	0	0.04	

Based on the results of the actuarial report which indicated a 2 % real rate of return the target for asset mix of 66/33 was selected

#### PORTFOLIO MIX FOR 1995-1997

	1995	1996	1997	1998	1999	TARGET
FI	45.6	55.9	54.9	59	59	<b>66.6</b>
NFI	51.5	44.1	47.1	41	41	<b>33.3</b>
TOTAL	100	100	100	100	100	<b>100</b>

The portfolio mix is slowly being adjusted to reach the target set

#### RETURN ON INVESTMENTS

	1995	1996	1997	1998	1999
SSNIT		12.35	14.1	18.3	23.5

Over time using this model the return on investments in the long term will rise as the non-fixed investments made begin to contribute their quota of returns.

## **7.0 DEVELOPMENT ORIENTED INVESTMENTS**

The Social security Funds are the major collective savings of the population and these should be put to use to generate returns while improving the standard of living of the population at the same time. Some selected investments that satisfy these criteria were therefore selected as follows:

- Home Finance Scheme
- Students Loan Scheme
- Industrial Estates

### **7.10 Home Finance Scheme.**

Residential accommodation is one of the biggest problems facing a developing country like Ghana. Invariably the lack of attention to this has resulted in the springing up of slums in the urban as well as the rural areas. The Trust commenced to tackle this problem as usual through the direct intervention of building residential houses but quite clearly it would be better to develop a more institutional approach for a sustainable solution to this problem. This gave birth to the Home finance Scheme which addresses the problem in its totality covering:

- Infrastructure Development
- Organised Real Estate Development
- Primary Mortgage Institutions
- Secondary Mortgage Institution (Home Finance Company)

SSNIT provided long term funds for the acquisition of large parcels of land which were then provided with the needed infrastructure including, roads, electricity, water and telephones.

These lands were made available to Real Estate Developers through their association GREDA (Ghana Real Estate Developers Association) on credit terms that payment would be made at the time that the buildings were ready for sale but within a prescribed period.

The members of GREDA were assisted to obtain short-term construction finance from the Commercial Banks with the understanding and sometimes the guarantee from the HFC that loan repayment would be effected at the time of sale of the buildings through the Mortgage system.

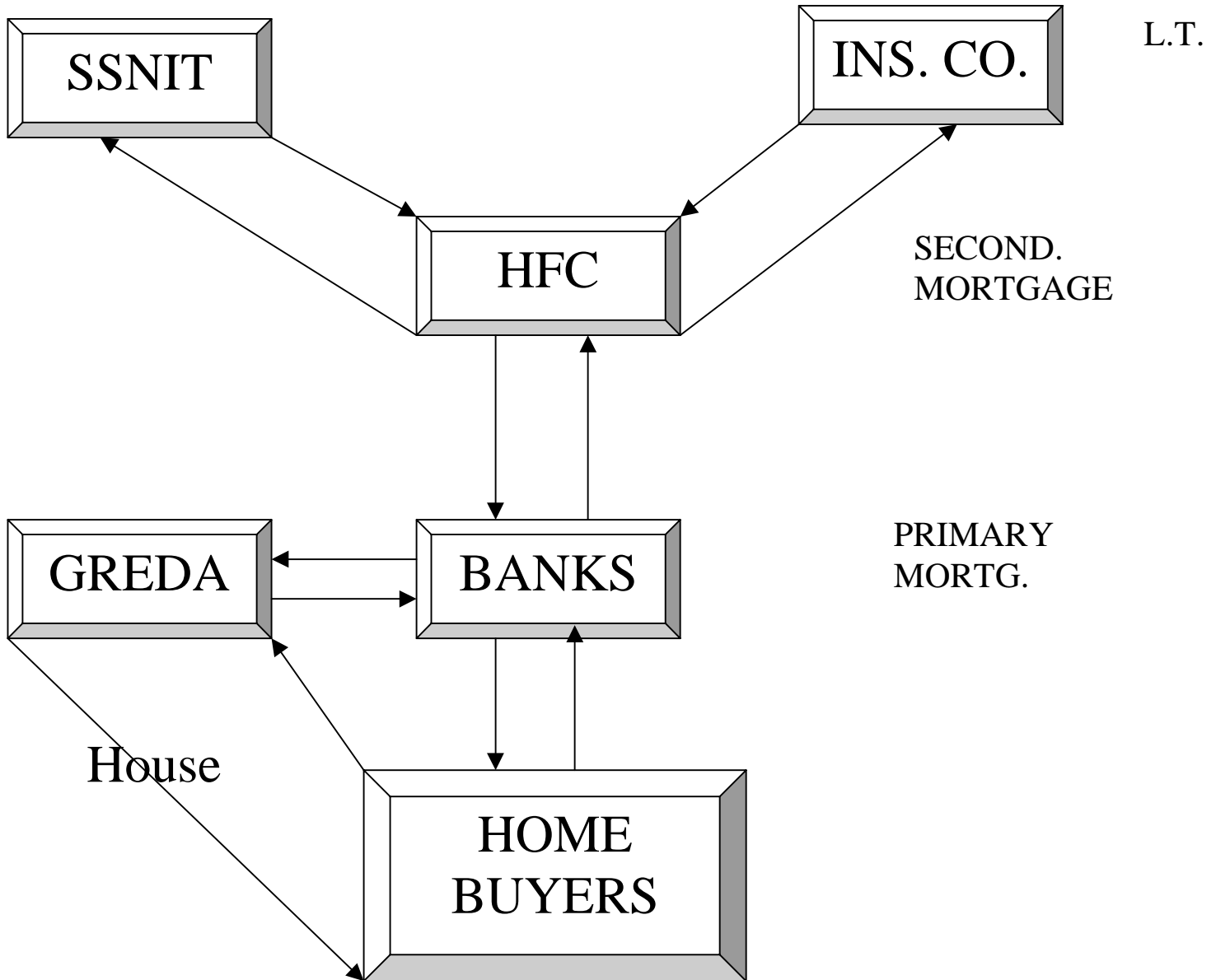
Homebuyers were to approach their Bankers for mortgage financing and the banks were to act as the primary mortgage lenders and go through the normal procedures. The scheme operated on the basis of outstanding balance being indexed to inflation to ensure sustainability. .

The Banks would then seek reimbursement of such facilities from the HFC, which was set up as the secondary mortgage institution.

HFC was set up to source for long term funds and the major source was from SSNIT through the issue of index linked bonds for the operation of the Home Finance Scheme.

The graphical presentation below explains the details of the scheme.

# HOME FINANCE SCHEME



**SSNIT:** Social Security and National Insurance Trust (Source of Long term Funds)

**INS. CO:** Insurance Companies, which also have some long term Funds

**HFC:** Home Finance Company, which is a secondary mortgage Institution

**BANKS:** The Banks include all commercial and development Banks which serve as the primary mortgage institution

## **7.20 Students' Loan Scheme.**

Education is another very important aspect of development in Ghana, but as a result of the high levels of poverty access to tertiary education is denied a very large proportion of students who are brilliant but needy.

This scheme provides for a loan system that is available to all students in this category on a long-term basis.

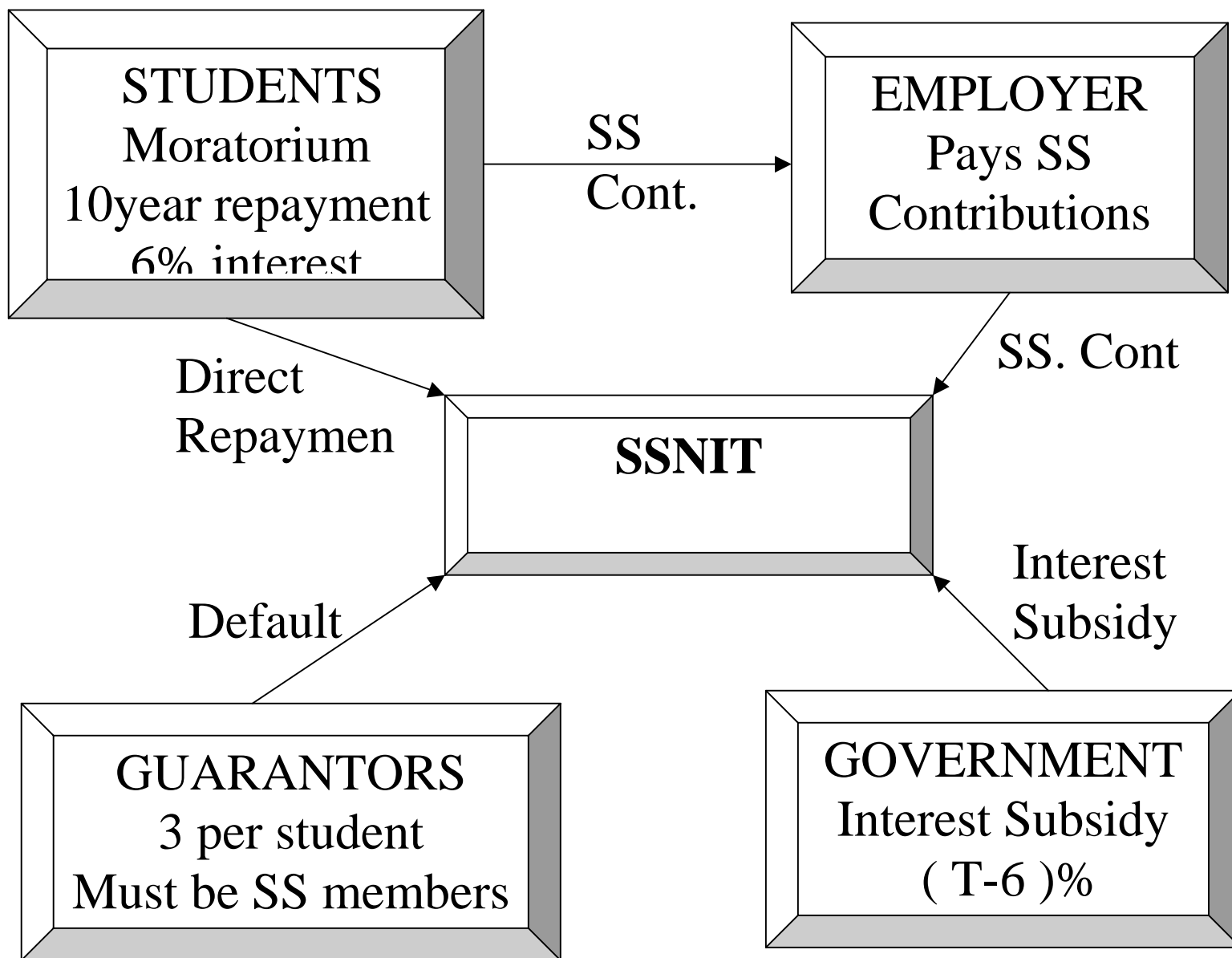
Students are eligible to take the education loans on the following terms:

- Loans are taken each year at the approved tertiary institutions
- Loans are to be repaid upon completion of their education and repayment is by the social security contributions that they make when they start working and this could take up to 10years.
- Interest rate for the students is pegged at 6% per annum and Government pays the balance as the overall interest rate is at the prevailing Treasury bill rate.
- Each student provides three guarantors who undertake to repay the loan in the event of default through their pensions being debited at the time of retirement.

The problem areas of the scheme after 10 years of operation are mainly the following:

- Student numbers have increased far beyond the original projections
- Inflation has pushed up the loan per student thus putting a strain on the funds of the Trust
- Increasing graduate unemployment has reduced the repayment of loans
- Government delays in meeting interest subsidy has created further strains on the fund

The diagram on the next page indicates the scheme in operation.



**STUDENTS' LOAN SCHEME**

T .....represents Treasury Bill Rate

### **7.30 Industrial Estates**

The level of productivity is very low in the economy and in general the economy has tended to be import reliant generating very few jobs each year.

In order to address this issue and create more jobs in the economy the concept of industrial estates was adopted.

These estates were to be built in the major commercial towns to provide the base for small-scale industries to grow.

A Company was floated to handle the implementation of this concept. As a start the first industrial estate was constructed in the capital Accra.

The Trust would continue to generate revenue from rents of the various workshops and shops that were to be leased out to prospective tenants.

Over the long term this has the potential of continued income generation as well as productivity improvements and job creation.

## **8.0 MANAGEMENT**

The major problems facing the management of a Fund of this nature in a developing country are in three parts:

Internal System

External Political Pressures

Public Pressure for Social Investments

### **8.10 Internal Management System**

Experience has shown that to handle such funds it is very important to establish in some detail the procedures for managing the fund. These procedures as listed above involve the need to set up the following:

- Laid down guidelines for regular actuarial reviews
- Formulation of Investment Policy
- Establishment of an Investment Model and portfolio mix
- Detailed procedures for individual investment analysis.
- Establish guidelines for monitoring investments

Based on the actuarial evaluation the major targets for Fund Ratio and return on investments are established to serve as the guideline for the future.

The need for portfolio mix to be reviewed based on the results from investment returns is imperative.

Each individual investment requires very detailed analysis to determine viability.

In the absence of in house expertise the employment of external consultants should be mandatory. Based on experience however it is advisable to have such functions externally sourced to avoid the situation where the core activity becomes secondary as a result of the importance attached to investment activities.

Monitoring activities are very crucial and should be listed as mandatory reports for Management Committees and the Board.

In view of the large pool of resources that build up fairly quickly an Internal and External Audit System should be put in place to review and provide guidance for future activities.

### **8.20 External Political Pressures**

Pressures from this area result from the fact that the Trust has tended to be an island of very high liquidity in an economy, which has experienced major financial deficits.

It must be borne in mind that Government largely controls the institution. It is therefore important that this aspect of the relationship is handled with care.

Government officials need to be educated on the basic facts of social security for them to realise the difference between social security funds and government revenues

Preferred options of approach have been to confer with government economic policy advisers and budgetary officials at very early stages of policy formulation and preparation of national budgets and select to assist with some areas of developmental investments that ensure cost recovery and good returns on investment.

A strategy of this type provides considerable harmony with the political authorities and also serves to enhance the corporate image of the institution and improves the public perception of the institution.

### **8.30 Public Perception**

In general the public form an opinion of the institution through the publications of the media and some of these opinions once formed are very difficult to dispel.

In view of this the institution should initiate a proactive public education programme aimed at all sectors of the population beginning with the contributors and covering government officials and the masses of the population.

These public education programmes should be continuous as the public has a tendency of forgetting very quickly such education campaigns.

The publication of an annual report on the performance of the fund has a tendency of providing the needed transparency required.

Henry Dei (September 2001)





