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# Effectiveness of managing financial risks in social security institutions in Tanzania: A case study of local authorities pensions fund (LAPF) Dodoma.

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The University of Dodoma

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EFFECTIVENESS OF MANAGING FINANCIAL RISKS IN SOCIAL  
SECURITY INSTITUTIONS IN TANZANIA:  
A CASE STUDY OF LOCAL AUTHORITIES PENSIONS FUND  
(LAPF) DODOMA.

By

Daniel Mungure

Dissertation Submitted in Partial Fulfilment of the Requirements of the Award of the  
Degree of Master of Business Administration of the University of Dodoma

University of Dodoma

November, 2010

## **CERTIFICATION**

The undersigned certifies that he has read and hereby recommends for acceptance by the University of Dodoma dissertation entitled Effectiveness of Managing Financial Risks in Social Security Institutions in Tanzania: the Case of LAPF in partial fulfilment of the requirement for the award of degree of Master of Business Administration of the University of Dodoma.

.....

Dr. Ahmed M. Ame

(SUPERVISOR)

Date.....

## **DECLARATION AND COPYRIGHT**

I Daniel Mungure, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

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## **ACKNOWLEDGEMENTS**

The completion of this work would not have been possible without the support and sacrifice made by a number of individuals and institutions. It is difficult to mention all the people who have directly or indirectly helped me through the entire duration of the study. I should however, like to sincerely express my gratitude to few who have been particularly of great assistance morally, materially or financially.

I would like to register my heartfelt acknowledgements to my supervisor Dr. Ahmed Ame, for his skilful and dedicated guidance, valuable criticism and easy accessibility during the entire period of this study. He helped me a lot in shaping my research proposal and in producing the dissertation in the present form.

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There are many people who directly or indirectly helped during the study and whose names can not be mentioned individually but I express my gratitude to all of them.

## **DEDICATION**

This work is dedicated to the Almighty God, who directs our plans always (Proverbs 16:9). And He said “Behold, I am the Lord, the God of all flesh. Is there anything too hard for me?” (Jeremiah 32:27).

To my beloved mother Christina Erasto Mungure, my late beloved father Erasto Loshuwai Mungure and my late Brother Elibahati Erasto Mungure who laid the foundation of my education.

To my beloved wife, Rahabu Daniel Mungure for her eagerness to take care of our family, moral support, indispensable prayers and innermost heart commitment to help me during data analysis and report writing. May the Almighty God bless and reward her abundantly.

## **ABSTRACT**

This study focuses on the effectiveness of managing financial risks in social security institutions using a case of Local Authorities Pensions Fund (LAPF). The objectives of the study were to identify the financial risks available in LAPF operations, identify measures taken by LAPF to combat financial risks and examine the effectiveness of the existing measures being taken by LAPF in managing the financial risks. Structured interviews, questionnaires and observation were used to obtain the primary data and various documents were reviewed to gather secondary data. The data gathered were analysed by using SPSS computer program. Study findings show that, there are different financial risks facing LAPF including liquidity credit, operational, compliance, litigation, information technology security, political, market risks, and others. Furthermore, the study revealed that, the presence of these financial risks at LAPF means that the fund is vulnerable to encounter more problems like liquidity problems, loss of investment return, political influence, fraud and liability problems. The findings further show that, LAPF has established risk management framework in 2008 but it is not fully implemented.

It was concluded that, the availability of these financial risks in social security institutions impede their operations and sustainability. In order to get rid of these financial risks and ensure sustainability of the social security institution, it is recommended that, a fully fledged independent risk management unit should be established, in addition, LAPF should establish risk management policy, training staff on key risk indicators, control market risk by diversification, effective audit, use of derivatives for hedging purposes, and carrying out frequent performance analysis. In the same vein, the government should regulate social security institutions in the country to make sure that, their operations are safe and sustainable.

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## **ABBREVIATIONS**

AGM	Annual General Meeting
AFIR	Actuarial Approach for Financial Risk
BMM	Block Maxima Model
BOT	Bank of Tanzania
CAP. 212	Company Ordinance Number 212
ERM	Enterprise Risk Management
GAAP	Generally Accepted Accounting Principles
ISO	International Standards Organisation
IT	Information Technology
LAPF	Local Authorities Pensions Fund
POT	Peaks – Over Threshold
RAMP	Risk Assessment and Management for Projects
SME	Small Medium Enterprises
SSA	Social Security Administration
SSIs	Social Security Institutions
SPSS	Statistical Package for Social Science
UDOM	University of Dodoma
URT	United Republic of Tanzania

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Introduction**

Social security concepts were introduced in early 19th Century in which one of the great social and economic successes was the effort to enact meaningful social insurance legislation. Many men and women at that time faced what was termed “the stark terror of penniless, helpless old age.” The Social Security Act of 1935 helped to change all of that, (SSA, 2000).

Roosevelt, (1935) said “We can never insure one-hundred percent of the population against one-hundred percent of the hazards and vicissitudes of life. But we have tried to frame a law which will give some measures of protection to the average citizen and to his family against the loss of a job and against poverty-ridden old age. This law, too, represents a cornerstone in a structure which is being built, but is by no means complete. It is a law that will take care of human needs and at the same time provide for the United States an economic structure of vastly greater soundness.”

The social security concept has been changing with time from the traditional ways of security to modern ones. As societies became more industrialized as a result of industrial revolution in the 19th century and more people became dependent upon wage employment, it was no longer possible to rely upon the traditional system of social security. The negative impact of industrialization and urbanization attracted the attention of policy makers to formalize social security systems that addressed the emerged social issues (SSA, 2000).



Social security in Tanzania covers a wider variety of public and private measures meant to provide benefits in the event of the individuals' earning power permanently ceasing, being interrupted, never developing, being unable to avoid poverty, or being exercised only at an acceptable social cost. The major domains of social security are: poverty prevention, poverty alleviation, social compensation and income distribution (URT 2003). Many issues relating to social security are sensitive, as they touch on the material interests of organized workers and the unorganized poor as well as insurance industry and employer organizations.

According to URT (2003), there are six major formal institutions that provide social security protection in Tanzania. These are the National Social Security Fund (NSSF) offering social security coverage to employees of private sector and non-pensionable parastatal and government employees, the Public Service Pension Fund (PSPF) providing social security protection to employees of central Government under pensionable terms, Parastatal Pension Fund (PPF) offering social security coverage to employees of both private and parastatal organizations, the Local Authorities Pensions Fund (LAPF) offering social security coverage to employees of the Local Government. Others are Government Employee Provident Fund (GEPF) that offers pension services to Government employees on contract not under pensionable terms and the National Health Insurance Fund (NHIF) offering health insurance coverage to pensionable employees of central government.

Risk Management is a discipline at the core of every institution and encompasses all the activities that affect its risk profile. Risk management as commonly perceived does not mean minimizing risk; rather the goal of risk management is to optimize

risk-reward trade-off. This can be achieved through putting in place an effective risk management framework which can adequately capture and manage all risks an institution is exposed to (BOT, 2005). It is impossible to provide a unique categorization of the risks facing social security institutions, since this depends very much on the branches of social security covered and the way in which each scheme is designed and administered (Daykin, 2004).

BOT (2005) identifies five common types of risks affecting social security institutions in Tanzania which are credit, liquidity, interest rate, foreign exchange, and operational risks. Credit risk arises from the potential that an obligor is either unwilling to perform on an obligation or its ability to perform such obligation is impaired resulting in economic loss to the institution. Liquidity risk is the potential for loss to an institution arising from either its inability to meet its obligations as they fall due or to fund increases in assets without incurring unacceptable cost or losses. Interest rate risk arises from movements in interest rates. Exposure to this risk primarily results from timing differences in the reprising of assets and liabilities, both on and off-balance sheet, as they either mature (fixed rate instruments) or are contractually reprised (floating rate instruments). Foreign exchange risk is a current or prospective risk to earnings and capital arising from adverse movement in currency exchange rate. Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and system or from external events.

The presence of these financial risks strongly affects the operations of social security institutions like fraud due to lack of proper risk identification systems, liability problems, loss of investment return due to failure to trade off between risks and

liquidity problems. A common problem in managing financial risk is that most financial institutions only realize that they have been at risk when losses have occurred. In an ideal situation however, financial risk management should begin before the exposure occurs; otherwise fundamental operating, investing and financing decisions would be taken on the basis of incomplete information (Hillier, 2003).

## **1.2 Research Problem**

Financial institutions in Tanzania invest substantial amounts of their funds into financial markets. These investments are government securities (treasury bonds, treasury bills and government stocks), fixed deposits with banks, real estates and loans. These types of investments are exposed to financial risks which affect their liquidity position and result into uncertainty for them to settle their obligations.

Efficiency risk management has become a critical element of social security institution's sustainability and growth. Therefore, any problems in the risk management have an immediate effect on social security, financial markets, and financial systems at large; this can indirectly influence the country's economic system. Thus, efficient management of the risk has an impact on the sustainable growth of the social security institutions and the economy at large (Marwa, 2008).

According to survey conducted by Deloitte (2008), risk management is not fully integrated throughout social security institutions in Tanzania. About 51% of the institutions surveyed had not completely or substantially incorporated responsibilities for risk management into performance goals and compensation decisions for senior

management. Only 36% of the institutions had an enterprise risk management (ERM) program, although another 23% were in the process of creating one.

LAPF as other social security institutions established risk management framework in 2008 to provide guidance to the management in the mitigation of risks within the fund. Although LAPF has a mechanism of managing risks, there is no clear evidence that the fund is efficient in mitigating risks. Therefore this study was intended to assess the effectiveness of managing financial risks in SSIs in Tanzania using a case of LAPF.

### **1.3 Objectives of the Study**

The general objective of the study was to assess the effectiveness of managing financial risks in social security institutions, a case study of Local Authorities Pensions Fund.

More specifically, the study intended to:

- a) Identify the financial risks facing Local Authorities Pensions Fund in its operations.
- b) Identify measures taken by LAPF to combat financial risks.
- c) Examine the effectiveness of the existing measures being taken by LAPF in managing the financial risks.

### **1.4 Research Questions**

This study was guided by a set of research questions, and these are:-

- a) What financial risks are currently facing LAPF in its operations?
- b) What are the measures taken by LAPF to combat financial risks?

- c) How effective are the existing measures for managing financial risks in LAMP operations?

### **1.5 Significance of the Study**

The findings of this study are expected to shed some light on various issues regarding LAMP performance and are also expected to have some Managerial implications to LAMP in Particular and to the entire industry of social security in general. The same findings can be used to streamline and enhance operational aspects towards achieving the deserving corporate performance of LAMP. Furthermore, the study will contribute to the existing knowledge, something that will lead to the review of operational methods in managing financial risks in the Industry of Social Security in Tanzania. LAMP as an organization will learn how to mitigate financial risks and how to implement effectively the risks management framework. Therefore the study will help to improve the return of their investment, increase members' satisfaction and consequently retain the existing members while attracting new ones. This becomes even more crucial to LAMP, given the fact that, LAMP is now operating in the liberal social security industry which is open for competition as authorized by the Sect 30 of the Social Security Regulatory Authority Act No 8 of 2008. The study will also assist in formulating the new policies and/or re-defining the existing ones concerning risks management.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter presents a review of literature on financial risks in social security institutions. Specifically, it describes the concept of social security, social security system in Tanzania, financial risks, and financial risk management. The chapter also explains the theoretical approaches to financial risk. Furthermore, it describes some empirical studies (related to the management of financial risks in social security institutions) from Tanzania and the world at large, as well as providing the conceptual framework of the study.

#### **2.1 Conceptual Overview**

This section on conceptual overview explains the important concepts related to this study. Specifically, due to their relevance to this study, the following concepts are explained under this section: social security, social security system in Tanzania, financial risks, and financial risk management.

##### **2.1.1 Social Security**

Social security is defined in its broadest meaning by the International Labour Organization (ILO) as the "protection measures which society provides for its members, through a series of public measures against economic and social distress that would otherwise be caused by the stoppages or substantial reduction of earnings resulting from sickness, maternity, employment injury, unemployment, disability, old

age, death, the provision of medical care subsidies for families with children (URT 2003).”

The ILO framework of social security is based on a three-tier structure, which seeks to utilize various funding sources for provision of better protection to the country’s population. This structure also seeks to address needs of different groups in the societies with respect to income and degree of vulnerability.

Every human being is vulnerable to risks and uncertainties with respect to income as a means of life sustenance. To contain these risks, everyone needs some form of social security guaranteed by the family, community and the society as a whole. Such socioeconomic risks and uncertainties in human life form the basis for the need of social security. Social security is rooted in the need for solidarity and risk pooling by the society given that no individual can guarantee his or her own security (Dau, 2003).

### **2.1.2 Social Security System in Tanzania**

Social security in Tanzania, as in many countries, is broadly divided into formal and informal provisions.

#### **2.1.2.1 Informal Social Security**

Informal social security refers to collective traditional and neo-traditional mutual aid practices, arrangements and schemes carried out largely by communities from time immemorial. In times of contingencies such as famine, diseases, and old age; individuals have depended on family, clan members and members of the community for assistance in the form of cash or in kind. While it is recognized that over time,

traditional social security system has tended to decay and change forms in response to the forces of urbanization and industrialization, there is evidence that in Tanzania family and community social support system have remained as means of social security within different social groups. Overtime, socio-economic reforms have slowly resulted into disintegration of the family-based social security protection leading to the formation of self-help groupings such as UPATU, UMASIDA and VIBINDO (URT, 2003).

#### **2.1.2.2 Formal Social Security**

Formal social security are the public programs adopted through legislation and operated under public administrative bodies to handle some of the major social-economic risks and uncertainties in human life (Gbossa, 1998). Therefore, social security is rooted in the need for solidarity and risk pooling efforts by the society given that no individual can guarantee one's own security. Most developing countries, like Tanzania, have inherited these formal social security systems from their colonial masters, consequently, these countries have found themselves tracking, more or less, along the same basic social-economic lines as laid down by their colonial regime.

Social Security systems are usually categorized as being made up of contributory and non-contributory schemes. The performance of any social security institution can be judged by three Criteria, proportion of the population covered, scope of coverage and adequacy of benefits. Status of these criteria of any formal scheme describe comprehensive picture with regard to width and scope of coverage as well as adequacy of benefits (ILO, 2008).



Formal social security protection around the world covers about one third of the population. In Africa, coverage is very low, between 18 percent and 30 percent of the population (Kaseke, 1999). The main reason for this is that only people in regular employment have access to becoming members of such schemes. However, formal employees are only a small percentage of African labour force. Taking the example of Tanzania, the 2002 census indicated that the country had a population of about 34.5 million people (URT, 2002). Out of this population, 16.9 million represent the active labour force. Those working in formal employment represent about one million, of which 900,000 people were covered by the formal social security schemes as at the year 2000. This was about 5.6 per cent of the active labour force (URT, 2000).

### **2.1.2.3 Coverage of Formal Social Security System in Tanzania**

Olivier and Edwin (2005) wrote that, the pattern of coverage of social security system is traced back to colonial times. Colonial powers initially covered their own expatriates. Extension to African workers was considered later so as to satisfy labour unions and coverage was concentrated mainly on urban and industrial workers. The types of Social Security system in African countries reflect colonial traditions and linkages.

In North Africa, for example Algeria, Egypt, Libya, Morocco and Tunisia, the pension schemes founded were based on social insurance principles. In the French colonies of sub-Saharan Africa, priority was initially given to employment injury schemes and later maternity and family benefits were introduced. In former British, colonies priority was on employment injury schemes solely maintained by employers

with no pooling of risks. The schemes introduced by the British were generally modest and basically compulsory saving schemes financed by contributions from employers and employees. These schemes popularly known as Provident Funds were established in Nigeria, Kenya, Uganda, and Tanzania to mention a few examples (Clive, 2002).

However in Tanzania, the coverage by formal schemes is generally limited to workers' in the formal employment which is a small fraction of the working population equivalent to 6.5 percent and 1 per cent of the total population. Scope is limited to old age, death, survivors, invalidity, maternity and workmen's compensation and levels of benefits are low. The majority of workers who work in the informal economy and their families are excluded from contributory schemes and this is a major challenge facing these schemes, bearing this in mind, there is an urgent need to reform the structure of the formal social protection schemes (Clive, 2002)

#### **2.1.2.4 Reforms of Social Security Funds in Tanzania**

The formal Social Security systems have been forced to undergo reforms in order to meet the purpose for which they were established (i.e. saving, redistribution of income and insurance). Various reasons have forced the formal social security industry in Tanzania to undergo reforms in order to meet the purpose of the industry. Reasons for reforms vary from developed countries to developing ones. While demographic pressures have been major reasons for reforms in developed countries, reforms in under developed countries include the breakdown of traditional family

structures, increase in mortality rates, low coverage and urbanization (Schwarz and Demirguc-Kunt 1999).

Reforms in social security may be classified as minor or major. A minor reform involves adjustments to correct existing inequalities or to delay fiscal problems. Such adjustments include changing eligibility criteria, contribution structure, benefit structure, administrative structure etc. A major reform substantially changes the system of pension provision from a defined benefit (DB) to defined contribution (DC) and vice versa or from a fully funded to pay-as-you-go and vice versa. The starting up of a new system is also classified as a major reform. Nigeria, Ghana, Zambia and Tanzania are some of the countries in Africa which have schemes that have undergone major reforms converting from Provident Funds to Pay-as-you-go and defined Benefit Schemes (Oliver and Kaseke, 2005)

#### **2.1.2.5 Structure of Social Security Services in Tanzania**

Social security systems in Tanzania address a wider variety of public and private measures meant to provide benefits in the event of the individuals' earning power permanently ceasing, being interrupted, never developing, being unable to avoid poverty, or being exercised only at acceptable social cost (URT, 2003). The major domains of social security are: poverty prevention, poverty alleviation, social compensation and income distribution. Many issues relating to social security are sensitive, as they touch on the material interests of organized workers and the unorganized poor as well as insurance industry and employer organizations. The social security system in Tanzania comprises the following key elements:-

- a) Social assistance schemes which are non-contributory and income-tested, provided by the state to groups such as people with disabilities, elderly people and unsupported parents and children who are unable to provide for their own minimum needs. In Tanzania social assistance also covers social relief, which is a short term measure to tide people over a particular individual or community crisis ;
- b) Mandatory schemes, where people contribute through the employers to pension or provident funds, employers also contribute to these funds;
- c) Private savings, where people voluntarily save for retirement, working capital and insure themselves against events such as disability and loss of income and meet other social needs.

Despite the existence of this framework, service delivery has not reached the majority of Tanzanians due to inadequate financing and fragmented institutional arrangements.

According to URT (2001) the total population of Tanzania in 2001 was about 33.5 million. Out of this, 70 per cent were in the rural areas, while the rest are in urban areas. The total labour force of Tanzania was estimated at 16 million, where 5.4% of the total labour force or 2.7% of the total population was covered by the mandatory formal social security system. 93 per cent of the capable workforce was engaged in the informal sector in both rural and urban areas; out of that 80 per cent is engaged in the agrarian economy. The above information shows how the formal social security systems in Tanzania cover a small portion of the population.

### **2.1.2.6 Challenges facing the Social Security System in Tanzania**

Challenges are also part and parcel of the performance of Social Security funds in Tanzania. Apart from the challenges relating to width and scope of the coverage and benefit adequacy, Social Security Systems in Tanzania also face a number of operational challenges from different stakeholders (URT, 2003). The National Social Security Policy of the United Republic of Tanzania has provided some of these challenges which include:-

#### **a) Weakening of Informal Social Protection System**

Socio-economic developments taking place in Tanzania have resulted into a slow but steady disintegration of the kinship or family-based social support systems on which the majority of Tanzanians have depended for protection against contingencies. Economic hardships have made it difficult for individuals, families and/or kin members to provide assistance to each other in time of crisis and need. The high rate of urbanization has also taken its toll on traditional social protection systems. There has been increasing fragmentation with families becoming more dispersed thereby eroding the capacity of extended families to function as social safety nets (URT, 2003)

#### **b) Limited Growth of the Formal Employment**

Public sector reforms have resulted into retrenchment of workers, freezing employment in the public sector and privatization of public enterprises. These have led to increased unemployment, which in turn has forced more people to resort to employment in the urban informal sector where earnings are often inadequate and/or

uncertain. There is however a limited growth in employment in the private sector (URT, 2003).

**c) Reduced Access to Social Services**

Despite the deliberate measures by the government to improve provision of social services to the public, considerable part of the population has either limited or no access to services. In some instances, cost sharing in the provision of social services has reduced the capacity of the people to access the services (URT, 2003).

**d) Low levels of income**

Incomes for the majority of the people in Tanzania are generally inadequate to meet their basic requirements and save for future use (URT, 2003)

**e) Declaration of Low Insurable Earnings**

Some employers provide remunerations composed of basic salaries and allowances, while deductions for social security are based on basic salaries only, leading to lower benefits from social security institutions upon retirement (URT, 2003).

**f) Lack of Mechanism for Portability of Benefit Rights**

There is no established mechanism that can allow benefit rights of a member to be transferred from one scheme to another. This results in employees losing some of their benefit rights when they move from one sector to another. However the government has established social security regulatory authority which will reduce or eliminate this problem when it starts operations.

### **g) Difficulties in managing pension reserve funds**

Most pension funds in Tanzania, provident or otherwise, have generated surplus resources. Management of these reserves have proven problematic and have contributed to existing and forthcoming difficulties. There are multiple reasons why management of funds has been difficult. To begin with, governments have had a considerable degree of say on how pension surplus funds should be utilized. In almost all countries, governments have either borrowed or appropriated resources from the pension funds. As a consequence, in many cases the interest rates were below market returns, and in some cases below inflation rate. Countries are finding it increasingly necessary to clarify the accounts between the government and the pension funds.

Besides the direct use of resources by the public treasury, governments have also directed pension funds to invest in specific projects or companies. These investments have not always been fortunate. There have also been problems with the decisions of fund management regarding where to invest. A favourite area of investment has been real estate. Problems in this area have come from inflated purchase prices and high construction costs.

### **2.1.3 Financial Risk**

Risk has been defined by Tapiero (2004) as a concept that denotes the precise probability of specific eventualities. Technically, the notion of risk is independent from the notion of value and, as such eventualities may have both beneficial and adverse consequences. However, in general usage the convention is to focus only on potential negative impact to some characteristic of value that may arise from a future event. International Monetary Fund (IFM) (2005) defines financial risk as the

probability that an investment's actual return will be different than expected. This includes the possibility of losing some or all of the original investment.

According to International Monetary Fund (2005), there are different types of financial risks, namely; equity risks, interest rate risks, currency risks, commodity risks, and liquidity risks.

#### **2.1.3.1 Equity risk**

This is the risk that one's investments will depreciate because of stock market dynamics causing one to lose money. The measure of risk used in the equity markets is typically the standard deviation of a security's price over a number of periods. The standard deviation will delineate the normal fluctuations one can expect in that particular security above and below the mean, or average. However, since most investors would not consider fluctuations above the average return as "risk", some economists prefer other means of measuring it (IMF, 2005).

#### **2.1.3.2 Interest rate risk**

Interest rate risk is the risk (variability in value) borne by an interest-bearing asset, such as a loan or a bond, due to variability of interest rates. In general, as rates rise, the price of a fixed rate bond will fall, and vice versa. Interest rate risk is commonly measured by the bond's duration (BOT, 2005).

Hedging interest can be traded using fixed income instruments or interest rate swaps. Interest rate risk can be reduced by buying bonds with shorter duration, or by entering into a fixed-for-floating interest rate swap (BOT, 2005).



### **2.1.3.3 Currency risk**

Currency risk is a form of risk that arises from the change in price of one currency against another. Whenever investors or companies have assets or business operations across national borders, they face currency risk if their positions are not hedged. Transaction risk is the risk that exchange rates will change unfavourably over time. It can be hedged against using forward currency contracts; Translation risk is an accounting risk, proportional to the amount of assets held in foreign currencies. Changes in the exchange rate over time will render a report inaccurate, and so assets are usually balanced by borrowings in that currency (Marwa, 2005).

### **2.1.3.4 Commodity risk**

Commodity risk refers to the uncertainties of future market values and of the size of the future income, caused by the fluctuation in the prices of commodities. These commodities may be grains, metals, gas, electricity etc. A commodity enterprise needs to deal with the following kinds of risks: Price risk (Risk arising out of adverse movements in the world prices, exchange rates, basis between local and world prices), Quantity risk , Cost risk (Input price risk) and Political risk (IFM, 2005).

### **2.1.3.5 Liquidity risk**

In finance, liquidity risk is the risk that a given security or asset cannot be traded quickly enough in the market to prevent a loss (or make the required profit) (IFM, 2005). According to risk management guidelines for banks and financial institutions (BOT, 2005), Liquidity risk is the potential for loss to an institution arising from

either its inability to meet its obligations as they fall due or to fund increases in assets without incurring unacceptable cost or losses.

#### **2.1.4 Measures to Combat Financial Risks**

There are four main measures in dealing with financial risks namely actuarial valuation, hedge, derivatives, and diversification (Shannon, 2002).

##### **2.1.4.1 Actuarial Valuation**

An actuarial valuation of a retirement plan is an estimate of a plan's financial position at a specific point in time. During a valuation, an actuary takes a “snapshot” of the membership as of a given date to determine the plan’s liabilities and funded status.

An actuarial valuation projects the expected cash flow of plan members’ benefits. Actuarial projections are derived from a combination of judgement and mathematical models, based on assumptions about the likely occurrence of future events that affect the outcome and duration of pension benefits (Boorack, 2008).

##### **2.1.4.2 Hedge**

A hedge is a form of risk compensation using a counter-trade or covering transaction designed to offset an existing or potential risk position by eliminating or diminishing the element of risk (in particular, price, interest rate or exchange rate risk) (Kahan & Rock, 2007).

Hedgers are parties at risk with a commodity or an asset, which means they are exposed to price changes. They buy or sell futures contracts in order to offset their risk. In other words, hedgers actually deal in the commodity or financial instrument

specified in the futures contract. By taking a position opposite to that of one already held, at a price set today, hedgers plan to reduce the risk of adverse price fluctuations—that is, to hedge the risk of unexpected price changes (Virtual University of Pakistan, 2008).

#### **2.1.4.3 Derivatives**

A derivative is a financial instrument - or more simply, an agreement between two people or two parties - that has a value determined by the price of something else (called the underlying). It is a financial contract with a value linked to the expected future price movements of the asset it is linked to - such as a share or a currency (McDonald, 2006).

A financial derivative is a tool which derives its value from an underlying asset, where the asset can be anything that exists as a tradable entity. This value is derived on the future expectation of the asset price movement to be experienced by the investors involved in the transaction of the particular asset. Derivatives, as risk management tools, can only spread or distribute the risk of price movements rather than reducing any risk that is associated with the future change in price of the underlying asset (Bryan and Rafferty, 2007).

#### **2.1.4.4 Diversification**

Diversification in finance means reducing risk by investing in a variety of assets. If the asset values do not move up and down in perfect synchrony, a diversified portfolio will have less risk than the weighted average risk of its constituent assets, often less risk than the least risky of its constituents (Sheffrin, 2003).

The insurance principle illustrates the concept of attempting to diversify the risk involved in a portfolio of assets (or liabilities). In fact, diversification is the key to the management of portfolio risk, because it allows investors; significantly to lower portfolio risk without adversely affecting return (Virtual University of Pakistan, 2008).

### **2.1.5 Financial Risk Management**

According to George (2008), risk management is a process that identifies loss exposures faced by an organization and selects the most appropriate techniques for treating such exposures. A loss exposure is any situation or circumstance in which a loss is possible, regardless of whether a loss occurs. There are four steps in the risk management process, namely identification of loss exposures, analysis of the loss exposures, selection of appropriate techniques for treating the loss exposures and implementation and monitoring of risk management program.

#### **2.1.5.1 Identification of loss exposures**

The first step in the risk management process is to identify all major and minor loss exposures. This step involves a painstaking analysis of all potential losses. Important loss exposures relate to the following: Property loss exposures, Liability loss exposures, Business income loss exposures, Human resources loss exposures, Crime loss exposures, Employee benefit loss exposures, foreign loss exposures, Market reputation and public image of the company and Failure to comply with government laws and regulations (Wharton, 1992).

### **2.1.5.2 Analysis of loss exposures**

The second step in the risk management process is to analyze the loss exposures. This step involves an estimation of the frequency and severity of loss. Loss frequency refers to the probable number of losses that may occur during some given time period. Loss severity refers to the probable size of the losses that may occur. Once the risk manager estimates the frequency and severity of loss for each type of loss exposure, the various loss exposures can be ranked according to their relative importance. For example, a loss exposure with the potential for bankrupting the firm is much more important in a risk management program than an exposure with a small loss potential.

In addition, the relative frequency and severity of each loss exposure must be estimated so that the risk manager can select the most appropriate technique, or combination of techniques, for handling each exposure (George, 2008)

### **2.1.5.3 Selection of appropriate techniques for treating the loss exposures**

The third step in the risk management process is to select the most appropriate technique, or combination of techniques, for treating the loss exposures. These techniques can be classified broadly as either risk control or risk financing. Risk control refers to techniques that reduce the frequency and severity of losses. Risk financing refers to techniques that provide for the funding of losses. Many risk managers use a combination of techniques for treating each loss exposure. As noted above, risk control is a generic term to describe techniques for reducing the frequency or severity of losses. Major risk-control techniques include the following:

**a) Avoidance**

Avoidance means a certain loss exposure is never acquired, or an existing loss exposure is abandoned. For example, flood losses can be avoided by not building a new plant in a floodplain.

**b) Loss Prevention**

Loss prevention refers to measures that reduce the frequency of a particular loss. For example, measures that reduce truck accidents include driver examinations, zero tolerance for alcohol or drug abuse, and strict enforcement of safety rules. Measures that reduce lawsuits from defective products include installation of safety features on hazardous products, placement of warning labels on dangerous products, and institution of quality-control checks (Harrington and Niehaus, 2004).

**c) Retention**

According to George (2008), retention is a means that the firm retains part or all of the losses that can result from a given loss. Retention can be either active or passive. Active risk retention means that the firm is aware of the loss exposure and plans to retain part or all of it, such as collision losses to a fleet of company cars. Passive retention, however, is the failure to identify a loss exposure, failure to act, or forgetting to act. For example, a risk manager may fail to identify all company assets that could be damaged in an earthquake.

#### **d) Risk reduction**

Risk reduction is being defined as methods that reduce the severity of the loss or the likelihood of the loss from occurring (Lam, 2003). For example, sprinklers are designed to put out a fire to reduce the risk of loss by fire. This method may cause a greater loss by water damage and therefore may not be suitable. Halon fire suppression systems may mitigate that risk, but the cost may be prohibitive as a strategy. Risk management may also take the form of a set policy, such as only allow the use of secured IM platforms (like Brosix) and not allowing personal IM platforms (like AIM) to be used in order to reduce the risk of data leaks.

#### **e) Risk transfer**

Van Deventer et al., (2004) define risk transfer as the terminology of practitioners and scholars alike, the purchase of an insurance contract is often described as a "transfer of risk." However, technically speaking, the buyer of the contract generally retains legal responsibility for the losses "transferred", meaning that insurance may be described more accurately as a post-event compensatory mechanism. For example, a personal injuries insurance policy does not transfer the risk of a car accident to the insurance company. The risk still lies with the policy holder namely the person who has been in the accident. The insurance policy simply provides that if an accident (the event) occurs involving the policy holder then some compensation may be payable to the policy holder that is commensurate to the suffering/damage.

## **2.1.6 Implementation and Monitoring of Risk Management Programme**

According to Anderson (1998), implementation and monitoring of the risk management programme involve three steps, namely, risk management policy statement, cooperation with other departments, and periodic review and evaluation

### **2.1.6.1 Risk Management Policy Statement**

A risk management policy statement is necessary to have an effective risk management program. This statement outlines the risk management objectives of the firm, as well as company policy with respect to treatment of loss exposures. It also educates top level executives in regard to the risk management process, gives the risk manager greater authority in the firm, and provides standards for judging the risk manager's performance. In addition, a risk management manual may be developed and used in the program. The manual describes in some detail the risk management program of the firm and can be a very useful tool for the program. Writing the manual also forces the risk manager to state precisely his or her responsibilities, objectives, and available techniques (Anderson, 1998).

### **2.1.6.2 Cooperation with Other Departments**

The risk manager does not work alone. Other functional departments within the firm are extremely important in identifying pure loss exposures and methods for treating these exposures. These departments can cooperate in the risk management process in the following ways:

- a) **Accounting.** Internal accounting controls can reduce employee fraud and theft of cash. *Finance.* Information can be provided showing the effect that losses will have on the firm's balance sheet and profit and loss statement.



- b) **Marketing.** Accurate packaging and product use information can prevent liability lawsuits. Safe distribution procedures can prevent accidents.
- c) **Production.** Quality control can prevent the production of defective goods and liability lawsuits. Effective safety programs in the plant can reduce injuries and accidents.
- d) **Human resources.** This department is responsible for employee benefit programs, retirement programs, safety programs, and the company's hiring, promotion, and dismissal policies.

This list indicates how the risk management process involves the entire firm. Indeed, without the active cooperation of the other departments, the risk management program will be a failure (Rejda, 2008).

### **2.1.6.3 Periodic review and evaluation**

To be effective, the risk management program must be periodically reviewed and evaluated to determine whether the objectives are being attained. In particular, risk management costs, safety programs, and loss-prevention programs must be carefully monitored. Loss records must also be examined to detect any changes in frequency and severity. Finally, the risk manager must determine whether the firm's overall risk management policies are being carried out, and whether the risk manager is receiving the cooperation of the other departments (BOT, 2005).

## **2.2 Theoretical Approach to Financial Risk Management**

This section provides the theoretical stance of the study in which two approaches found relevant to the study are discussed. These are the Actuarial Approach for Financial Risk and Extreme Value Theory as presented below:

### **2.2.1 Actuarial Approach for Financial Risk**

Actuaries Approaches to risks are set out by Halley in 1696, which describe the construction of the first scientific life table. Actuaries first came to prominence as financial experts through their ability to measure and manage mortality risk in the life assurance and pension fund contexts. Some actuaries then applied their mathematical and practical skills to general insurance and in process developed a new “risk theory” covering loss functions and the probability of ruin. The actuarial profession responded to the upsurge in interest in financial risk during the 1980s by setting up AFIR (Actuarial Approach for Financial Risk) as the finance section of the International Actuarial Association.

### **2.2.2 Extreme Value Theory**

According to Sarma (2000), Extreme Value Theory is the theory propounded firstly in 1928 and further developed in 1999 by McNeil and Frey. Sarma (2002) also defined Value-at-Risk (VaR) as a tool for measuring the market risk of asset portfolios. It quantifies in monetary terms the exposure of a portfolio to the market fluctuations. It is defined as the maximum monetary loss of a portfolio such that the likelihood of experiencing a loss exceeding that amount, due to its exposure to the market movements, over a specified risk horizon is equal to a pre-specified tolerance level.

Extreme Value Theory (EVT) deals with the study of the asymptotic behaviour of extreme (maxima and minima) observations of a random variable. Financial risk management is all about understanding the large movements in the values of asset portfolios. It essentially deals with the analysis of the tail regions of the distribution

of changes in the market value of the portfolio. Extreme value theory, by dealing with only extreme observations, can provide a better treatment to the estimation of tail quantiles like Value at Risk. In conventional techniques of measuring risk, inferences about the tail region are made after estimating the entire return distribution. In such an approach, the observations in the interior of the distribution dominate the estimation process and since extreme observations consist only a small part of the data, their contribution in the estimation is relatively smaller than the observations in the central part of the distribution. Therefore in such an approach, the tail regions are not accurately estimated.

Extreme value theory, on the other hand, focuses primarily on analysing the extreme observations rather than the observations in the central region of the distribution. The theory provides robust tools for estimating only the tails by making use of the available data. Tail quantiles like VaR can be estimated more accurately by using EVT than the conventional approaches.

Another appealing aspect of EVT is that, it does not require making a priori assumption about the return distribution. The fundamental result of extreme value theory, known as the “extremal types theorem”, identifies the possible classes of distributions for movements of the extreme returns irrespective of the actual underlying return distribution. This extremely powerful result of the extreme value theory makes the VaR estimation process free from any a priori assumption about the portfolio return distribution. Moreover, EVT based methods inherently incorporates separate estimation of the upper and the lower tails, and thereby emphasises the necessity to treat both the tails separately due to possible existence of asymmetry in

the return series. This becomes important when estimating VaR measures for long and short positions. Conventional models of VaR estimation treat both the tails symmetrically and hence VaR for the long and short positions are assumed to be equal in magnitude.

## **2.3 Empirical Literature Review**

This section presents empirical findings related to management of financial risk in social security institutions. Specifically, the chapter discusses findings related to risk management, benefits of risk management, and the use of derivatives in managing financial risk.

### **2.3.1 Risk Management**

While globalization offers more opportunity to the business but it creates more risks, in particular, strategic risks, the risk (an issue for top-level policy/decision-makers), the destruction of which effect is visible in longer term (Slywotzky 2005). However, alignment of risk management with the objectives of business is challenging. The respondents found confidence on their risk management initiatives believing on the fact that the investors' community is keen to pay premium for their effort.

The study conducted by Slywotzky (2005), on strategic risks revealed that in practice the risk management is designed to protect insurers' capital-base and to support value creation by making superior risk management decisions. This argument is found similar to the perspective of finance literature, where the ultimate concern of risk management is to stabilize the future cash flow within the targeted limit. In the empirical study, risk management is seen as a management function, not merely a control and compliance function. The financial managers believe that compliance is a necessary but it is not sufficient part of risk management because it is not value

driven. The respondents believe that risks must be identified, assessed, quantified, mitigated and managed at all appropriate levels.

Although risk management is conceptually seen as a simple idea, its implementation is challenging (Nocco 2006). Ideally, risk is dynamic by nature (Wang 2006), and its degree of severity is often unknown, in particular, at any future point of time. Consequently, identification and modeling of risk, in particular, the emerging risks is extremely difficult. Moreover, quantitative analysis is found solely inadequate to analyze insurers risk management activities. It is revealed that a holistic perspective for analyzing risks of the enterprise must be understood in the subjective context of each element of risk in terms of its relationship to the people and organizations that execute the process (O'Donnell 2005).

It is also found from the views of the respondents that the perception of risk changes across the management hierarchy at the strategic, operational and tactical levels. However, this hierarchy is based on the time horizon for activities and the authority of taking risk and making decisions on risk (Rushton 2001).

Ideally, the strategic level measures influence of the top level management decisions, very often reflecting investigation of broad based policies, corporate financial plans, competitiveness and level of association to organisational goals. The tactical level deals with resource allocation and measuring performance against targets to be met in order to achieve results specified at the strategic level. In fact, measurement of performance at the tactical level provides valuable feedback on mid-level management decisions. However, it is argued that at the operational level, the measurement metrics require accurate data and access the results of decisions of lower level managers. Nevertheless, the achievement of operational objectives lead

to the achievement of tactical objectives (Gunasekaran 2004). This discussion illustrates the complexities associated with organisational management process, in particular, from the risk management perspective.

Although, the majority of respondents believe that risk management should be linked to the performance measurement and management processes of the organization, the technique or knowledge of such alignment has yet to evolve in the insurance industry. Moreover, the method of creating and measuring value by insurers' ERM still remains untested to the shareholders (Bomhard, 2006).

### **2.3.2 Benefits Risk Management**

The survey reported a number of benefits of risk management. First, the firms who have implemented risk management program enjoy a long-run competitive advantage over those that manage and monitor risks departmentally. This argument is in line with respondents' belief on the fact that by measuring and managing risks consistently and systematically, and ensuring the timely communication of risk related information across the enterprise in a transparent manner the business managers can optimize the trade off between risk and return. However, such initiatives ultimately strengthen the ability of an organization to carry out its strategic plan (Nocco 2006).

In summary, risk management is an ongoing process because the context in which the organisation operates constantly provides new risks with respect to time. Consequently, new strategies need to be developed to prioritise (i.e. risk profiling or landscaping) and manage them. Risk management is believed to be an effective management system with four broad characteristics as suggested by Shank (1995).

First, it sets specific achievable targets in line with organization's risk appetite based on which its performance can be measured. Second, it provides the design of an operational strategy in achieving the target in terms of organizations' culture within the multidisciplinary environment through meaningful communications, which are believed to be the drivers of the ultimate outcome. Third, it focuses proactively on the understanding of root causes of risk rather than the implication of risk. Finally, the design of risk management rewards good decision-making, which ultimately ensures good results. In essence, risk management gains the attention in the insurance industry as a corporate strategy to increase shareholder value in addition to protecting against financial failure. Despite the recent advancements, the field of risk management still suffers from the lack of theoretical development, which is necessary to guide its multidimensional applications (Acharyya, 2007).

### **2.3.3 Derivatives in Managing Financial Risk**

The study on financial risk management for small business is carried out by Crabb (2003), School of Business Northwest Nazarene University. The discussion includes both the economic motives for financial risk management, and the use of derivatives in financial risk management. An argument for the use of derivatives at small firms is put forth by showing how the best practices in financial risk management found at large firms can be put in place at small businesses as well.

Numerous academic studies have sought to answer why firms use derivatives. Support has been found for each of the theoretical hedging motives discussed above (see for example Bailly *et al.*, 2003; Gay *et al.*, 1998; Geczy, *et al.*, 1997; Graham and Rogers, 2002; and Nance *et al.*, 1993). Surprising though, is the consistent finding in these studies that the use of derivatives is positively correlated with firm

size. This finding suggests that the firms are less likely to need derivatives as a hedging tool, because they have the opportunity to diversify in the manner of McDonald's Corporation, are the most likely to use it. Proctor & Gamble is a multi-billion firm with operations around the world and in numerous product offerings, but according to the empirical research, P&G is likely to have numerous derivative positions and Gibson Greetings is unlikely to use derivatives.

Why do smaller firms with less diversifiable risk choose not to use derivatives? Many answers to this question have been proposed, but two stand out. First, derivative use is often seen as a sophisticated process that requires an advanced academic degree, usually in mathematics. This is more likely to be true when the firm faces many risk exposures: currency values, commodity prices, interest rates, etc. Second, the costs of deciding upon and setting derivative positions may be high. These costs include both monetary investments in advisor and broker fees and the time management must devote to the process. Smaller firms are unlikely to have the managerial resources available to devote to the process. Large corporations often employ a full-time risk manager to identify and analyze possible loss exposures. Is risk management therefore out of the question for the small business manager? Is the small firm not only unable to diversify, but also unable to transfer risks by taking derivative positions?

#### **2.4 Conceptual Framework to Measure the Performance of Risk Management**

It is clear that the type of performance measures required for Risk Management should directly be related to organisations' strategic goals (i.e., corporate objectives). Moreover, the outcomes of ERM should provide information in determining corporate objectives and formulation of appropriate corporate strategies. Since ERM



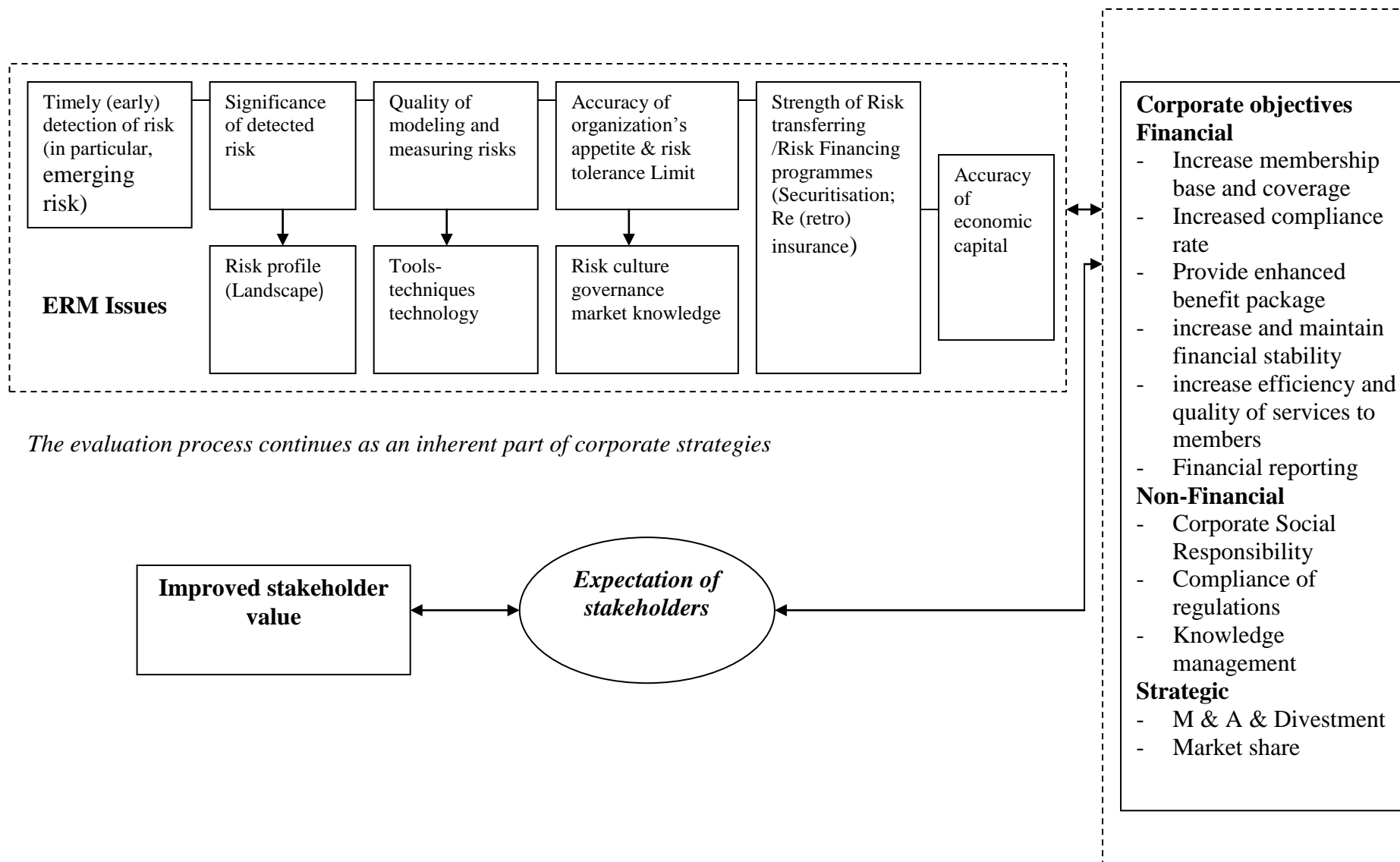
is a management system, the performance of ERM should also provide feedback for the cognitive and behavioural learning processes of the organisation in addition to delivering tangible value for the organisation (Feurer, 1995).

Clearly, a single performance measurement system (i.e., financial or operating) seems inadequate since it is not inclusive, and ignores the interactions among the ERM characteristics. Moreover, it ignores critical aspects of organisational strategic goals. In addition, it is difficult for a single measure to provide a clear performance target on the critical areas of business (Kaplan, 1992). Clearly, the challenge is to link the financial components to the operational components within this single framework. In essence, an ERM performance measurement framework should utilize relevant literature from a number of fields including finance, accounting, operations management, marketing, strategy and organizational behavior (Neely, 2002).

Indeed, currently existing financial measurers do not support the change process, and an integrated set of performance measures for ERM from interdisciplinary perspectives is necessary. In essence, the performance of ERM is seen as the information system, which enables the organisation and the associated parties, in particular, the regulators and rating agencies, to measure the strength of the entire business. In addition, the performance of ERM, which considers all significant risks of the business partly depends on how the risk related information (objectives) is amplified or communicated or deployed from top to bottom (across the organisational hierarchy) throughout the organisation.



**Figure 2. 1: A Conceptual framework to measure the performance of ERM**



The framework as shown in the above figure provides three key areas where the performance of ERM needs to be concentrated. The first area illustrates the operational activities of an ERM program in association with an ERM framework as proposed by Acharyya (2006). The second area emphasises on the corporate objectives (financial, operational and strategic) of the SSIs. And the third area is related to the expectation of the stakeholder group, which is delivered by the firm ensuring the achievement of the corporate objectives.

However, the first area is specific to ERM issues. In short, the effectiveness (or performance) of social security institution's risk management should be measured on SSIs ability to manage its risks, which is reflected in the success or failure of achieving corporate objectives. However, the SSIs' risk management ability will be determined on various issues i.e., early detection of emerging risk and their potential consequences for the organisation; the accuracy of the amount of risk that an SSI can realistically absorb given its business model with respect to the market; and the strength of its risk offloading capabilities through its operations. Finally, the justification of capital that the SSI should hold to absorb the risk (i.e., economic capital) when the incident actually occur is suggested as the ultimate test of the ERM framework.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter on research methodology describes the research design, area of the study, population of the study, the sample and sampling procedures. The chapter also discusses data collection methods employed in answering the research questions. Data analysis and issues related to credibility are also covered in this chapter.

#### **3.1 Research Design**

Research design is a plan used to get the expected results of the study. It is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. Research design is needed because it facilitates the smooth sailing of the various research operations (Kothari, 2004). In this study, the researcher used descriptive case study design.

Descriptive research approach is intended to gain more information about the nature of a particular area of study. This approach therefore is used to provide a picture of a situation so as to be able to describe the situation (Burns and Grove 1999). The main purpose of descriptive research is to provide a description on the state of affairs as it exists at present or a given time (Kothari, 2004).

According to Stake (1998), case may be selected based on the opportunity to learn. In this case, the researcher was assured the possibility to obtain access to data and information to fulfil research objectives. Further, given time constraint and the need

to have indepth analysis, this study considered a holistic case approach as opposed to multiple embedded case methods (Yin, 1994).

### **3.2 Area of the Study**

This study was conducted at LAPF- Dodoma, because the respondents relevant to the research objectives are found in social security institutions LAPF being one of these social security institutions. LAPF- Dodoma was selected for the study based on two reasons which were:

- 1) Opportunity to learn. Stake, (1998), contends that when selecting case studies, balance and variety are important but opportunity to learn is of primary importance
- 2) LAPF- Dodoma is a typical case when compared to other social security institutions in Tanzania with respect to provision of social security services. According to Saunders et al., (2000), one justification of selecting a case for study is when the case is typical when compared to others.

### **3.3 Population, Sample and Sampling Techniques**

This part describes the target population, the sample study as well as the procedures used by the researcher to pick respondents for the study.

#### **3.3.1 Population**

According to the pre-study survey, the LAPF staff in December 2009 was made up of about 117 employees, including 21 Finance Officers, 75 Operation Officers, 5 Internal Auditors, 4 Information Technology (IT) officers and 12 Planning and investment Officers. These employees are directly involved in the daily operations of

the Fund. The researcher did not include other employees from human resources and public relation departments because, they are not directly involved in the management of financial risks.

### 3.3.2 Sample and Sampling Procedures

Probability and non-probability sampling techniques were used to select some respondents from the intended population. Under probability sampling, the sample was obtained using stratified random sampling with proportionate allocation. This approach was appropriate because the population comprised of different staff with different skills from 5 different departments namely, member service, finance, planning and investment, internal audit and information technology. So stratified random sampling with proportionate allocation was used to bring equality in the representation of the population.

Given that the stratified random sample was 33 respondents that was to be drawn from the population of 117 employees with proportionate allocation; then the numbers from each stratum were:

Member Service/Operation department	= 0.6410 (33) = 21.2 ~ <b>21</b>
Finance department	= 0.1795 (33) = 5.9 ~ <b>6</b>
Planning and Investment department	= 0.1026 (33) = 3.4 ~ <b>3</b>
Internal audit department	= 0.0427 (33) = 1.4 ~ <b>1</b>
Information Technology department	= 0.0342 (33) = 1.1 ~ <b>1</b>
<b>Total</b>	<b>33</b>

The sample size of 33 was also found appropriate because according to Hogg and Tanis (1977), a sample size of 25 to 30 is enough for analysis and reporting purposes.

However, this study amplified the sample size to 33 in order to increase accuracy of the findings (Saunders et al., 2000).

Under non-probability sampling; purposeful sampling was used to select 5 heads of departments, treasury manager, planning and investment manager, project and estate manager and principal treasury officer, for detailed data on the risks identification and strategies used to mitigate them. These were selected on virtue of their positions. Thus, the sample size of this study comprised 33 staff as shown in the table below.

**Table 3. 1: Sample Composition**

<b>Departments</b>	<b>Sample Selected</b>	<b>Percent of Sample</b>
Member service/Operations	21	64
Finance	6	18
Planning and Investment	3	9
Internal Audit	2	6
Information Technology	1	3
<b>Total</b>	<b>33</b>	<b>100</b>

Source: Field work research, 2010

### **3.4 Data Collection Methods**

There are two types of data namely, primary and secondary data. Primary data are those which are collected afresh for the first time and then happen to be original in character. The secondary data, on the other hand, are those which have already been collected by someone else (Kothari, 2004). In this study, both primary and secondary data were utilized. Primary data was collected through the use of questionnaires and interviews. On the other hand secondary data were obtained through documentation review and internet.



### **3.4.1 Questionnaires**

This is a series of questions prepared and distributed to different people who were selected as a sample. The instrument provides more information because anonymity attracts respondents to answer the questions (Babbie, 1983). Structured questionnaire specially designed for acquiring data and information from respondents were utilised in this study. Structured questionnaires were constructed to capture both qualitative and quantitative data. These questionnaires consisted of both open and closed ended questions.

In conducting this study, questionnaires were distributed to all five selected departments. The questionnaire was designed to capture information from the department of Finance concerning the risk management processes. This directorate is responsible for financial management of the Fund. The questionnaire was also administered to investment department which is responsible for implementing the Fund's projects. It was a questionnaires aimed to capture information on how the investment department takes into consideration the risk management procedures in the fund during their investing activities like constructions of the building and other investment. Furthermore, the questionnaire was directed to members service department which deals with the membership and benefits payments of the Fund. It was intended to obtain information from operations of the Fund. Moreover, it was administered to internal audit department which is responsible for setting the internal control within the Fund and identifies the risky areas of the Fund. Finally, the questionnaire was administered to information technology department which is responsible for building IT capability within LAPF to integrate and quickly analyze data across the institution.

### **3.4.2 Interview**

The interview method of collecting data involves presentation of oral- verbal stimuli and reply in terms of oral-verbal responses. Interviews are suitable for intensive investigations (Kothari, 2004). According to Babbie and Mouton (2004), interview (personal) is an interaction between an interviewer and interviewee in which the interviewer has a general plan of inquiry. In this interaction, the interviewer obtains data from the interviewee.

In this study, the researcher conducted interviews to treasury manager, principal treasurer officers and 5 heads of departments, namely:-Finance, Planning and Investment, Members services, information technology and internal audit departments in order to gather more information about financial risks at LAPF.

### **3.4.3 Documentary Source**

This method was also extensively used in this study to obtain secondary data and information. The main sources of documentary review were financial reports, LAPF Act, Investment Policy, risk management framework and internet search,

### **3.5 Data Analysis**

Data analysis is a general way that involves a number of closely related operations which are performed with the purpose of summarizing the collected data and organizing them in such a manner that they answer the research questions or, the computation of certain indices or measures along with searching for patterns of relationships that exist among the data groups (Kothari, 2004). Data analysis can be categorized into qualitative analysis and quantitative analysis. This study employed both types of analysis. Quantitative data were analysed through the use of simple

counts, use of tables and percentages. Qualitatively, data were analysed through the application of pattern matching, strong explanation building and comparison of data and information as proposed by Yin (1994).

### **3.6 Reliability and Validity**

Reliability of a measure refers to the consistency with which repeated measures produce the same results across time and across observers (Walsh, 1990). The notion of reliability entails two aspects, which are external reliability and internal reliability. External reliability refers to the degree of consistency of a measure over time. When testing external reliability of a measure, test-retest reliability is normally examined, i.e. the test is administered to the same group of subjects on two different occasions.

Internal reliability on the other hand, is the most important one in connection with the multiple item scale (Bryman and Cramer, 1990). This reliability raises the question whether each scale is measuring a single idea and hence whether the items that make up the scale are internally consistent. Reliability here was improved by employing triangulation of methods in evidence collection as suggested by Kirk and Miller (1986) for the case of qualitative studies like this one. The methods employed were questionnaire, interviews and documentation. This helped the researcher to picture how multiple, but somehow different, measures used to collect data were simultaneously true.

Validity on the other hand, refers to the extent to which the concept one wishes to measure is actually being measured by a particular scale or index (Sirkin, 1995). According to Silverman (1993), two methods are proposed for validation with respect to qualitative research, namely; triangulation of data & methods and

respondent validation. Accordingly, this study employed triangulation of methods in data collection where three methods were used (questionnaire, interview and documentation). In addition to that, data was gathered from two units of analysis (employees and administrators).

## **CHAPTER FOUR**

### **RESEARCH FINDINGS AND ANALYSIS**

#### **4.0 Introduction**

This chapter presents data and findings of the study. The chapter begins with the presentation of the profile of the respondents, followed by a section on the description on financial risks at LAPF. The chapter further presents measures taken by LAPF to combat financial risks, and, the last section presents the effectiveness of the existing measures of managing financial risks at LAPF.

#### **4.1 Respondents' Profile**

This study comprised 33 respondents; of which 25 were working in LAPF headquarter in Dodoma and 8 in four LAPF's zone offices which are central zone (Dodoma), northern zone (Arusha), eastern zone (Dar es Salaam) and southern zone (Iringa).

##### **4.1.1 Distribution of the Respondents by Departments**

The respondents were from five different departments namely, 5 from planning and investment department (15%), 8 from finance department (24%), 16 from members services department which includes staff from four different LAPF's zone offices (49%), 4 internal audit (12%) and 1 from IT department. This distribution is summarized in the following table.

**Table 4. 1: Distributions of the Respondents by Departments**

<b>Departments</b>	<b>Number of Respondents</b>	<b>Percentage (%)</b>
Member service/Operations	21	64
Finance	6	18
Planning and Investment	3	9
Internal Audit	2	6
Information Technology	1	3
<b>Total</b>	<b>33</b>	<b>100</b>

Source: Field work research, 2010

#### **4.1.2 Distribution of the Respondents by Sex**

The number of male respondents, 20 (60.61%) surpassed the number of female respondents, 13 (39.39%). The distribution of respondents basing on their sex is summarized in the following table:

**Table 4. 2: Distribution of Respondents by Sex**

<b>Sex</b>	<b>Number of respondents</b>	<b>Percent</b>
Male	20	60.61
Female	13	39.39
<b>Total</b>	<b>33</b>	<b>100.</b>

Source: Field work research, 2010

#### **4.1.3 Distribution of Respondents by Education**

The education level of the respondents ranged from secondary education to university education. Respondents with university degree and above were (48.5%). This group comprised the largest portion of the respondents. The level of education from diploma to university degree was the second largest group of respondents comprising (45.4%) of respondents and the last level of education was that of secondary education which was formed by (6.1%) of respondents. The level of

education summary of the distribution of the respondents is presented in the table that follows:

**Table 4. 3: Distribution of the Respondents by level of education**

Level of Education	Number of respondents	Percentage (%)
Secondary education and below	2	6.1
1 <sup>st</sup> Degree and Diploma	15	45.4
Above 1 <sup>st</sup> Degree	16	48.5
Total	33	100

Source: Field work research, 2010

As a summary, the respondents were predominantly from LAPF headquarters staff who were involved in main operations of the Fund. Operation officers made the largest portion of the respondents by comprising (49%). Also there were more male respondents (60.6%) compared to female respondents (39.4%). Furthermore; most of the respondents were had level of education above first degree (48.5%).

#### **4.2 Financial Risks in Local Authorities Pensions Fund**

The first objective of this study was to identify financial risks which are currently facing LAPF in its operations. Therefore this section presents the different issues on liquidity risk, market risk, credit risk, litigation risk, regulatory, operation and policy risks and political risks from 2004/2005 to 2009/2010. The section responds to the questions: what are the liquidity, market, credit, litigation regulatory, operation and policy and political risks facing LAPF from 2004/2005 to 2009/2010?

#### **4.2.1 Liquidity risks**

Respondents from members service department highlighted the possibility of liquidity risk in the future. About 85% revealed the availability of the liquidity risks at LAPF. This is the situation where the Fund will fail to meet its financial obligations. Most commented that, the Fund depends on contribution from members and the rate of benefits payments increase at high rate compared to contributions received. Also, the performance of investments of the Fund is not good since the Fund invests mostly on construction of buildings for renting business. This will take more time for the buildings to payback. Liquidity risk can be critical for some social security institutions, since many operate on an essentially pay-as-you-go basis, which means that they do not accumulate significant assets as reserves. However, they must still maintain adequate working capital, since contribution income and benefit expenditure can fluctuate from week to week and month to month as a result of statistical variations, seasonal factors, and economic cycle effects. Adjustments to contributions or to benefits take time to put into effect, so it is essential to have a small buffer fund to absorb the impact of short-term variability. This buffer fund must be invested in a way that ensures that the funds can easily be drawn down without suffering capital losses, i.e. held on deposit, some on virtually immediate accessibility, or in very short-dated financial instruments.

#### **4.2.2. Market risks**

Market risk is the risk that the value of an investment will decrease due to moves in market factors. The four standard market risk factors are: Equity risk, the risk that stock prices will change, Interest rate risk, the risk that interest rates will change, Currency risk, the risk that foreign exchange rates will change and Commodity risk, the risk that commodity prices (e.g. grains, metals) will change. About 70% of



respondents revealed that, market risks are among the emerged risks types that affect the pension's Fund. The researcher observed that the Fund generates foreign currency from rental income which is invoiced in USD to preserve the value and return of its investment properties due to persistent depreciation of the Tanzanian shilling against the major currencies. Funds generated from rental collections are maintained in placements/investments denominated in foreign currencies.

#### **4.2.3 Credit risks**

Credit risk refers to the probability that an asset or loan becomes irrecoverable due to a default or delay in settlements. The study found that, the Fund's main financial assets are in Government securities, corporate debt securities, bank placements and real estate. Significant portions of the investment of the Fund are in government securities. The Fund has an Investments Policy which guides investment activities in order to mitigate credit and other risks associated with the investment function. The findings show that, the Fund provides credit facilities to different organisations such as TANESCO, SACCOS and other businesses. Also, it provides credit to their staff. The consequences can be severe with a decline in the value of a bank's assets. About 70% of respondents revealed that, the Fund is in position to experience the occurrence of credit risk.

#### **4.2.4 Litigation risks**

Litigation exposure can result from either Fund-initiated or third-party-initiated litigation. Fund-initiated litigation occurs when LAPF management initiates legal proceedings. Such legal actions enforce contract rights, including loan and lease covenants; recover debts or obligations owed to the bank; foreclose on property in which the bank holds a security or ownership interest; or recover damages caused by

insiders or third parties. In some cases, fund-initiated litigation gives rise to countersuits. Third-party-initiated litigation occurs when an action has been threatened or commenced against the fund. Third-party-initiated litigation may involve allegations of errors, omissions, violations of law, damages, or personal injury caused by the Fund, its management, or staff. The findings revealed that, there is outstanding debt of TZS 1.849 billion owed to M/S G.K Hotels & Resorts and the case is in the court. The recoverability of these amounts is in doubt (LAPF, 2008). In this situation, there is a possibility of Fund to lose case and get the loss of TZS 1.849 billion which could be used for investment or paying member's claims.

#### **4.2.5 Regulatory, Operational and Policy Risks**

About 80% of respondents revealed the likelihood of operational risks at LAPF. This can take many different forms like computer failure, mistakes in record-keeping, poor compliance of members/employers with earnings declaration and contribution payment, inaccurate allocation of expenses between branches, inadequate staffing to maintain operations satisfactorily, for example because of recruitment problems or uncompetitive salaries, strikes and other staff unrest, weak management; fire, earthquake, hurricane or flood, fraudulent transactions, hostile hacking into the main computer database; failure to implement an element of the legislation; failure to warn insured persons of an impending change in coverage or benefit accrual; unexpected fiscal liabilities; failure of risk controls on delegated authorities; poor risk management (Cardinale et al, 2005).

Further pension schemes also face the background risks in the form of regulatory, operational and policy risks (Wiley, 2005). Throughout the world, governments change the tax treatment of pensions as well as the definitions of liabilities in ways

which can be quite costly for pension scheme sponsors. In Tanzania tax laws are changing every year and create more complications on pensions fund investment return in terms of Value Added Tax (VAT) return, withholding taxes, rental taxes and others taxes. For example LAPF Act exempts them from paying corporate tax but there is not such exemption in Income Tax Act 2004.

#### **4.2.6 Political risks**

About 57% of the respondents revealed that the Fund is not independent from Political decisions. Most of the time the government directs the Fund to invest on certain activities even though the return is not viable. For example, the constructions of social infrastructures such as schools, hospitals, bridges etc. e.g constructions of parliament chambers and University of Dodoma. These activities took huge pensions funds and their payback could take more time than the required rate of return. If the Fund can invest these monies some where else, like fixed deposit in banks, they could get return above the one provided by government.

The table below shows the summary of the financial risks available at LAPF, ranking by percentages of respondents.

**Table 4. 4: Rank of Types of risks in LAPF**

Types of risks facing LAPF	Ranking of financial risks in respect of percentage (%) of respondents.
Liquidity	85
Operational	80
Credit	70
Market	70
Regulatory/compliance	70
Litigation	57
Political	57

Source: Field work research, 2010

The above table shows the frequency of risks facing LAPF in its operation. According to respondents, liquidity risk is among the most affecting risks followed by operation risk.

#### **4.3 Measures Taken By LAPF to Combat Financial Risks**

The second objective of this study was to identify the existing measures taken by LAPF to combat financial risks. This section presents ways used by LAPF starting with, actuarial valuation, followed by market rent. Furthermore, the section presents loan deposit ratio and daily movement of exchange rate as measures to combat financial risks. Lastly, the section describes how LAPF uses risk management guidelines as a way of managing financial risks. The section responds to the following questions: How does LAPF employ actuarial valuation, market rent, loan deposit ratio, daily movement of exchange rate and risk management guidelines to effectively manage financial risks.

### **4.3.1 Actuarial valuation**

This is the process which involves assessing the current level of funding of the scheme by comparing scheme assets with liabilities accrued to the date of valuation and to determine the level of contributions that need to be paid in future to achieve the level of funding necessary to pay out the benefits promised. LAPF as social security institution is required to carry out actuarial valuation after every three years. This helps to identify the funding ability of the social security institutions and act as the alerting tool to know if the fund has ability to pay all its obligations or not. For example, according to the actuarial valuation report of LAPF done in December 2003, additional funding requirement was determined to be TZS 107.30 billion at 30 June 2005, to enable all the existing members in the scheme to qualify for pensions, if they contribute for a minimum of 15 years and have reached the retirement age. The Government of Tanzania agreed to inject in full the additional funding in equal installments over a period of 10 years from the 2007/08 financial year. The Fund started receiving equivalent monthly installments from July 2007 (LAPF, 2008).

### **4.3.2 Market rent**

LAPF like other social security institutions in Tanzania invests a huge capital on real estate, that is, they own several buildings as investment properties. They are leasing these buildings at market rent in order to obtain the expected return. The question they should answer, is the rent a market rent? The findings show that, LAPF charges market rent in investment properties in Dar es Salaam only, but they do not charge market rent in Dodoma buildings.

### **4.3.3 Loan Deposit Ratio**

Loan deposit ratio is the amount of a bank's loans divided by the amount of its deposits at any given time. The higher the ratio, the more the bank is relying on borrowed funds, which are generally more costly than most type of deposits. Although LAPF does not provide loans to customers as banks do, they invest in fixed deposit in other financial institutions like banks. The findings revealed that, LAPF calculates loan deposit ratio frequently to determine the position of lending to other financial institutions or government.

### **4.3.4 Daily movement of exchange rate**

The interview conducted to treasury manager revealed that, LAPF has established the mechanism to monitor and measures the daily movement of exchange rates. Others respondents from finance department supported that the fund has established measure to monitor the daily movement of the exchange rates. They fix the daily exchange rates in which their customers will transact their business operations.

### **4.3.5 Risk Management Guidelines**

The information obtained from internal audit department revealed that, LAPF established risk management framework in 2008 in which it involves an understanding and appraisal of the Fund's external relationships, its own internal and organizational environment in which the stages of the risk management process are followed. In analysing risks facing the LAPF, the following procedures are adhered to, Risk identification, Risk measurement, Risk control and Risk monitoring. However, the current situation is that, LAPF does not fully implement this risk management framework.

#### **4. 4. The Effectiveness of the Measures Being Taken By LAPF in Managing the Financial Risks**

The third and last research objective of this study was to examine the effectiveness of the existing measures being taken by LAPF in managing financial risks. The section assesses by comparing priorities given in managing each type of risks. The section also assesses the effectiveness in managing each type of risk. Moreover, this section examines how LAPF uses Value at Risk (VaR) in managing market risk. Lastly, under this section, risk management policy implementation is addressed. The questions answered by this section include: which risks are given higher priority than others? How effectively is each risk is managed? How is value at risk used in managing market risk and to what extent has risk management policy been implemented?

##### **4.4.1 Priorities in Managing Financial Risks**

The findings revealed that LAPF has made great efforts to develop different measures to manage risks in their operations. The measures adopted are: - actuarial valuation, market rent, loan deposit ratio, daily exchange rate and establishment of risk management framework. According to information obtained from the respondents, i.e. LAPF staff and reviewed documents, LAPF mitigate differently the following types of risks; the following table shows the ranking of efforts employed by LAPF to manage different type of risks.

The table below show the percentage of priorities of managing financial risks at LAPF.

**Table 4. 5: Priorities in Managing Financial Risks in LAPF**

<b>Type of risks managed by LAPF</b>	<b>Percentage(%) of Priorities of risk management</b>
Liquidity	86
Credit	71
Market	71
Regulatory/compliance	57
Litigation	43
Business continuity/IT security	43
Operational	57

Source: Field work research, 2010

According to the findings above, LAPF has engaged in risk management procedures to control/manage the above types of risks. The findings show that, liquidity risks takes a high priority (86%) of management effort compared to other risks. It means LAPF employs more efforts to control liquidity risks such as funding strategy and diversification of funding sources and investment opportunities. Market risks such as interest rates risks, currency risks as well as commodity and equity risks and credit risks take about 71% of the LAPF efforts of risk management. Other types of risks take little concern on management and controls.

#### **4.4.2 Effectiveness of Managing Financial Risks**

The effectiveness of managing financial risks is assessed in three areas, namely: - extremely effective, very effective and not effective. Except business continuity/IT security, all types of risks are not extremely effectively managed. Business continuity is not effectively managed simply because of lack of integration among their risk



systems. Respondents interviewed rated the LAPF as being very effective at managing liquidity and litigation risks (57%), credit risk, regulatory/compliance, market business continuity/IT security and operational risks (43%).

LAPF is not effective in managing IT security (57%) and market risk (43%). The importance of managing these risks is expected to continue to grow because of the numerous recommendations after the establishment of social security regulatory authority in 2008 and the establishment of risk management framework.

The following table provides the summary the level of effectiveness of managing financial risks at LAPF.

**Table 4. 6: Effectiveness of Managing Financial Risks**

Types of risks	Level of effectiveness of risk management as the percentage of respondents		
	extremely effective	very effective	not effective
Liquidity	14%	57%	29%
Credit	29%	43%	29%
Market	14%	43%	43%
Regulatory/compliance	14%	43%	14%
Litigation	29%	57%	14%
Business continuity/IT security	0%	43%	57%
Operational	29%	43%	29%

Source: Field work research, 2010

#### **4.4.3 Uses of Value at Risk (VaR) in Managing Market Risk**

Value-at-Risk (VaR) is widely used as a tool for measuring the market risk of asset portfolios. It quantifies in monetary terms the exposure of a portfolio to the market fluctuations. It is defined as the maximum monetary loss of a portfolio such that the

likelihood of experiencing a loss exceeding that amount, due to its exposure to the market movements, over a specified risk horizon is equal to a pre-specified tolerance level (Sarma, 2002). Market risks include equity, interest rate, currency and commodity risks.

In determining the use of Value at Risk in managing financial risks by LAPF, most of respondents revealed that greater percentage of the assets of LAPF are not covered by Value at Risk. Value at Risk helps to understand what you should expect to happen on a daily basis in an environment that is roughly the same. Value at Risk measures formed a key barometer for most firms in understanding their sensitivity to changes in market conditions. In LAPF, VaR does not carry equal significance compared to other financial institutions. LAPF does not establish VaR in their operations, they are not aware of its functions and significance in risk management.

The table below shows the classes of assets covered by Value at risk in LAPF. The findings show the low proportions of assets are covered by value at risk. These are fixed income, foreign exchange, equity and asset backed securities and structured products (29%) while others are below.

The level of implementation of risk management policy at LAPF is summarised by the following table.

**Table 4. 7: Management of market risk using Value at risk (VaR) at LAPF**

Asset classes	Level of uses of Value at risk (VaR) as the percentage of respondents			
	extensively covered	somewhat covered	not covered but plan to	not covered and no plans to
Fixed income	29%	43%	14%	14%
foreign exchange	29%	57%	14%	0%
Equity	29%	57%	14%	0%
asset backed securities and structured products	29%	14%	43%	14%
credit derivatives	14%	43%	29%	14%
commodity	14%	43%	14%	29%
catastrophe or other event-driven instruments	14%	43%	29%	14%

Source: Field work research, 2010

#### **4.4.4 Level of Risk Management Policy Implementation**

According to findings, LAPF has developed risk management policy since 2008. Roughly three quarters of respondents revealed that, LAPF had either substantially or not implemented the work required to identify operational risk types and standardize documentation of processes and controls. LAPF had made less progress in these areas. Less than half of the respondents said work was either fully or substantially implemented for developing methodologies to quantify risks, for rolling out a formal training program for operational risk, and for creating metrics to monitor operational risk types. Clearly, developing methodologies and metrics for operational risk has proven to be a major challenge for LAPF.

**Table 4. 8: Risk management policy implementation**

Aspects of risk management policy	Level of Implementation of risk management policy as the percentage of respondents		
	fully implemented	substantially implemented	not implemented
identifying risk types	14%	43%	29%
standardizing documentation of processes and control	29%	43%	14%
gathering relevant data	0%	71%	14%
developing methodologies to quantify risks	0%	22%	72%
roll-out of a formal operational risk training program	14%	29%	57%
creating metrics for monitoring each type of operational risk	0%	29%	57%

Source: Field work research, 2010

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **5.0. Introduction**

In the beginning, this study pointed out that, financial institutions in Tanzania invest substantial amounts of their funds into financial markets. These investments are government securities, fixed deposits with banks, real estates and loans. These types of investments are exposed to financial risks which affect their liquidity position and result into uncertainty for them to settle their obligations. This study therefore, aimed at examining the effectiveness of managing financial risks in social security institutions through identifying the financial risks facing LAPF in its operations, the measures taken by LAPF to combat financial risks and examining the effectiveness of the existing measures being taken by LAPF in managing the financial risks.

As the previous chapter presented the findings of this study, a summary of the findings, a conclusion, recommendations, limitation of the study and the areas for further study are presented in this last chapter.

#### **5.1 Summary of the Findings**

This section summarizes the major findings of the study. The section starts by presenting a summary of the findings on financial risks facing LAPF in its operations, followed by a summary on the measures taken by LAPF to combat financial risks, and finally, the section summaries the issues related to the effectiveness of the existing measures being taken by LAPF in managing the financial risks.

### **5.1.1. Financial Risks Faced LAPF**

LAPF encounters different financial risks in their operation, namely: - liquidity risk, market risk, credit risk, litigation risk, regulatory, operation and policy risks and political risks. According to findings, liquidity risk is the most serious risk affecting financial risks followed by operational risk.

### **5.1.2 Measures Taken by LAPF to Combat Financial Risks**

LAPF has employed more efforts to combat financial risks, namely: - actuarial valuation, market rent, loan deposit ratio, daily movement of exchange rate, and risk management guidelines. However, LAPF does not fully implement its risk management guidelines.

### **5.1.3 Effectiveness of the Existing Measures**

Different measures have been employed by LAPF to mitigate financial risks. Priorities of managing these risks differ from one type of risk to another, for example, liquidity risks get more attention than others. Also LAPF does not efficiently use Value at Risk (VaR) measure to manage market risk. Lastly, risk management policy has been established but is not yet fully implemented.

## **5.2. Conclusion**

The study aims to (i) Identify the financial risks facing Local Authorities Pensions Fund in its operations (ii) Identify measures taken by LAPF to combat financial risks and (iii) Examine the effectiveness of the existing measures being taken by LAPF in managing the financial risks. It is found that, LAPF has been facing different financial risks, namely: - liquidity, market risk, credit risk, litigation risk, regulatory,

operation and policy risks and political risks. LAPF also has employed different measures to combat these financial risks which are; actuarial valuation, market rent, loan deposit ratio, daily movement of exchange rate, and risk management guidelines and finally, LAPF has established risk management guidelines but has not yet fully implemented them.

### **5.3 Recommendations**

Social security institutions are subject to different types of risks in respect of their liabilities, earning, structural changes in the economy, unemployment, disability, the future growth in the costs of health care and general improvements in longevity for the whole population (Daykin, 2004). Therefore, for this case, risk management is inevitable for social security institutions. The following are recommendations for effective risk management in social security institutions.

#### **5.3.1 Recommendations to the Government**

##### **a) Establishing Fully Fledged Independent Risk Management Unit**

The government should make sure that, each social security institution establishes an independent risk management unit to oversee the management of risks in their operations. Such a setup could be in a form of risk manager, committee or department depending on the size and complexity of the institution.

##### **b) Effective audit**

The government should also make sure that, there is effective audit in social security institutions at least annually and should every year or two be subjected to actuarial valuation and review to assess the future commitments and the adequacy of expected income, having regard to the assets of the scheme. Reports from the auditors and the actuary should be made publicly available.

### **5.3.2 Recommendations to LAPF Management**

#### **a) Use of derivatives**

LAPF should make use of financial derivatives as an investment management instrument to manage and hedge risks (e.g., to reduce exposure to currency fluctuations). However, unhedged positions in derivatives can expose the investing institution to significant risk. Appropriate risk management structures should be put in place to govern the use of derivatives, and compliance with these structures should be carefully monitored.

#### **b) Investment policy and strategy**

The investment policy of LAPF should be based on prudent-person principles and appropriate quantitative restrictions. It should take into account the following concepts: - risk management, diversification and dispersion, matching assets and liabilities, including considerations of duration and maturity, currency matching; and performance measurement and monitoring

In establishing the investment policy and strategy, the governing bodies of the social security scheme and of the investing institution should determine the degree of risk and risk tolerance the scheme is able to sustain. Factors such as the volatility of contributions and assets should be considered along with the financial objectives. The governing bodies of the social security scheme and of the investing institution should have a sound understanding of the scheme's obligations, the purpose of the investments, and the appropriate mix of assets required to ensure the scheme's financial sustainability.



### **c) Training of staff on key risk indicators**

LAPF should ensure that their staff have appropriate expertise and training on key risk indicators and the importance of risk management. Staff should be trained on how to identify and measure risks in the Fund and how to treat or reduce the impact of risks through risk management program.

### **5.4 Limitation of the Study**

This study was carried out by using a case study approach where LAPF was used as a platform. This was done in order to have indepth analysis as well as to overcome time and other resources constraints. It is however, acknowledged that, if more Pension Funds were involved in the study, richer and more interesting findings could be obtained.

### **5.5 Areas for Further Studies**

The study covered a narrow area of financial risk management at LAPF, it is suggested that more and further research be undertaken in the following areas:-

- Operational risks management in social security institutions,
- Whether investments returns of pensions fund are relevant to the cost of investment ( the relationship between return and investment in pensions fund in Tanzania),
- Real estate risks management in Tanzania.
- Financial risks management in Tanzania
- It is also recommended to undertake studies on the above mentioned area using survey approach in order to cover wider area.

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## LIST OF APPENDICES

### Appendix 1: Questionnaire

Dear Respondent,

I am Daniel Mungure, a student from University of Dodoma pursuing Master of Business Administration-Finance. I am conducting a research on *effectiveness of managing financial risks in social security institutions, the case of LAPF*. For such purpose, I kindly request your cooperation:-

#### Purpose of study

The purpose of this questionnaire is to capture data that will reflect how effectively LAPF manages financial risks; the results of this study will contribute towards the improvements of ways of managing financial risks in social security institutions in Tanzania. We therefore kindly request your assistance to make this exercise successful. We assure that the information collected is meant for academic purposes only and will be treated as confidential. We thank you for your cooperation towards nice results of this study.

Name of respondents (Optional).....

Profession (Optional).....

What is your education level.....

Sex: Male..... Female.....

For how long have you been working with LAPF? (Optional).....

**What types of risks does LAPF encounter during its operations from the following risks? (✓ Tick)**

- a) Liquidity
- b) Credit
- c) Market
- d) Regulatory/compliance
- e) Litigation
- f) Business continuity/IT security
- g) Operational
- h) Model risk
- i) Others

**What types of risks does LAPF attempt to manage? (✓ Tick)**

- a) Liquidity
- a) Credit
- b) Market
- c) Regulatory/compliance
- d) Litigation
- e) Business continuity/IT security
- f) Operational
- g) Model risk
- h) Others

**Does LAPF have approved enterprise risk management framework or enterprise risk management policy?**

- a) Yes, approved at the board level
- b) Yes, approved at the risk management committee level
- c) No, however our framework and policy are in draft
- d) No, but plan to have at the board or risk management committee level

**How effective do you think your organization is in managing the following risks? (✓ Tick the appropriate answer)**

- c) Liquidity       extremely effective  Very effective  Not Effective
- d) Credit       extremely effective  Very effective  Not Effective
- e) Market       extremely effective  Very effective  Not Effective
- f) Regulatory/compliance       extremely effective  Very effective  Not Effective
- g) Litigation       extremely effective  Very effective  Not Effective
- h) Business continuity/IT security       extremely effective  Very effective  Not Effective
- i) Operational       extremely effective  Very effective  Not Effective
- j) Model risk       extremely effective  Very effective  Not Effective
- k) Others.....  extremely effective  Very effective  Not Effective



**How satisfied are you with your current risk management systems in the following areas? (✓ Tick the appropriate answer)**

- a) Market risk:  extremely satisfied  Very satisfied  Not Satisfied
- b) Credit risk  extremely satisfied  Very satisfied  Not Satisfied
- c) Liquidity risk  extremely satisfied  Very satisfied  Not Satisfied
- d) Operational risk  extremely satisfied  Very satisfied  Not Satisfied
- e) Economic capital calculation and reporting  extremely satisfied  Very satisfied  Not Satisfied
- f) Compliance management  extremely satisfied  Very satisfied  Not Satisfied
- g) Collateral management  extremely satisfied  Very satisfied  Not Satisfied
- h) Enterprise risk  extremely satisfied  Very satisfied  Not Satisfied

**To what extent are the following operational risk management methodologies developed at LAPF? (✓ Tick the appropriate answer)**

- a) Risk assessments  Well-developed  Somewhat developed  Not developed
- b) Internal loss event data/database  Well-developed  Somewhat developed  Not developed
- c) Key risk indicators  Well-developed  Somewhat developed  Not developed
- d) Causal event analysis  Well-developed  Somewhat developed  Not developed

- e) Scenario analysis     Well-developed    Somewhat developed    Not developed
- f) External loss event data/database    Well-developed    Somewhat developed    Not developed
- g) Scorecards                       Well-developed    Somewhat developed    Not developed
- h) Capital modelling             Well-developed    Somewhat developed    Not developed

**To what extent has LAPF implemented the following aspects of operational risk management? (✓ Tick the appropriate answer)**

- a) Identifying risk types
- fully implemented
- substantially implemented
- not implemented
- b) Standardizing documentation of processes and controls
- fully implemented
- substantially implemented
- not implemented
- c) Gathering relevant data
- fully implemented
- substantially implemented
- not implemented
- d) Developing methodologies to quantify risks
- fully implemented
- substantially implemented

not implemented

e) Roll-out of a formal operational risk training program

fully implemented

substantially implemented

not implemented

f) Creating metrics for monitoring each type of operational risk

fully implemented

substantially implemented

not implemented

**To what extent does your Value at Risk (VaR) analysis cover the following asset classes? (✓ Tick the appropriate answer)**

a) Fixed income

extensively covered

somewhat covered

not covered, but plan to

not covered, and no plans to

b) Foreign exchange

extensively covered

somewhat covered

not covered, but plan to

not covered, and no plans to

c) Equity

extensively covered

Somewhat covered

not covered, but plan to



**How much of a concern are the following issues with your risk management information technology systems? (✓ Tick the appropriate answer)**

a) Lack of integration among systems

Major concern

Minor concern

b) Lack of flexibility to extend the current systems

Major concern

Minor concern

c) Inability to integrate risk analytics from multiple risk systems

Major concern

Minor concern

d) Lack of product coverage

Major concern

Minor concern

e) Lack of performance for more frequent and timely reporting

Major concern

Minor concern

f) High cost of maintenance and vendor fees

Major concern

Minor concern

g) Lack of integrated risk and finance reporting for economic capital optimization

Major concern

Minor concern

h) Out-of-date methodologies

■ Major concern

■ Minor concern

i) Inability to source required functionality from a single vendor

■ Major concern

■ Minor concern

j) Inability to capture increasing volumes

■ Major concern

■ Minor concern

k) Lack of aggregation of trading and banking books

■ Major concern

■ Minor concern

In your opinion, what are other strategies LAPF can employ to improve the existing risk management procedures?

f) .....

g) .....

h) .....

i) .....

j) .....

**Thank you for your cooperation!**

**Appendix 2: Interview guide questions to the Head of Department, Treasury Manager, Planning and Investment Manager, Project and Estate Manager and Principal Treasury Officer.**

1. What are the financial risks faced by LAPF?
2. What are the measures employed by LAPF to combat financial risks?
3. Is the Fund successfully managing those financial risks at proper time?
4. What do you think can be done to eliminate or reduce financial risks?