

**The Determinants of the Choice of Different Accounting Methods by
Companies Quoted on the Dar es Salaam Stock Exchange:
Positive Accounting Theory Approach**

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A Research Thesis submitted to the Faculty of Commerce in Partial
Fulfilment of the Requirements for the Award of a Master of Commerce
Degree of Strathmore University

June 2010



Declaration

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no. material previously published or written by another person except where due reference is made in the thesis itself.

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Abstract

This study examines the factors that determine the choice of multiple accounting methods (policies) in Tanzania. The study investigates managers' decisions to choose accounting methods in a positive accounting theory perspective using panel data on 15 companies listed on the Dar es Salaam Stock Exchange (DSE) from 2005 to 2008. Data (accounting numbers and accounting policies) were extracted from the companies' annual reports. Possible determinants of the choice of accounting methods are identified based on the positive accounting theory, including firm size, leverage, effective tax rate, bonus plan, internal financing, corporate governance, bank loans, ownership dilution and labour force.

Using regression analysis, the empirical results show that the significant factors are company size, internal financing, corporate governance and labour force. Contrary to the outcome of prior studies, the study finds that company size and internal financing are positively related with income strategy. The study proves statistically that there is a strong association between choice of accounting methods and income strategy.

This study makes several contributions to the body of knowledge. First, in the Tanzanian context, it determines the factors which affect choice of accounting methods. Second, 16 potential factors are identified from different studies and 9 tested in one country (Tanzania). Third, the study identifies corporate governance as a new factor impinging on the choice of accounting policies. Fourth, this study shows for the first time that the use of RATIO of income increasing accounting policies to total number of accounting policies can be used as dependent variable. Finally, the study proves statistically the existence of an association between choice of accounting methods and income strategy in Tanzania.

The research concludes that there are behavioural differences between managers of developed countries and their counterparts in Tanzania as a developing nation. Economic, social and political differences affect managers' behaviour in making decisions. Although there are differences between developed

and developing countries such as Tanzania, the research finds specific areas of diversion in the choice of accounting methods as company size, bonus plan and internal financing.

Future researchers should use cross-sectional data, test foreign political costs, managers' discretion, audit committee and industry. They should use natural logarithm of total sales as a measure instead of natural logarithm of total assets. Further, they need to investigate relevance of options in choosing accounting policies.

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Acknowledgements

I thank: God for good health and willingness to work on this study. Secondly, I thank: my Parents and St. Augustine University of Tanzania for material and moral support throughout my studies. I wish to express my sincere gratitude to my supervisor, Dr. Nelson Waweru, whose advice, guidance and tolerance has enabled me to accomplish this work. Special thanks to Dr. Silas Onyango of Strathmore University for his valuable comments and guidance on this study. Thanks to Strathmore University lecturers, namely, Dr. Jim McFie who allowed my work to be discussed in class at proposal stage, Dr. Ruth Kiraka who taught me research methodology and D. Wang'ombe for his contribution in research statistics knowledge. I also thank Destaings Nyongesa of Strathmore Business School for his help in statistical interpretations. Finally I wish to thank the Master of Commerce class of 2008 for their comments on the first draft proposal.

Acronyms

AC	Audit Committee
AS	Assets Specificity
BL	Bank Loan
CEO	Chief Executive Officer
CEOs	Chief Executive Officers
CG	Corporate Governance
CMSA	Capital Markets and Securities Authority
DSE	Dar es salaam Stock Exchange.
EA	External Auditor
EF	External Financing
FSALE	Foreign Sales
GAAP	Generally Accepted Accounting Principles
IAS	International Accounting Standard
IASB	International Accounting Standards Board
IASs	International Accounting Standards
IFRSs	International Financial Reporting Standards
IN	Industry
IPSASs	International Public Sector Accounting Standards
LV	Leverage
LF	Labour Force
Ln MD	Natural Logarithm
NBAA	Managers Discretion
NMB	National Board of Accountants and Auditors
OD	National Microfinance Bank
OLS	Ownership Dilution
PAT	Ordinary Least Square
R&D	Positive Accounting Theory
SZ	Research and Development
	Company or Firm size

STL	Short-Term Loan
STR	Strategy
TAS	Tanzania Accounting Standards Tanzania
TFASs	Financial Accounting Standards Tanzania
TIC	Investments Centre
TRL	Tanzania Railways Limited
TSRPs UK	Tanzania Statements of Recommended Practices
USGAAP	United Kingdom
US	United States Generally Accepted Accounting Principles
USA	United States
ZH	United States of America
	Zimmerman and Hagerman

CHAPTER ONE

1.0 Introduction

The purpose of this study is to investigate the economic factors which influence Tanzanian managers' choices of accounting policies. A distinct characteristic of the Tanzanian environment, which makes an investigation of accounting policy choices particularly appealing, is the wholesale adoption of International Financial Reporting Standards (IFRSs) with effect from 1st July 2004. Despite adopting IFRSs, the country still uses some of its local standards known as Tanzania Financial Accounting Standards (TFASs). These include TFAS 12, *Directors Report*; TFSA 23, *Accounting/or VAT* and TFAS 24, *Public Sector Financial Reporting*. The Tanzania Statements of Recommended Practice (TSRPs) also *apply* to financial statements in Tanzania (World Bank, 2005).

Generally, Tanzanian companies listed on the Dar es Salaam Stock Exchange use IFRSs in reporting their financials. Where there is no equivalent or counterpart IFRS in reporting a particular item, the few retained TFASs are applied. These two standards are not in conflict; indeed they complement one another. Since these standards are used in the whole process of preparing financial statements, TFSA 23, *Accounting for VAT* in one way or another may affect income reporting of companies.

In addition, some laws are incompatible with IFRSs. These are the Companies Act (2002), Capital Markets and Securities Regulations (2003) and Dar es Salaam Stock Exchange Blueprint (2003). For example, the Companies Act (2002) has many shortcomings and is not effective as the accounting standards to be followed are not clearly identified. On the other hand, the Capital Markets and Securities Authority (CMSA) requires brokers, dealers and investment advisors to prepare annual financial statements in accordance with Tanzania Financial Standards issued by the National Board of Accountants and Auditors, NBAA (World Bank, 2005). How managers behave in this situation of mixed and incompatible regulations is the question of this study.

Also, Tanzania is a developing country in which to the best of the researcher's knowledge, no study on choice of accounting methods has been done to date. In general, most studies in this area have been conducted in developed economies and use local Generally Accepted Accounting Principles (GAAPs). Following International Accounting Standards Board (IASB, 2008), International Accounting Standards give room for managers to choose an accounting policy depending on their decisions. For example in one industry a manager may decide to record assets at cost while another may use revaluation, International Accounting Standard (IAS) number 16 *Property, Plant and Equipment*, IASB (2008). Though International Accounting Standard (IAS) number 8 allows choice of accounting methods if there is no standard or interpretation applied, other standards require managers to accept one policy or the other. This generally affects the financial statements, economic, financial performance and operation of the company as perceived by stakeholders. Since accounting numbers are so important in investment decisions, self interested managers may use this as a loophole for maximising their wealth.

Thus, according to the summary of IFRSs (IASB, 2008), with the application of IFRSs, managers of countries that have adopted IFRSs have a wide range of accounting policies to choose from. Tanzanian managers choose income increasing or income decreasing accounting policies. Both orientations suggest that the choice of accounting policies has perceived economic consequences on the firm. This study will provide a first attempt at investigating the factors that influence Tanzanian managers' accounting policy choices by considering nine factors.

The relevance or significance of variables such as firm size, debt/equity ratio, and the existence of a bonus plan to explain the choices of accounting policies for US firms has been tested extensively and generally confirmed (Christie, 1990). Large American firms tend to choose income decreasing accounting procedures in an attempt to become less visible and thereby avoid increased political costs. Also, US firms with higher debt/equity ratios tend to choose income increasing accounting procedures to avoid debt covenant violations. American managers whose bonus compensation is tied to earnings tend

to choose income increasing accounting procedures to maximize their wealth (Inoue & Thomas, 1996). Studies performed in Japan, Switzerland, Malaysia, United Kingdom (UK) and Australia give mixed results. Furthermore, since there are major differences between United States, other developed countries and Tanzanian business environments, the researcher expects different results.

1.1 Background

Positive accounting is considered one of the most innovative but also among the most "controversial" theories in accounting since the 1960s (Watts & Zimmennan, 1990) as quoted in the study by Melis (2007). It is also a branch of academic research in accounting that seeks to explain (*Providing reasons for observed practice*) and predict (*unobserved, future and non evidenced phenomena*) actual accounting practices. It contrasts with normative accounting that seeks to derive and prescribe "optimal" accounting standards (Watts & Zimmerman, 1986; 1978).

Positive accounting theory has the basic assumption that agents are rational individuals who are concerned with furthering their own self-interests. Consistent with this, the researcher assumes that the motivating factor influencing managers' selection of particular accounting policies is the maximization of their utility. The motivation for studying accounting policy choice is to gather evidence about the factors which influence managerial action. The accumulation of evidence from such studies facilitates the development of a theory to explain accounting practice (Beattie et al., 1994)

The relationships between various individuals within and outside the organization is the focus of positive accounting theory and it explains how financial accounting can be used to minimize the cost implications associated with each contracting party operating in his/her own self-interest. The most important point to positive accounting theory is the economic perspective that individual behaviour is motivated by self-interest. Positive accounting theory predicts that contractual agreements will be put in place to align the interest of various selfinterested parties and this will be done by use of accounting system output (Mouk, 1990) and (Watts & Zimmennan, 1986; 1978)

Watts and Zimmennan (1986, 1978) observe that the development of positive accounting theory owes much to previous research undertaken on agency theory. Agency theory explains the relationship between agents and principals. Based on the economic perspective that individual behaviour is self-centred, firms are considered to be the nexus of contracts between many self-interested individuals. These contracts are initially put in place to drive efficiency and reduce the overall agency costs that can arise within the firm. After that, agents are predicted to use or adopt those accounting methods that most efficiently reflect their own performance. Unnecessary costs and inefficiencies are thought to be introduced by regulation to the contractual arrangements, particularly as it often acts to reduce the methods of accounting that would otherwise be adopted (Watts & Zimmerman, 1986; 1990)

According to Beattie et al. (1994), positive accounting theory has made a significant contribution to our understanding of corporate reporting practices. In particular, it has provided an explanation of managers' choice among accounting methods and has established the existence of incentives for earnings management. Managers' choice of accounting methods is explained in terms of the underlying trade-off between these various incentives.

Several studies on positive accounting theory have investigated the rationale underlying managers' choices of accounting methods. International insights have been provided by studies focused on non-US firms (Inoue & Thomas, 1996, Missonier, 2004, Aitken & Loftus, 2009, Cullinan, 1999). However, only a few authors have examined the accounting policy choices in a European environment (see Beattie et al., 1994, Lin & Peasnell, 2000) and almost none in developing countries, specifically in Tanzania. This study fills the gap by examining what motivates managers to choose one accounting method over another in Tanzania with an empirical examination of the potential determinants or factors which may affect multiple accounting method choices of listed companies in the country.

The focus on Tanzanian firms is particularly interesting because the Tanzanian regulatory system is based on the National Board of Accountants and Auditors (NBAA) standards and IFRSs, World Bank (2005) which allows

company managers to choose from a much wider range of accounting methods than their American counterparts. IFRSs allow more use of professional judgments than does US GAAPs which are based on Financial Accounting Standards Board (FASB) 1999 rules, FASB (1999).

The accounting choice of Tanzanian corporations must comply with the regulations of both IFRSs and TFRSs. However, the IFRSs contain only a minimum set of rules applicable to the publication of information and stipulate very few accounting principles. They are high quality accounting standards than all local GAAPs except US GAAP (Barth, 2008).

In theory, this presence of judgments and absence of legal constraints allows firms to choose from a wide array of accounting procedures. In practice, some firms seem to take into account the pressure of international markets Missonier (2004). However, the IFRSs, and NBAA directives allow discretionary choices in accounting methods. Consequently, the Tanzanian system's lack of any real constraint over the choice of accounting and reporting standards and the extent of the choice left open by international standards, IASB (2008), combine to create an economic and institutional environment which offers a unique opportunity to examine the rationale underlying corporate accounting policy choices.

Mouck (1990) states that positive accounting theory originates from economics and is based on the assumptions that all decision makers are motivated only by self-interest, not public interest and that the firm is considered to be a nexus of (explicit or implicit) contracts among self-interested parties. Thus, many managers may prefer one accounting method over another due to its impact on earnings and cash flows.

1.2 Statement of the Problem

The importance of financial reports for investor and other stakeholder decisions can be reduced by how managers decide on the choice of accounting methods. The IASB (2008) allows managers to choose one accounting method over the other depending on the firms' characteristics and circumstances. Since positive accounting theory assumes that managers are rational individuals who

choose accounting methods to maximize their own welfare (this has been tested in developed countries using local GAAPs), this study investigates the factors which motivate managers to choose accounting methods in a developing and IFRSs using country, namely Tanzania. In addition, most positive accounting theory studies have been done in developed economies using local GAAPs. A lot remains unexplained in developing economies and countries using IFRSs, especially in Tanzania. The main assumption of positive accounting theory, i.e. that managers choose accounting methods to maximize their wealth (Beattie et al., 1994) is applicable in developed as well as developing economies. However, practice in developing economies may differ due to economic, social, political and technological differences.

In their study of "The choice of accounting policy in Japan", Inoue and Thomas (1996) found that the significant factors are firm size, debt/equity ratio, and political costs (tax, labour force and foreign political costs). The bonus hypothesis was not found to be significant in Japan. This is in contrast with US studies which support the bonus hypothesis.

In the Swiss context, significant factors include debt costs, covenant constraints, political costs, managers' compensation, labour force and ownership dilution. Investment opportunities were found to be insignificant (Missonier, 2004).

Though these studies have been done since the 1960s and other variables have been added, the explanatory power of the dependent variable is still low. Missonier (2004) obtained a R^2 of 30%, Zmijewski and Hagerman (1981) obtained an explanatory power of 9%, Mosses (1987) 21% while Beattie et al. (1994) found that the explanatory power equals 17%. These results show that more factors or accurate measures are needed to achieve higher explanatory powers.

While positive accounting literature has explained some accounting practice, a lot remains unexplained (Watts & Zimmerman, 1990). Beattie et al. suggest that the differences in results may be caused by dissimilarities in financial climate, external auditors and degree of discretion to choose accounting method by managers. It also may be due to lack of strong measures rather than the existing

dichotomous model, lack of a strong model or powerful instrument and induction of numerous relevant variables.

The motivation for this study is also based on the fact that accounting information which is mainly used by rational investors in their investment decisions depend on how managers or preparers behave. Managers can provide information which misleads capital markets to simply meet their own interests (Watts & Zimmennan, 1986, quoted in Mouck, 1990). These behaviours, if not enlightened, may lead to company failures, reduced value relevance of financial statements, poor quality financial statements and hence misallocation of investor funds. Prior studies undertaken, in Japan, UK, US and Switzerland used local GAAPs. This study tests these variables in a country that has adopted IFRSs.

The study attempts to bridge the apparent gap in literature by testing this theory in a developing economy that has adopted IFRSs. Studies done in developed economies tell nothing on what should be done to limit the choice of self-interested managers in choosing accounting methods. The study will provide insights on what may be done about the accounting practices of self-interested managers. This will contribute to our understanding of what determines the choice of accounting methods in developing economies, especially Tanzania.

1.3 Purpose of the Study

The purpose of this study is to investigate factors which influence Tanzanian managers' choices of accounting policies. Several factors have been found to affect the choice of accounting policies among managers in developed countries such as US, Japan, Australia, UK and Switzerland. However, these factors may not affect the choice of accounting policy in developing economies. Moreover, new factors may be identified in emerging business environments such as Tanzania.

1.4 Objectives of the Study

The objectives of this study are:

1. To identify the factors that influence managers in choosing accounting policies.
2. To measure the significant motivational factors affecting choice of accounting methods (policies).
3. To determine whether there is an association between a company's income strategy and its choice of accounting methods.

1.5 Significance of the Study

This study will be of importance to various stakeholder groupings and to business scholarship. First, it will help regulatory bodies to put in place appropriate and watertight rules to control self-interested managers in choice of accounting policy.

The second group of beneficiaries are auditors, who will get areas of concentration in their investigations. Since significant variables will show a manager's behaviour in maximizing his/her wealth, auditors will be better placed to protect the owner's interests.

Legislators and boards will also benefit from this study. Ordinarily, the behaviour of managers can be monitored through existing government legislations and Boards of Directors. Where the variables are significant, some oversight should be in place to ensure that the owner's interests are met.

Investors too stand to gain from the study. Self-interested managers may use financial statements as a tool to maximize their wealth. The study will enlighten investors on the possibility of being misled by information presented by

managers.

Lastly, this study will make an important input to theory. Its results will add to the Positive Accounting Theory. Since to the best of researcher's knowledge there is no study on determinants of accounting methods choice in developing economies and especially Tanzania, the study will be the first test of Positive Accounting Theory in a developing economy.

1.6 Limitations of the Study

The researcher encountered three limitations which may affect the study results or evidences used to draw conclusions.

The sample population is small compared to prior studies. This study examines 15 companies over four years, leading to 60 observations. Past studies show 106 companies in Switzerland, 228 in the UK and 1489 in Japan. In addition, poor disclosure of the variables of the study by some companies rendered the task of extracting data from annual reports difficult. As a result, the study only used nine factors out of the sixteen variables identified from literature. Finally, unlike previous research, this study includes insurance companies and banks. Nonetheless, the researcher believes that the behaviour of managers is similar irrespective of the industry, i.e. to maximize their own welfare.

Despite these limitations, the researcher ensured that the results and evidences attain the objective of the study.

The rest of study is organised as follows. Chapter 2 presents literature review and states the hypotheses tested while Chapter 3 summarizes the research design and analysis used in the study. Chapter 4 presents the research findings and finally, chapter 5 gives the discussions of the findings, conclusions and recommendations of the study.

CHAPTER TWO

Literature Review

2.0 Introduction

This chapter reviews the literature and systematically develops hypotheses. The chapter examines what other researchers have done on the topic. In addition, the theoretical framework for the study is developed, showing the relationship between the variables examined. The researcher summarizes the review with a conceptual framework which shows how all variables are related with the problem of the study.

2.1 Literature Review

Positive Accounting Theory seeks to explain why accounting is what it is, what accountants do and what effects these phenomena have on people and resource utilization (Melis, 2007). Watts and Zimmerman (1990, quoted in Melis) show the link between accounting theory and the study of people's behaviours. They observe that accounting is an activity carried out by people and one cannot generate a theory that predicts and explains accounting phenomena by ignoring the incentives of the individuals who account.

Studies undertaken by Cotter (1999) and Gupta (1995) have provided empirical support on managerial incentives to choose accounting policies based on the relationships among a corporation's stakeholders, including managers, stockholders and creditors. These studies have generally found that the presence of bonus plans, restrictive debt covenants, and political costs affect accounting procedure choices. Yet, their results afford only partial insights in our understanding of managers' motives since they focus on a single accounting choice at a time.

Missioner (2004) identifies bank and private loans, ownership dilution, labour force and managers' own compensations as significant factors influencing the accounting method choice of Swiss managers. The study found *size* of a firm and *leverage* as insignificant in the Swiss context. In contrast to Missonier's study, Inoue and Thomas (1996) found that the *size* of a firm and *leverage* are major factors shaping Japanese managers' accounting choice methods. The study

identifies other factors as taxation, foreign political costs and a firm's ability to finance its operations internally.

In a review article, Fields, Lys and Vincent (2001) suggest that focusing on managers' multiple accounting method choices would improve research. In other words, they propose that research should consider several accounting method choices simultaneously (i.e. following in the wake of Zmijewski and Hagerman, 1981).

The present study extends the few prior studies on the determinants of accounting method strategies that investigated a maximum combination of four different choices. These studies are Bowen, Ducharme and Shores (1995), Inoue and Thomas (1996), Skinner (1993) and Zmijewski and Hagerman (1981).

Some empirical studies focus on the effect on income and leverage ratios when investigating managers' accounting choices. Since there is no prior reason to assume that managers will prefer to alter the income statement over the balance sheet, the accounting method choices considered in this study are expressed in terms of income effect, ignoring leverage-ratios because these will be included as explanatory variables. Hence, we see no need to repeat it for it may not change the results.

The development of hypotheses relies on the presence of direct and indirect contracts and takes into account the specifics of the Tanzanian economic' and institutional environment. This environment differs from that of the USA, Japan, UK, and Switzerland, more so regarding the importance of banks in the firm's external financing. This may be due to weak capital markets in Tanzania and hence a heavy reliance on bank loans (DSE Handbook, 2008).

The researcher argues that managers adopt accounting methods to decrease debt costs, loosen debt covenant constraints, reduce political costs, and increase their compensation. Hence, explanatory factors such as leverage, bank loan, recourse to short-term debt, ownership diffusion and assets specificity should be positively associated with accounting methods that accelerate the reporting of income. Factors such as firm size and labour force should be negatively associated with an income-accelerating set of accounting methods (Inoue & Thomas, 1996).

Positive accounting theory, associated with Watts and Zimmerman (1986), assumes market efficiency. Here, the market will see through observable smoothing devices such as accounting policy choice. However, by introducing positive contracting costs, alternative incentive rationales for earnings management are generated. Holthausen (1990) identifies three overlapping perspectives on accounting choice. These are opportunistic behaviour, efficient contracting, and information perspectives. The two contracting perspectives (efficient contracting and opportunistic behaviour) are based on the existence of contracts which rely on accounting numbers.

Managers are assumed to maximize their own wealth in the opportunistic behaviour setting, which depends on performance-related cash bonuses, employment risk arising from the possibility of company failure or takeover, and the firm's share value. Managers' holdings of shares and share options and through the effect on the value of their human capital affect the share value wealth. It follows, therefore, that managers have incentives to make choices which maximize the firm's direct cash flows and hence firm value (Beattie et al., 1994).

Where accounting choices do not have a direct cash flow effect, managerial incentives arise. This occurs, for example, where accounting choices impact on share prices via their effect on the firm's expected political costs (a function of reported profits) or debt default/renegotiation costs. It is thus predicted that the managers of firms with high political costs will select current income-reducing accounting methods and that the managers of firms with high agency costs of equity and debt will choose current income-increasing methods. In the efficient contracting setting, contracts which minimize agency costs may encourage earnings management. The contracts are, nevertheless, efficient as they result in firm value maximization. In practice, it is difficult to distinguish hypotheses based on this perspective from those generated in the opportunistic behaviour setting (Beattie et al., 1994; Florou, 2004).

Although testable implications have not yet been generated, the information perspective has been explored in recent analytical work. This perspective suggests that accounting methods are chosen to reveal managers' expectations about the future cash flows of the firm (Suh, 1990). The extent to

which managers will choose income-increasing over income-decreasing accounting methods depends on the incentives of various groups involved to adjust for a change in accounting methods (Florou, 2004).

This study focuses on opportunistic behaviour of managers in which they choose accounting methods to maximize their own welfare (wealth).

2.2 Model (Theoretical Framework)

Based on the review of literature, the model tested is of the following general form:

Income strategy = f [(Size, Leverage, Labour force, Bank loans, Ownership dilution, effective tax rate, corporate governance, external financing, bonus]. This general form of the empirical model is as follows:

$$Y = a_0 + a_1 \text{ Leverage} + a_2 \text{ Bank loans} + a_3 \text{ Bonus} + a_4 \text{ effective tax rate} + a_5 \text{ external financing} + a_6 \text{ Size} + a_7 \text{ Labour force} + a_8 \text{ Ownership dilution} + a_9 \text{ corporate governance} + \text{error term.}$$

The dependent variable Y represents the firm's accounting strategy choice in terms of income effects.

Y = percentage of the accounting strategy accelerates income (number of accounting methods accelerating income divided by total accounting methods). The regression is performed using multiple regression models given the percentages of dependent variable. A regression is performed on the accounting method strategies expressed in terms of income effect solely.

2.3 Model Development

To determine the factors affecting managers' choice of accounting methods, an income strategy model was developed. In the development of the income strategy, Zmijewski and Hagerman (1981) examined the accounting policies for depreciation, inventory, amortization of past pension costs and investment tax credit. Missonier (2004) focused on asset valuation, goodwill, R&D, marketable securities, pension liabilities, inventories and interest costs, while Inoue and Thomas (1996) examined depreciation, employee retirement allowances, marketable securities, R&D, investment taxes, pension liabilities and Inventories.

In the development of income strategy, Zmijewski and Hagerman (1981) and Inoue and Thomas (1996) used a dichotomous approach (i.e. 0 for income decreasing and 1 for income increasing) while Missonier (2004) used number of income increasing accounting methods. The strategy developed was used to determine factors affecting managers' choice of accounting methods.

The dichotomous approach tells nothing between 0 and 1. Moreover, the choice of only number of income increasing accounting methods means non-use of income decreasing methods. This study uses the RATIO approach whereby the number of income increasing methods will be divided by the total number of accounting methods used by a company and have effect on income. According to Anderson, Sweeney and Williams (1993), "The amount of information in the data varies with the scale of measurement. Nominal data contain the least amount of information followed by ordinal, interval and ratio data." This order of information density shows that the RATIO scale is more powerful than other scales.

2.4 Motivational Factors and Hypotheses Development

A large number of contracts governing the relations between a firm and its stakeholders (i.e. creditors, managers, employees, customers, government, etc.) rely directly or indirectly on accounting information. Hence, accounting policy choices and their impact on financial statements affect the decisions made by some of the firm's stakeholders (Zeff, 1978 as quoted in Missonier, 2004).

The question about whether this potential effect may influence accounting procedure choices may be relevant to investigating the reasons underlying the accounting policies of managers. Some accounting research has drawn on theories of agency and economic regulation to propose a series of hypotheses capable of explaining the accounting decisions made by executives in line with the "positive accounting theory" approach initiated by Watts and Zimmerman (1986). It is generally argued that to avoid debt covenants violation and to increase their own compensation when it is associated with company performance, managers will prefer income-accelerating accounting methods. Conversely, managers will

choose income-delaying methods to reduce the firm's visible wealth and the related threat of political costs (Zeff, 1978 as quoted in Missonier, 2004).

2.4.1 Debt Costs

Tanzanian firms use debt as their major source of finance since the current market capitalization comprises of government bonds worth about Tshs 800 billion and corporate bonds of Tshs 58 billion while the level of share capital subscription is only Tshs 166 billion (DSE Handbook, 2008). Creditors' use of accounting information in their loan agreements (i.e. with restrictive covenants) and in making lending decisions are likely to influence the accounting decisions made by managers (Missonier, 2004).

2.4.2 Leverage

Bowen et al. (1995) explain that managers seeking to reduce debt costs may strive to adopt a set of accounting methods which enable them to report favourable financial statements in terms of creditworthiness. In addition, managers may try to improve the firm's financial flexibility in order to prevent them from reporting an "image of financial distress" in the case of exogenous disturbances (Easton, Eddy & Trevor, 1993). These considerations become more relevant as the firm experiences financial debt increases, i.e. a higher total of financial debt over total assets (Cullinan & Knoblett, 1994; Piot, 2001 Zimmerman, 1986).

Inoue and Thomas (1996) have shown that owner-managers have incentives to liquidate the assets of the firm in the form of dividends and leave the debt holders with nothing but the shell of the firm. However, a rational market will price the debt according to the probability of being left with a shell. According to the theory of accounting choices, to reduce the debt contracting costs, owner-managers have incentives to offer debt covenants which restrict some of their actions.

The first hypothesis tested is the debt/equity hypothesis. The hypothesis is stated below in its traditional form with the expectation that it will hold in the Tanzanian environment.

H1: *The larger the firm's debt/equity ratio the more likely the manager is to choose income increasing accounting procedures.*

2.4.3 Nature of the Debt

The governance properties of debt contracts differ according to the nature of the debt (Neave, 1991), particularly in terms of control and negotiation costs. It may also be relevant to consider the nature of the debt (i.e. private vs. public), especially in an economy like Tanzania where most financing is provided by bondholders and banks. This leads to offsetting arguments in terms of accounting policy choices.

On the one hand, private debts are held by a smaller circle of creditors than are public debts. This lowers the costs of negotiating and re-negotiating contracts (Beneish & Press, 1993; Smith, 1993). The flow of information between the bank and the firm is greater than with most other creditors. As a result, managers have more incentives to abide by the constraints of public as opposed to private debts financing. On the other hand, private loan agreements contain debt covenants that are more restrictive than those of public debts (Inoue and Thomas, 1996).

According to Beatty and Weber (2003), the negotiation and re-negotiation of bank loan agreements for private debt may have become just as costly as for public loans. Borrowers whose bank debt contracts allow accounting method changes to affect contract calculations are more likely to make income-increasing rather than income-decreasing changes. Thus, these arguments leave open the result on the impact of the importance of bank and private loan over total financial debts as an empirical question.

H2: *The recourse to bank and private loans is associated with accounting methods that accelerate the reporting of income.*

2.4.4 Term of the Debt

The term of the debt may have an impact on the choice of accounting policy. Firms approaching the credit market will benefit if they exhibit good performance and sufficient borrowing capacity. This may be relevant if the firm's external financing comprises mostly short-term loans (i.e. over total financial

debts), because in such cases the loans are renewed more often. Firms approaching the credit market or frequently renewing their credit are more likely to manage their accounting choices (Missonier, 2004).

2.4.5 Political Costs

Political costs refer to the costs imposed on firms by politicians via taxes and regulations (Inoue and Thomas, 1996). In their study on income smoothing, Shailer and Wilson (2007) show that political costs are major incentives to income smoothing though they did not specify exact costs. Focusing on using the positive accounting lens, managers choose accounting methods to maximize their own wealth by smoothing income. Since a company's political visibility may result to high political costs, managers tend to choose income-decreasing methods to avoid high taxes, regulations and labour pressures. Company managers artificially reduce reported earnings when the government increases tariffs. In this way, companies attempt to diminish their political visibility and counteract social outcry arising from government's decisions (Gill and Illueca, 2005).

2.4.6 Firm Size

Watts and Zimmerman (1986) note that political intensity is often related to firm size. Prior studies have commonly used firm size to represent political costs because there is a perception that large firms fear greater government action, especially if their profits are large and thus tend to defer profits.

Political costs may take the forms of State interventions (legislation, regulations) but also retaliations from unions and customers that may result in opportunity costs (i.e. abandoning profitable investments). The visibility of large firms, especially in terms of available wealth, tends more easily to attract the attention of numerous stakeholders, including elected representatives (and the electorate), employees, customers and competitors. As a result, managers of large firms may be inclined to select accounting methods that delay the reporting of income to reduce the political costs borne by the firm (Missonier, 2004). Since governments of developing countries like Tanzania encourage companies to

participate in economic development, State interventions may not materialise. This leads us to the third hypothesis.

H3: The larger the firm, the more likely managers will adopt accounting methods that accelerate the reporting of income.

2.4.7 Labour Force

Employees and/or unions (i.e. its labour force) may influence managers to avoid potential political costs. For example, strikes such as those by Tanzania Railways Limited (TRL) and National Microfinance Bank (NMB) employees in the year 2008 over demands for higher wages and salaries (with the employees claiming that the firms were generating a lot of income yet their earnings remained low) are kept to a minimum. The goal of maximizing employee wealth generally takes the form of wage demands associated with the firm's economic rents. Given that economic rent is generally *correlated* with the firm's profits (Elias, 1990; Liberty & Zimmerman, 1986), employees are likely to focus on reported earnings. Wage increases can result in a substantially reduced shareholder wealth. This provides managers with the incentive to limit the intensity of wage demand (and thus the intensity of conflicts) by selecting accounting methods which *delay* the reporting of income.

The relevance of this accounting policy will increase as the bargaining power of employees increases such as with union presence and/or in a labour intensive industry. The few studies that examine the effect of labour pressures on the process of making accounting decisions consider the level of unionization as a good indicator of employees' power of negotiation (Cullinan & Knoblett, 1994; Liberty & Zimmerman, 1986). Since this information may not be available for Tanzania Corporations, we use, as in Depoers (2000), the ratio of salaries plus *social* charges to sales as a proxy of labour force power.

H4: The bigger the labour force, the more likely managers will tend to adopt accounting methods that delay the reporting of income.

2.4.8 Taxes

Inoue and Thomas (1996) have shown that taxes represent another means by which political agents can impose costs on firms. Like the U.S but unlike Japan, Tanzanian tax and financial reporting systems are different. In general, expenses deducted for tax purposes differ from those deducted for financial reporting purposes.

According to the study by Inoue and Thomas cited above, more profitable Japanese firms directly incur higher political costs (i.e. higher taxes) since a one dollar decrease in reported income increases present cash flows by the effective tax rate. The effective tax rate is measured as income taxes paid, divided by income before taxes. This may also be the case for Tanzanian firms. The fifth hypothesis to be tested is the tax hypothesis and is stated thus:

H5: *Managers of firms with higher effective tax rates are more likely to choose income decreasing accounting procedures.*

2.4.9 Foreign Political Costs

Missonier (2004) has said that in addition to any domestic political costs, firms operating in foreign countries and therefore under foreign governments, face political costs. In fact, foreign political costs may be much greater than domestic political costs. Because of the strong sense of nationalism and patriotism that exists in most countries, politicians may receive greater utility by transferring wealth from foreign firms to domestic services. As a result, foreign firms may attempt to reduce their political costs by decreasing income through accounting policy choices.

2.4.10 Ownership Dilution

Managers from a firm with a high ownership dilution (i.e. where the percentage of the voting rights held by the principal shareholders is low) may experience more discretionary power especially in publishing information on its performance (Hall, 1993).

It is therefore highly probable that in firms where the ownership dilution is high, managers will choose accounting methods that accelerate the reporting of

income to increase their own compensation. In doing so, they may convince shareholders that the firm's performance is satisfactory, especially where bonus agreements may leave some discretion to the owners to determine the amount to be paid to the executives. They may increase the value of their human capital by developing a reputation for professional competence as well as by reporting a flattering image of the firm (Missonier, 2004).

H6: *The higher the ownership dilution of the firm, the more likely managers will tend to adopt accounting methods that accelerate the reporting of income.*

2.4.11 External Auditor

Auditors have an important role in ensuring that the widening gap between statutory company disclosure and the actual needs of investors and other stakeholders is narrowed (Dallas, 2004). Larger audit firms could perform auditing efficiently, understand accounting issues and be less likely to collude with managers (Carlton & Richard, 2003). The belief is that the larger the auditor, the higher the quality of audit services by giving modified reports where necessary. Companies receiving Modified Audit Opinions may draw attention from regulators and investors and consequently face increased political and economic costs (Charles, Shimin & Su, 2001). To avoid this, such firms may choose accounting methods which enable them to show better performance. The Big 4 audit firms may provide better services than non-big 4 firms. DeAngelo (1981) shows that large audit firms as measured by the number of clients have "more to lose" and hence tend to provide better services than small audit firms.

2.4.12 Bonus Plan

According to Watts and Zimmerman (1986 and 1990) and Inoue and Thomas (1996), the bonus plan hypothesis suggests that managers whose bonus payments are calculated based on the level of the firm's income have an incentive to increase income through accounting procedures. This proposition is based on the simple assumption that managers maximize their utility by maximizing their compensation which directly depends on reported income.

In Tanzania, like Inoue and Thomas (1996) found for Japan, some firms pay bonuses based on operating income or ordinary income while others use the difference between actual and budgeted sales as the measure of profit to share. Therefore, Tanzanian managers may be able to increase the present value of their compensation by choosing income increasing accounting procedures. It is believed that the bonus plans are unlikely to have a significant influence on accounting policy choices in Tanzania, since local firms, unlike US companies, tend to pay relatively constant and/or small bonuses to directors. Compared with management compensation in the US, the compensation for Tanzanian executives is quite modest.

Morais, Eisenstodt and Kichen (1993 as quoted in Inoue & Thomas, 1996) report that the 20 best paid US executives earned an average of \$4,800,000 in cash salary and bonuses in 1992. The average Chief Executive Officer (CEO) of a large US firm makes 35 times (and in several cases 1,000 times) as much as the average US manufacturing employee. High social status allows many CEOs to have a significant impact on government policy. Thus, when Tanzanian managers choose accounting policies, bonus compensation plans, which are often for a fixed amount, are not likely to be a significant influence.

The seventh hypothesis tested in this study is the bonus plan hypothesis. It is stated below in its traditional form with the expectation that it will not hold.

H7: *Managers of firms with bonus plans are more likely to choose income increasing accounting procedures.*

2.4.13 Internal/External Financing

A low level of appropriated retained earnings would be indicative of a firm which relies more on external financing and therefore more costly methods of financing. In order to reduce financing costs (i.e. costs of capital), these firms are more likely to choose income increasing accounting procedures in an attempt to signal a stronger financial position for the firm (Missonier, 2004). The eighth hypothesis tested is the internal/external financing hypothesis and is posed thus:

H8: *The greater the firm's need to finance operations externally, the more likely the firm's manager is to select income increasing accounting procedures.*

2.4.14 Corporate Governance

The objective of corporate governance is to realize shareholders' longterm value while taking into account the interests of other stakeholders. Effective corporate governance and related accountability mechanisms are presumed to mitigate conflicts of interest and provide reasonable assurance that each party observes certain behavioural norms. One might expect that accounting would be well equipped to examine and prescribe improvements in accountability among agents in capitalist settings. The key to corporate governance is the Board of Directors. To control managers' interests, the Boards are divided into Executive and Non-Executive directors. According to Shapiro (2006), a higher number of non-executives in the board may increase controls on self-interested managers. This leads us to the ninth hypothesis to be tested with the assumption that it may hold in Tanzania.

H9: *Managers of firms with low proportion of non-executive directors in the board are likely to choose income increasing accounting procedures.*

2.4.15 Summary of Other Factors

Industry

According to Beattie et al. (1994), industry is not a significant factor in explaining the choice of accounting methods by UK managers. In contrast, Aitken and Loftus (2009) suggest that the choice of accounting method may be industry specific. This shows that industry may affect a manager's decision in the choice of accounting method. The number of players in the industry may also affect managers' behaviour in choosing accounting methods since more players may face stiff competition from their peers. To ensure that the company performs better than others, managers driven by self-interest may choose income increasing methods to raise the company's share price.

Manager's Discretion

Lambert and Sponem (2005) observed that in France, management controllers play a central role in profit manipulation. Management controllers use profit manipulation as a tool to gain broader legitimacy within organizations and/or to adopt what they claim to be ethical behaviour. A manager's power may affect the choice of accounting methods since they may be driven by self-interest to choose accounting methods that maximize their own wealth. Where a manager has more power to decide on the method to be used without involving the Board or audit committees, the effect is that the methods chosen will be self-interest oriented.

Assets Specificity

Asset specificity is defined as the extent to which an asset can be redeployed for alternative uses or by alternative users without sacrificing productive value. The value of a specific asset to the firm is much higher than for any other users or for uses that are removed from its original purpose (Missonier, 2004). This may affect the relationship between creditors and shareholders because if the terms of the contract are violated, the debt holders can exercise their guarantee by seizing the asset. Therefore, the debt recovery value will depend on the extent to which the asset can be redeployed. Potential creditors will price the debt according to the risk that if the firm declares bankruptcy, it will be difficult for them to recover the amount of the loan by selling the firm's assets. Assets specificity alters the costs of debt financing by increasing the creditor's perceived risk. Firms engaged in intensive R&D activities potentially create intangibles and specific know-how, i.e. they acquire and/or produce assets that are unique and specific (Balakrishnan & Fox, 1993; Dumontier & Bah, 2001). Such assets are less redeployable than other general use assets. Missonier (2004) found asset specificity to be a significant factor in managers' choice of accounting methods.

Audit Committee

The presence of an effective audit committee ensures auditor independence, controls accounting irregularities, transparent and accountable process of auditor selection, rotation of audit partners and firms. Audit committee should provide greater integrity to the preparation of a company's financial statements (Dallas, 2004).

2.5 Significant Motivational Factors Affecting Choice of Accounting Methods (policies)

In his study of economic determinants of multiple accounting method choices in a Swiss context, Missonier (2004) identified nine factors. In an analysis using income and leverage strategies and dichotomous method, the study found six factors to be significant in explaining Swiss managers' choice of accounting methods.

The factors identified are leverage, bank and private loans, short term loans, growth opportunities, assets specificity, firm size, labour force, ownership structure and managers' compensation. From these factors, leverage, growth opportunities and firm size were found not to be significant in explaining Swiss managers' behaviours in accounting methods choice. On the other hand, bank and private loans, short term loans, asset specificity, labour force, ownership structure and managers' compensation were found to be significant.

The model used to determine the significance of the variables is significant at 5% level with χ^2 of 24.7 and the Pseudo - R^2 of 29.7%. Although R^2 of 29.7% is relatively low, it is similar to those of prior studies on accounting strategy (Bowel et al., 1995; Skinner, 1993) or even higher than R^2 reported in other studies (Cullinan & Knoblett, 1994; Zmijewski & Hagerman 1981).

In the Japanese context, six factors were identified, namely firm size, leverage, bonus plan, taxes, foreign sales and external financing of a firm. The significant factors that explain Japanese managers' choice of accounting methods are firm size, leverage, taxes, foreign sales and external financing of the company.

Bonus plan is not significant in explaining the choice of accounting methods in Japan (Inoue & Thomas, 1996).

These findings contrast with those from the Swiss context where firm size and leverage are not significant. Bonus plan also seems insignificant in the Japanese context unlike Missonier's (2004) finding for the Swiss context. The studies done in the USA, including the famous one by Watts and Zimmerman (1986, 1990) show that bonus plan and manager's compensations are significant.

In obtaining these significant variables, Inoue and Thomas (1996) used the income strategy model developed by Zmijewski and Hagerman (1981). The model employed the dichotomous method and income strategy as well as regressions analysis for each accounting method though there were no significant differences in results in the two methodologies (income strategy and individual methods). The multivariate analysis shows little correlation between independent variables. This implies that there is significant variation among the independent variables to estimate the discrete effects.

According to Beattie et al. (1994), firms tend to choose accounting methods to smooth income. In smoothing their income, managers choose accounting methods to increase or decrease income to meet their own interests. The study identified factors which cause managers to choose extraordinary items to smooth income in the UK context. These are accounting risk, market risk, agency costs, political costs, ownership structure, industry, dividend payout and managerial share options. Of these factors, accounting risk, agency costs, ownership structure and dividend payout are significant in explaining choice of extraordinary items by UK managers. Market risk, political costs, industry and managerial share options are not significant. This is in contrast with Inoue and Thomas (1996), where size as a measure of political cost is significant though the results in case of share options are in line with bonus plan in the Japanese context and contradicts managerial compensation in the Swiss context.

These variables were obtained using smoothing index as an independent variable instead of the dichotomous method. Multiple regressions are used to avoid too many degrees of freedom and collinearity of regression equation when all variables are used.

The model is fairly significant ($p=0.0001$) though the explanatory power is fairly low (adjusted R^2 ;::: 0.17 ;::: 17% basing on the use of full sample.) After the split of the sample based on the median, it rose to R^2 adjusted > 0.34 ;:::34% that seems stronger than full sample.

The explanatory power of the model in this study ranges from 23% to 44% (based on unadjusted R^2) and 17% to 34% (based on adjusted R^2). In their income strategy study based on four accounting method choices, Zmijewski and Hagerman (1981) obtain a pseudo R^2 of 9% using probit analysis. The more explanatory power may be obtained by including more variables which have not been tested, accurate measures or proxies and a powerful independent variable measure (Beattie et al., 1994).

Basing their research on a single industry, Aitken and Loftus (2009), identify compensation plans, debt and political costs to explain managers' accounting policy choice in Australia. Only compensation plan is found to be significant while debt and political costs are not. This study rejects the political and debt hypothesis which describes the positive accounting theory proved in the US since the studies by Watts and Zimmerman (1986 & 1990).

2.6 The Association between Income Strategy of a Company and Choice of Accounting Methods

Though Chi - square (X^2) is an important tool in the measure of association between variables, previous studies measure significance of the model using pseudo R^2 and Chi - square (X^2) there is no clear explanation of whether there is a significant association between the dependent and independent variables. Missonier (2004) obtained X^2 ;::: 24.7 while Inoue and Thomas (1996) obtained X^2 ;::: 43. These results tell nothing of whether the two sides of the model are related or not.

To ensure an explanatory power is enhanced, strong measures and presence of powerful instrument rather than dichotomous methods are necessary (Bettie et al., 1994). This means that if a dependent variable is not significant or powerful, the results obtained may not be strong. Therefore, it is important to measure the significance of the dependant variable in relation to the choice of

accounting methods. This objective will explain if the dependent variable is a good measure of the manager's decision to choose accounting methods. It also explains whether the response variable has association or relates to the explanatory variables. Otherwise, the model may not be appropriate for future studies and hence necessitate more accurate measure of the dependent variable. Thus, the objective measures significance of the dependent variable (Y) to the measurement of other significant explanatory variables to avoid measuring significance of variables with insignificant variable in future.

2.7 The Gap **Identified**

Studies done to date by Inoue and Thomas (1996), Beattie et al. (1994), Watts and Zimmerman (1986 & 1990), Aitken & Loftus (2009) and Missonier (2004) were conducted in developed countries like Japan, UK, US, Australia and Swiss respectively and used local GAAPs. The present study focuses on developing country which has adopted IFRSs, specifically Tanzania, to determine factors which explain a manager's choice of accounting methods.

Studies conducted in developed economies differ from country to country in some factors. While one factor may be found to be significant in shaping managers' choice of accounting methods in one country, it may prove insignificant in another country. For example, studies which identify leverage as significant factors are Inoue and Thomas (1996) in Japan, Beattie et al. (1994) in UK and Watts and Zimmerman (1986, 1990) in US. On the other hand, Aitken and Loftus (2009) in Australia and Missonier (2004) in Switzerland find it insignificant. This shows that the Tanzanian environment may have different factors that determine a manager's choice of accounting methods due to economic, political and social differences with other countries.

Company size also gives mixed results in different countries. While Missonier (2004) in Switzerland, Beattie et al. (1994) UK, and Mohamed and Ahmad (2009) in Malaysia find that firm size is not significant, Inoue and Thomas (1996) in Japan and Watts and Zimmerman (1986, 1990) in US confirmed it as significant. Also, while the bonus plan and managers' compensation plan is significant in Switzerland, Australia and US (Missonier, 2004; Watts &

Zimmerman, 1986 & 1990; Aitken & Loftus, 2009) respectively, it is shown as insignificant in Japan and UK by Inoue (1996) and Beattie et al. (1994) respectively.

Explanatory power of the models used by previous studies is still low. This shows that more explanatory variables are not included in the studies or the response (dependent) variable measure may not be accurate. Since R^2 adjusted is the measure of the explanatory power of a model, the results obtained to date are Mosses (1981) R^2 ;;;;21%, Missioner (2004) R^2 ;;;; 30%, Zmijewski and Hagerman (1981) R^2 9% and Beattie et al (1994) R^2 ;;;; 17% - 34%. Hence, there is need for more independent variables. This research has introduced a new independent variable which has not been tested before, namely corporate governance.

The study on accounting methods choice undertaken by Inoue and Thomas (1996) focused on dichotomous methods except Missonier (2004) in Switzerland which used the number of income increasing methods and UK Beattie et al. (1994) which used smoothing index as a dependent variable. The dichotomous method may not measure other points for it measures 0 or 1 and does not tell anything between 0 and 1. The interval data used by Missonier (2004) does not involve income decreasing methods for it focuses on the number of income increasing methods. This research uses the ratio scale which is a powerful scale and tells what is between 0 and 1. It also incorporates income increasing and income decreasing methods.

Studies which employed income strategy as a dependent variable do not show clearly whether there is an association between the dependent and independent variables. This may result to measure unlike items and arrive at wrong conclusions which we tend to use as empirical evidence. Finally, studies so far done on what influences managers' choice of accounting methods have not said anything on what should be done to ensure market efficiency and avoid manipulation of accounting numbers to ensure efficient allocation of resources by investors and aid owners in achieving their interests.

2.8 Conceptual Framework

The following is a summary of the study:

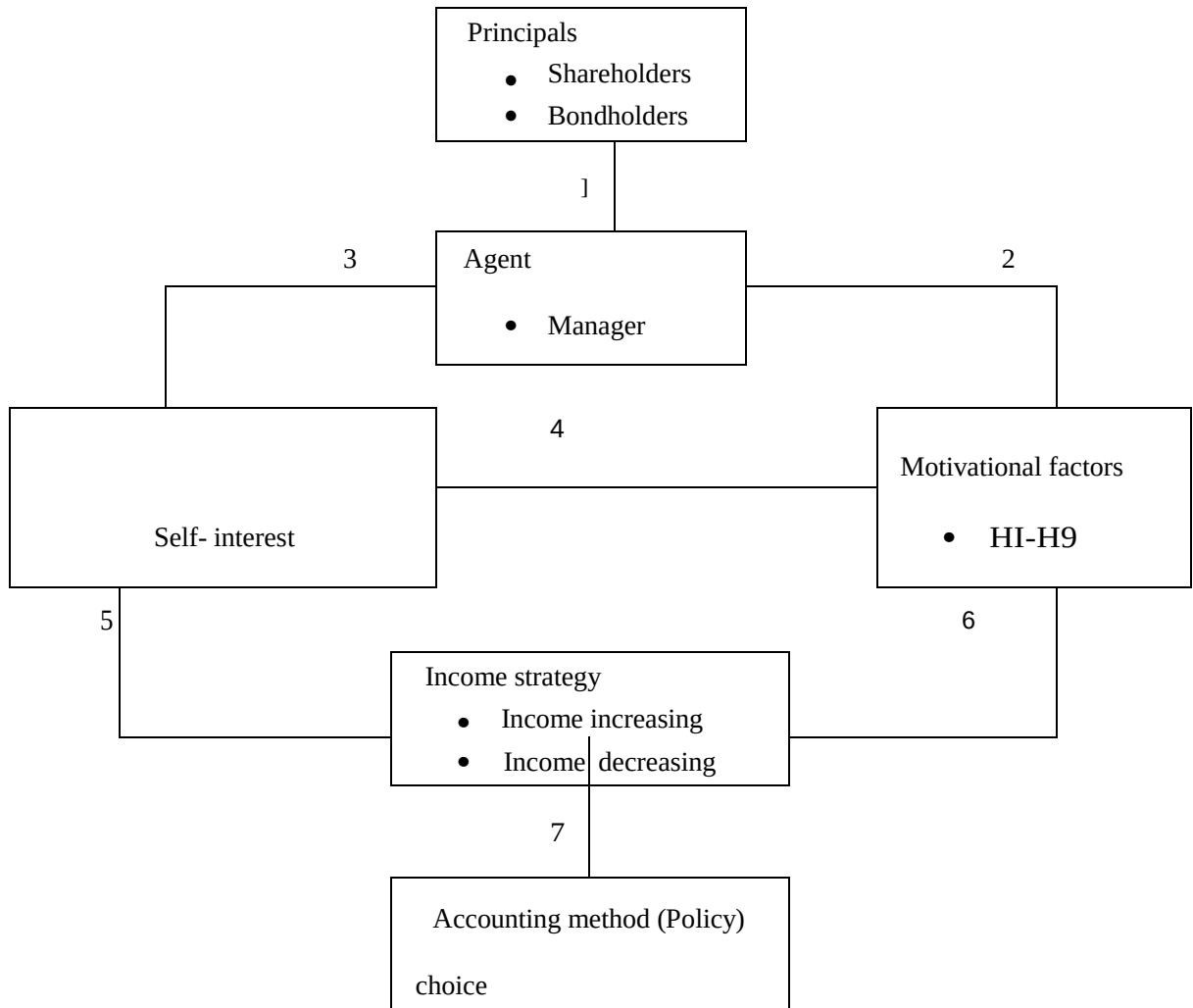


Figure 1 Conceptual Framework

The figure summarizes the study as follows. Principals (shareholders and bondholders) enter into contracts with managers for efficient purposes and for the maximization of company wealth. In the long run, managers, surrounded by motivational factors or external factors, find ways to maximize their utility by loosening the contracts in place. To attain their self-interest, they decide on an income strategy to increase or decrease income. The accounting methods are

chosen to either increase or decrease income and thus maximize the manager's utility.

2.9 Chapter Summary

This chapter reviewed literature on prior research undertaken on determinants of accounting methods. It also presents the theoretical and conceptual frameworks employed in the study. The study focuses on the determinants of accounting methods choice in a developing economy that has adopted IFRSs, namely Tanzania, since previous researchers have based their studies in developed countries and used Local GAAPs. The study is guided by positive accounting theory and agency theory where all the hypotheses are based on the assumption that managers choose accounting methods to maximize their utility and not the owners' interests.

CHAPTER THREE

Research Methodology and Design

3.1 Introduction

The purpose of this study is to determine factors affecting managers' decision in choosing accounting methods. The chapter shows the research design, how data was collected and analyzed to obtain the results. The chapter discusses the variables, model, strategy and accounting policies used in the study as well as the statistical techniques applied. Different measures which quantify variables used in the model are also included in this section.

3.2 Research Design

This study is quantitative in nature. Quantitative methods are employed to test significance and the relationships between the independent variables. Panel data are used for the fifteen companies listed on DSE. Data collected is from year 2005 when Tanzania effectively adopted IFRSs to the year ended 2008. The design is chosen because the population is small and the use of panel data increases the number of observations and hence accuracy. This research is also a causal study since it explains why managers choose one accounting method (policy) over the other and explains the relationships among variables.

The multivariate test used in this study is the Ordinary Least Square (OLS) multiple regression analysis. It is chosen over other regression techniques, namely hierarchical and stepwise based on Cohen, Cohen, Stephen and Leona (2003) who describe OLS as the Best Linear Unbiased Estimator (BLUE). OLS estimates are unbiased, consistent and efficient. The study by Cohen also shows that no other method of estimating the regression coefficients will produce a smaller standard error than OLS because by using OLS, the standard errors becomes smaller and smaller as the sample size increases.

Population of Study

The corporations selected are 15 companies listed on the DSE in Tanzania with published consolidated accounts from 2005 to the year ended 2008. These

compames were chosen due to their high compliance with IFRSs in preparing financial statements (World Bank, 2005). Furthermore, they have a broad base of investor funds; play a major role in the national economy and boast of efficient allocation of resources as idle funds from surplus spending units are passed to the productive hands of deficit units.

3.3 Data Collection

Data was collected from the compames listed on the DSE. Where information was not available or was incomplete, data was obtained from the companies' websites, DSE and Capital Markets and Securities Authority (CMSA). Motivational factors are obtained from literature review and tested in the Tanzanian context. The commonly used accounting policies are obtained from the 2005 to 2008 annual reports of the firms listed on DSE.

Data are extracted from consolidated accounts of the years 2005 to 2008 since data for 2009 is not ready for some companies. Due to the small population, some variables were dropped. These include managers' discretion because in each company, managers have some discretion; term of debt since it is included in leverage and bank loans; assets specificity as only two companies are involved in R&D, and external auditor, because only two companies are audited by local or non-big 4 audit firms, It is assumed that managers' discretion and audit committee

are accommodated in corporate governance.

Variables which were not disclosed on the annual reports or where there was insufficient information were not tested and hence omitted. These are audit committee, foreign political costs and industry. In order to calculate values of variables to test the hypotheses, directors' report, profit and loss account (income statement), balance sheet (financial position statement) and notes to the accounts are used.

3.4 Accounting Methods

Accounting policies are selected on the basis that they are disclosed in the firm's annual report. The attributes used for the 'income strategy variable' are chosen from the annual reports as disclosed on the major accounting policies which are part of the notes to the financial statements.

The methods selected are relevant for testing the hypotheses. Zmijewski and Hagerman (1981) examined the accounting policies for depreciation, inventory, amortization of past pension costs, and investment tax credit while Missonier (2004) focused on assets valuation, goodwill, R&D, pension liabilities, marketable securities, inventories and interest costs. On the other hand, Inoue and Thomas (1996) examined depreciation, employee retirement allowances, marketable securities, R&D, investment taxes, pension liabilities and inventories.

In the context of Tanzanian companies, the researcher identifies and examines the policies used most commonly. This study identifies and uses eleven relevant policies to the income effect. The effect of accounting method on income or income strategy depends on measurements and recognition of a standard.

The following section shows the IFRSs relevant accounting policies and how they are measured (IASB, 2008). The list provided shows some of the policies which are relevant to the study. Additional policies are added depending on company disclosures.

IAS 39: Financial instruments recognition and measurement. Marketable securities (equity instruments) are measured at *Fair value or cost* in absence of fair value.

IAS 2: Inventory measured by using *FIFO or weighted average cost* methods. IAS

17: Leasing Accounting: Actuarial method or Sum-of-digits method.

IAS 38: Intangible assets: goodwill at *cost or revaluation*.

IAS 16: Property, plant and equipment: at cost or revaluation.

IAS 26: Accounting and reporting by retirement benefit plans: form, *annual income or lump sum*

IAS 19: Employee Benefit: treated as liability to be paid *in future or as expense* to be paid as service provided.

IAS 40: Investment property: revaluation or cost.

Other policies are depreciation (*straight-line or reducing balance* methods).

Policy	Income Decreasing	Income Increasing
Depreciation (DP)	Accelerated	Straight line
Retirement Allowance (RA)	Lump sum	Annual income
Marketable Securities (MS)	Fair value	Cost
Freehold land & buildings (L&B)	Revaluation	Cost
Inventory (IVT)	Weighted Average Cost	FIFO
Employee benefit (EB)	Expensed	Liability (paid in future)
Property, plant & equipment (PPE)	Revaluation	Cost
Goodwill (GWL)	Revaluation	Cost
Intangible assets-software (IAS)	Fair value	Cost
Investment Property (JP)	Fair value	Cost
Leasing (LEAS) <i>Figure 2: Accounting policies</i>	Sum-of-digits method	Actuarial method

This table is also used to determine if there is an association between accounting policy and income strategy. The number of companies using each policy and strategy are identified using the following table.

Policy	Income Decreasing	Income Increasing
Depreciation(DP)		
Retirement Allowance(RA)		
Marketable Securities(MS) .		
Freehold land buildings (L&B)		
Inventory(IVT)		
Employee benefit(EB)		
Property, plant& equipment (PPE)		
Goodwill(GWL)		
Investment Property(IP)		
Intangib le assets-software (IAS)		
Leasing Accounting(LEAS)		

Fzigure 3: Accountzng policies and income strategy

3.5 **Income** Strategy

Income strategy is the portfolio or combination of accounting policies which may increase or decrease reporting income (Missonier, 2004; Zmijewski & Hagerman, 1981). The income strategy as a variable is the ratio of the number of income increasing accounting policies divided by the total number of accounting policies used by a company (i.e. income increasing plus income decreasing). The denominator varies or changes depending on the total number of relevant accounting policies.

Finns may use different accounting methods like in depreciating assets. For example, a company may carry plant and equipment at cost while land and buildings may be carried at revaluation. A researcher treats this situation as two different accounting methods.

3.6 **Income** Strategy Model

The combination of the firm's accounting methods is used to develop each finn's income strategy. The model was developed by Zmijewski and Hagerman

(1981) and supported by Inoue and Thomas (1996) and Missonier (2004). As Zmijewski and Hagerman explain, a stronger test can be provided by observing the portfolio of choices made by the firm.

The income strategy model uses the accounting methods for depreciation, provision for employees' retirement allowance, marketable securities, leasing accounting, assets valuation, inventory, employee benefit, goodwill and has a population of 15 firms. This study assumes that the effects on income of all eleven accounting methods are equal. Zmijewski and Hagerman found that the effects of weighing accounting policies differently in the income strategy model did not significantly change the results.

The OLS regression model for income strategies

$$Y = \alpha_0 + \alpha_1 LEV + \alpha_2 BL + \alpha_3 BN + \alpha_4 TAX + \alpha_5 FIN + \alpha_6 Size + \alpha_7 LF + \alpha_8 OD + \alpha_9 CG + \epsilon$$

Where: The dependent variable Y represents the firm's accounting strategy choice in terms of income effects.

Y = percentage of the accounting strategy accelerates income (number of accounting methods accelerating income divided by total accounting methods). ϵ is an error term.

SIZE	Firm size (log of total assets)
LEV	Leverage (total debt/total equity) 1
BONUS	if there is a bonus plan, 0 if not
TAX BL	Effective tax rate (income taxes paid/Income before tax)
LF	Bank loans (bank and private loans/total financial debt)
OD	Labour force (labour charges/turnover)
CG	Ownership Dilution (number of block holders > 5%) Corporate
FIN	governance (number of non-executive directors) Internal financing (Appropriated Retained Earnings/Net Assets)

The regressions are performed using the OLS regression model given the percentages of dependent variable. A regression is performed on the accounting method strategies expressed in terms of income effect only.

3.7 Validity of the Model

The income strategy model has been used since Zmijewski and Hagerman (1981). Studies undertaken in Japan and Switzerland by Inoue and Thomas (1996) and Missonier (2004) respectively supported the work of Zmijewski and Hagerman. The model has improved as its explanatory power has risen and more factors have been added. Factors affecting managers' choice of accounting methods in Japan, US and Switzerland have been determined. This proves that the model is valid since it measures what the researcher intends to measure. Validity of the model in this research is also supported by statistical measures as Variance Inflation Factor (VIP) ranging between 1 and 3 showing non-existence of multicollineality effect, Durbin- Watson statistic of 1.92 proving no serial correlations of errors and P-value ($p < 0.000$) indicating that the model is significant to measure the results obtained.

3.8 Accounting Method Strategy

According to Missonier (2004), an impressive amount of empirical research on the motivational factors or determinants of the choice of accounting methods has been witnessed for the last two decades (since Watts and Zimmerman and ZH in 1980s to 2000s). Majority of this research focuses on a single, isolated accounting practice, assuming that the accounting choices of managers were independent of each other. However, if we suppose that executives are bent on accelerating or delaying the reporting of income, it would be more reasonable to expect them to do so by taking into account the accumulated effect of their accounting procedures. The logic is easily understood from the viewpoint of accounting method strategies.

This research considers the firm's set of accounting choices as a single comprehensive decision (i.e. accounting choices depend on one another). Yet, despite the coherence of this approach, it has been adopted by only a few

researchers. Examples include Bowen et al. (1995) and Inoue and Thomas (1996) as quoted in Missonier (2004); Press and Weintrop\ (1990); Skinner (1993) and Zmijewski and Hagennan (1981). In addition, the strategies previously examined included a maximum of four accounting methods viewed in terms of their effect on income, leverage and equity. In this research, the strategies combine all commonly used accounting methods viewed in terms of their effects on income.

Proxies and predicted sign for explanatory variables (Missonier, 2004)

<u>Hypotheses</u>	<u>Income Effect</u>	<u>Proxies</u>
Leverage	+	Financial debt on total equity ratio
Bank and private loans	+	Bank and private loans/total financial debt
Size	-	Natural logarithm of total assets
Labour force	-	Labour charges/turnover
Ownership structure	+	Number of block holders $\geq 5\%$
Effective tax rate	-	income taxes paid/income before tax
Corporate governance	-	number of non-executive directors
External financing	+	Appropriated Retained Earnings/ Net Assets)

A positive and negative predicted signs correspond to a positive and negative association with explanatory variables and an accounting (income) strategy that accelerates the reporting of income.

3.9 Data Analysis

Since this is causal study, income strategy (Y or STRA T) is regressed against explanatory variables (determinants). Multivariate and multiple regression analysis are used to test all hypotheses in which significant factors are shown as determinants of multiple accounting methods choice. Significance of the model is determined by use of P-value, R^2 adjusted and F-score while T-values and p, values for each independent variable are used to determine their significance.

Correlation Matrix for independent variables is used to test the extent of relationships among independent variables. This helps to measure variability

among variables to avoid measuring the same or closely related variables as if they are different.

Common methods are determined by considering the use of a particular method by a majority of the companies while motivational factors were found from literature review and tested in the Tanzanian environment.

A measure of association between income strategy and accounting policy is determined by the use of Chi-square (χ^2). This shows whether income strategy relates to choice of accounting methods. Chi-square, χ^2 Calculated is compared with Chi-square, χ^2 Critical (from statistical tables). The higher the Chi-square calculated over Chi-square critical, the higher the association between income strategy and accounting policy choice.

The major tool for analysis is **MIN/TAB** computer software where computer outputs are produced and used for interpretations.

3.10 Chapter Summary

This study examines 15 companies listed on DSE. Panel data was collected for four years starting in 2005 to 2008. Annual reports were the major sources of data and were obtained from the companies themselves, DSE and CMAA. For interpretations, multiple regression analysis was used to get results with the help of MINITAB COMPUTER SOFTWARE.

CHAPTER FOUR

Findings

4.1 Introduction

This section presents the findings and analyses on the basis of the objectives and hypotheses set out earlier in the study. The results are presented and explained clearly to show the outcomes of the analyses and to ensure easy reading and interpretation.

4.2 Potential Motivational Factors that Influence Managers in Choosing Accounting Policies

From the literature review, the following are the potential factors which affect the managers of any country in choosing accounting methods.

Table 1: Potential Factors

1. Leverage	8. Bonus plan
2. Nature of the debt	9. Internal/External financing
3. Term of the debt	10. Assets specificity
4. Firm size	11. Industry
5. Labour force	12. Managers discretion
6. Taxes	13. Corporate governance
7. Foreign political costs	14. Audit committee
8. Ownership dilution	16. External auditor

These factors have been tested in different countries with different results. The difference in results may be due to differences in environmental, political, economic or social characteristics of the countries. One factor may explain managers' behaviour in the choice of accounting methods in one country but it may not do the same in another country though managers behave similarly in all

countries, whether developed or developing. These results support the positive accounting theory as managers choose accounting methods to maximize their own welfare.

Due to a small population of listed companies in Tanzania, nine factors (company size, bonus plan, labour force, internal financing, effective tax rate, bank loans, corporate governance, ownership dilution and leverage) are tested in the Tanzanian context and the results are shown in *Table 3*. Factors such as external auditor were excluded because most of the companies listed on the DSE are audited by the "BIG" four, while data was not available for other variables such as asset specificity and industry.

4.3 Correlation Matrix

Pearson correlation matrix is used to determine whether the independent variables are highly correlated and test the hypothesis related to the accounting strategies of Tanzanian firms, *Table 2* shows that there is little correlation among most of the independent variables as the highest correlation is 0.591

Table 2: Correlation Matrix for the Independent Variables

	str	sz	Iv	bn	tx	bl	If	ad	cg
Sz	0.133								
Lv	-0.024	0.579							
Bn	-0.385	-0.591	-0.368						
TX	0.009	0.487	0.231	-0.392					
Bl	0.117	-0.233	-0.243	0.078	-0.369				
Lf	-0.375	0.271	0.564	-0.179	0.152	-0.212			
OD	-0.178	-0.184	0.230	0.274	0.073	0.257	0.111		
Cg	-0.530	0.266	0.077	0.266	0.270	-0.321	-0.009	0.063	
FN	0.159	-0.046	-0.267	0.169	0.370	-0.410	-0.238	-0.165	0.282

The independent variables are correlated at a magnitude not exceeding 0.591 which is the highest correlation between leverage and size of a firm. According to Tibachnick and Fidell (1996), one should think carefully before

including two variables with a bivariate correlation of 0.7 or more in the same analysis. Since the correlations in this study are below 0.7, all nine variables are included in the analysis. The low correlation means that there is sufficient variation among the independent variables to estimate discrete effects while the high correlation implies close relationship among variables. Since the correlations among variables are fairly low, the discrete effect can be estimated.

The results show that most variables are lowly correlated with one another. This allows us to measure all variables as independent to one another to determine which ones are significant and which ones are not to explain incentives for the choice of accounting methods.

3.1 Significant Factors

Using multiple regression model given the *RATIO* dependent variable, a regression is performed to test nine hypotheses in which significant factors are determined as determinants of accounting methods choice in Tanzania. Based on the literature review, the following regression model consisting of sixteen variables can be developed.

Income strategy = f [(Size, Leverage, Labour force, Asset specificity, Bank loans, Ownership dilution, Short-term loans, Effective tax rate, External auditor, Corporate governance, Audit committee, Managers discretion, Industry, Foreign political costs, External financing and Bonus plan)).

Though income strategy depends on the above sixteen factors, the small size of the sample population led to the exclusion of some variables. These are short term loans, which may be included in leverage, external auditor as only two companies are audited by non-big four audit firms, managers' discretion because in every company, managers have some discretion and assets specificity for only two companies were involved in R&D. The researcher did not find information on foreign political costs, audit committee and industry from the annual reports. The researcher also assumes that audit committee and managers' discretion is captured by the corporate governance factor. The model consisting nine response variables is shown below.

$$Y = \alpha_0 + \alpha_1 LEV + \alpha_2 BL + \alpha_3 CG + \alpha_4 TAX + \alpha_5 EF + \alpha_6 Size + \alpha_7 LF + \alpha_8 OD + \alpha_9 BONUS + \epsilon$$

This model was used to obtain regression results which are presented in *Table 3*. The following paragraphs explain these results to determine the significant and insignificant factors in explaining choice of accounting methods in Tanzania.

Table 3: OLS regression results of income accounting method strategies

Predictor	Coefficients	SE
Constant	0.5872	0.2112
Sz	0.022496**	0.009032
Lv	0.005475	.004456
Bn	-0.04914	0.03578
TX	-0.1783	0.1308
Bl	0.01456	0.05329
Lf	-0.8200*	0.1672
OD	0.00608	0.01051
Cg	-0.44381*	0.07069
FN	0.14072*	0.03748

***,*Statistically significant at the 5% and 1% respectively*

The analysis presented in *Table 3* shows that leverage is positively *related* with income strategy but this relationship is not significant. This *result* means that leverage is not a significant factor in explaining the choice of accounting methods in Tanzania. The positive relationship supports hypothesis one (HI) which states that:

HI: *The larger the firm's debt/equity ratio, as the firm relies on financial debt, the more likely the manager is to choose income increasing accounting procedures.*

Income strategy is positively related to bank loans though it is not significant. The insignificance of bank loans in explaining choice of accounting methods shows that bank loans do not explain managers' behaviour. However, the positive relationship with income strategy satisfies hypothesis 2 which states:

H2: The recourse to bank and private loans is associated with accounting methods that accelerate the reporting of income.

The coefficient of firm size is positive and is statistically significant to explain choice of accounting methods. The positive relationship between income strategy and firm size contradicts previous studies which showed a negative relationship. The studies show a negative relationship between choice of accounting methods and income strategy to mean that large companies choose income decreasing methods. This research finds that large companies choose income increasing methods as shown by a positive relationship between company size and income strategy. Consequently, hypothesis 3 should be stated thus:

H3: The larger the firm, the more likely managers will tend to adopt accounting methods that accelerate the reporting of income.

The results also suggest a negative coefficient on the labour force as measured by a ratio of labour charges to total turnover. Statistically, the coefficient is highly significant. This proves that labour force explains the choice of accounting methods in Tanzania. Its negative relationship with income strategy supports hypothesis 4 which states that:

H4: The higher the labour force, the more likely managers will tend to adopt accounting methods that delay the reporting of income.

The coefficient of effective tax rate is negative but not significant. The negative relationship with income strategy supports what was expected from hypothesis 5. Effective tax rate joins other factors which do not explain the choice of accounting methods in Tanzania though it is in line with hypothesis 5. The result supports hypothesis 5 which states:

H5: *Managers of firms with higher effective tax rates are more likely to choose income decreasing accounting procedures.*

Ownership dilution is positively related with income strategy but is not significant. This result shows that ownership dilution is not an incentive in the

choice of accounting methods in Tanzania. However, the finding supports hypothesis 6 (H6) which states that:

H6: *The higher the ownership dilution of the firm, the more likely managers will tend to adopt accounting methods that accelerate the reporting of income.*

Income strategy is negatively related to bonus plan but this is not significant. This finding contradicts the expectations that there is a positive relationship between income strategy and bonus plan, meaning that managers of companies with bonus plan choose income increasing methods. The findings here indicate that bonus plan does not affect managers' decisions in choosing income increasing accounting methods. This relationship between income strategy and bonus plan brings us to hypothesis 7 which should be stated as follows:

H7: *Managers of firms with bonus plans are not likely to choose income increasing accounting procedures.*

Corporate governance as measured by number of non-executive directors is negatively related to income strategy. The coefficient is statistically highly significant. This proves that corporate governance explains the choice of accounting methods in Tanzania. Its negative relationship with income strategy supports hypothesis 8 which states that:

H8: *Managers of firms with a low proportion of non-executive directors on the board are likely to choose income increasing accounting procedures.*

Finally, the findings suggest that there is a positive relationship between internal financing and income strategy and the coefficient is highly significant. This positive relationship contradicts what was expected from hypothesis 9. Literature review found that the more a firm depends on internal financing, the more it will choose income accelerating accounting methods. This would have been justified by a negative coefficient because if the firm depends heavily on internal financing, it will depend less on external financing. Internal financing explains choice of accounting methods in Tanzania. Thus, hypothesis 9 should be stated as:

H9: *The greater the firm's need to finance operations internally, the more likely the firm's manager is to select income increasing accounting procedures.*

However, the model used to produce these results is highly significant at ($p < 0.000$), it has highest explanatory power (64.1 %) as compared to studies by Beattie et al. (1994), Inoue and Thomas (1996) and Missonier (2004), meaning that the model explains 64% of the factors affecting managers' choice of accounting methods. This may be due to additional variables or the use of ratio dependent variable, unlike all prior studies. There is no serial correlation of errors as supported by the Durbin-Watson statistic of approximately 2. Multicollinearity was also not a problem since the variance inflation factors (VIPs) values ranged between 1 and 3.

These results show that four factors (company size, labour force, corporate governance and internal financing) determine or explain choice of accounting methods in Tanzania. The model is significant as shown by a high explanatory power (64.1 %, small S or error (0.07, 7%) and small p, Value ($p < 0.000$).

Summary results for Table 3

Factors:	Is the variable significant?
Company size	YES
Leverage	NO
Effective tax rate	NO
Bank loan	NO
Labour force	YES
Ownership dilution	NO
Corporate governance	YES
Internal financing	YES
Bonus plan	NO

4.5 Association between income strategy and choice of accounting methods

The association between income strategy and choice of accounting methods was found using the following table where numbers of observations in each accounting strategy were measured against accounting policies.

Table 4: Computation of Chi-square (χ^2)

The following are the number of observations:

Acc. Policy	Income Increasing	Income Decreasing	Total % of Income Increasing	
DP	60	0	60	100
RA	60	0	60	100
MS	12	40	52	23
L&B	0	0	0	0
IVT	12	24	36	33
EB	24	20	44	55
PPE	56	4	60	93
GWL	60	0	60	100
IAS	60	0	60	100
IP	24	20	44	55
LEAS	60	0	60	100
Total	428	108	536	80

Chi-square was calculated and compared with the chi-square from mathematical tables. The result shows that the calculated chi-square is higher than chi-square from the mathematical tables as described below.

There is a strong relationship between income strategy and choice of accounting policies as shown by a high chi-square calculated of 270.095 as compared to chi-square critical or from the table of 23.209. This is a statistical proof that the choice of accounting method in companies is strongly associated with their income strategy.

The last column shows how each accounting policy relates to income strategy. Generally, the findings indicate that managers prefer income increasing

accounting policies rather than income decreasing ones. Eighty percent, 80% of the decisions made on accounting policies aim to increase income while only twenty percent, 20% decrease income.

4.6 Chapter Summary

Chapter four discussed the major results and findings from data analyses. Potential factors are shown and results of regression analysis reveal company size, internal financing, corporate governance and labour force as statistically significant in explaining managers' choice of accounting methods. Finally, the chapter shows that there is strong association between choice of accounting policy and income strategy.

CHAPTER FIVE

Discussions, Conclusions and Recommendations

5.0 Introduction

Chapter five presents the interpretation and implications of the study findings based on the research objectives. The first part of this chapter discusses factors with the potential to affect choice of accounting methods by managers in any country while the second examines the factors that are significant in explaining the choice of accounting methods in Tanzania. Finally, the chapter explains the relationship between choice of accounting policy and income strategy.

5.1 Summary

As explained previously, the purpose of this study is to investigate factors which influence Tanzanian managers' choices of accounting policies. To attain this goal, the researcher put forth three specific objectives. First, he set out to identify potential motivational factors. The second objective was to measure the significant factors. Finally, the study sought to determine whether there is an association between choice of accounting policy and income strategy.

Data was collected from the annual reports of 15 companies listed on DSE for the years ended 2005 through to 2008. From a review of the related literature, the study identified 16 potential factors that may affect a manager's choice of accounting method. It should be noted that these influences apply to managers across all countries.

This study found that there are four factors that are significant in explaining the choice of accounting methods in Tanzania. These are size of a firm, internal financing, corporate governance and labour force.

Firstly, there exists a highly significant negative relationship between income strategy and labour force. This implies that companies which are highly labour intensive choose income decreasing methods. Secondly, there is a significant

negative relationship between corporate governance and income strategy. The implication of this is that when the proportion of non-executive directors is low, managers tend to choose income increasing methods. Thirdly, a highly significant positive relationship exists between income strategy and firm size at the 5% level of significance. This means that large firms choose income increasing accounting methods. Fourthly, there exists a highly significant positive relationship between internal financing and income strategy. This result implies that firms which depend heavily on internal financing choose income increasing accounting methods in order to retain more capital as will be perceived by investors or owners. Lastly, the results show a higher chi-square of 270.095, which is significant, as compared to a critical chi-square value of 23.209. This indicates an existence of strong association between choice of accounting methods and a company's income strategy.

The results support the positive accounting theory and agency theory. Further, they support the debt hypothesis and political cost hypothesis even though firm size gives contradictory results while the managers' compensation hypothesis is not supported. In general, this shows that differences of managers' behaviour exist between developed countries that follow local standards and developing countries, specifically Tanzania, that has adopted IFRSs.

5.2 Discussions and Interpretation

Consistent with positive accounting theory and agency theory, the findings support the assumption that managers choose accounting methods to maximize their utility. This is shown by the way variables relate to the income strategy. The findings are also consistent with prior studies (Beattie et al., 1994; Inoue & Thomas 1996; Missonier, 2004 and Watts & Zimmerman, 1986; 1990) on how the variables relate to the income strategy, though firm size, bonus plan and internal financing give contradicting results.

Correlation matrix measures whether independent variables are associated. The results of this study show that there are fairly low correlations between explanatory variables. The highest correlation (association) is -0.591 Pearson correlations between bonus plan and size of firm. This implies that large

companies are less likely to give workers bonuses compared to small companies. Company size and leverage are also highly correlated (0.579). This shows that large companies are highly leveraged or have more liabilities than owner's equity.

Generally, since most of the variables have lower correlations (below 0.70), it implies that there is sufficient variation among independent variables to estimate the discrete effects. Though few variables are fairly correlated to one another, the correlations are not significant and, hence, the discrete effect can be estimated as sufficient variation among variables is implied.

The results related to the model that tests the significance of the association between nine variables and the income accounting method strategies used are shown. The model is highly significant at the $p < 0.000$, $\chi^2 = 270.095$, and the Pseudo - R^2 : 64.1 % the highest as compared to those of prior studies on accounting strategy (Inoue & Thomas, 1996; Missonier, 2004) and (Boneen et al., 1995, Cullinan & Knoblett, 1994, Skinner, 1993) quoted in Missonier (2004). It is also higher compared to the founder of the model, ZH (1981). The highest explanatory power of the model may be due to the inclusion of new independent variables and the use of RATIO as a dependent variable instead of the traditional dichotomous and number of income increasing methods.

The results show that though leverage is not statistically significant, its positive relationship with income strategy proves that highly leveraged companies choose accounting methods to increase income. This is consistent with studies done by Beattie et al. (1994), Bowen et al. (1995, Inoue and Thomas (1996) and Watts and Zimmerman (1986, 1990) which state that managers seeking to reduce debt costs may strive to adopt a set of accounting methods that enable them to report favourable financial statements for the purpose of credit worthiness. On the other hand, the results are in line with those of Aitken and Loftus (2009) in Australia and Missonier (2004) in Switzerland who found that leverage is not a factor in explaining the choice of accounting methods. In this case, leverage does not explain the choice of accounting methods for Tanzanian managers though the positive relationship shows managers of highly leveraged firms choose income increasing methods to reduce debt costs.

The nature of debt does not affect Tanzanian manager's choice of accounting methods. The results show that the more the firm is financed by bank loans, the more its managers tend to choose accounting methods that accelerate the reporting of income. This argument is consistent with studies done by Beatty and Weber (2003) and Missonier (2004) who assert that managers may be influenced by pressure from bankers (private loans) to choose accounting methods which accelerate income. As argued by Missonier (2004), the results differ from those of prior studies (Daley & Vigeland 1983, Malmquist 1990, Mazay et al., 1993) which assumed that the use of public debts should be associated with income accelerating choices to lessen the debt covenant constraint. Therefore, the positive relationship between nature of the debt and income strategy implies that managers of companies in Tanzania choose income increasing accounting methods to please private creditors (i.e. bankers)

The larger the firm, the higher the possibility the manager will choose income increasing methods. This may be due to government encouragement of companies to participate in economic development of developing countries and lack of strict laws that require companies to become more socially responsible. This contradicts the argument that larger companies fear government action, especially if their profits are large, and therefore tend to delay profits (Watts & Zimmerman, 1986). Inconsistent with this study, Missonier (2004) found no influence of firm size on the choice of accounting methods. A study done in Japan by Inoue and Thomas (1996) is consistent with these results. These results, therefore, show that firm size influences Tanzanian managers in their choice of accounting methods.

There is a significant relationship between labour force and the accounting strategy used by the firm. This means that the pressure of a big labour force is an incentive for a company to choose income delaying accounting methods. In delaying the reporting of income, managers diminish the intensity of wage demands and reduce conflicts between unions and management.

The results are consistent with the study done in Japan by Inoue and Thomas (1996), where it was shown that the higher the effective tax rate, the more managers choose income decreasing methods. This may be due to the fact that

companies avoid higher taxes. The higher the company's reported income, the higher the tax deductions. Consequently, companies may tend to delay the reporting of income.

Ownership dilution has no significant influence on Tanzanian managers in their choice of accounting methods. However, the positive relationship implies that the higher the ownership dilution (high proportion of block shareholders), the more managers tend to choose income accelerating accounting methods. As explained by Hall (1993), managers from a firm with high ownership dilution may experience more discretionary power and hence report a flattering image of the firm.

Managers of firms with bonus plans are unlikely to choose income increasing accounting methods. This is inconsistent with the bonus hypothesis which suggests that, managers whose bonus payments are determined based on the level of the firm's income have an incentive to increase income through accounting procedures (Inoue & Thomas, 1996; Watts & Zimmerman, 1986, & 1990). The contradiction with previous studies may be because managers in developed countries like the US are highly paid compared to their counterparts in Tanzania. Thus, Tanzanian managers may not be influenced by bonus or compensation which directly depends on reported income.

Internal financing has a significant influence on Tanzanian managers in their choice of accounting methods. The result contradicts the study by Missonier (2004) which found that at higher level of external financing (low level of internal financing), managers decide income increasing procedures. This shows that the higher the level of internal financing, the more managers will choose income increasing procedures. This may imply that Tanzanian managers of firms which rely heavily on internal financing choose income accelerating methods so as to retain more income and distribute the balance to shareholders as dividends and where applicable, obtain bonuses. By doing so, they show owners that the company is doing well.

The results also indicate that corporate governance has significant influence on managers' choice of accounting methods. The lower the proportions of non-executive directors, the more managers increase their incentives to choose

income accelerating accounting methods. This may be due to the fact that a higher proportion of non-executive directors increases control on self-interested managers and improves accountability among agents (Shapiro, 2006).

Finally, the study finds a strong association between choice of accounting methods and the firm's income strategy. This is proved by the high calculated X^2 of 270.095 as compared to X^2 critical of 23.209. Though previous studies did not prove this relationship statistically, the value of chi-square was determined as 43 and 24.7 by Inoue and Thomas (1996) and Missonier (2004) respectively. This implies that Tanzanian managers choose accounting methods depending on the company's income strategy for the purpose of maximizing their utility.

5.3 Conclusions

This research examines the determinants of different accounting methods choice for 15 Tanzania companies that are quoted on the DSE from 2005 to year ended 2008. The potential determinants which were identified from the literature are firm size, leverage, nature of the debt, term of the debt, effective tax rate, foreign political costs, bonus plan, internal financing, industry, managers' discretion, corporate governance, audit committee, external auditor, asset specificity, ownership dilution, and labour force.

The results of OLS regression are consistent with the hypotheses which propose that high leveraged firms choose income accelerating accounting policies to reduce debt costs by giving perception to debt holders that the companies are profitable. Companies dependent on bank loans adopt income increasing policies due to easy flow of information between banks and companies (close supervision by bankers). In addition, labour intensive companies choose income delaying policies to avoid high pressure from workers and labour unions demanding high salaries and wages while firms with high ownership dilution prefer income increasing methods as managers have more discretionary power in the choice of accounting methods. On the other hand, companies which have a high proportion of executive directors (low proportion of non-executive directors) choose income

increasing methods due to the conflict of interest and lack of control. Tanzanian companies with high effective tax rate choose income decreasing methods.

Contrary to prior studies and hypotheses, firms with a bonus plan tied to accounting numbers choose income decreasing methods while large companies choose income accelerating accounting policies not withstanding political costs and public attention. Still, companies which depend heavily on internal financing choose income increasing methods so that they can retain more and show shareholders that the companies are profitable.

Finally, managers of Tanzanian companies choose accounting methods depending on the company's income strategy as shown by empirical results. Though some policies decrease income, managers form a strategy which can either be income increasing or income decreasing so as to maximize their utility.

This study, therefore, makes the following contribution to the body of knowledge:

1. In the Tanzania context, this study is the first attempt at determining the factors that influence the choice of accounting methods.
2. Sixteen (16) potential factors are identified from different studies and these can be tested in any country.
3. The paper determines corporate governance as a new factor that influences the choice of accounting policies.
4. This study demonstrates, for the first time, that the use of RATIO as a dependent variable can lead to better research results.
5. Finally, the paper proves statistically the existence of an association between choice of accounting methods and income strategy.

Generally, the results prove that there exist behavioural differences between managers of developed countries and their peers in a developing nation such as Tanzania. This shows that economic, social and political differences affect managers' behaviour in decision making. Though there are differences between developed and developing countries like Tanzania, the research finds specific areas of diversion in the choice of accounting methods. These are company size, bonus plan and internal financing. Large companies and firms with bonus plans in developed economies choose income decreasing methods while in Tanzania, it is

the opposite - managers choose income increasing methods. Also, companies heavily dependent on internal financing choose income increasing methods in Tanzania unlike in developed economies.

Despite these differences, evidence supports positive accounting theory (PAT) which assumes that managers choose accounting methods to maximize their wealth. The study results also support debt hypothesis, political cost hypothesis though company size casts doubt and rejects managers' compensation hypothesis developed by Watts and Zimmerman. Managers of Tanzanian companies choose accounting methods to maximize their own welfare, a situation that may mislead investors who depend on the annual reports prepared for reporting purposes.

5.4 Recommendations

Though human behaviour is difficult to control, regulatory bodies have a responsibility to establish and enforce proper standards which limit managers' behaviour. They should make sure that these standards are free of loopholes which could be exploited by self-interested managers to maximize their welfare at the expense of owners and other stakeholders.

The researcher is of the opinion that standards should be set to ensure uniformity in reporting and measuring the performance of companies. The options given by IASB standards may make comparison of companies of different sizes, level of leverage and even industry difficult since they adopt different accounting policies. Regulators and standard setters, therefore, should narrow down these options and give clear guidelines for all companies in a certain group, whether by size, industry or any other appropriate categorisation. For example, how can one compare the size of two companies, one carrying its assets at cost and the other one at revaluation?

The international standards setter (IASB) should focus on ensuring company to company reporting uniformity instead of focusing solely on country uniformity. Though to date about 100 countries have adopted IFRSs, this is just country uniformity. There is, therefore, need for company uniformity as a new focus of both IASB and local standards setters.

NBAA, the Tanzanian standards setter and regulator, should participate in international standards setting so that financial statements of companies operating in the country are comparable. Each country should test these factors in its locality since the local environments differ politically, socially and economically.

Future researchers should use cross-sectional data to avoid the economic changes between years, test foreign political costs, managers' discretion, audit committee and industry. Moreover, they should try to use natural logarithm of total sales as a measure instead of natural logarithm of total assets and investigate relevance of options in choosing accounting policies.

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APPENDIX I

[illegible]

	DCB	0.63	24.59	3.210	0	0.389	0.230	0.160	5	0.71
		0.145								
	KCB	0.63	28.87	8.068	0	0.300	0.226	0.276	2	0.82
		0.410								
	NMB	0.83	27.96	7.669	0	0.310	0.000	0.130	4	0.67
		0.840								
2005	NIC	1.00	23.31	0.004	0	0.230	0.000	0.120	2	0.27
		0.008								
	TCC	0.88	24.83	0.380	0	0.280	0.000	0.100	1	0.57
		0.950								
	TAT	0.75	23.65	1.660	1	0.230	0.890	0.076	5	0.71
		0.385								
	5MB	0.88	24.38	0.570	0	0.310	0.300	0.071	2	0.71
		0.820								
	SW	0.57	22.75	0.360	1	0.290	0.000	0.010	2	1.00
		0.935								
	TB	0.78	25.68	0.410	0	0.320	0.140	0.002	4	0.91
		0.24								
	EA	0.73	26.74	0.370	0	0.330	0.020	0.080	1	0.82
		0.51								
	JH	0.78	26.06	3.410	0	0.160	0.003	0.100	2	1.00
		0.69								
	TW	0.88	24.68	0.410	1	0.300	0.050	0.020	2	0.86
		0.90								
	C	0.86	27.34	15.6300		0.230	0.001	0.160	2	0.83
		0.41								
	T	0	22.46	0.550	1	0.00	0.140	0.082	2	0.80
		0.0								
	KQ	0	27.42	2.630	0	0.350	0.570	0.071	2	0.71
		0.2								
	DCB	0.63	23.73	9	0	0.390	0.180	0.180	5	0.71
		0.1								

f	KCB	0.63	27.97	6.770	0	0.320	0.004	0.280	2	0.82
	0.020									
	NMB	0.83	27.26	10.3000		0.310	0.000	0.170	4	0.67
	0.250									
	2006 Nrc	1.00	23.00	0.140	0	0.075	0.340	0.060	2	0.27
	0.003									
	TCC	0.88	25.02	0.570	0	0.300	0.240	0.070	1	0.50
	0.950									
	TAT	0.75	23.77	1.280	1	0.030	0.780	0.070	6	0.71
	0.510									
	5MB	0.88	24.62	0.380	0	0.310	0.031	0.095	2	0.83
	0.880									
	SWS	0.57	22.93	0.420	1	0.310	0.000	0.190	3	1.00
	0.940									
	TBL	0.78	25.83	0.540	0	0.320	0.450	0.057	3	0.91
	0.290									
f	EAB	0.7 3	26.82	1.330	0	0.250	0.000	0.086	1	0.82
	0.480									
	JHL	0.7 8	26.35	0.760	0	0.160	0.070	0.0 82	2	1.00
	0.620									
	TWG	0.8 8	24.96	0.280	1	0.300	0.000	0.020	3	0.86
	0.930									
	CR	0.88	27.52	11.940	0	0.310	0.008	0.1 50	3	0.83
	0.340									
	TO	0.57	22.60	0.740	1	0.000	0.220	0.080	2	0.80
	0.02 7									
f	K	0.78	27. 85	3.020	0	0.310	0.560	0.069	2	0.82
	0.28 n									
	DCB	0.63	24. 09	6.790	0	0.300	0.300	0.180	5	0.56
	0.22 n									
f	K	0	28. 14	8.120	0	0.230	0.008	0.310	2	0.82
	0. 0.									

2007	NMB	0.83	27.40	7.730	0	0.250	0.000	0.130	4	0.67
		0.320								
	Nrc	1.00	21.02	0.570	0	0.000	0.790	0.100	2	0.27
		0.000								
	TCC	0.88	25.13	0.400	0	0.270	0.011	0.120	1	0.50
		0.970								
	TAT	0.75	23.29	0.790	1	0.000	0.330	0.120	5	0.71
		0.270								
	5MB	0.88	24.95	0.360	0	0.310	0.056	0.079	2	0.83
		0.920								
	SWS	0.57	23.00	0.290	1	0.310	0.000	0.180	4	1.00
		0.950								
	TBL	0.78	26.00	0.800	0	0.330	0.420	0.054	4	0.91
		0.310								
	EAB	0.73	27.05	0.490	0	0.290	0.000	0.080		0.82
		0.450								
r	JHL	0.78	26.50	3.640	0	0.180	0.070	0.080	2	1.00
		0.600								
	TWG	0.88	25.36	0.310	1	0.310	0.000	0.020	3	0.86
		0.950								
	CRD	0.86	27.76	9.92 n	0	0.280	0.002	0.140	3	0.83
		0.220								
	TOL	0.57	22.69	0.72 n	1	0.000	0.170	0.067	2	0.80
		0.00 n								
	K n	0.78	27.96	2.47 0	0	0.310	0.620	0.080	2	0.82
		0.14 n								
	DCB	0.63	24.27	0.840	0	0.410	0.007	0.140	5	0.7 1
		0.35 n								
	K n	0.63	28.33	7.7 30	0	0.300	0.054	0.370	2	0.8 2
		0.12 n								
	N M 0.	0.83	27.78	8.5 00	0	0.330	0.010	0.170	4	0.6 7

APPENDIX 2

Data used to calculate chi-square

AP	I I	lD	TOTAL
DP	60	0	60
RA	60	0	60
FA	12	40	52
F&B	0	0	0
INV	12	24	36
EB	24	20	44
PPE	56	4	60
GWL	60	0	60
lAS	60	0	60
IP	24	20	44
LES	60	0	60
TOTAL	42	108	536

NB: The columns show accounting policy, number of companies adopting income increasing and income decreasing as well as their totals respectively

APPENDIX 3

Results of Regression Analysis

The regression equation is:

$$\text{str} = 0.587 + 0.0225 \text{ sz} + 0.00547 \text{ lv} - 0.0491 \text{ bn} - 0.178 \text{ tx} + 0.0146 \text{ bl}$$

$$\sim 0.820 \text{ lf} + 0.0061 \text{ ad} - 0.444 \text{ cg} + 0.141 \text{ fn}$$

Predictor	Coef	SE Coef	T	P	VIF
Constant	0.5872	0.2112	2.78	0.008	
Sz	0.022496	0.009032	2.49	0.016	3.3
Lv	0.005475	0.004456	1.23	0.225	3.0
Bn	-0.04914	0.03578	-1.37	0.176	2.8
TX	-0.1783	0.1308	-1.36	0.179	2.4
BI	0.01456	0.05329	0.27	0.786	1.9
Lf	-0.8200	0.1672	-4.91	0.000	1.6
OD	0.00608	0.01051	0.58	0.566	2.0
Crr _b	-0.44381	0.07069	-6.28	0.000	1.8
FN	0.14072	0.03748	3.75	0.000	1.9

$$S = 0.0737565 \quad R\text{-Sq} = 69.6\% \quad R\text{-Sq (adj)} = 64.1\%$$

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	9	0.621592	0.069066	12.70	0.000
Residual Error	50	0.272001	0.005440		
Total	59	0.893593			
Source	DF	Seq SS			
Sz	1	0.015809			
Lv	1	0.013653			
Bn	1	0.132060			
TX	1	0.015813			
Bl	1	0.003831			
Lf	1	0.152717			

OD		0.001222
Cg		0.209789
FN	1	0.076700

Durbin-Watson statistic = 2.19536

APPENDIX 4

Results of Chi-Square Test: II, ID

Expected counts are printed below observed counts and Chi-Square contributions are printed below expected counts

	II	ID	Total
1	60	0	60
	47.91	12.09	
	3.051	12.090	

2	60	0	60
	47.91	12.09	
	3.051	12.090	

3	12	40	52
	41.52	10.48	
	20.990	83.184	

5	12	24	36
	28.75	7.25	
	9.756	38.661	

6	24	20	44
	35.13	8.87	
	3.529	13.984	

7	56	4	60
	47.91	12.09	
	1.366	5.413	

'
'

8 60 0 60
47.91 12.09
3.051 12.090

9 60 0 60
47.91 12.09
3.051 12.090

10 24 20 44
35.13 8.87
3.529 13.984

11 60 0 60
47.91 12.09
3.051 12.090

12 428 108 536
428.00 108.00
0.000 0.000

Total 856 216 1072

Chi-Sq = 270.095, DF = 10, P-Value = 0.000

APPENDIX 5

Results of Correlations Matrix

	str	s z	lv	bn	tx	bl	l f	od	c g
Sz	0.133								
Lv	-0.024	0.579							
Bn	-0.385	-0.591	-0.368						
TX	0.009	0.487	0.231	-0.392					
BI	0.117	-0.233	-0.243	0.078	-0.369				
Lf	-0.375	0.271	0.564	-0.179	0.152	-0.212			
OD	-0.178	-0.184	0.230	0.274	0.073	0.257	0.111		
Cg	-0.530	0.266	0.077	0.266	0.270	-0.321	-0.009	0.063	
FN	0.159	-0.046	-0.267	0.169	0.370	-0.410	-0.238	-0.165	0.282

Cell Contents: Pearson correlation

APPENDIX 6

List of Companies Listed on DSE and Investigated

SIN	Company Name	Symbol
1.	Tol Gases Limited	TaL
2.	[Tanzania Breweries Limited	TBL
3.	[Ianzania Tea Packers Limited	TATEPA
4.	[Tanzania Cigarette Company Limited	TCC
5.	[Tanga Cement Company Limited	SIMBA
6.	Swissport Tanzania Limited	SWISSPORT
7.	Tanzania Portland Cement Company Limited	TWIGA
8.	National Investment Company Limited	NICOL
9.	Dar Es Salaam Community Bank	DCB
10.	National Microfinance Bank Plc	NMB
11.	Kenya Airways Limited	ICA
12.	East African Breweries Limited	EABL
13.	Jubilee Holdings Limited	JHL
14.	Kenya Commercial Bank Limited	KCB
15.	CRDB Bank Public Limited Company	CRDB