THE RELATIONSHIP BETWEEN SELECTED MACROECONOMIC VARIABLES AND EARNINGS MANAGEMENT FOR COMPANIES QUOTED AT THE NSE

By

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REG NO: D61/72702/2009.

A MANAGEMENT RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

NOVEMBER 2010

DECLARATION

This management research report is my original work and has not been presented for award of a degree in any other university.
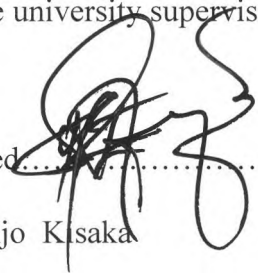
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This management research report has been submitted for examination with my approval as the university supervisor.

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DEDICATION

This project is dedicated to my family. May God bless you all.

ACKNOWLEDGEMENT

I am grateful to all those without whom, this project would not be successful. I wish to thank the management and staff of the school of business, University of Nairobi, and my fellow students for the time and support they have accorded me all long.

Special thanks to my supervisor Mr. Sifunjo Kisaka whose guidance on development and organization of my project helped me dearly.

LIST OF ABBREVIATIONS

CEO	Chief Executive Officer.
CFO	Corporate Finance Officer
GAAP	Generally Accepted Accounting Principles.
GDP	Gross Domestic Product
IFE	International Fisher Effect
IPO	Initial Public Offer
LIFO	Last in First Out.
LTD	Limited.
MUST	Macroeconomic uncertainty Strategy
NSE	Nairobi Stock Exchange.
NYSE	New York Stock Exchange
SEC	Securities Exchange Commission
UK	United Kingdoms
USA	United States of America
SPSS	Statistical Package for Social Scientist

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ABSTRACT

This study examines whether a relationship exists between macroeconomic variables and earnings management. The study considers the macroeconomic environment of companies quoted at the NSE along the line suggested by Oxelhelm and Wihlborm (1987) as a set of four price variable; inflation rate, interest rate, money supply and foreign exchange rate. The management attempt to defer income (manage earnings) is quantified/stated in terms of firm's current accruals obtained from the balance sheet and the income statement. Data for fifteen firms over a period of five years (2005 to 2009) is used.The purpose of the study is to investigate whether a relationship exists between specific macroeconomic variables and earnings management.

Current accrual (earnings management tool) is regressed against the four macroeconomic indicators correlation analysis and analysis of variances is also used for the analysis. The study documents a weak relationship between macroeconomic variables and earnings management. The observed correlation coefficient (R) is 0.211 or 21.1% indicating that only 21.1% of variations in earnings management can be accounted for by macroeconomic variables. The implication is that management would not achieve much through earning management in an effort to shield their firms against volatility in macroeconomic environment.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

According to Dechow et.al (1995) earnings management is a strategy used by the management of a company to deliberately manipulate the company's earnings so that the figures match a pre-determined target. This practice is carried out for the purpose of income smoothing. Thus rather than having years of exceptionally good or bad earnings, companies will try to keep the figures relatively stable by adding and removing cash from reserves account (known colloquially as "cookie jar" accounts). Abusive earnings management is deemed by SEC to be "a material and intentionally misrepresentation of results". Although the different methods used by managers to manage earnings can be very complex and confusing, its driving force is to meet a pre-specified target (often an analyst's consensus on earnings).

Macroeconomics is the field of economics that studies the behavior of the aggregate economy. It's concerned with booms and recession, the economy's total output of goods and services, the rate of inflation, employment/unemployment, exchange rates etc. It forms one of company's external environment of which firms have no control of and therefore has to adjust themselves to fit in it. According to Oxelhelm (2003), given today's increased financial and economic integration, no company can claim to be unaffected by what is happening in the global and domestic economic arena. . This study view macro-economic environment along the line suggested by Oxelheim and Wilhlborg (1987), as a set of four

price variables: exchange rate, interest rate, inflation and money supply. The study however is an evaluation of whether earnings management can be used to reduce earnings volatility resulting from the macroeconomic environment.

Managers engage in earnings management for many reasons and probably exercise their accounting discretion to influence reported earnings. First, they manipulate earnings because of capital market incentives, including implementing management buyouts plan, Initial public offers (IPO), seasoned equity offering and mergers plans, income, etc. Second, they implement earnings management because of contracts motivation (e.g. management compensation plans, debt agreement or job preservation). Third, they conduct earnings management due to regulation and antitrust law, etc. regardless of whichever cause managers to manipulate earnings, the behavior of earnings management implies conflict of interest between managers, owners, and majority shareholders. (Zimmerman and Subramanyam, 1986).

During the past three decades, debate has been intensive about the kind of information that companies should be obligated to release. Without becoming too involved in this sensitive debate, readers need to note two essential types of information: one, information that allows for control, taxation and evaluation ex post and two, information of predictive value for assessing a company's prospects and risks. Furthermore, to be useful, the information should enable intertemporal comparisons for an individual company and comparisons of different companies (benchmarking) across national borders (Oxelheim, 2003).This study emphasizes two particular kinds of valuable information, namely the effect on the company of a turbulent

macroeconomic environment and the earnings management tools used by the company in response.

Managers are facing increasing pressure to report smooth earnings. According to the CEO of a fortune 500 firm, "the number one job of management is to smooth out earnings" (Loomis 1999). Consistent with this view, several academic studies document that managers make discretionary accounting choices, in part, to reduce earnings volatility (e.g. Watts and Zimmerman 1986; Subramanyam 1986; Defond and Park 1997; Myers and Skinner 1999). Indeed, earnings management is believed to be so common that the media and regulators are expressing concern about its effect on the equity of reported earnings and the functioning of capital markets (Loomis, 1999).

Studies of the economic consequences of accounting choices have developed factors to explain different accounting actions across firms. Examples include taxes, political costs, contractual relationship and ownership control. Generally, past studies have implicitly hypothesized that such factors would motivate firms to use accounting choices to maximize or minimize reported earnings and consequently have sought an empirical association between economic consequences variables and the impact of accounting choices on the level of earnings (Kelly, 1983).

Earnings management is accomplished through managerial discretion over accounting choices and operating cash flows. Discretion over accrual generally is less observable than management's choice of accounting methods and less costly to implement than altering operating cash flow. Thus, researchers have increasingly used accrual variables to detect earnings management (Dechow et.al, 1995).

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1.2   Statement of the Problem

A number of studies have been conducted about the relationship between macroeconomic variables and performances of companies quoted at the NSE. Among them are Nyamute (1998) who analyzed the movement and/or the changes of the stock price (i.e. the NSE 20-share INDEX) in relation to movements and/or changes in four of the major economic indicators (interest rate, money supply, inflation rate and exchange rate). She noted an inverse relationship in movement of NSE 20 Share INDEX against the macroeconomic variables. Mbashu (2007) conducted a study on the relationship between macroeconomic variables and sector-specific returns at the NSE. He used linear regression and correlation analysis to test the relationship using interest rate, exchange rate, inflation rate and oil prices as the macroeconomic variables. He also noted an inverse relationship between changes in macroeconomic variables and sector-specific returns of firms quoted at the NSE.

As the above literature attests to, firm's performance/earnings are linked to macroeconomic variable. However these studies have only concentrate on the impact of macroeconomic variables on firms' earnings. This study complements the existing literature by filling a gap in this line of research. The study provides insight into the response of companies quoted at the NSE to volatility in the macroeconomic environment.

The main purpose of this study therefore is to test whether specific macroeconomic variables (i.e. inflation rate, interest rates, exchange rate and oil prices) in Kenya induces Companies listed at the NSE to engage in earnings management. This study seeks to address the question: Do quoted companies in Kenya manage their earnings across business cycle? The study hypothesizes that faced with a volatile macroeconomic environment, these firms tend

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to adopt earnings management techniques to smooth out their earnings and avoid reporting losses. The study will test if there is an association between earnings management and variables commonly used to proxy for particular economic factors; interest rates, inflation, foreign exchange and money supply.

1.3   Objective of the Study

1   To investigate the relationship between selected macroeconomic variables and current accruals as an earnings management tool for companies quoted at the NSE.

1.4   Significance of the Study

The importance of building such a relationship is that firms can rely on earning management to shield themselves against the risk of reporting losses when the industry macroeconomic environment is not favourable. Managers can use earnings management techniques as incentive to meet market earnings expectations, when high operating costs associated with the firm's macroeconomic environment cause earnings to fall short of targets. Prior literature documents disproportionately large negative stock price reactions when firms fail to meet analyst forecast (skinner and Sloan, 2002) and declines in price – earning multiples when firms break pattern of earnings increase (Barth et al. 1999).

This study will equally enable shareholders to predict the future cash flows of their investments since the earnings management policies adopted by managers convey their expectations of future cash flows. According to Barnea et al (1999), managements intent is not to try to fool the market by smoothing income but, rather, to relate additional information (management's expectations of future cash flow) to the market.

Financial analysts will through this study get an insight on how best to construct investment portfolio among listed firms at the NSE. Competitors will use the study as a tool to analyze weakness and strengths of their opponents to enable them make decisions to outperform them. This study will provide a tool that will help firms not only in comparing future profitability with their opponents but also in making decisions that will enable them outshine their competitors.

Regulators on their part will through this study be able to understand the implications of earnings management to firm's performance, hence formulate rules that will make the preparation of financial statements to be more objective.

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction

This study is an investigation into the relationship between selected macroeconomic variables and earnings management for firms quoted at the NSE. This section addresses and reviews past studies on the subject and critically reviews relevant literature. Attempt is made to do an empirical study, which critiques the fundamental theories of earnings management. The chapter comprises of seven sections; section 2.2. discusses the income smoothing hypothesis, section 2.3 examines the catering theory of earnings management, section 2.4 discusses the big bath theory of earnings management, section 2.5 is about empirical evidence on earnings management in general, section 2.6 discusses an empirical evidence on macroeconomic variable while section 2.7 present a summary which seeks to find out any gap in the subject which the theories have not addressed.

2.2   Income Smoothing Hypothesis

Copeland (1968) defines income smoothing as the repetitive selection of accounting measurement or reporting rules in a particular pattern, the effect of which is to report a stream of income with a smaller variation from trend than would otherwise have appeared. An accounting practice or measurement rule must posses certain properties before it may be used as a manipulative smoothing device of all available accounting alternatives (rules, practices), some will always have smoothing potential while others will only smooth under special circumstances or never at all (Copeland,1968).

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A perfect smoothing device must posses all the following characteristics; once used, it must not commit the firm to any particular future action, It must be based upon the exercise of professional judgment and be considered within the domain of "generally accepted accounting principles", It must lead to material shifts relative to year – to – year differences in income, It must not require a "real" transaction with second parties, but only a reclassification of internal account balances, It must be used, singularly or in conjunction with other practices, over consecutive periods of time (Copeland, 1968).

Generally accepted accounting principles allow the selection of different alternative to account for a given set of financial occurrences. For example, several "acceptable" methods of depreciating an asset exist, and management can choose from among such methods. Also, management can time financial transactions (i.e. delaying a sale) and make discretionary expenditure. Because of this flexibility, management can systematically influence reported income from year to year in order to smooth income (Koch, 1981).

Koch (1981) defines income smoothing as a means used by management to diminish the variability of stream of reported income numbers relative to some perceived target stream by the manipulation of artificial (accounting) or real (transactional) variables. Hepworth (1953) suggests that managers are motivated to smooth income to gain tax advantage and to improve relations with creditors, employees and investors.

Smoothing behavior is defined as an effort to reduce fluctuations in reported earnings. Researchers generally have agreed that smoothing involves the use of some "smoothing device" to reduce the divergence of reported earnings from an earnings number that is

"normal" or "expected" for the firm. Thus, two items must be chosen to measure smoothing: the smoothing device and a measure of earnings towards which management is assumed to shift reported earnings (Moses, 1987).

Smoothing moderates year to year fluctuations in income by shifting earnings from peak year to less successful periods. This will lower the peaks and support the troughs, making earnings fluctuation less volatile. When the shareholders of a firm delegate decision – making task to management, management has an incentive to select actions which minimize its won expected utility, even if these actions are not in the best interest of shareholders. It has been suggested that management can increase its own welfare by engaging in smoothing behaviour for example, Hepworth (1953), Writes. "Certainly the owner and creditors of an enterprise will feel more confident towards a corporate management which is able to report stable earnings than if considerable fluctuations of reported earnings exist."

2.2.1   Accounting Choices as a Smoothing Tool

The income smoothing literature, however, has argued that accounting choices will be used to reduce earnings fluctuations rather than to maximize or minimize reported earnings, and has documented the use of accounting choice in smoothing (Moses, 1987). Generally accepted accounting principles allow the selection of different alternative to account for a given set of financial occurrences. For example, several "acceptable" methods of depreciating an asset exist, and management can choose from among such methods. Also, management can time financial transactions (i.e. delaying a sale) and make discretionary expenditure. Because of this flexibility, management can systematically influence reported income from year to year in order to smooth income (Koch, 1981).

Accounting changes can have a material impact on reported earnings and consequently are unlikely to be adopted without management consideration of the effects. Incase of discretionary accounting changes, no assumption need to be made concerning the magnitude of the discretionary components of accounting change. One could test other items such as accruals or discretionary expenses as smoothing devices, but the researcher must then divide the total accrual or expense into a portion considered normal and a reminder assumed to reflect the discretionary component. Such separation is a non – trivial process since factors besides intentional adjustment by management, such as the volume of operations, can be expected to influence the amount of accruals or expense (Romen and Sadan, 1981).In addition, findings in smoothing studies can be sensitive to the way the discretionary component is isolated (Moses, 1979).

According to Moses (1979), accounting changes provide a measure that is purely discretionary. The use of accounting changes as a measure of smoothing behavior also has deficiencies. First, accounting changes are visible and it may be argued that management would prefer techniques that are more subtle and do not require disclosure. Second, there are non-smoothing reasons for making accounting change (e.g. to use LIFO for tax purposes). However, his study made no assumption that accounting changes are made solely to smooth earnings nor does it claim to explain why changes are adopted. Rather, it assumed that the smoothing effect of a change is one consideration that constrains or influence change.

2.3 Catering Theory of Earnings Management

This theory culminated from the work of Shiva et.al (2007) in their study "A Catering Theory of Earnings Management". It states that managers cater to investors' earnings optism by inflating accruals. This theory is built on the following premises. First, there exist sources of uninformed demand for firms that attach time-varying importance to earnings surprises in valuation. Second, limits to arbitrage cannot drive away this demand. Thirdly, managers rationally weigh the short-run benefit of catering to the current mispricing against the associated long-run costs. Each component is explored in greater details below.

2.3.1 Uninformed Demand for Earnings Surprise and Arbitrageurs

Given two investors, Investor who rewards positive earnings surprise and arbitrageurs, there could be several motivations for the existence of investors who reward positive earnings surprise. First, certain fund managers have an investment style based on seeking stock with earnings growth (annual or quarterly) and sell stock that they will think will not meet an earning estimate or report decreased earnings growth (Shiva et.al, 2007)

Second, some investors may interpret the firm's ability (inability) to meet or beat seasonally lagged quarterly earnings bench as a signal that the firm's future prospects look good (bad). Bartov et. al (2002) finds that firms that meet or beat earnings estimate report higher future operating performance. CFOs surveyed by Graham et.al (2005) opine that some investors consider a firm's failure to meet earnings bench marks as a sign that new undisclosed problems lurk beneath the surface.

Third, CFOs interviewed by Graham et.al (2005) point out two other reasons why demand for positive earnings surprise exists: (i) young analysts lack a sense of history, which make them prone to overreaction when the firm misses an earnings target. (ii) Fund managers are compensated on the basis of how their funds have done relative to peer managers.

Fourth, in experienced investors might overreact to good news and under-react to bad news. Such behavior tendencies potentially increase the demand for firms with positive earnings surprise. Smith et.al (1988) find evidence that in the majority of experiment with inexperienced participants, prices exhibit bubbles relative to asset's holding value.

2.3.2   Manager's Decision to Cater to Earnings Demand

The manager is assumed to care both about current stock price and long-run fundamental value. One factor that might affect his preference for the short-run over the long-run is related to his horizon with the firms. In perfect capital markets, the two objectives of maximizing shot-run price and long-run value are the same since the definition of market efficiency is that stock prices equal fundamental value. However, if the assumption of investor rationality is relaxed, these two objectives become distinct. Because arbitrage is assumed to be limited, the misperceptions of investors will cause the relative prices of firms that report earnings surprise and earnings disappointment to defer. Thus, in the presence of a shot-run inefficiency stock market, the manager has to decide whether to maximize the short-run stock price affected by demand for earnings surprise or a long-run fundamental value determined by the manager's investment policies. Kothari et. al (2006) find support for the hypothesis that managers of overvalued firms manage their firms' accruals upward to prolong the overvaluation.

A manager who is trying to maximize firm value (combination of short-run value) will increase abnormal accruals to maintain positive earnings surprise in period of higher earnings optimism, when the benefit of doing so are more likely to exceed the costs of earnings management that he incorporates. Therefore, qualitatively, the propensity to increase in earnings optimism as reflected in investor's premium for earnings surprise and is decreasing in the cost to cater to such demand for "earnings surprise" and the barrier to arbitrage (Kothari et. al, 2006).

2.4   The Big Bath Theory of Earnings Management

The big bath theory of earnings Management suggests that firms experiencing low earnings in a given year may take discretionary write downs to reduce even further the current period's earnings. The notion is that companies and their management may not be punished proportionately more for the big hit, if it takes to its already depressed earnings. This "clearing of the decks" makes it easier to generate higher profit in the later years (Dye, 1986).

Dye (1986) notes that management has two primary reasons to manage or manipulate earnings. One is an external demand to meet earnings forecasts and increase share price; the other represents an internal demand relating to optimal contracting. Earnings allow managers to communicate with their principles (e.g. Board of Directors) concerning the level of their performances. Regarding the external demand to meet their earnings forecast, Chenheiter and Melumad (2002) note that, ceteris paribus, investors infer a higher level of permanent cash flow from a higher level of reported earnings. Since increasing cash flow translates into

higher share price and earnings are perceived to be a surrogate of cash flow, higher earnings increase the value of the firm.

Managing earnings through big bath charges follow a different, yet simple, line of reasoning because earnings are made to look worse, at least in the current period. Henry and Schmitt (2001) note that a company will take a large non-recurring loss one year, typically when the profit are already depressed, so that future earnings are not burdened. The result is either increased future earning or reduced variability of future earnings. The notion is that, when things are already bad (i.e. depressed earnings), making them worse by clearing out rubbish does little harm to the company's or management's reputation. The market punishes a firm relatively the same whether it misses its earnings mark by a little or by a lot.

Although the big bath theory has been espoused in the accounting literature for years, little empirical testing of its presence exist. A few studies examined big bath charges on the periphery or as an aside to their main topic of earnings management in general. For example Cameron and Stephens (1991), in examining the impact of non-recurring items on the predictive ability or variability of earnings, found that this items are not used to smooth earnings but instead appear to be used more consistently with the big bath theory. Bauman et.al (2001) examined earnings management in relation to the discretionary adjustment associated with the valuation allowance for differed tax asset and found virtually no evidence in support of earnings management.

2.5   Empirical Evidence on Earnings Management

Dhaliwal et. at (2002) Investigated whether firms use income tax accruals as an earnings management tool when free pretax earnings fall short of market earning expectations. They found that as the difference between analyst forecasts and pre-managed earnings increases, fourths quarter effective tax rates decrease relative to third quarter effective tax rate. This finding is consistent with earnings management using total income tax expense.

Other studies investigate whether firms use the valuation allowance for deferred tax assets, a component of total income tax expense, to manage earnings. Earlier studies investigating the valuation allowance for deferred tax assets find no evidence of earnings management (Miller and Skinner 1998; Visvanathan 1998). However, more recent studies that focus on homogenous samples such as banks (Schraud and Wong 2003) and firm – years with small – scaled profit and losses (Burgstahler et. al 2002) do find evidence of earnings management via the deferred tax asset valuation allowance.

Other studies find evidence that firms shift income in response to tax incentive. Collius and Shackelford (1998), Altshuler and Newlon (1993), Grubert (1998), and Hines and Hubbard (1990) document a negative relationship between taxes on repatriations and payments between foreign affiliates including dividends interest, and royalties. Harris (1993) Jacob (1996) and Klassen et al. (1993) find that firms shifted income in response to the tax change enacted by tax authorities.

Philips, Pincus and Rego (2003) evaluated the use of deferred income tax expense as a metric for detecting earnings management. They built on the evidence of earnings Management in

Burgstahler and Dichev (1997) and Mills and Newberry (2001), to investigate the usefulness of deferred Tax expense in identifying earnings management to meet three earnings target: (1) to avoid reporting an earning decline, (2) to avoid reporting a loss, and (3) to avoid failing to meet analyst's earnings forecast. They analyzed the three setting and found that in the first case result indicated that increase in deferred tax expense increase the probability of managing earnings to avoid reporting an earnings decline; in the second case they compared firm – years with zero or slightly positive scaled earnings levels with a control sample of firm-years with slightly negative earnings.

The results suggested that increase in deferred tax expense increased the probability of managing earnings to avoid reporting a loss. They concluded that deferred tax expense is also incrementally useful in detecting earnings management in this setting, as are the accrual metrics. Finally, in case three they found no evidence that deferred tax expense or the abnormal accrual detect earnings management to avoid failing to meet or beat analysts' earnings forecast. They concluded that none of the accrual – based metrics or deferred tax expense more accurately classifies firm – years as successful (or unsuccessfully) avoiding failing to meet or beat analysts' forecast (Philips et. al 2003).

Healy (1985) used total accruals to proxy for "discretionary" (i.e., "abnormal") accruals, while Jones (1991) estimates regressions of total accruals on factors reflecting changes in a firm's economic environment to detect earnings management, and uses the residuals to proxy for abnormal accruals. Dechow et. al (1995) modifies the Jones Model to allow for the possibility that managers use discretion to accrue revenues when it is questionable whether revenue recognition criteria have been met.

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Dechow et al (1995) also assess the ability of five accrual models to detect earnings management and found that the modified Jones Model is the most powerful in detecting earnings management in a sample of firms the SEC identified for overstating earnings. The evidence in Guay et al. (1996) suggests that only the Jones and modified Jones models produce abnormal accruals that are distinguishable from a random decomposition of earnings and thus consistent with abnormal accruals resulting from managerial decisions to increase and /or smooth income. Moreover, Bernard and skinner (1996) argue that Jones – type Model abnormal accruals systematically misclassify normal accruals as abnormal. Thus, current evidence suggests that accrual variables poorly measure the discretion managers exercise to manage earnings.

2.6   Empirical Evidence on Macroeconomic Variables

The relationship between macro economic factor and firm performances is extensively investigated. The findings of this literature suggest that there is a significant linkage between macro-economic factor and stock return. Chen, Roll and Ross (1986) test the multifactor model in the USA by employing seven macro-economic variables. They find that consumption, oil prices and the market index are not priced by the financial market. However, industrial production, changes in risk premium and twist in the field curve were found to be significant in explaining stock return. Chen (1991) performed the second study covering the USA. Findings suggest that future market stock returns could be forecasted by interpreting some macro-economic factors on stock return in the UK stock return. Mukherjee and Naka (1995) used vector error co-relation approach to model the relationship between Japanese stock return and macro-economic variable. Co-integration relation was detected

among stock prices and the six macro-economic variables namely exchange rate, inflation rate, money supply, real economics activities, long term government bond rate and call rate.

Oxelhelm and Winlborg (1987) developed the "macroeconomic uncertainty strategy" (MUST) analysis, based on a full recognition of the interdependence among selected macroeconomic variables that make up the macroeconomic environment of a company. The analysis was built on a multivariate linear regression framework between cash flows and macroeconomic factors (i.e. interest rate, exchange rate, purchasing power parity and political risk). One of the Equilibrium relationship they established was the International Fisher effect (IFE) containing the nominal exchange rate, and the macroeconomic price variable- the interest rate. They concluded that deviation from IFE cause excess profits or losses on the financial side of a company. They also noted that interest rate changes may affect the commercial side of a company through their influence on, for example the demand for capital goods.

A number of studies have been conducted in Kenya to investigate the relationship between macroeconomic variables and performance of firms at the NSE. Among them are Nyamute (1998) who analyzed the movement and/or the changes of the stock price index (i.e. the NSE 20 share index) in relation to movement and/or changes in four major economic indicators (interest rate, money supply, inflation rate and exchange rate). She concluded that changes in the macroeconomics cause a simultaneous change in the NSE 20 share index Mbashu (2007) conducted a study on the relationship between macroeconomic variables and sector-specific returns at the NSE. He used interest rate, exchange rate, inflation and oil prices as the macroeconomic variables. He used linear regression and correlation analysis to test the

relationship and concluded that increase in interest rates reduced earnings for firms because borrowing becomes expensive.

2.7 Summary

Various firm-specific factors provide incentives for management to use accounting choices to smooth earnings. As a result, smoothing behavior varies across firms. Accounting changes can be investigated using t-test and regression analysis to test the relation between smoothing and a set of explanatory variables. Findings indicate that smoothing is associated with firm size, GAAP, Managers' discretion, the divergence of actual earnings from expectations among other factors. In addition, findings indicate that smoothing by accounting changes is associated with the impact of the accounting change on the level of earnings. This is consistent with recognizing and making trade-offs between the effect of accounting choice on both income levels and income variability. These findings have not dealt with the relationship between macroeconomic variables and company earnings management.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter consists of five sections; section 3.1 is the introduction, section 3.2 comprises the research design, section 3.3 is the target population, section 3.4 is about sampling, section 3.5 is about data and data collection methods while section 3.6 involves data analysis.

3.2 Research design.

This study used empirical research design to establish whether the macroeconomic environment cause managers of firms quoted at the NSE to engage in earnings management. According to Cooper and Schindler (1993) empirical research design involves making a change in the value of one variable (the independent variable) and observing the effect of that change on another variable (the dependent variable). The independent variable (macroeconomic variables) were the stimuli i.e., they were stimulated while the dependent variable (earnings management variable) was responsive.

3.3 Target population.

The target population consisted of all firms quoted at the NSE as at 1st October, 2010. Appendix 1 gives details of the companies quoted at the NSE as per http: www.nse.co.ke online document accessed on 1st October, 2010.

3.4 Sampling

There were forty seven companies listed at the NSE as per http: www.nse.co.ke online document accessed on 1st October, 2010. However, this study used simple random technique to select fifteen firms for the analysis. The researcher began by listing all members of the population and then chose the sample at random using the balloting method. All the firms were given equal chance of selection.

3.5 Data and Data Collection Methods

The study entailed use of secondary data obtained from NSE and other financial intermediaries. Where data was not available from these sources, the researcher referred to financial statements published by companies under study. The management attempt to defer income (manage earnings) was quantified/stated in terms of firm's current accruals obtained from the balance sheet and the income statements.

The macroeconomic variables (Independent Variables) used were the annual data for the same period of the stock market data (January 2005 – December 2009), selected from various issues of the bulletin published by the central bank of Kenya.

The study considered macroeconomic environment along the line suggested by Oxeilheim and Wilhborg (1987), as a set of four price variables; exchange rate (FX), interest rate (I), inflation (INF) and money supply (MS) which are measures of the general economic activity and proxies for GDP. The inflation variable was computed from the consumer price index in Kenya. For interest rate (I), the annual average 91 day Treasury bill rate (in percentage) was

used. Exchange rate (FX) was the annual average of the Kenyan shillings against the U.S dollar.

3.6   Data Analysis

The data collected was analyzed using linear regression and correlation analysis to test the relationship between Accruals as an earnings management tool and specific macroeconomic variables assumed to fit the NSE.The measure of current accrual (Earnings Management tool) used was based on Dechow et.al (1995), who computed accrual component of earning as follows-:

ACCRUAL =   (ΔCA - ΔCash)   –   (ΔCL - ΔSTD - ΔTP)   -   DEP.

Where-;

ΔCA = Change in Current Assets.

ΔCash=Change in Cash/ Cash equivalents.

ΔCL= Change in Current Liabilities.

ΔSTD= Change in Short-Term Debts included in Current Liabilities.

ΔTP= Change in Income Taxes Payables

DEP= Depreciation and Amortization Expense.

The Regression equation will be modeled as follows;

$E.M = \beta_o + \beta_i FX + \beta_2 INF + \beta_3 I + \beta_4 MS + \varepsilon$

Where-:

E.M is the current accrual variable representing Earnings Management.

β represents the parameters for each variable.

ε is the error term representing variations in the dependent variable not explained by the independent variables.

FX= Foreign Exchange Rate.

INF= Inflation.

I= Interest Rate.

MS= Money Supply

The equation was tested for applicability in determining the strength of the relationship by the use of correlation analysis through scatter plot, analysis of variance and the test of significance. The model was also tested for relevance using residual plot and the following multicollinearity tests, Variance Inflation Factor (VIF), Tolerance (TOL) and Condition Index (CI). The SPSS Computer software was used to analyze the data.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND FINDINGS

4.1   introduction

This chapter comprises of four sections; section 4.2 is the descriptive statistics, 4.3 is the relationship between macroeconomic variables and earnings management, section 4.4 is the discussions while section 4.5 is the summary.

The data analysis was guided by the research objective which was to determine the relationship between specific macroeconomic variables and earnings management for companies quoted at the NSE. The body of the report only contains information that directly relates to the study objective while the appendices contain other information and statistics used in preparation of the report. The main method used for data analysis is multiple linear regression analysis.

4.2   Descriptive Statistics

The table below shows the output of the requested descriptive statistics for each variable. The variable with the highest mean is the current accruals while interest rate has the lowest mean. In terms of the standard deviation, current accrual has the largest while foreign exchange rate has the lowest.

Table 4.1

	Mean	Std. Deviation	N
CA	39882.4000	1806039.20056	75

					Mean	Std. Deviation	N

		Mean	Std. Deviation	N
INF		9.2000	4.09065	75
INT		6.9800	.61534	75
MS		795.3180	170.36423	75
FX		71.9400	3.34053	75

Source: Field Data (2010)

4.3   The Relationship Between Macroeconomic Variables and Earnings Management

4.3.1   Correlation Analysis Results

Multicolinearity tests (variance proposition, condition index and eigenvalue) were used to test the strength of the relationship among the independent variables. The table below shows a collinearity diagnostics in which all the variables expect money supply and foreign exchange rate meet the multicollinearity tests rules of thumb. For there to be collinearity, eigenvalues should near zero as much as possible, condition index should be less than 30 while variance proportions should be less than 0.9.

Table 4.2

					Variance Proportions			
Model	Dimension	Eigenvalue	Condition Index	(Constant)	INF	INT	MS	FX
1	1	4.837	1.000	.00	.01	.00	.00	.0
	2	.126	6.200	.00	.95	.00	.01	.0
	3	.031	12.436	.00	.04	.01	.94	.0
	4	.005	30.836	.04	.00	.96	.02	.0
	5	.001	69.826	.96	.01	.03	.03	.9

Source: Field Data (2010)

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The dependent variable (current accrual) correlates significantly with all the independent variables (inflation rate, interest rate, money supply and foreign exchange rate) which shown positive values of 0.69, 0.042, 0.208, and 0.013 respectively. The table below is a summary of correlation analysis.

Table4.3

		CA	INF	INT	MS	FX
Pearson	CA	1.000	.069	.042	.208	.013
Correlation	INF	.069	1.000	.152	.277	.082
	INT	.042	.152	1.000	.222	.101
	MS	.208	.277	.222	1.000	-.089
	FX	.013	.082	.101	-.089	1.000
Sig. (1-	CA	.	.279	.360	.036	.457
tailed)	INF	.279	.	.097	.008	.242
	INT	.360	.097	.	.028	.195
	MS	.036	.008	.028	.	.225
	FX	.457	.242	.195	.225	.
N	CA	75	75	75	75	75
	INF	75	75	75	75	75
	INT	75	75	75	75	75
	MS	75	75	75	75	75
	FX	75	75	75	75	75

Source: Field Data (2010)

The multiple correlation coefficient (**R**) is 0.211 i.e 21.1% showing that only 21.1% of changes in current accruals can be explained by the macroeconomic environment of the companies. 78.9% of variations in current accrual are explained by other factors surrounding the companies. The effect size represented by R square is 0.045 or 4.5% i.e a small effect size. The table below shows a model summary of the value of R and other statistics.

Table 4.4

Mode l	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.211(a)	.045	-.010	1815126.4 9368	.045	.815	4	70

a) Predictors: (Constant), FX, INF, INT, MS

b) Dependent Variable: CA

Source: Field Data (2010)

4.3.2   Regression Analysis Results

The regression equation generated is tested for applicability as a tool for prediction/forecasting by Analysis of Variance (ANOVA). The overall significance is measured using the p-value. The regression is not significant beyond the 0.01 level: ($p>0.05$).i.e not significant. The table below is a summary of the analysis of variance

Table 4.5

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10743648786719.560	4	2685912196679.891	.815	.520(a)
	Residual	230627893164978.400	70	3294684188071.120		
	Total	241371541951698.000	74			

a) Predictors: (Constant), FX, INF, INT, MS

b) Dependent Variable: CA

Source: Data Field (2010)

The question; do all the independent variables contribute substantially to the predictive power of the regression equation? Is answered by looking at the size of their regression coefficient (**B**) in the table below, because the values of the partial regression coefficients reflect the original units in which the variables were measured. For this reason, although the coefficient for inflation rate is larger than that of foreign exchange rate, it cannot be concluded that inflation rate is the most important predictor. The table below shows the beta coefficient and other related regression statistics

Table4.6

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	U B
1	(Constant)	-2802900.507	5061047.053		-.554	.581	-12896840.574	729
	INF	4129.479	54204.478	.009	.076	.939	-103977.943	112
	INT	-27565.993	355677.495	-.009	-.078	.938	-736942.388	681
	MS	2232.434	1325.070	.211	1.685	.096	-410.334	4
	FX	16982.313	64231.928	.031	.264	.792	-111124.227	145

Dependent Variable: CA

Source: Data Field (2010)

The beta coefficients (in the column headed beta) shows that each independent variable gives the number of standard deviations change on the dependent variable that will be produced by a change of one standard deviation of each. On this count money supply make the greatest contribution, because a change of one standard deviation on that variable produces a change of 0.211 standard deviation on current accrual. Next is foreign exchange rate with 0.31 and inflation rate with 0.09 respectively. The interest rate has no contribution at all. This ordering of the standardized beta coefficients is supported by consideration of the correlations between the dependent variable and each of the three predictors. The predictor with largest beta coefficient also has the largest correlation with the dependent variable.

4.4 Discussion

From the above analysis, a very weak relationship was noted between all the macroeconomic variables and earnings management. Though the Pearson correlation coefficients are positive, they are very small indicating that macroeconomic variables of company quoted at the NSE impact very weakly on earnings management. The correlation coefficient (R) is 0.211 or 21.1% indicating that only 21.1% of variations in earnings management of companies quoted at the NSE can be explained by the macroeconomic environments. 78.9% of the variations on earnings management are accounted for by other factors. As a rule of thumb, R should be above 75% for a significant relationship to be seen.

The overall significance of the regression equation has proved that the equation can not be used for prediction purposes. The F-value of the regression is 0.815 while the p-value (sig) is 0.52, meaning that the regression is not significant at the 5% level. The rule of thumb is that when the p-value (sig) is greater than 0.05, the null hypothesis that managers of quoted

companies at the NSE will not manage earnings when faced with a volatile macroeconomic environment is accepted.

The individual significance of the dependent variables were all not significant at the 5% level. The inflation rate, interest rate, money supply and foreign exchange rate had t-value of 0.76,-0.78, 1.685 and 2.64 respectively. The p-values were 0.939, 0.938, 0.96 and 0.792 respectively. This shows that all of them were not significant at the 5% level.

4.5 Summary

The relationship between macroeconomic variables and earnings management has been investigated using the entire four specific macroeconomic (inflation rate, money supply, foreign exchange rate and interest rate). No variable was dropped since they all shown a positive correlation but very weak for all. Correlation and regression analysis were employed to test the relationship although a descriptive analysis has also been displayed. The regression equation was found not to be significant at the 5% level since the p-value was less than was less than 0.05 i.e very large that the null hypothesis (faced with a volatile macroeconomic environment, managers of companies quoted at the NSE don't manage earnings) is accepted.

CHAPTER FIVE

SUMMARY AND CONCLUSION

5.1   introduction

This chapter consists of four sections; section 5.2 is the summary of key findings, section 5.3 is the conclusion, section 5.4 is about the limitations of the study while section 5.5 are recommendations for further research.

5.2 Summary of Key Findings

This study is an evaluation of the impact of specific macroeconomic factors on earnings management for companies quoted at the NSE over the period 2005 to 2009. Average annual data for this period was used. It has been established that the relationship between macroeconomic variables and earnings management is very weak with the p-value being highly above 0.01 levels at 0.52 and correlation coefficient below 75% at 21.1%. This shows a weak relationship between the two as only 21.1% of variations in earning management can be explained by the macroeconomic environment of companies quoted at the NSE.The implication is that management would not achieve much through earning management in an effort to shield their firms against volatility in macroeconomic environment.

5.3   Conclusion

The object of this study was to investigate the relationship between selected macroeconomic variables and earning management for companies quoted at the NSE. It has been established that;

1. A weak relationship exists between earning management and the specified macroeconomic variables. Only 21.1% of variation in earning management can be explained by the macroeconomic environment of the firm.

2. Other factors other than the macroeconomic environment of companies quoted at the NSE motivates managers to engage in earnings management

3. The management of companies quoted at the NSE would not achieve much through earning management in an effort to shield their firms against volatility in the macroeconomic environment of their companies

5.4 Limitations of the Study

The short period of the research made it difficult to collect large data set that is appropriate for a research of its kind. On the other side ,the research adopted a linear regression analysis in the assumption that a linear relationship exist between macroeconomic variables and earning management while there could be a possibility of a non-linear relationship. Superior statistical models should be used in later studies.

5.5 Recommendations for Further Research

This study contributes to the earnings management literature by identifying a weak relationship between specific macroeconomic variables and earnings management. Other studies investigating earnings management have majored on how to measure earnings management. Dhaliwal et. at (2002) Investigated whether firms use income tax accruals as an

earnings management tool when free pretax earnings fall short of market earning expectations. They found that as the difference between analyst forecasts and pre-managed earnings increases, fourths quarter effective tax rates decrease relative to third quarter effective tax rate. This finding is consistent with earnings management using total income tax expense. Healy (1985) used total accruals to proxy for "discretionary" (i.e., "abnormal") accruals, while Jones (1991) estimates regressions of total accruals on factors reflecting changes in a firm's economic environment to detect earnings management, and uses the residuals to proxy for abnormal accruals.

As the above literature attest to, existing literature have not investigated the relationship between earning management and factors affecting the firms' environment. Although this study fills a gap on this line of research, more insight need to be made on the relationship between earnings managements and other factors in the firms external environment other than macroeconomic variables.

As the correlation coefficient indicates, only 21.1% of variations in earnings management can be explained by macroeconomic variables. More insight needs to be made on the relationship between earnings management other factors in the firms' environment e.g legal, social or political environment. The capacity of managers to incorporate information relating macroeconomic variables is another area for further research.

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APPENDIX 1

COMPANIES LISTED ON THE NSE BY SECTOR.

AGRICULTURE SECTOR

KAKUZI LIMITED

REA VIPINGO PLANTATIONS LTD

SASINI TEA AND COFFEE LIMITED 1

COMMERCIAL AND SERVICES

ACCESSKENYA GROUP

CAR AND GENERAL (KENYA) LIMITED

CMC HOLDINGS LIMITED

KENYA AIRWAYS LIMITED

NATION MEDIA GROUP LIMITED

SCANGROUP LIMITED

STANDARD GROUP LIMITED

TPS (TOURISM PROMOTION SERVICES) EASTERN AFRICA LIMITED (SERENA

HOTELS)

FINANCIALS AND INVESTMENTS

BARCLAYS BANK OF KENYA LIMITED

CFC STANBIC BANK (formerly CFC Bank)

DIAMOND TRUST BANK (KENYA) LIMITED

EQUITY BANK LIMITED

HOUSING FINANCE COMPANY LIMITED

CENTUM INVESTMENT COMPANY (ICDCI) LIMITED

JUBILEE HOLDINGS LIMITED

NATIONAL BANK OF KENYA LIMITED

KENYA COMMERCIAL BANK LIMITED

KENYA REINSURANCE CORPORATION LTD

NIC BANK LIMITED

OLYMPIA CAPITAL HOLDINGS LIMITED

PAN AFRICA INSURANCE COMPANY LIMITED

STANDARD CHARTERED BANK KENYA LIMITED

INDUSTRIAL AND ALLIED SECTOR

ATHI RIVER MINING LIMITED

BAMBURI CEMENT COMPANY LIMITED

BRITISH AMERICAN TOBACCO KENYA LIMITED

CROWN BERGER KENYA LIMITED

EAST AFRICAN CABLES LIMITED

EAST AFRICAN PORTLAND CEMENT COMPANY

EAST AFRICAN BREWERIES LIMITED

EVEREADY EAST AFRICA LIMITED

KENYA OIL COMPANY LIMITED

BOC Kenya Limited

THE KENYA POWER & LIGHTING CO. LTD

KENYA ELECTRICITY GENERATING COMPANY (KENGEN)

TOTAL KENYA LTD

MUMIAS SUGAR COMPANY LTD

SAMEER AFRICA LIMITED

UNGA GROUP LIMITED

THE ALTERNATIVE INVESTMENT MARKET SEGMENT (AIMS)

EAAGADS LIMITED

EXPRESS KENYA LIMITED

KAPCHORUA TEA COMPANY LIMITED

WILLIAMSON TEA KENYA LIMITED

LIMURU TEA COMPANY LIMITED

UNIVERSITY OF NAIROBI
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DATE....08...Oct, 2010..........

TO WHOM IT MAY CONCERN

The bearer of this letter .IRUNGU ANTHONY MUGETHA..........

Registration No: ....D62\Ta702\2009........................

is a Master of Business Administration (MBA) student of the University of Nairobi.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem.   We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate if you assist him/her by allowing him/her to collect data in your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

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DR. W.N. IRAKI
CO-ORDINATOR, MBA PROGRAM

APPENDEX 3

Co	Year	Current Accruals	INF	INT	MS	FX
1	1	313618.0	9.87	6.30	565.49	75.55
2	1	-114516	9.87	6.30	565.49	75.55
3	1	-5149.00	9.87	6.30	565.49	75.55
4	1	82851.00	9.87	6.30	565.49	75.55
5	1	-3342.00	9.87	6.30	565.49	75.55
6	1	-359758	9.87	6.30	565.49	75.55
7	1	39556.00	9.87	6.30	565.49	75.55
8	1	-10264.0	9.87	6.30	565.49	75.55
9	1	2821407	9.87	6.30	565.49	75.55
10	1	3529.00	9.87	6.30	565.49	75.55
11	1	-55589.0	9.87	6.30	565.49	75.55
12	1	-272966	9.87	6.30	565.49	75.55
13	1	-802054	9.87	6.30	565.49	75.55
14	1	741885.0	9.87	6.30	565.49	75.55
15	1	-8234842	9.87	6.30	565.49	75.55
1	2	-168431	6.39	7.90	666.84	72.10
2	2	-155152	6.39	7.90	666.84	72.10
3	2	29582.00	6.39	7.90	666.84	72.10
4	2	50770.00	6.39	7.90	666.84	72.10
5	2	-2875.00	6.39	7.90	666.84	72.10

6	2	-818091	6.39	7.90	666.84	72.10
7	2	-74261.0	6.39	7.90	666.84	72.10
8	2	-165844	6.39	7.90	666.84	72.10
9	2	-3597913	6.39	7.90	666.84	72.10
10	2	280751.0	6.39	7.90	666.84	72.10
11	2	232716.0	6.39	7.90	666.84	72.10
12	2	-356404	6.39	7.90	666.84	72.10
13	2	-1408931	6.39	7.90	666.84	72.10
14	2	1285208	6.39	7.90	666.84	72.10
15	2	651121.0	6.39	7.90	666.84	72.10
1	3	280417.0	4.25	6.30	797.54	67.32
2	3	153903.0	4.25	6.30	797.54	67.32
3	3	155002.0	4.25	6.30	797.54	67.32
4	3	-264921	4.25	6.30	797.54	67.32
5	3	583.00	4.25	6.30	797.54	67.32
6	3	-1318616	4.25	6.30	797.54	67.32
7	3	34933.00	4.25	6.30	797.54	67.32
8	3	-15202.0	4.25	6.30	797.54	67.32
9	3	-538255	4.25	6.30	797.54	67.32
10	3	460455.0	4.25	6.30	797.54	67.32
11	3	-152161	4.25	6.30	797.54	67.32
12	3	154256.0	4.25	6.30	797.54	67.32
13	3	282917.0	4.25	6.30	797.54	67.32

14	3	-4173049	4.25	6.30	797.54	67.32
15	3	4410066	4.25	6.30	797.54	67.32
1	4	372795.0	16.25	7.20	901.06	69.18
2	4	-116780	16.25	7.20	901.06	69.18
3	4	-27492.0	16.25	7.20	901.06	69.18
4	4	37714.00	16.25	7.20	901.06	69.18
5	4	5024.00	16.25	7.20	901.06	69.18
6	4	-1566716	16.25	7.20	901.06	69.18
7	4	65566.00	16.25	7.20	901.06	69.18
8	4	252892.0	16.25	7.20	901.06	69.18
9	4	60228.00	16.25	7.20	901.06	69.18
10	4	-311826	16.25	7.20	901.06	69.18
11	4	1090713	16.25	7.20	901.06	69.18
12	4	-114253	16.25	7.20	901.06	69.18
13	4	-254880	16.25	7.20	901.06	69.18
14	4	3862551	16.25	7.20	901.06	69.18
15	4	426287.0	16.25	7.20	901.06	69.18
1	5	-29884.0	9.24	7.20	1045.66	75.55
2	5	154365.0	9.24	7.20	1045.66	75.55
3	5	-254778	9.24	7.20	1045.66	75.55
4	5	85223.00	9.24	7.20	1045.66	75.55
5	5	-13048.0	9.24	7.20	1045.66	75.55
6	5	-141063	9.24	7.20	1045.66	75.55

7	5	12193.00	9.24	7.20	1045.66	75.55
8	5	77283.00	9.24	7.20	1045.66	75.55
9	5	-716939	9.24	7.20	1045.66	75.55
10	5	789989.0	9.24	7.20	1045.66	75.55
11	5	-56999.0	9.24	7.20	1045.66	75.55
12	5	-126565	9.24	7.20	1045.66	75.55
13	5	-122778	9.24	7.20	1045.66	75.55
14	5	9245182	9.24	7.20	1045.66	75.55
15	5	910236.0	9.24	7.20	1045.66	75.55