ECONOMIC VALUE ADDED (EVA) AND MARKET RETURNS. THE CASE OF COMPANIES QUOTED ON THE NAIROBI STOCK EXCHANGE

BY:

GIKONYO JOHN WAINAINA

D/61/P/7919/2001

A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS (MBA), UNIVERSITY OF NAIROBI.

AUGUST 2008

DECLARATION

This research project is my original and has not been presented for a degree in any other university.

Signed _____ Date _____

JOHN WAINAINA GIKONYO

This research project has been submitted for examination with my approval as university supervisor.

Signed _____ Date _____

HERICK ONDIGO

Lecturer, Department of Finance and Accounting

University of Nairobi

DEDICATION

This paper is dedicated to my wife Nancy and sons Austin and Emmanuel

ACKNOWLEDGEMENT

This study has been made possible by a number of people to whom I'm indebted and would like to acknowledge their contribution.

A lot of thanks go to my supervisor Mr. Herick Ondigo who relinquished without complain many hours of time with me which was rightfully his. His positive criticism, suggestions and prompt comments gave me the impetus to refine and produce this work. Beside, my appreciation goes to the University of Nairobi, faculty of Commerce for admitting me to undertake master Degree in Business Administration.

I also thank my family members and friends for their immense moral and spiritual support in particular my wife Nancy Wachera for her great support and encouragement. Above all, I owe a lot to my workmates (Pinnacle Business School) especially Mr. Otieno, Mr. Njuguna, Mr. Githinji and Irene they deserve special recognition for their valuable support.

Despite all this, I accept full responsibility for any flaws in the writing of this paper. It has been a joy to craft it and I hope it will help advance the field of Finance.

LIST OF TABLES

LIST OF ABBREVIATIONS AND ACCRONYMS

CAPM	-	Capital Asset Pricing Model
CMA	-	Capital Market Authority
CVA	-	Cash Value Added
EPS	-	Earning Per Share
EVA	-	Economic Value Added
EVA®	-	Economic Value Added Recomputed
Kd	-	Cost of Debts
Ke	-	Cost of Equity
MART	-	Market
MVA	-	Market Value Added
NOPAT	-	Net Operating Profit After Tax
NSE	-	Nairobi Stock Exchange
P/E	-	Price Earning Ratio
Rf	-	Risk Free Rate
Rm	-	Return On the Market
ROA	-	Return On Assets
ROE	-	Return On Equity
ROI	-	Return On Investment
RONA	-	Return On Net Assets
SVA	-	Shareholders Value Analysis
UK	-	United Kingdom
USA	-	United States of America
WACC	-	Weighted Average Cost of Capital

DEFINITION OF TERMS

1. **EVA** – Excess of a company is after tax operating profit over the required minimum rate of return investors could get by investing in securities of comparable risk
2. **WACC** – Minimum required rate of return by providers of capital.
3. **Cost of Equity (ke)** – Minimum required rate of return by equity holders
4. **Cost of Debt (kd)** – Minimum required rate of return by providers of debt capital
5. **Beta (β)** – Sensitivity of the return of the asset to the market return.
6. **Correlation Coefficient (r)** – A measure of the degree to which two variables are linearly related it ranges between – 1 and I. A correlation coefficient of I means a perfect linear relationship with positive slope, - 1 means a perfect linear relationship with negative slope and O means there is no relationship between the two variables.
7. **Market return** – This is the return of the market as a whole, called the market portfolio.
8. **Risk Free Rate** – Rate of return which will be required from an investment if it were completely free from risk typically yield on government securities.

ABSTRACT

Economic Value Added (EVA) has been getting plenty of attention in recent years as a new form of performance measurement. The objective of this study was to calculate EVA of the companies listed at the Nairobi stock exchange and empirically determine the relationship between EVA and stock return.

The data for the study was obtained from the annual published reports and accounts of the companies and publications from the Nairobi stock exchange. The data was analysed and presented using a simple regression model.

The results indicated that there is no relationship between EVA and market return and therefore do not fully support the arguments of EVA proponents that it is the best measure of shareholders return. There was however a strong relationship between EVA and capital employed which implies that EVA would give a better estimate of the performance of shareholders fund than market return.

TABLE OF CONTENT

TABLE OF CONTENT

CHAPTER THREE:

CHAPTER FOUR:

CHAPTER FIVE:

CHAPTER ONE

1.0 INTRODUCTION

1.1.1 Background

An accepted financial axiom is that the role of managers is to maximize the wealth of shareholders by the efficient allocation of resources. In order to operationalise this objective, shareholder wealth is traditionally proxies by either standard accounting magnitudes (such as profits, earnings and cash flows from operations) or financial statement ratios (including earnings per share and the returns on assets, investment and equity). This financial statements information is then used by managers shareholders and other interested parties to assess current firm performance and is also used by these same stakeholders to predict future performance. Further, under the semi-strong form of the efficient market hypothesis, the publicly available information contained in these variables is readily interpreted by the market, and thereby incorporated into future stock prices.

Unfortunately, the empirical literature to date suggests that there is no single accounting-based measure upon which one can rely to explain changes in shareholder wealth (Chen and Dodd, 1997; Riahi-Belkaovi, 1993; Rogerson, 1997; Lehn and Makhija, 1997). This is despite the fact that such a measure would prove invaluable to the various parties interested in aspects of firm performance. Lee (1996), argues that the search for a superior measure of firm valuation is a, if not the, key feature of contemporary empirical finance. One professedly recent innovation in the field of internal and external performance measurement is a trade-marked variant of residual income (net operating profits less a charge for the opportunity cost of invested capital) known as economic value-added (EVA).

In recent years, Economic Value Added (EVA) has become increasingly popularized as a tool for financial decision making. Its developer and principal advocate, U.S. based business consultants Stern Stewart (1991) argue that earnings, per share, and earnings growth are misleading measures of corporate performance and that the best practical periodic performance measure is EVA.

Stewart (1991) contends that EVA is the financial performance measure that comes closer than any other to capturing the true economic profit of an enterprise and is the performance measure most directly linked to the creation of shareholder wealth over time. As a means of providing support for these claims, Stern Stewart has commissioned several in-house studies to link changes in EVA with changes in shareholders wealth. For instance, Stewart (1994) provides evidence that: EVA stands well from the crowd as the single best measure of wealth creation on a contemporaneous basis and is almost 50% better than its closest accounting based competitor (including Earning Per Share (EPS), Return on Equity (ROE) and Return on Investment (ROI) in explaining changes in shareholders wealth. Using these findings, stern Stewart has built a significant presence in the highly – competitive value – based performance consulting market with literally hundreds of firms adopting EVA to some degree among them Coca-cola Co., Eli lilly and Co., and the postal service in the U.S (Biddle 1998)

EVA figure have also been heavily promoted in the U.K, Australia, Canada, Brazil, Germany, Mexico, Turkey and France, amongst others (Steward 1999), using to provide published rankings of managerial performance (Ferguson 1997), and several international companies have adopted EVA for performance measurements and/or incentive compensation packages. For example in Australia the ANZ banking Group, Fletcher challenge limited, James Hardie industries, and the Wrightson Group, have implemented EVA financial management systems in recent years (Rennie 1997). Support for EVA has also been forthcoming from other sources. Fortune (1993) has called it 'today's hottest financial idea', 'The real key to creating wealth'. Peter Drucker (1998) suggested that EVA's growing popularity reflects, among other things the demands of the information age for a measure of total factor productivity. Mc Clenahen (1998) observes that traditional corporate performance measures are being relegated to second-class status as measures such as EVA become management's primary tools. There has been the widespread adoption of EVA by security analysts since, instead of using a dividend discount approach, these models measure value from the point of view of the firm's capacity for ongoing wealth creation rather than simply wealth distribution (Herzberg, 1998).

EVA has been adopted by a rapidly growing number of firms including Cocal-Cola and Dupont that have utilized it as an essential measure of corporate performance. These firms among others serve as a role model for others. In the mid – 1990s, EVA become a popular supplement to the

balance sheet. Companies such as Hewlett – Packard Co. began using EVA to show investors just how profitable they really were. Contrada (2005) explains, "Revenue minus costs doesn't tell much about the cost of resources such as equity and debts". EVA says that assets used by a line of business have opportunity costs. Investments in one arena (such as distribution) detract from another (such as manufacturing) that may hold on opportunity for bigger returns.

Proponents of EVA argue that EVA is a superior measure as compared to other performance measure on four counts. It is nearer to the real cash flows of the business entity, it is easy to calculate and understand, it has a higher correlation to the market value of the firm and its application to employee compensation lead to the alignment of managers interest with those of the shareholders, thus minimizing the supposedly dysfunctional behaviour of the management. Close relation to market valuation and convergence of managerial interest with shareholders interest is a vindication of EVA as a superior measure. Bennet Stewart (1990) states that "The theory and evidence all point to the same fundamental conclusion: increasing EVA should be adopted as the paramount objective of any company that professes to be concerned about maximizing its shareholders wealth".

The various performance measures currently in use are based on the returns on investment generated by the business entity. A firm creates value only if it is able to generate return higher than its cost of capital. Cost of capital is the weighted average cost of equity and debts. The performance of a firm gets reflected on its valuation by the capital market. Market valuation reflects investor's perception about the current performance of the firm and also their expectation on its future performance. They build their expectation on the estimated growth of the business in terms of return on capital. This results in an incongruence between current performance and the value of the firm. Even if the current performance is better in relative terms, poor growth prospects adversely affects the value of the firm. Therefore for any measure of performance to be effective, it should be able to not only capture the current performance but also incorporate the direction and magnitude of future growth.

The robustness of a measure is borne out by the degree of correlation the particular measure has with respect to the market valuation. Perfect correlation is impossible because as shown by empirical researchers, fundamentals of a company cannot fully explain its market capitalization.

Other factors such as speculative activities market sentiments and macro-economic factors influence movement in share prices. However the superiority of a performance measure over others lies in providing better information to investors and other stakeholders. Value creation and maximization depends on the alignment of the various conflicting interest of these stakeholders towards a common goal. This means maximization of the firm value without jeopardizing the interest of any of the stakeholder. Any measure of value which is not biased on any stakeholder or particular class of participants can be hailed as the true measure of performance.

1.1.2 Economic Value Added ÷ The Concept.

Despite the relatively recent adoption of EVA as an internal and external financial performance measure, its conceptual underpinnings derive from a well established microeconomic literature regarding the link between firm earnings and wealth creation (Bell, 1998). For much of this history, at least since Alfred Marshall's principles of Economics, the focus of analysis has been on adjustments to accounting earnings to reflect the opportunity cost of capital, primarily because the unadjusted measure can be a misleading indicator of performance in both theory and practice. In his contribution, Marshall (1920) argued that, the gross earnings of management which a man is getting can only be found after making up a careful account of the true profits of his business and deducing interest on his capital. Later the desirability of quantifying 'economic profit' as a measure of wealth creation was operationalised by David Solomon (1965) "as the difference between two quantities, net earnings and the cost of capital". This measure of residual income is then defined in terms of after-tax operating profit less a charge for invested capital which reflects the firm's weighted average cost of capital.

Stern (1991) pioneered the concept of economic value added (EVA) as a measure of business performance. EVA is defined as the excess of a company's after tax operating profit over the required minimum rate of return investors could get by investing in securities of comparable risk. The proponents of EVA are presenting it as the wonder drug of the millennium in overcoming all corporate ills at one stroke and ultimately help in increasing the wealth of the shareholders which is synonymous with the maximization of the firm value. The attractiveness of the EVA lies in its use of residual profit and cost of capital in the determinant of the value of the firm. EVA is the residual income after factoring the cost of capital into operating profit after tax.

EVA is net operating profit minus an appropriate charge for the opportunity cost of all capital invested in an enterprise. As such, EVA is an estimate of true economic profits, or the amount by which earnings exceed or fall short of the required minimum rate of return that shareholders and lenders could get by investing in other securities of comparable risk (Stewart 2005). EVA was developed by Stern Stewart at the beginning of the 1980s that harks back the old idea of economic profit (or residue income). This concept states that profit only exists after a business has earnings that are greater than the opportunity cost of capital.

Economic value added is the financial performance measure that comes closer than any other to capturing the true economic profit of an enterprise. EVA is also the performance measure most directly linked to the creation of shareholder wealth over time. Put most simply, EVA is net operating profit minus an appropriate charge for the opportunity cost of all capital invested in an enterprise. It is the net operating profit minus an appropriate changes for the opportunity cost of all capital invested in an enterprise. This can be expressed by the following formula

EVA = NOPAT – Capital Charge

Where: NOPAT = Net operating profits after tax

Capital Charge = Capital x Cost of capital.

1.2 Statement of the Problem

Companies at the Nairobi Stock Exchange use profits as their measure of performance (Nairobi stock exchange year book2001) by which they are judged by investors and stakeholders alike. For years, investors and corporate managers have been seeking a timely and reliable measurement of shareholder's wealth. With such a measure, investors could spot over or underpriced stocks, lenders could gauge the security of their loans and managers could monitor the profitability of their factories, divisions and firms.

Generally there are mixed results supporting the usefulness of EVA . Some studies have been used to suggest that EVA is generally superior to earnings and other accounting based performance measure in explaining stock return. Bao and Bao (1998) investigated the usefulness of EVA and abnormal economic earnings of 166 US firms and the results indicated that EVA is a

significant explanatory factor in market returns, and its explanatory power is higher than that of earnings. However, there is also evidence to suggest that EVA is not a superior measure of firm performance. Biddle, Bowen and Wallace (1997)questioned whether EVA is more highly associated with stock returns and firm values than earnings. The result of their study of 773 large US firms indicated that earnings is more highly associated with market returns than EVA. Several international companies have adopted EVA for performance measure and / or incentive compensation packages. There has been no study in Kenya as far as the researcher is aware conducted to determine the relationship between stock returns and EVA. This study seek to answer the question as to whether EVA is a close proxy of the actual return on security.

1.3 Objectives of the Study

- To calculate EVA of companies listed at the Nairobi Stock Exchange.
- To determine the relationship between stock return and EVA.

1.4 Importance of the Study

- **Management** – The study will be available to company managers and this will enable them to focus on value drivers and in particular shareholders value. The information can also be used in performance appraisal and development of compensation schemes.

- **Investors** – Investors and firms at the Nairobi Stock Exchange and elsewhere will improve their knowledge on the understanding of the importance of EVA in analyzing company performance. This will assist them to make a decision as to where to invest in, remain in or disinvest from.

- **Capital Market Analysts**. The study will assist the analyst in understanding the relationship between EVA and the market price of shares.

- **Researchers and Academicians**. By providing more insight into the use of EVA as a measure of company performance as the environment is very dynamic; the practitioners of management need to update themselves and the industry on the best practices in the industry.

1.5 Justification of the Study

Since the 1980's especially in the United States, companies have been run under tight market discipline and have openly recognized the need for management to create shareholders wealth. The EVA financial management system was developed to help companies achieve this goal, by adopting an organizational structure that aligns decision making authority, performance measurement and incentive compensation.

In US, several academic papers have been published on this matter, showing the better performance of companies that have adopted the EVA system against the benchmark performance, usually the S & P 500, a group of peer companies in the same industry or an industry-specific index. In one of these studies, Professor Kleinman from Oakland University shows that the stock performance of Stern Stewart's EVA companies is 9% per year better, on average, than their industry peers. Wallace (1997) attests the superior operating performance of companies that have an EVA measure system linked with their incentive compensation schemes.

The concept of EVA is not applied in the Nairobi stock exchange(NSE) stock valuation. There has been no other empirical study in Kenya known to the researcher on EVA as a measure of market value. This is despite several international companies adopting EVA for performance measure or incentive compensation packages. There is therefore, need to examine the relationship if any, of EVA and firm value in the Kenyan context.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Introduction

The goal of most companies is to create wealth for their shareholders. Corporate managers now face a period where a new economic framework that better reflects value and profitability must be implemented in their companies. Accounting systems, which has been used up until today are insufficient and will not stand the challenge from the increasingly efficient capital market and owners. The increased efficiency at the capital markets requires that capital allocation within companies become more efficient and it is therefore not possible for companies to, in the future, allocate capital as efficient as they do today. A new economic framework, a value based management framework that better reflects opportunities and pitfalls, is therefore necessary.

Economic Value Added (EVA) is a major framework within Value Based Management. Other framework, include Cash Value Added (CVA), Cash Flow Return on investment and Shareholders Value Analysis (SVA). A company can chose one of these four for their company's economic framework of the future. The choice will have a substantial effect on management resources, strategy choices, and on how investors, analysts, media etc view the company.

2.2 Overview of the Economic Value Added

The developer and principal advocate of EVA Stewart (1991) contends that EVA, "is the financial performance measure that comes closer than any other to capturing the true economic profit of an enterprise and is a performance measure most directly linked to the creation of shareholder's wealth over time". In response to these claims , an emerging literature has addressed the empirical issue as to whether EVA is more highly associated with stock returns and firm values than other accounting –based figures. Stern (1995) made numerous claims for EVA. For companies that aim to increase their competitiveness by decentralizing, EVA is likely to be the most sensible basis for evaluating and rewarding the periodical performance of empowering line people, especially those entrusted with major capital spending decisions".(stern, steward and chew,1995).They even claim that EVA compensation is

effectively self-financing" due to the strength of the correlation between changes in EVA and in shareholders value. According to Porter (2001), Economic Value is nothing more than the gap between price and cost. For him it is reliably measured by sustained profitability. A company's current stock price is not necessarily an indicator of economic values; long term profitability and shareholders value are the ultimate measures of economic value.

EVA has managed to attract a significant following. Stern, Stewart and co. are cited in Meyers (1996) claiming that EVA is currently being utilized by some 250 corporate clients. Rice (1996) argues that EVA has became more than a yardstick. He believes that over time, there is a direct relationship between EVA improvement and a higher share price. Walbert (1994) also argues that the correlation between market returns and EVA is very high. So when you drive your business units towards EVA, you are really driving the correlation with market value.

Vyemura, Kartor and Petit (1996) demonstrated that EVA has a high correlation with market value added (the difference between the firm's value and cumulative investor capital) and thereby stock price. O'byrne (1996) estimated that changes in EVA explain more variation in long term stock returns than changes in earnings. Herzberg (1998) concluded that the residual income valuation model (including EVA) appears to have been very effective in uncovering firms whose stock is underpriced when considered in conjunction with expectations for strong earnings and growth. Nevertheless, the bulk of empirical evidence indicates that the superiority of EVA over earnings has not been established and hence the purpose of this study.

The empirical evidence regarding the strength of EVA as a measure of performance is limited. The developers of EVA, Stewart (1995) find an R^2 value of 60% between EVA and MVA, but this relationship is calculated for the average levels of these variables among 20 groupings of firms. He also reports that changes in EVA over a five – year period explains 50% of the changes in MVA over the same period. Thomas (1993) calculated an R2 between MVA and EVA of just 4% for the 1000 firms in the Stern Stewart 1,000 database in 1988. After removing 31 "extreme" outliers, finds the R^2 increases to 27%. Lehn and Makhija (1996) examined the correlations for 241 firms, over four years, using data on market returns, EVA and MVA (expressed as return on equity), and traditional, Return on Assets (ROA) and Return on Equity (ROE) measures. They report that EVA has a slight edge as a performance measure. Dodd and Chen (1996) report that

EVA account for only 20.2% of the variation in stock returns for a sample of 566 companies, while the return on assets explains 24.5% of market returns. Certainly the existing evidence does not consistently support the many claims made for EVA. Bao and Bao (1998) in an analysis of price levels and firm valuations concluded that the results of the analysis are not consistent for earnings and abnormal economic earnings, but are consistent for value added, that is value-added is significant in both levels and changes deflated by price analysis.

According to the Nairobi Stock Exchange (NSE) year book 2001, the Kenyan capital market is very fragile and in many cases investors have suffered heavy losses in their investments due to decreased earnings. According to Hasperlagh, et. al, (2001), there is a huge global pressure on companies to deliver constantly superior value to their shareholders regardless of their corporate or cultural heritage The study of EVA as a measure of shareholders value may be an improvement to reduce these pressure.

By definition, a sustained increase in EVA will bring an increase in the market value of a company. This is because the level of EVA isn't what really matters but the continuous improvement in EVA that brings continuous increases in shareholders wealth. Under conventional accounting most companies appear profitable but many in fact are not. According to Peter Drucker (2005), "***until a business returns a profit that is greater than its cost of capital, it operates at a loss. Never mind that it pays taxes as if it had a genuine profit. The enterprise still returns less to the economy than it devours in resources…until then, it does not create wealth; it destroys it***." EVA corrects this error by explicitly recognizing that when managers employ capital they must pay for it, just as if it were a wage.

By taking all capital costs into accounts, including the cost of equity, EVA shows the dollar amount of wealth a business has created or lost in each reporting period. In other words, EVA is profit or loss the way shareholders define it. If the shareholders expect, say a 10% return on their investment, they "make money" only to the extent that their share of after-tax operating profits exceeds 10% of equity capital. Everything before that is just building up to the minimum acceptable compensation in a risky enterprise. (Stewart, 2005).

2.2.1 Benefits of EVA

According to Stewart 2005 one of the main advantages of EVA is that it compares in a simple and objective fashion the resources that need to be employed to generate a given operating profit, thus holding management responsible for these resources. As such, it measures how much was generated in excess of the minimum return required by the suppliers of the capital to the company (Lenders and shareholders). It is therefore conceptually simple and easy to explain to non-financial managers, since it starts with familiar operating profits and simply deducts a charge for the capital invested in the company as a whole, in a business unit, or even in a single plant, office or assembly line by assessing a charge for using capital, EVA makes managers care about managing assets as well as income, and helps them properly assess the trade offs between the two. This broader, more complete view of the economics of a business can make dramatic differences.

Through EVA analysis we can gain a number of insights that would be much more difficult to observe using traditional analysis. EVA is a superior measure of performance and a better analytical tool. In other words, it is the financial measure that most closely demonstrates creation of wealth to shareholders. According to Stewart (2005) the main characteristics that make it better than traditional measurements are;

- **It is a Complete Measure**. It takes into accounts all costs, including the cost of shareholder's capital. Thus, EVA is superior to traditional measurements of profit since it correctly incorporates the capital invested to generate this profit.

- **It is an Absolute Value**, and not a ratio. Investors are interested in absolute gains and not ratios. "***I have a simple rule when it comes to performance measurement … if it is a ratio and by the way, interest rates are ratios – it is wrong.***" Michael Jensen, (1993) Professor Emeritus, Harvard Business School.

- **EVA can be followed Period by Period over the long-term**, as opposed to what occurs with discounted cashflow – the fact that EVA "matches" investments with the benefits they generate makes it comparable across periods. For example, the generation of cashflow by the company in a given year does not supply us with much information about its performance

during that period, since this measurement can be influenced by periods of major investments etc.

- **EVA Minimizes Accounting Distortions.** Adjustments made in the calculation of EVA correct several distortions that exist in traditional accounting. Non-operating results, goodwill amortization etc.

EVA facilitates communication and cooperation among divisions and departments, it links strategic planning with the operating divisions and it eliminates much of the mistrust that typically exists between operations and finance. When implemented in its totality, the EVA financial management and incentive compensation system transforms a corporate culture. By putting all financial and operating function on the same basis, the EVA system effectively provides a common language for employees across all corporate functions (Stewart, 2005).

The EVA framework is, in effect a system of internal corporate governance that automatically guides all managers and employees and propels them to work for the best interest of the owners. The EVA system also facilitates decentralized decision making because it holds managers responsible for and rewards them for delivering value. While simply measuring EVA can give companies a better focus on how they are performing, its true value comes in using it as the foundation for a comprehensive financial management system that encompasses all the policies, procedures, methods and measures that guide operations and strategy (Stewart, 2005).

EVA assists in translating accounting profits into economic reality. In calculating EVA, first make a number of adjustments to conventional earnings in order to eliminate accounting anomalies and bring them closer to true economic results. In customizing EVA to a specific situation, you can identify those adjustments that can meaningfully improve accuracy and, in turn, performance. The basic tests are that the change is material, that the data are readily available, that the change is simple to communicate to non-financial managers, and, most important, that making the change can affect decisions in a positive, cost-effective way (Stewart 2005). At best EVA helps with creating a mind-set throughout organization that encourages manages and employees to think and behave like owners.

John Shiely (1999), believes that EVA is "***a measuring stick, an unbiased measure of performance …. EVA instills capital discipline***." Victor Rice (1996) writes, "***At Varity, EVA has become more than just a yardstick. We fundamentally believe that overtime, there is a direct relationship between EVA improvement and a higher share price***". Jim Meenan (1997) argues that, "***The correlation between MVA and EVA is very high. So when you drive your business units towards EVA you're really driving the correlation with market value."***

2.2.2 Shortcomings of EVA

Despite EVA's advantages over the other metrics this measure has limitations that include the following:-

Size Differences: EVA does not control for size differences across plants or divisions (Hansen & Mowen, 1997; Horngren, et al., 1997) A large plant or division will tend to have a high EVA relative to its small counterparts.

Financial Orientation. EVA is a computed number that relies on financial accounting methods of revenue realization and expenses recognition. If motivated to do so, managers can manipulate these numbers by altering their decision making processes (Horngren, et al, 1997) for example, managers can manipulate the revenue recognized during an accounting period by choosing which customer orders to fill and which to delay. Highly profitable orders may be expedited at the end of the accounting period and shipped to the customers a few weeks before the agreed-upon delivery date, while less profitable orders may be delayed and shipped after the end of the accounting period and after the agreed-upon delivery date. The end result of the scenario is a boast to current period EVA and an adverse blow to customer satisfaction and retention. Also managers may decide not to replace completely depreciated assets. Keeping the outdated equipment on the accountants books lowers the asset base and ensures that no depreciation expense charges are recognized, thereby increasing EVA; however, product equality and customer satisfaction may suffer if outdated manufacturing equipment continues to be used. From the standpoint of the company, these choices are viewed as dysfunctional and perhaps even unethical. From the standpoint of managers, the over-reliance on EVA to evaluate their performance is viewed as dysfunctional.

Short-term Orientation. The intent of a performance measurement system should be to match employees' effort, ingenuity, and accomplishments with their compensation. If a manager conceives of an innovative idea, researches it, organizes it, presents it to superiors, and begins implementing it in the current accounting period, some measure of compensation should be afforded to the manager in the current period for the effort and ingenuity expended. However, that is not how financial measures, such as EVA, work when they are used to evaluate employee performance.

EVA overemphasizes the need to generate immediate results; therefore, it creates a disincentive for managers to invest in innovative product or process technologies. After all, every investments in innovation has the same ***economic*** profile. The costs or expenses associated with the project are recognized, at least in part, by the accountants immediately. The benefits or revenues associated with the initiatives are not recognized by the accountants until a few years down the road. The net effect for managers investing in innovation is a lower EVA in the current period accompanied by an unsatisfactory pay raise or perhaps even a bypassed promotion, demotion, or layoff. Granted, the possibility exists that innovative ideas may lead to greater pay raises in the future; however, all managers understand "time value of money" concepts and the notion of risk. Money in the pocket today is a certainty and is worth more than the prospect of money earned in the future, which is worthless and is more uncertain.

In an influential Harvard Business Review article, "***Managing Out Way to Economic Decline,"*** the authors state: "***Although innovation, the lifeblood of any vital enterprise, is best encouraged by an environment that does not unduly penalize failure, the predictable result of relying too heavily on short-term financial measures … a sort of managerial remote control… is an environment in which no one feels he or she can afford a failure or even a monetary dip in the bottom line"*** (Hayes & Abemathy, 1980). In an environment of financial control, the risks of innovation exceed the potential rewards. EVA is another form of managerial remote control that forces managers to put undue emphasis on the short-term bottom line.

Result Orientation: Over the years, accountants have earned a reputation as the co-workers who arrive on the scene after a period of disappointing performance to "bayonet the wounded" with the historical financial reports. The accountants' reports state the obvious … that performance

was less than expected… but they do not help offer solutions to the non-accounting business managers who are responsible for continuously improving the value delivered to customers. Like its predecessors financial metrics, EVA is guilty of this charge.

Engineers and operation managers are most interested in taking non financial measures such as yield and throughput and focusing on the root cause drivers of these measures (McKinnon & Bruns, 1993; Johnson & Kaplan, 1987). Statistical process controls may be put in place to help ensure that machine calibrations stay "in control", thereby enhancing yields. Or, activity analyses may be performed in bottleneck operations to identify non-value activities that can be eliminated, thereby increasing throughput (Campbell, 1995). The focus is more on process-oriented (non-financial) measures than on financial measures. The only financial information potentially useful to engineers and operations managers is disaggregated activity-based cost information that may help in the following ways:

a) create an awareness of the cost associated with performing non-value added activities,
b) prioritize continuous improvement initiatives by quantifying the potential savings of competing alternatives, and
c) Provide justification for cash outlays by quantifying the savings that may be realized from capital investments (Brinker, 1995).

Aggregated, results-oriented financial numbers, such as EVA, that are accumulated at the end of an accounting period do not help point towards the root causes of operational inefficiencies; therefore, these measures offer limited useful information to people charged with the responsibility of managing business processes. Inspite of the above limitations, EVA is a popular measure of performance due to a number of benefits cited earlier. The validity of a measure is not assessed by its limitations, rather a measure validity depends on how accurate its prediction relate to the actual observations.

2.2.3 Uses of EVA

EVA can be used as a corporate philosophy. EVA can be very useful in improving productivity of a firm, if adopted as a corporate philosophy. Productivity should be measured in terms of creation of wealth for shareholders. An appropriate corporate philosophy should result in goal congruence and should channel all efforts of the management and employees towards a pre-

determined goal and strategies of the firm. A firm can enhance its value only if it is able to achieve optimal productivity, in terms of value over a long period of time.

Almost all the tools and techniques are used to reorient the employees' perception of managing 'value drivers' and that culminates into empowerment of employees cutting across the hierarchical levels. All these tools aim at improving productivity by reducing redundancies in the 'value chain'.

There are more than 300 corporates, world wide that have adapted EVA as a corporate philosophy. Many of these organizations are successful multinationals like Coca-Cola, Bausch & Lomb, Briggs & Stratton and Herman Miller (2001). Some of the state owned enterprises in U.S.A. including the U.S. Postal service that has the largest civilian labour force in the world, have adapted EVA culture to improve efficiency in services and to motivate the employees.

EVA can be used as an incentive compensation measure. Compensation methods based on EVA work better in achieving the objective of goal congruence and minimize the agency cost. Use of EVA improves 'internal corporate governance' in the sense that it motivates manager to get rid of value destructive activities and to invest only in those projects that are expected to enhance shareholder value.

Ideally a management control system should motivate managers for 'self-control' rather than managers being controlled because human beings have general resistance to controls. Linking compensation with EVA helps employees in conducting a self-examination of every action taken by them to ensure that it enhances EVA of the firm. Care should be taken to tie compensation to the enhancement of long term EVA rather than short term EVA. As discussed earlier, managers do have scope to enhance the short term EVA at the cost of long term value creation by rejecting good investment opportunities that have long gestation period or, avoiding discretionary costs or by targeting a capital structure that might reduce the WACC in the short run while enhancing the financial risk in the long run. One way to counter this limitation is to defer payment of a part of incentives.

Empirical evidence supports the above observations. Empirical studies by Biddle, Bowen and Wallace (1999), concluded that EVA, when used as an incentive compensation measure, tends to improve the value of the firm by inducing managers towards value creating activities. According to their study using EVA or Residual Income measures for incentive compensation leads to:

- The improvement in operating efficiency by increasing asset turnover.
- Disposal of selected assets and reduce new investments (the assumption is that these assets have failed in earning adequate returns when compared to the overall cost of capital) and
- More share repurchases (consistent with distributing under performing capital to shareholders).

It may be concluded that EVA can be used to improve the internal governance of a firm and therefore the importance of this study.

2.2.4 Creation of Value

According to Wahba (2002), a company creates value when the obtained returns are higher than the cost of capital used to produce these returns. It is important for the success of the Value Based Management, to evaluate and remunerate employees with base in the value created for shareholders (Alcantara 1997). According to Peterson & Peterson (1996), a company should consider the following factors when choosing a performance measures:-

- The chosen measure should not be influenced by accounting methods.
- The measures should take into consideration results expected in the future.
- The measures should take into consideration the risks.
- The measures should contemplate factors that are not under the control of employees.

2.3.1 Traditional Performance Measures –vs- EVA

Traditional performance measures are based on accounting data. Their advantages include the fact that information is available in financial reports and they can be easily calculated and construed (Peterson & Peterson, 1996). The main traditional performance measures are (Friedlob et al., 1996; Kassal et al., 2000): ROI (Return an investment), ROA (Return on assets), ROE

(Return on Equity), RONA (Return on net assets), EPS (earnings per share) and P/E (Price/earning ratio).

Martin & Petty (2000) point the following problems with these metrics:-

- The accounting profits and the cashflow are not equal and it is the cashflow that is important for the creation of value for shareholders.
- Accounting figures do not reflect the risk of operations, neither do they consider the cost of opportunity of equity and the value of money over time.
- Accounting practices vary from one company to the next.

The companies are discovering that the traditional measures are not aligned with the cultures and their strategies. The search for better methods of evaluation is conducting companies to the adoption of measures of added value, that besides supplying a more consistent evaluation, align the objectives of the shareholders and of the executives (Flannery et al., 1997). Conceptually, EVA is superior to accounting profits as a measure of value creation because it recognizes the cost of capital and hence, the riskness of a firm's operations (Lehn & Makhija, 1996).

2.4 Empirical Literature

The developer and principal advocate of EVA Stewart (1991) contends that EVA, '… is the financial performance measure that comes closer than any other to capturing the true economic profit of an enterprise and is a performance measure most directly linked to the creation of shareholder's wealth over time.' In response to these claims, an emerging literature has addressed the empirical issue as to whether EVA is more highly associated with stock returns and firm values than other accounting-based figures.

Worthington and West (2004) conducted a study in Australia on the content of EVA. The researchers used pooled time series, cross-sectional data of 110 listed Australian companies to evaluate the usefulness of EVA and other accounting – based performance measures. The measures of relative and incremental information content indicate that over the period 1993 to 1998 some 27% of the variation in the level of stock returns could be explained by these measures and 44% of the variation in returns defined as year to year changes. The results indicated that EVA is significant at the margin in explaining variation in stock returns. When

examining the components of EVA, the capital charge and after-tax interest payment were found to be the most significant components explaining EVA differences and accordingly the level of stock returns.

Kramer and Pushner (1997) performed a study in United States on "An Empirical Analysis of EVA as a proxy for market value added". The study population was 1,000 largest non-financial firms in the United States for the period 1982 – 1992. The objective was to test the hypothesis that EVA is highly correlated with MVA. The model of the study was unvariate regressions to compare EVA with other measures in explaining MVA. The researcher found out that there was no clear evidence to support the contention that EVA is the best internal measure of corporate success in adding value to shareholder investments. The market was seen to be more focused on profit than EVA.

Souza and Jancso performed a study in Brazil (2002) entitled 'Does it pay to implement a full scale EVA management system.' The goal of this study was to compare and contrast the market performance of Brazilian companies that have implemented a full scale EVA financial management system under Stern Stewart & Co. guidance with that of the broad national stock market index, the ibovespa index and also a comparison against a portfolio of comparable companies. They started the sample with 11 companies that had implemented the EVA financial management system and had shares traded at the Sao Paulo Stock Exchange from 1995 to 2002. Their major findings showed the better performance of the portfolio containing EVA companies, (EVA index) against the market index and against the comparables portfolio both on a total Return-only basis and on a Risk-Adjusted Performance basis. The study may be criticized as to whether there was some sort of sample selection bias in the companies chosen.

Hall (2004) from South Africa performed a study on "dissecting EVA" the value drivers determining the shareholder value of industrial companies for a period of 10 years to 2000. He used a population of 289 industrial companies listed in securities exchange out of which he selected a sample of 147 companies. He performed regression procedures on companies with positive EVA, with and without inflation adjustments. The researcher concluded that initially profitability (income statement) ratios are the key value drivers in determining shareholders value creation. Hall noted that, as companies become established wealth creators and improve on

their performance, profitability ratio becomes less important. Efficient financing of the balance sheet, efficient fixed asset and working capital management become top priorities in driving shareholder value. The researcher found out that key value drivers are not static. They must be reviewed periodically and can also not be considered in isolation. He concluded that it is to the advantage of shareholders that management has an incentive scheme to induce them to adopt value-based management and actively manage those variables that determine shareholder value. Such an incentive scheme can be based on value created as measured by the EVA of a company over a period of time. Hall concluded that, management can be remunerated (or penalized) on the basis of value created (or destroyed). The analysis was limited by the fact that it only employed variables or ratios that could be obtained from a company's published financial statements.

A sample of 566 U.S. firms taken from Stern Stewart's database was the basis for a study as reported in summary form by Dodd and Chen (1996) and in detail by Chen and Dodd (1997). Ten-year average measures of EVA® metrics as calculated by Stern and Stewart in its database and traditional accounting measures were examined. Their study concludes that although improving EVA® performance is associated with a higher stock return, the strength of association is far from what has been claimed by EVA® proponents. They show that accounting earnings are still of significant incremental information value in addition to EVA® measures and that EVA® is empirically comparable to residual income, a concept known in managerial accounting for decades. Using different-testing procedures a pooled cross-sectional sample of 6.513 firm-years, Biddle et. al.(1996) provided evidence to refute the assertion that EVA® is more highly associated with stock returns than accounting earnings and operating cash flows. In contrast, their results show that earnings is more highly associated with stock returns than residual income of EVA®. While successful EVA® stories are quite encouraging, the evidence supporting the rhetoric has been primarily anecdotal. There has not been sufficient empirical research to substantiate the claim that EVA® is the best performance measure in terms of value-relevance. This study provides additional evidence in regard to the relationship of Economic Value Added and market returns.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

This was an empirical study intended to establish the relationship, if any between EVA and stock market returns. The population of interest consisted of all the companies quoted in the exchange of the Nairobi stock exchange (NSE). These companies are closely monitored by Investors and their measures of performance are likely to be related to those considered in firm valuation.

3.1 Population of the Study and Sample

3.1.1 Population

The population was drawn from all the companies quoted at the Nairobi Stock Exchange from 2002 to 2006. Data for quoted companies was easily available and their performance were closely followed by the members of public and the CMA requires these companies to publish information about their performance. The period of five years was considered a long duration in study of this nature and a number of studies have used this duration e.g Warthington and West 2004 in his study in Australia on the content of EVA used 1994-1998 also Patrick Muturi 2005 in his study on the extent of compliance with Capital Markets Authority Corporate Governance Guidelines used 2000-2004.

3.1.2 Sample

The sample consisted of forty two companies which were derived from the main investment market segment categorized as: Agricultural, Commercial & Allied, Finance and Investment, Industrial and Allied and other alternative investment market segment.

3.2.0 Data Collection

Secondary data was used in the study. Annual published reports and accounts of quoted companies and information from the Nairobi Stock Exchange were analysed. This consisted of financial statements of the companies in the sample and data on the movement in stock returns of the companies from the year 2002 to 2006. The financial statements were obtained from the NSE handbooks 2002 – 2007, also companies websites and secretariat.

3.3.0 Data Analysis

3.3.1 Calculation of EVA of Sample Companies

EVA seeks to determine a company's true economic profit. The calculation of EVA consisted of the following:- The primary adjustment where capital charge was subtracted from net operating profit after tax. The capital charge was derived from multiplying the firm's overall financing cost, as reflected in the weighted average cost of capital by the amount of capital employed. This model was developed by Stern Stewart(1991) and was used by various researchers including Kramer and Pushner in their study, empirical analysis of economic value added as a proxy for market return. The model is also available in 'Corporate finance theory and practice', text book by Aswath Damodaran, second edition.

EVA was calculated by use of the following formula:

EVA = NOPAT – Weighted Average cost of Capital (WACC) x Capital employed.

NOPAT = Operating Income + Interest – Taxes.

Weighted Average Cost of Capital (WACC) was estimated as follows:-

WACC = [(Cost of Equity x weight of Equity in the capital structure) + (Cost of Debt x weight of debt in the capital structure) (1 – tax rate)

Cost of equity was estimated using capital asset pricing model (CAPM)

$Ke=Rf+\beta(Rm-Rf)$

Where:

Kf-Risk free rate of return.

B- Beta-sensitivity of the return of the asset to the market return.

Rm- Return on the market portfolio/NSE index

Betas for equity shares of the companies are to be computed from a regression of the monthly returns of the stocks with the market return using the following normal equations

$\sum y = na + b\sum x$

$\sum xy = a\sum x + b\sum x^2$

Where:

y is the monthly market returns for the companies represented in the NSE 20 share index.

x is the monthly stock returns for the companies in the sample.

b is the resulting firm's beta from the regression (β)

a is the firm's unsystematic risk (alpha)

Cost of debt was estimated using the formula interest / market value of debt x after tax interest factor.

$Kd = \frac{I}{Po}(I - T)$ -For perpetual debts or

$Kd \sim \frac{I + (M - Po)/N}{(M + Po)/2}$ - for debentures with a fixed redemption period.

Where:

I – Interest per annum / amount on a unit debt

T – Marginal corporate tax rate

Po – Current market price on a unit of debt

M – Maturity value

N – Period to maturity

To determine the relationship between EVA and market returns a simple regression model of the form Y=a + bx was be used in this study

Where

Y is the market return (dependent variable)

a is the constant (value of the market return when EVA is zero)

b coefficient of variation between EVA and market returns.

x EVA (independent variable)

CHAPTER FOUR

4.0 DATA ANALYSIS AND FINDINGS

This chapter presents analysis of the empirical results of the study.

Forty one companies out of a total of fifty four companies quoted in the Nairobi stock exchange were analysed representing 76% of the population.

The chapter commences with a regression analysis to test the relationship between EVA and market return. In the model market return represent the independent variable while economic value added represent the dependent variable. Further a regression analysis was also fitted to test the relationship between EVA and capital employed. SPSS program was used to analyse the data.

4.1 Regression Output

A linear regression of the form

Y=a+bx

Where ; y=market return

X=EVA

a and b are constants, was fitted to the data and the results obtained are as shown below.

Table 1

A. Descriptive Statistics

	Mean	Std. Deviation	N
Average MART return	.6471	.36432	41
Average EVA per share	-.0088	.01902	41

B. Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.125(a)	.016	-.010	.36606

a Predictors: (Constant), Average EVA per share
b Dependent Variable: Average MART return

C. ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.083	1	.083	.622	.435(a)
	Residual	5.226	39	.134		
	Total	5.309	40			

a Predictors: (Constant), Average EVA per share
b Dependent Variable: Average MART return

D. Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	.626	.063		9.918	.000			
	Average EVA per share	-2.401	3.043	-.125	-.789	.435	-.125	-.125	-.125

a Dependent Variable: Average MART return

1. **Correlation Coefficient(R) = -0.125** (NB: Values of this correlation coefficient range from -1 to 1. The sign of the coefficient indicates the direction of the relationship, and its absolute value indicates the strength, with larger absolute values indicating stronger relationships).
2. The regression equation is: **Average MART Return = (-2.401)(Average EVA per share) + 0.626**

   Y= 0.626 – 2.401X

The research estimated the economic value added (EVA) and market return (MR). To standardize the computations, the per share basis for both variables. The results show that there is a weak negative correlation between EVA and MR. The coefficient of -.125 shows that the regression model does not sufficiently estimate the expected market return for any given security . R=0.016 implies that only 1.6% of the changes in the market return can be attributed to changes in economic value added. Thus one cannot accurately predict market return by applying the model based on the economic value added. In conclusion , it can be summarized that there is no significant relationship between market return and economic value added

4.2 To Test the Relationship between Capital Employed and EVA

A linear regression was fitted to the data and the results are as displayed below:

Table 2
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.570236
R Square	0.325169
Adjusted R Square	0.320898
Standard Error	4069617
Observations	160

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.26E+15	1.26E+15	76.1326	3.52E-15
Residual	158	2.62E+15	1.66E+13		
Total	159	3.88E+15			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	2336182	372776.5	6.266977	3.4E-09
X Variable 1	1.940617	0.22241	8.725398	3.5E-15

Coefficient of correlation

	Column 1	*Column 2*
Column 1	1	
Column 2	0.570236	1

The value of Adjusted R Square is relatively high at 0.3 indicating a slightly better fit. The correlation coefficient is 0.57 suggesting a stronger positive relationship between EVA and Capital employed.

Hence EVA would give a better estimate of the performance of shareholders funds than market return.

CHAPTER FIVE

5.0 SUMMARY AND CONCLUSION

5.1 Conclusion

The study found no evidence to support the contention that EVA is the best measure of market return. On the contrary the market seems more focused on profit than EVA. EVA on average was negative which demonstrate the significance of cost of capital and implies significance growth expectation for future EVA. With the market being fed almost constant news on earnings, it is not surprising that it is not as responsive to EVA. It appears from the results of this study that shareholders will continue to align wealth creation to profit rather than EVA. This is consistent with the findings of Kramer and Pushner (1997) in United States of America where they concluded that there was no relationship between EVA and market return and that the market was seen to be more focused on profit than EVA.

5.2 Limitation of the Study

The study was beset with a number of shortcomings. The major shortcoming was that the period of study coincided with the time when there was political transition in the country. This contributed to high uncertainty prior to the elections and subsequent euphoria confidence in the economic stability after the election. Thus the market returns were tainted with artificial rise and fall which did not proportionately affect EVA. It was not possible to study all the companies quoted in the Nairobi stock exchange since some companies were either listed during the period of the study or applied inconsistent policies e.g dividend policy.

Further some of those companies selected underwent capital reconstruction which affected the market return and hence to a great extent the analysis of this study.

An analysis of the sample companies on debts indicated that most of their debts consisted of deferred tax which has no cost implication. In addition most of the companies had no long term debts and those with were inconsistent across the period of the study and also insignificance. Debts were therefore ignored for the purpose of this study which may have not affected the result of this study.

5.3 Recommendations

The concept of EVA is based on the sound economic principle that firm value increases only if it is able to generate surplus over its cost of capital and therefore is based on strong theoretical foundation. However, its calculation involves significant subjectivity and this reduces its informative value. Moreover it fails to provide better signals to the capital market as compared to conventional accounting measure. Further, there is no clear advantage of shareholders in looking at EVA as the accounting return on their investment is NOPAT. While investors certainly need to be aware of capital structure they should already be familiar with the opportunity cost of their investments and may not need to incorporate this in the measure of performance. The study being empirical in nature had a broad coverage but shallow depth. An in-depth study would be required.

However, market ignorance of EVA is not a problem. EVA is a single period measure and negative values may represent wise investment for the future, not the destruction of values. EVA can contribute positively in highlighting the fundamental economic principle long forgotten by managers. EVA can be used internally as a performance measure for improving productivity that would lead to enhancement of shareholders value.

From the point of view of management decision, there is no argument against the concept of economic profit for investment decisions .Certainly it is important for management to understand its cost of capital, but caution against an overemphasis on EVA as it is simply single accounting measure.

5.4 Suggestions for Further Research

There is need for further research in this area especially for firms that apply EVA systems. Future work should also look at the relationship between EVA and size of the company since the study shows that EVA was higher in companies with high capital employed. There is need to determine why market return is tied more closely to profit than EVA. Is it the way EVA is being calculated, with the inherent problems of calculating the cost of capital, or is it the results of analysts tendency to focus on earnings. However, the results are applicable to only forty one companies quoted in the Nairobi stock exchange which have not implemented EVA systems .A study comparing performance of companies that have implemented an EVA system to those that have not would also be valuable.

References

Bao, B-H. & Bao, D-H. 1998, 'Usefulness of value added and abnormal economic earnings: An empirical examination', *Journal of Business Finance and Accounting,* vol. 25, no. 1-2, pp. 251-65.

Barth, M. E. & Clinch, G. 1996, 'International accounting differences and their relation to share prices: Evidence from UK, Australian and Canadian Firms', *Contemporary Accounting Research,* vol. 13, no. 1, pp. 135-70.

Biddle, G.C., R.M. Bowen, and J.S Wallace. 1996. Evidence on the Relative and Incremental Information Content of EVA, Residual Income, Earnings and Operating Cash Flow. Working paper Presented at 1996 AAA Annual Meeting: Chicago, IL.

- 1997, 'Does EVA beat earnings? Evidence on associations with stock returns and firm values', *Journal of Accounting and Economics,* vol. 24, no. 3, pp. 301-36.

-1999, "Evidence on EVA." *Journal Applied Corporate Finance.* Volume 12, n. 2, pp. 69 – 79.

- 1999, " Interior Systems, Inc.: The Decision to Adopt EVA®," *Issues in Accounting Education,* 14 (No. 3, August), 517-541.

Campbell, R. (1995, January). "Steeling time with ABC and TOC." *Management Accounting,* Issue: January, 1995. pp. 31-36.

Chen, S. & Dodd, J. L. 1997, 'Economic valued added (EVA): An empirical examination of a new corporate performance measure', *Journal of Managerial Issues,* vol. 9, no. 3, pp. 318-33.

Clinton, B. Douglas and Shimin Chen, 1998, "Do New Performance Measures Measure Up?" *Management Accounting*, *80* (No. 4, October), 38-43.

Copperland, T., T. Koller, and J. Murrin, 1994, Valuation: Measuring and Managing The Value of Companies", Second Edition, John Wiley & Sons, Inc. US.

Davies, E.M 1996. Eli Lilly Is Making Shareholders Rich. How? By Linking Pay to EVA. *Fortune* September 9: 173 – 174.

Dodd, James and Shimin Chen, 1996, "EVA: A New Panacea?" *Business and Economics Review* 42 (No. 4 July – September), 26 – 28.

Drucker, P., 1998, The Information Executives Truly Need to Know, in Harvard Business Review on Measuring Corporate Performance, Boston: Harvard Business School Press.

Ferguson, R. & Leistikow, D. 1998, 'Search for the best financial performance measure: Basic are better', *Financial Analysts Journal,* vol. 54, no. 1, pp. 81-6.

Frankel, R. & Lee, C.M.C. 1998, 'Accounting valuation, market expectation and cross-sectional stock returns', *Journal of Accounting and Economics,* vol. 25, no. 3, pp. 283-319.

Glasser, James, 1996, "How EVA works Against GATX," *Chief Executive* (No. 110, January/February), 42 – 43.

Hansen, D., & Mowen, M. (1997). *Cost Management: Accounting and Control.* Cincinnati, OH: Southwestern Publishing.

Herzberg, M.M., 1998 Implementing EBO/EVA Analysis in Stock Selection, *Journal of Investing*, Spring: 45 -53.

Homegren, C., Foster, G., & Data, S. (1997). *Cost Accounting: A Managerial Emphasis.* Upper Saddle River, NJ: Prentice Hall.

Jackson, Al, Michael J. Mauboussin, and Charles R. Wolf, EVA® *Primer,* CS First Boston, 1996.

Jensen, M. C., 1986, "Agency Costs of Free Cash Flow, Corporate Finance and Takeovers," *American Economic Review,* 76 May, pp 323 – 329.

Kleinman, R., 1999, "Some New Evidence on EVA companies", *journal of Applied Corporate Finance,* Summer.

Kramer, Jonathan K., and George Pushner, 1997, "An Empirical Analysis of Economic Value Added ® as a Proxy for Market Value Added, "*Financial Practice and Education,* 7 (No. 1, Spring/Summer), 41-49.

Lehn, Kenneth and Anil Makhija, 1996, "EVA & MVA as Performance Measures and Signals for Strategic Change," *Strategy and Leadership* 24 (No. 3, May/June), 34 – 38. McConville, Daniel J., 1994, "All about EVA," *Industry Week*243 (No.8, April 18), 55 – 58.

- 1997, EVA, Accounting Profits, and CEO Turnover: An Empirical Examination, 1985 – 1994, *Journal of Applied Corporate Finance,* 10, 2: 90 -97.
Marshall, A., 1920, Principles of Economics, 8th Edition, 1990 Reprint, London: Macmillan.

Meyers, Randy, 1996, "Metric Wars," *CFO* 12 (No. 10 October), 41 – 50.

Miller, M. H., and F. Modigliano, 1961, "Dividend Policy, Growth and the Valuation of Shares," *Journal of Business,* 34, October, pp 411 – 433.

O'Byrne, S.F., 1996, EVA and Market Value, *Journal of Applied Corporate Finance,* 9, 1: 116-125.

- 1997 "EVA and Shareholder Return," *Journal of Applied Corporate Finance,* Volumw: 9, 1997, pp 50 – 54.
Rennie, P., 1997 Finding the Best, and Worst, Wealth Creators, *Business Review Weekly,* 11 August: 26-27.

Rice, Victor, 1996, "Whey EVA Works for Varity," *Chief Executive* (No. 110, January/ February), 40 – 41.

Souza, J. G. C., and P. Janscso, (2002), "Does it Pay to Implement a full scale of EVA Management System? Evidence from Brazilian Companies", *Working Paper,* SSRN.com

Stern, Joel M., G. Bennett Stewart III and Donald H. Chew, Jr., 1995, "The EVA® Financial System, *Journal of Applied Corporate Finance,* 8 (No. 2, Summer), 32-46.

Stern Stewart & Co (1991), "The Quest for Value: The EVA Management Guide". *Harper Business.*

Stern Stewart & Co,(1991), The EVA Company. Menus: "About EVA; EVA Companies." Internet Economic Value Added (EVA) Working Paper by Chen and Dodd.

Stern Stewart III, G. Bennet, 1991 *The Quest For Value: A Guide for Senior Managers,* New York, NY, Harper Business.

Stewart, Joel M., Bennett Stewart III and Donald H. Chew, Jr., 1995, "The EVA Financial System," *Journal of Applied Corporate Finance* 8 (No. 2, Summer), 32 – 46.

Thomson, Richard, 1995, "Who Needs Earnings?" *Management Today* (June), 56 – 59.

Tully, S. 1993. The Real Key to Creating Wealth. *Fortune* (September 20): 38 – 50.

Uyemura, D.G Kantor, C.C., & Petit, J.M., 1996 EVA for Banks: Value Creation, Risk Management, and Profitability Measurement, *Journal of Applied Corporate Finance,* 9, 2: 94-111.

Walbert, L. 1993. America's Best Wealth Creators. *Fortune* (December 27): 64 – 76.

Walbert, L. 1994, "Then Stern Stewart Performance 1000: Using EVA to Build Market Value, " *Journal of Applied Corporate Finance* 6 (No.4, Winter), 109 – 112.

Young, S. David, 1999, "Some Reflections on Accounting Adjustments and Economic Value Added ®," *Journal of Financial Statement Analysis,* 4 (No. 2, Winter), 7-19.

APPENDICES

APPENDIX 1: Sample Companies

The forty one companies selected are:

Agricultural

Unilever Tea Kenya Limited
Kakuzi Limited
Rea Vipingo Plantations Ltd
Sasini Tea and Coffee Limited

Commercial and Services

Car and General (Kenya) Limited
CMC Holdings Limited
Kenya Airways Limited
Marshalls (East Africa) Limited
Nation Media Group Limited
TPS SERENA

Finance and Investment

Barclays Bank of Kenya Limited
CFC Bank
Diamond Trust Bank (Kenya) Limited
Housing Finance Company Limited
ICDC investment company limited
Jubilee Insurance Company Limited
Kenya Commercial Bank Limited
National Bank of Kenya Limited
NIC Bank Limited
Pan Africa Insurance Company Limited
Standard Chartered Bank Kenya Limited

Industrial and Allied

Athi-River Mining Limited
Bamburi Cement Company Limited
British American Tobacco Kenya Limited
BOC Kenya Limited
Crown Berger Kenya Limited
Olympia Capital Holdings Limited

East African Cables Limited
East African Portland Cement Company
East African Breweries Limited
Sameer Africa Limited
Kenya Oil Company Limited
Kenya Power and Lighting Company Limited
Total Kenya Ltd
Unga Group Limited

Alternative Investment Market Segment

A. Baumann & Company Limited
Eaagads Limited
Express Kenya Limited
Kapchorua Tea Company Limited
Limuru Tea Company Limited
Williamson Tea Kenya Limited

APPENDIX 2: Raw Data

	SHARE PRICE					
	2001	**2002**	**2003**	**2004**	**2005**	**2006**
NSE Index	**1625**	**1163**	**2080**	**2827**	**3655**	**4597**
Unilever Tea Kenya Limited		54	66	90.5	90.5	80
Kakuzi Limited	36	14.65	14.65	40	48.25	42.25
Rea Vipingo Plantations Ltd	2.9	2.55	5.15	9.5	20.5	25.5
Sasini Tea and Coffee Limited	19.8	13.2	17.3	20.5	32.5	55
Car and General (Kenya) Limited	10	10	68	15	29	45.25
CMC Holdings Limited	9	17.25	68	55	47.25	119
Kenya Airways Limited	7.55	7.85	5.75	9.6	24	105
Marshalls (East Africa) Limited	18.3	18.3	6.05	17.5	15	15
Nation Media Group Limited	43.25	84	191	170	190	313
TPS SERENA	17	19	27.25	47.25	81	86.5
Barclays Bank of Kenya Limited	72.5	101	280	200	263	77
CFC Bank	9	9.2	33	58	75	89
Diamond Trust Bank (Kenya) Limited	9	10	28	28	32.25	72.5
Housing Finance Company Limited	6	5.2	12.05	8.5	13.95	48
ICDC Investment Company Limited	47	19	51	67	66.5	99.5
Jubilee Insurance Company Limited	15.5	15.5	50	58	83	323
Kenya Commercial Bank Limited	16.35	17	54	64	113	241
National Bank of Kenya Limited	2.9	3.65	13.35	18.9	28.75	58
NIC Bank Limited	15	19.7	45.5	50	50	102
Pan Africa Insurance Company Limited	13.1	7	23.5	21	40	91.5
Standard Chartered Bank Kenya Ltd	47	62	191	122	139	205
Athi-River Mining Limited	4	4.7	21.25	15	39.5	83
Bamburi Cement Company Limited	16.7	43.75	126	95	140	215
British American Tobacco Kenya Ltd	49	54	276	200	204	197
BOC Kenya Limited	30	26.75	99.5	137	145	160
Crown Berger Kenya Limited	5	7	35.5	28	35	43.75
Olympia Capital Holdings Limited		31	16	15.85	17.35	5
East African Cables Limited	9.2	9.2	13.65	51	137	48
East African Portland Cement Co.	11	12.5	46.25	47.5	97	132
East African Breweries Limited	79.5	82.5	226	445	149	139
Sameer Africa Limited	7	8.7	11.9	12.5	21.5	24.25
Kenya Oil Company Limited	68.5	81	272	50.5	126	103
Kenya Power and Lighting Company Ltd	29.25	8.65	32	88.5	111	169
Total Kenya Ltd	19	22.75	39.75	94.5	41	34.75
Unga Group Limited	7.75	4.1	12.05	14.5	19.4	17.95
A. Baumann & Company Limited	6.95	9	5.5	8.25	8.5	13
Eaagads Limited	20.5	20.5	19	15.95	17	17

Express Kenya Limited	16.75	6.8	9	7.8	13.8	24.25
Kapchorua Tea Company Limited	140	137	137	100	100	150
Limuru Tea Company Limited	394	394	160	355	347	350
Williamson Tea Kenya Limited	100	51	70	80	119	94.5

SHAREHOLDER'S FUND

	2002	2003	2004	2005	2006
Unilever Tea Kenya Limited	3292672	3102749	3118786	2897867	3120736
Kakuzi Limited	1,031553	1,007,295	1,090,350	910,218	1,043,269
Rea Vipingo Plantations Ltd	451,391	464,731	575,807	619,239	652,372
Sasini Tea and Coffee Limited	1,754,912	2,401,308	3,138,077	2,697,425	2,936,955
Car and General (Kenya) Limited	318,068	354,816	398,442	603,385	730,729
CMC Holdings Limited	2,196,912	2,302,311	1,735,401	3,035,218	3,542,025
Kenya Airways Limited	7,663,000	7,349,000	8,420,000	12,329,000	17,257,000
Marshalls (East Africa) Limited	353,016	202,379	224,635	288,461	333,161
Nation Media Group Limited	2,326,900	2,760,900	2,900,200	3,289,800	3,587,900
Standard Group Limited	149,064	99,601	177,391	243,799	397,182
Tourism Promotion Services East Africa Ltd	1,021,130	1,003,660	1,091,639	2,098,523	3,361,485
Barclays Bank of Kenya Limited	9989000	11022000	12475000	13177000	14862000
CFC Bank	2,007,396	2,215,688	2,522,611	3,425,082	4,732,091
Diamond Trust Bank (Kenya) Ltd	1269363	1349206	1437072	1652234	2868090
Housing Finance Company Limited	1024687	1059950	1119926	1271714	1372763
ICDC Investment Company Ltd	2,303,131	2,702,550	2,996,538	3,752,210	6,188,498
Jubilee Insurance Company Ltd	1,484322	2,029,205	2,093,796	2,370,417	3,393,040
Kenya Commercial Bank Limited	5267455	5613853	8580159	10081991	11620306
National Bank of Kenya Limited	1917389	2154096	2624799	3223343	3236568
NIC Bank Limited	2498375	2576285	2643967	2721820	3036242
Pan Africa Insurance Company Ltd	489,749	604,391	799,144	931,339	1,327,317
Standard Chartered Bank Kenya Limited	5691945	6440903	6063194	9589249	10129857
Athi-River Mining Limited	862,802	913,408	986,188	1,162,219	1,324,776
Bamburi Cement Company Limited	9,877,000	11,012,000	9,863,000	10,679,000	13,017,000
British American Tobacco Kenya Ltd	4,110,810	4,200,831	3,761,025	3,893,063	4,194,485
BOC Kenya Limited	1,006,873	1,074,556	1,153,363	1,266,661	1,271,846
Crown Berger Kenya Limited	555,952	593,706	612,251	646,669	770,953
Olympia Capital Holdings Limited	79,365	96,082	137,121	122,808	130,451
East African Cables Limited	246,017	249,009	317,042	457,642	694,227
East African Portland Cement Co	1,897,111	2,151,656	1,802,463	2,252,835	3,076,933
East African Breweries Limited	11,121,592	11,086,296	13,544,510	15,346,633	16,891,530
Sameer Africa Limited	1,989,431	1,909,581	2,012,290	2,028,470	1,850,986
Kenya Oil Company Limited	2,099,177	2,398,935	3,392,935	4,015,844	4,672,903
Kenya Power and Lighting Co. Ltd	3,516,168	997,475	17,491,219	18,898,179	20,560,405
Total Kenya Ltd	3,420,122	4,122,404	4,522,751	4,616,649	4,665,064
Unga Group Limited	1,124,371	1,435,753	1,332,814	1,407,401	1,448,198
A. Baumann & Company Limited	386,201	271,142	264,923	145,255	103,514
Eaagads Limited	158,066	158,570	122,874	153,946	159,801
Express Kenya Limited	79,889	11,468	199,079	253,009	377,643
Kapchorua Tea Company Limited	386,140	648,672	672,645	684,064	654,711
Limuru Tea Company Limited	30,255	45,278	45,937	36,778	42,099
Williamson Tea Kenya Limited	1,573,962	2,232,067	2,279,652	2,335,047	2,236,217

DIVIDEND PER SHARE

	2001	2002	2003	2004	2005	2006
Unilever Tea Kenya Limited		2.50	6.00	8.00	2.00	2.00
Kakuzi Limited	0.00	0.00	0.00	1.00	0	0
Rea Vipingo Plantations Ltd	0.00	0.25	0.40	0.80	0.80	0.80
Sasini Tea and Coffee Limited	1.00	0.50	0.00	2.50	0	1.00
Car and General (Kenya) Limited	0.00	0	0.67	0.67	0.67	0.67
CMC Holdings Limited	0.75	1.00	1.00	1.00	1.50	2.30
Kenya Airways Limited	1.25	0.60	0.50	0.75	1.25	1.75
Marshalls (East Africa) Limited	-	-	0	0	0	1.00
Nation Media Group Limited	1.60	2.50	5.00	6.00	6.00	12.00
Tourism Promotion Services East Africa Limited	1.10	1.10	1.10	1.10	0.40	1.25
Barclays Bank of Kenya Limited	14.00	9.00	14.00	14.00	14.00	1.65
CFC Bank	0.67	0.67	0.84	0.84	0.84	1.75
Diamond Trust Bank (Kenya) Limited	0.40	0.60	0.70	0.70	0.70	1.00
Housing Finance Company Limited	0.00	0	0	0	0	0
ICDC Investment Company Limited	2.00	2.00	2.20	3.00	3.00	4.00
Jubilee Insurance Company Limited	1.75	1.75	2.25	2.50	4.00	4.25
Kenya Commercial Bank Limited	0.00	0.00	1.00	2	4.00	6.00
National Bank of Kenya Limited	-	-	0.00		0.00	0.00
NIC Bank Limited	1.60	2.00	2.25	2.40	2.50	2.70
Pan Africa Insurance Company Limited	0.00	-	0	1.00	1.200	1.44
Standard Chartered Bank Kenya Limited	8.25	8.25	8.50	6.50	7.50	8.50
Athi-River Mining Limited	0.20	0.4	0.5	0	0.75	1.00
Bamburi Cement Company Limited	1.12	3.50	2.80	6.12	5.30	5.50
British American Tobacco Kenya Limited	7.90	9.00	12.50	16.50	12.50	12.00
BOC Kenya Limited	3.55	4.35	4.35	4.50	5.50	11.30
Crown Berger Kenya Limited	0.50	1.50	1.50	0	1.00	1.50
Olympia Capital Holdings Limited		0.50	1.00	3.50	5.00	0.7
East African Cables Limited	1.10					
East African Portland Cement Company	1.00	1.50	1.75	1.75	2.50	2.60
East African Breweries Limited	9.00	11.50	15.00	18.00	4.50	5.90
Sameer Africa Limited	1.00	1.00	0.50	1.00	0.50	0
Kenya Oil Company Limited	7.50	9.50	10.50	2.00	2.25	2.25
Kenya Power and Lighting Company Limited	0.00	0	-	0	1.50	1.50
Total Kenya Ltd	0.00	1.70	2.50	2.50	2.50	2.50
Unga Group Limited	0.00	0.00	0.00	0.00	0.00	0.00
A.Baumann & Company Limited	1.00	-	-	-	0	0
Eaagads Limited	0.50	0.50	0.50	-	0	1.25
Express Kenya Limited	-	-	0	0	0	0.40
Kapchorua Tea Company Limited	2.50	0.50	3.75	3.75	5.00	0.5
Limuru Tea Company Limited	0.00	3.00	10.00	15.00	5.00	10
Williamson Tea Kenya Limited	5.00	0.50	3.75	3.75	5.00	0.50

TOTAL FINANCING

	2002	2003	2004	2005	2006
Unilever Tea Kenya Limited	4408020	4206090	4250671	4095237	4397882
Kakuzi Limited	1,734,851	1,677,957	1,773,550	1,450,254	1,703,718
Rea Vipingo Plantations Ltd	653,977	657,660	777,987	802,222	820,753
Sasini Tea and Coffee Limited	1,960,310	2,776,304	3,797,526	3,212,126	3,534,651
Car and General (Kenya) Limited	343,787	377,410	427,369	722,823	892,940
CMC Holdings Limited	2,464,873	2,678,968	3,183,700	3,405,000	3,951,748
Kenya Airways Limited	15,322,000	17,135,000	21,940,000	30,830,000	53,475,000
Marshalls (East Africa) Limited	353,016	202,879	225,135	467,724	475,866
Nation Media Group Limited	2,391,900	2,783,400	2,867,400	3,267,800	3,855,600
Standard Group Limited	238,542	278,335	422,846	448,948	741,834
Tourism Promotion Services East Africa Lt	1,411,798	1,390,553	1,420,153	4,287,929	5,481,524
Barclays Bank of Kenya Limited	9,989,000	11,022,000	12,475,000	13,177,000	14,862,000
CFC Bank	2,377,298	3,138,848	5,811,483	3,976,458	5,610,317
Diamond Trust Bank (Kenya) Limited	1,269,363	1,349,206	1,437,072	1,652,234	2,868,090
Housing Finance Company Limited	1,024,687	1,059,950	1,119,926	1,271,714	1,372,763
ICDC Investment Company Limited	2,340,922	2,759,476	3,057,034	3,934,408	6,237,102
Jubilee Insurance Company Limited	4,430,298	5,553,755	2,339,572	2,628,628	3,616,264
Kenya Commercial Bank Limited	5,267,455	5,613,853	8,580,159	10,081,991	11,620,306
National Bank of Kenya Limited	1,917,389	2.154,096	2,624,799	3,223,343	3,236,568
NIC Bank Limited	2,498,375	2,576,285	2,643,967	2,721,820	3,036,242
Pan Africa Insurance Company Ltd	1,674,332	604,391	799,144	931,339	1,327,317
Standard Chartered Bank Kenya Ltd	5,691,945	6,440,903	6.063.194	9,589,249	10,129,857
Athi-River Mining Limited	1,039,567	1,273,825	1,371,374	2,718,199	3,172,630
Bamburi Cement Company Limited	12,846,000	13,893,000	12,833,000	13,511,000	16,055,000
British American Tobacco Kenya Ltd	4,734,575	4,807,121	4,368,513	4,554,512	4,955,444
BOC Kenya Limited	1,050,525	1,124,441	1,199,479	1,324,141	1,341,037
Crown Berger Kenya Limited	623,340	652,896	665,723	718,608	887,431
Olympia Capital Holdings Limited	137,198	167,508	219,857	193,972	306,173
East African Cables Limited	267,883	271m833	337,654	633,678	1,138,321
East African Portland Cement Co.	6,628,079	6,529,791	6,391,943	6,823,197	7,654,266
East African Breweries Limited	12,329,521	13,852,671	16,864,622	18,695,903	20,491,270
Sameer Africa Limited	2,151,844	2,023,556	2,125,873	2,174,494	2,052,815
Kenya Oil Company Limited	2,441,239	2,633,132	3,681,720	4,287,158	5,072,475
Kenya Power &Lighting Company Ltd	21,220,629	19,326,085	23,750,921	25,253,856	26,603,956
Total Kenya Ltd	3,420,122	4,122,404	4,522,751	4,616,649	4,665,064
Unga Group Limited	1,994,692	2,318,661	2,136,636	2,218,340	2,285,708
A.Baumann & Company Limited	387,201	310,746	301,137	162,443	121,181
Eaagads Limited	193,733	194,478	145,443	186,024	197,724
Express Kenya Limited	144,786	139,314	218,109	294,689	511,346
Kapchorua Tea Company Limited	529,598	900,163	922,970	930,977	894,083
Limuru Tea Company Limited	39,881	60,407	62,239	52,428	55,957
Williamson Tea Kenya Limited	2,113,114	3,009,231	3,058,546	3,108,138	2,945,074

PROFIT AFTER TAXATION

	2002	2003	2004	2005	2006
Unilever Tea Kenya Limited	124435	66016	365582	67603	54413
Kakuzi Limited	8,083	(11,795)	83,733	(73,767)	133,051
Rea Vipingo Plantations Ltd	24,809	3,225	128,666	124,462	112,576
Sasini Tea and Coffee Limited	(16,786)	(70,934)	776,664	(365,896)	240,325
Car and General (Kenya) Limited	7,439	60,337	37,415	194,273	137,587
CMC Holdings Limited	151,890	173,745	262,962	339,987	382,356
Kenya Airways Limited	869,000	417,000	1,302,000	3,020,000	4,829,000
Marshalls (East Africa) Limited	29,251	22,045	22,256	42,498	44,700
Nation Media Group Limited	379,300	590,000	591,600	689,000	747,200
Standard Group Limited	(12,040)	47,696	92,777	72,988	205,257
Tourism Promotion Services East Africa Ltd	105,889	25,077	130,526	22,945	332,660
Barclays Bank of Kenya Limited	1,783,000	3,367,000	3,694,000	3,729,000	4,492,000
CFC Bank	224,725	415,108	665,454	552,491	940,140
Diamond Trust Bank (Kenya) Ltd	75,525	139,241	163,998	294,598	487,830
Housing Finance Company Limited	55,851	51,847	59,976	58,799	101,049
Jubilee Insurance Company Limited	159,356	242,725	276,586	546,336	559,515
Kenya Commercial Bank Limited	(3,000,639)	485,520	787,051	1,326,027	2,431,878
National Bank of Kenya Limited	198,758	403,889	382,611	598,544	624,496
NIC Bank Limited	229,135	242,592	261,356	275,648	458,004
Pan Africa Insurance Company Ltd	(15,614)	(23,440)	93,811	176,605	94,266
Standard Chartered Bank Kenya Ltd	2,206,127	2,788,717	1,832,647	2,452,174	2,634,300
Athi-River Mining Limited	57,390	97,106	116,718	199,504	264,557
Bamburi Cement Company Limited	1,330,000	1,153,000	1,901,000	2,155,000	2,799,000
British American Tobacco Kenya Ltd	823,120	1,140,020	1,210,194	1,382,038	1,201,422
BOC Kenya Limited	105,491	152,619	160,117	207,446	225,940
Crown Berger Kenya Limited	55,442	59,116	50,900	34,418	63,772
Olympia Capital Holdings Limited	18,041	26,913	39,330	23,032	22,914
East African Cables Limited	(5,946)	9,365	123,661	212,939	284,635
East African Portland Cement Co.	123,179	226,143	(269,177)	607,872	411,793
East African Breweries Limited	2,301,459	1,964,146	4,747,913	5,776,228	6,410,042
Sameer Africa Limited	231407	157,194	275,171	204,678	(22,228)
Kenya Oil Company Limited	453,894	467,129	838,484	915,878	842,947
Kenya Power & Lighting Company	(1,879,553)	(3,051,355)	457,807	1,270,273	1,644,231
Total Kenya Ltd	360,201	514,963	577,007	531,561	486,078
Unga Group Limited	(110,989)	(30,404)	(126,415)	124,492	64,601
A. Baumann & Company Limited	(48,092)	(2,406)	(10,543)	(128,590)	(42,318)
Eaagads Limited	947	3,861	(4,273)	(1,473)	6,802
Express Kenya Limited	(56,007)	(68,151)	4,610	53,930	66,329
Kapchorua Tea Company Limited	(13,830)	34,811	38,643	26,089	(9,793)
Limuru Tea Company Limited	2,077	8,047	9,659	(3,159)	4,829
Williamson Tea Kenya Limited	(29,731)	65,252	82,765	96,572	(58,275)

APPENDIX 3: Market Return per Share

	2001	2002	2003	2004	2005	2006
NSE Index		-28%	79%	36%	29%	26%
Unilever Tea Kenya Limited		0.00	0.33	0.49	0.02	(0.09)
Kakuzi Limited		(0.59)	0.00	1.80	0.21	(0.12)
Rea Vipingo Plantations Ltd		(0.03)	1.18	1.00	1.24	0.28
Sasini Tea and Coffee Limited		(0.31)	0.31	0.33	0.59	0.72
Car and General (Kenya) Limited		0.00	5.87	(0.77)	0.98	0.58
CMC Holdings Limited		1.03	3.00	(0.18)	(0.11)	1.57
Kenya Airways Limited		0.12	(0.20)	0.80	1.63	3.45
Marshalls (East Africa) Limited		0.00	(0.67)	1.89	(0.14)	0.07
Nation Media Group Limited		1.00	1.33	(0.08)	0.15	0.71
TPS SERENA		0.18	0.49	0.77	0.72	0.08
Barclays Bank of Kenya Limited		0.52	1.91	(0.24)	0.39	(0.70)
CFC Bank		0.10	2.68	0.78	0.31	0.21
Diamond Trust Bank (Kenya) Limited		0.18	1.87	0.03	0.18	1.28
Housing Finance Company Limited		(0.13)	1.32	(0.29)	0.64	2.44
ICDC Investment Company Limited		(0.55)	1.80	0.37	0.04	0.56
Jubilee Insurance Company Limited		0.11	2.37	0.21	0.50	2.94
Kenya Commercial Bank Limited		0.04	2.24	0.22	0.83	1.19
National Bank of Kenya Limited		0.26	2.66	0.42	0.52	1.02
NIC Bank Limited		0.45	1.42	0.15	0.05	1.09
Pan Africa Insurance Company Ltd		(0.47)	2.36	(0.06)	0.96	1.32
Standard Chartered Bank Kenya Ltd		0.49	2.22	(0.33)	0.20	0.54
Athi-River Mining Limited		0.28	3.63	(0.29)	1.68	1.13
Bamburi Cement Company Limited		1.83	1.94	(0.20)	0.53	0.58
British American Tobacco Kenya Ltd		0.29	4.34	(0.22)	0.08	0.02
BOC Kenya Limited		0.04	2.88	0.42	0.10	0.18
Crown Berger Kenya Limited		0.70	4.29	(0.21)	0.29	0.29
Olympia Capital Holdings Limited		0.00	(0.48)	(0.01)	0.09	(0.71)
East African Cables Limited		0.05	0.59	2.99	1.78	(0.64)
East African Portland Cement Co.		0.27	2.84	0.06	1.09	0.39
East African Breweries Limited		0.18	1.92	1.05	(0.66)	(0.03)
Sameer Africa Limited		0.39	0.43	0.13	0.76	0.13
Kenya Oil Company Limited		0.32	2.49	(0.81)	1.54	(0.16)
Kenya Power & Lighting Company		(0.70)	2.70	1.77	0.27	0.54
Total Kenya Ltd		0.29	0.86	1.44	(0.54)	(0.09)
Unga Group Limited		(0.47)	1.94	0.20	0.34	(0.07)
A. Baumann & Company Limited		0.29	(0.39)	0.50	0.03	0.53

Eaagads Limited	0.02	(0.05)	(0.16)	0.07	0.07
Express Kenya Limited	(0.59)	0.32	(0.13)	0.77	0.79
Kapchorua Tea Company Limited	(0.02)	0.03	(0.24)	0.05	0.51
Limuru Tea Company Limited	0.01	(0.57)	1.31	(0.01)	0.04
Williamson Tea Kenya Limited	(0.49)	0.45	0.20	0.55	(0.20)

APPENDIX 4: **Beta and Cost of Equity for the Sample Companies**

	BETA	rf	rm	rm-rf	rf + b(rm-rf)
NSE Index		6.26%	28%	22.02%	
Unilever Tea Kenya Limited	0.29				0.13
Kakuzi Limited	0.66				0.21
Rea Vipingo Plantations Ltd	0.95				0.27
Sasini Tea and Coffee Limited	0.47				0.17
Car and General (Kenya) Limited	3.98				0.94
CMC Holdings Limited	1.21				0.33
Kenya Airways Limited	(0.25)				0.01
Marshalls (East Africa) Limited	(0.27)				0.00
Nation Media Group Limited	0.12				0.09
TPS SERENA	0.29				0.13
Barclays Bank of Kenya Limited	0.93				0.27
CFC Bank	1.86				0.47
Diamond Trust Bank (Kenya) Limited	1.12				0.31
Housing Finance Company Limited	0.91				0.26
ICDC Investment Company Limited	1.70				0.44
Jubilee Insurance Company Limited	1.48				0.39
Kenya Commercial Bank Limited	1.51				0.40
National Bank of Kenya Limited	1.66				0.43
NIC Bank Limited	0.62				0.20
Pan Africa Insurance Company Ltd	1.96				0.49
Standard Chartered Bank Kenya Limited	1.10				0.31
Athi-River Mining Limited	2.25				0.56
Bamburi Cement Company Limited	(0.11)				0.04
British American Tobacco Kenya Ltd	2.76				0.67
BOC Kenya Limited	2.01				0.50
Crown Berger Kenya Limited	2.40				0.59
Olympia Capital Holdings Limited	(0.31)				-0.01
East African Cables Limited	0.73				0.22
East African Portland Cement Company	1.76				0.45
East African Breweries Limited	1.29				0.35
Sameer Africa Limited	0.02				0.07
Kenya Oil Company Limited	1.42				0.37
Kenya Power and Lighting Company Ltd	2.59				0.63
Total Kenya Ltd	0.52				0.18
Unga Group Limited	1.74				0.45
A. Baumann & Company Limited	(0.46)				-0.04

Eaagads Limited	(0.07)	0.05
Express Kenya Limited	0.66	0.21
Kapchorua Tea Company Limited	(0.01)	0.06
Limuru Tea Company Limited	(0.26)	0.00
Williamson Tea Kenya Limited	0.72	0.22

APPENDIX 5:Eva for the Sample Companies

EVA=NOPAT-WACC(SHAREHOLDERS FUND)

	2002	2003	2004	2005	2006
Unilever Tea Kenya Limited	(289,071)	(323,639)	(26,087)	(296,322)	(337,501)
Kakuzi Limited	(205,523)	(220,378)	(142,048)	(262,248)	(82,981)
Rea Vipingo Plantations Ltd	(98,282)	(123,504)	(28,353)	(44,400)	(65,321)
Sasini Tea and Coffee Limited	(309,172)	(471,016)	253,829	(815,314)	(249,001)
Car and General (Kenya) Ltd	(291,126)	(272,723)	(336,596)	(372,115)	(548,336)
CMC Holdings Limited	(569,240)	(581,981)	(306,678)	(656,314)	(780,303)
Kenya Airways Limited	804,571	355,211	1,231,206	2,916,340	4,683,906
Marshalls (East Africa) Limited	28,153	21,416	21,557	41,601	43,664
Nation Media Group Limited	173,994	346,402	335,711	398,736	430,634
TPS SERENA	(22,666)	(101,278)	(6,906)	(241,248)	(90,533)
Barclays Bank of Kenya Ltd	(881,337)	427,134	366,580	214,337	527,902
CFC Bank	(723,007)	(630,963)	(525,522)	(1,064,559)	(1,293,976)
Diamond Trust Bank (Kenya) Limited	(316,661)	(277,613)	(280,003)	(215,880)	(398,302)
Housing Finance Company Ltd	(213,766)	(227,049)	(234,701)	(275,817)	(260,155)
ICDC Investment Co. Ltd	(1,005,088)	(1,179,394)	(1,307,691)	(1,637,467)	(2,700,664)
Jubilee Insurance Co. Ltd	(418,289)	(546,969)	(538,244)	(376,145)	(760,935)
Kenya Commercial Bank Ltd	(5,084,181)	(1,735,040)	(2,606,831)	(2,661,905)	(2,164,534)
National Bank of Kenya Ltd	(620,596)	(516,617)	(739,040)	(778,881)	(758,581)
NIC Bank Limited	(267,565)	(269,597)	(264,289)	(265,475)	(145,629)
Pan Africa Insurance Co. Ltd	(257,254)	(321,644)	(300,484)	(282,914)	(560,627)
Standard Chartered Bank K. Ltd	467,903	821,773	(18,951)	(476,222)	(459,188)
Athi-River Mining Limited	(424,846)	(413,415)	(434,481)	(450,082)	(475,885)
Bamburi Cement Co. Ltd	945,365	724,165	1,516,910	1,739,133	2,292,085
British American Tobacco Kenya Limited	(1,937,084)	(1,680,628)	(1,315,147)	(1,231,960)	(1,614,965)
BOC Kenya Limited	(402,757)	(389,794)	(422,076)	(431,937)	(416,061)
Crown Berger Kenya Limited	(272,888)	(291,511)	(310,679)	(347,487)	(391,532)
Olympia Capital Holdings Ltd	18,499	27,468	40,122	23,741	23,668
East African Cables Limited	(60,792)	(46,148)	52,981	110,914	129,867

East African Portland Cement Co.	(732,771)	(744,654)	(1,082,423)	(408,575)	(976,476)
East African Breweries Limited	(1,556,838)	(1,881,906)	49,058	452,182	550,041
Sameer Africa Limited	100,222	31,275	142,479	70,919	(144,284)
Kenya Oil Company Limited	(332,423)	(431,473)	(432,454)	(588,391)	(907,446)
Kenya Power and Lighting Company Limited	(4,103,348)	(3,682,206)	(10,604,486)	(10,681,849)	(11,359,163)
Total Kenya Ltd	(243,572)	(212,788)	(221,420)	(283,442)	(337,472)
Unga Group Limited	(611,714)	(669,799)	(719,967)	(502,277)	(580,336)
A. Baumann & Company Ltd	(32,796)	8,333	(51)	(122,837)	(38,218)
Eaagads Limited	(6,471)	(3,581)	(10,039)	(8,698)	(697)
Express Kenya Limited	(72,538)	(70,524)	(36,585)	1,575	(11,817)
Kapchorua Tea Co. Limited	(37,220)	(4,481)	(2,101)	(15,347)	(49,451)
Limuru Tea Company Limited	1,942	7,845	9,454	(3,323)	4,641
Williamson Tea Kenya Limited	(378,170)	(428,876)	(421,898)	(420,354)	(553,322)