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**AN EMPIRICAL STUDY OF RELATIONSHIP  
BETWEEN THE STOCK MARKET, PRICES SALES  
TURNOVER, PROFIT BEFORE TAX AND DIVIDENDS**

**BY**

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## DECLARATION

This research project is my original work and has not been submitted for a degree in any other University.

Signed *Wanjohi Silas* Date *3<sup>rd</sup> November, 2007*

Wanjohi Silas

This report has been submitted for examination with my approval as the university supervisor.

Signed *Luther Otieno* Date *3-11-2007*

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## DEDICATION

I wish to express my sincere gratitude to my parents Cecilia and James for the support they have given me my entire family, and Mwaniki's family for the encouragement and moral guidance.

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## **ABSTRACT**

The study tries to evaluate the relationship between stock market returns, dividends, and profit before tax and sales turnover. The study is based from year 2000 to 2004 for all the companies listed in Nairobi Stock Exchange (NSE).

Studies have shown that earnings announcements have the effect in price movements of the stock market prices. This suggests that based on quarterly earnings, an investor can make a decision whether to invest on the company based on the profitability. Sales turnover depicts the market share that a company commands in its industry, which is dependent upon the demand. A company that has high demand for its product increases its profitability hence higher dividend payouts are expected.

The study has shown that there is no significant relationship between the stock market returns and: dividend, profit before tax and sales turnover. Stock market returns change depending on the price movements in the stock market. Other studies have shown that stock market prices movements are affected by psychological perception of the investors, which may lead to overreaction of stock prices. Performance of stock market returns is also dependent upon the efficiency in which the information is incorporated in stock prices.

## **CHAPTER ONE: INTRODUCTION.**

### **1.1 Background**

With the onset of the new millennium major changes have been observed within the Nairobi Stock Exchange, which has been anticipated as the only solution to avert the resilient financial market that has not been fully exploited. There had been major challenges that made it impossible for the players to actively participate in the market. These challenges ranged from the modes of operations to the administrative as well as the global issues that had their ramifications outstretched to the developing countries. Liberalization is expected to result in deeper and more efficient stock markets. Bekaert, Harvey, and Lundblad (2001) find that liberalization has a positive impact on domestic trading and listing. Jain-Chandra (2002) also finds significant increases in trading activity and reports improvements in market efficiency following internationalization. Bae, Bailey, and Mao (2004), find that stock market liberalization improves the information environment in emerging markets.

In recent years, interest in “performance” (or effectiveness) measures has grown, as evidenced by the large portion of literature investigating “benchmarking”, “total quality” measures and “balanced scorecards”. These embrace non-financial as well as financial measures and, more recently, have focused on measures of an organization’s intellectual capital. The increased attention to such systems by managers, consultants, and academics reflects the pressures that result from vigorous competition. This, in turn, forces organizations to improve their performance to survive (Mostaque and Zahirul, 2002)

### **1.2 Determinants of stock market prices**

Studying the relation between stock returns and trading volume has absorbed financial economists for many years. Karpoff (1986) provides three reasons for this. First, the return/trading volume relation provides insight into the structure of financial markets. Second, the return/trading volume relation is important for event studies that use a combination of stock returns and trading volume data to draw inferences. Third, the return/trading volume relation is critical to the debate over the empirical distribution of speculative prices.



### **1.3 Dividends payouts**

The announcement in increase the dividend is taken as good news and will cause the investors to raise their expectations regarding the firm's future earnings. Conversely, an announced decrease in dividends is a signal that management has decreased its assessment of the firm future earnings. The announced decrease in dividends is therefore bad news and will in turn cause the investors to lower their expectations regarding the firm future earnings. An implication is that an announced decrease the firm's stock price to rise, and an announced decrease will cause it to fall.

Prior to 1981, much of the finance literature viewed the present value of dividends to be the principal determinant of the level of stock prices. However, Leroy and Porter (1981) and Shiller (1981) found that, under the assumption of a constant discount factor, stock prices were too volatile to be consistent with movements in future dividends. This conclusion, known as the excess volatility hypothesis, argues that stock prices exhibit too much volatility to be justified by fundamental variables. While a number of papers challenged the statistical validity of the variance bounds tests of Leroy and Porter and Shiller, on the grounds that stock prices and dividends were non-stationary processes ( Flavin 1983, Kleidon 1986, Marsh and Merton 1986, and Mankiw, Romer, and Shapiro 1991), much of the subsequent literature, nonetheless, found that stock price movements could not be explained solely by dividend variability as suggested by the present value model with constant discounting (West 1988a), Campbell and Shiller, 1987)

### **1.4 Earnings announcements and price changes**

A number of studies have shown large changes in stocks of companies that report earnings that differ substantially from consensus expectations. Niederhoffer and Patrick 1972 studied 50 stocks in New York Stock Exchange (NYSE) that experienced the greatest price movements and found that changes in earnings affect security prices. Shevlin, Olsen and Foster, 1984 argues that there a strong direct correspondence between the size of the unexpected earnings and the size of the abnormal stock market return. This suggests that an investor could make abnormal returns by simply looking at quarterly earnings announcements and on basis of magnitude and sign of the unexpected earnings announcements component acting appropriately i.e. the firms that announces earnings that are notably above expectations, the investors should immediately purchase some of the firm's stock.

nineteenth century and seven times in the twentieth century. All those in this century have occurred since World War II (1946, 1956, 1962, 1966, 1978, 1984, and 1987).

The largest one-day drop in stock market history occurred on Monday, October 19, 1987, when the Dow-Jones industrial average fell 508 points, or 22.6 percent. No significant news event explains the decline, although rising interest rates and a falling dollar began to weigh on a market that had become tremendously overvalued after a five-year bull run. Once the decline gained momentum, more selling and a panic developed. Since a recession did not follow and stock prices subsequently recovered to new highs, many pointed to Black Monday as a confirmation of the "irrationality" of the stock market. Stock prices, however, are determined by expectations of the future, which must, by definition, be unknown. Shifts in sentiment and psychology can sometimes cause substantial changes in the valuation of the market. Despite false alarms the stock market is still considered an important indicator of future business conditions (Siegel, 1993)

### **1.5 Value versus growth**

Sharpe, Alexander, and Bailey (2003), state that there is no hard and first rule on how stocks are divided into growth stocks (sometimes called glamour stocks) and value stocks (or income stocks) and disagreements exist among investment professionals on what category certain stocks belong to. However, it is important to note that value and growth are terms applied to stocks whose E/P (Price Earning ratio), B/M (Book-Value-to-Market-Value ratio), D/P(Dividend Yield) and C/P(Cash Flow to Price ratio) are extreme. That is, extremely high or extremely low. This is evidenced in the study done by Bernstein (1995) as quoted by Lofthouse (2001), French and Fama (1998). While Bernstein worked with the top 50 and bottom 50 stocks in the S&P 500, Fama and French (1998), worked with the top 30% and bottom 30 %.

### **1.6 Statement of the problem**

Economists, investors and all interested parties in capital markets would like to know how the stock market is performing e.g. investors are interested in knowing whether the market was up, down or unchanged. They want to know how far the general price movement proceeded (the magnitude of change) (Simiyu, 1992).

The motive for any investment is to make good return. A rational investor will only invest in the companies based on the performance and the expected cash flows to be generated from their investments. Some of the investors may be growth oriented hence would like to see high growth in EPS while other are much interested with capital gains hence high stock market prices. The wealth of the equity shareholders is increased by management's success in maximizing the Earnings Per Share (EPS) in paying commensurate dividends and in arousing and fulfilling market expectations of increasing earnings and dividends to come (Lee, 1983).

Investors have different motives for investing; some invest in order to gain a sense of power, prestige, or control of corporate empire as the driving motive. For most, however, their interest in the investment is largely pecuniary; to earn a return on their money. However selecting stocks exclusively on basis of maximization of return is not enough. Investors are risk averse hence would hold an assortment of securities (Fischer, 2001). Other investors buy shares as collateral security, for raising loan or for speculative purposes (NSE, 2000) while others may be looking for sustained growth in future earnings (growth investors) or immediate income (value investors) (Lofthouse, 2001). When deciding on which company to invest in ones should make sure that the company in the strong industry or has higher growth, one can select one either by using fundamental analysis which involves studying companies current management and position in the market. Technical analysis on the other hand, involves identifying the past trends and forecast the movements in prices of securities of the companies' performance. (NSE Annual Report, 200). Morris and Shin, (1999) draw an analogy with gambling. In normal times the market behaves like a game of roulette; the probabilities are known and largely independent on the investment decisions of the different players. In times of market stress, however, the game becomes more like poker (herding behavior takes over). The players now must give heavy weight to the psychology of other investors and how they are likely to react psychologically). Kenya government has continued to pursue the privatization programmes to encourage private sector development as well improving economic efficiency; further, structural reforms have a been a major concern as well as maintaining liberalized trade regime in pursuit of regional integration through membership of Common market for East and South Africa (COMESA) and Eastern Africa Community( EAC) (World Bank Report, 2003).

This study tries to evaluate the relation between stock market return, sales turnover, profit before tax and dividends for the period between 2000 to 2004 for all companies listed in NSE.

### **1.7 Objectives of the study.**

To evaluate the relationship between the stock market return, sales turnover, profit before tax and dividends

### **1.8 Importance of the study**

This study can be used as the basis upon which the investors can evaluate the performance of their investment they have made and see whether it is still viable to continue investing in that company.

It is also a way in which the investment managers can form a basis upon which they can construct their portfolios by choosing the companies under which they invest and obtain maximum return. This can be done through holding of a portfolio that is performing well and disposing those that are declining in their return.

With the study at hand it will be easy for one to evaluate the trend and see when it is appropriate to buy or dispose share of a certain company.

The companies themselves are in position to access their performances within the sectors under which they operate as well as to evaluate their performance in the context of the whole financial market. This will be the basis upon which the investors will be attracted to come and invest in those companies that give higher return to the investment made

## **CHAPTER TWO: LITERATURE REVIEW**

Why do people invest? Investors have different motives for investing; some people invest to gain a sense of power, prestige or control of the corporate empire as the driving motive. For most investors, however, most of them are interested in investment is largely to earn a return on their money. However, selecting stocks exclusively on basis of maximization of return is not enough. Investors not only like return they dislike risk. Holding of an assortment of securities attests to this fact (Fischer, 2001). Winger (1991) argues that investment involves basic strategies: long term investing and short term investing. Long-term investing involves holding investments for relatively long periods. This works best when well-conceived portfolio has been established. Short term trading strategy on the other hand involves frequent trading that attempts to profit from market volatility. One can exploit the economic cycles by designing an investment program which the investor ought to balance his portfolio depending on the economic cycle e.g. bonds are the security of choice in the trough, short term securities are favored during the contraction while common stocks tend to do well through the expansion stage.

### **2.1 Categories of investors**

Investors have different attitudes and attempt to achieve different goals. Investment is undertaken for current liquidity, for future expenditure, for retirement or for speculation. Also professional investors make investment decisions for others (Winger, 1991).

According to the CMA Annual Report (2000), many investors invest in anticipation of capital appreciation as they expect prices to rise in the long run thereby enabling them to make capital gains. There are also those who buy shares for investment income, and they therefore rely on dividends. An investor who invests for this purpose should invest in firms with a concrete dividend declaration policy or history.

### **2.2 Value versus growth investment**

Investors with substantial financial resources may buy shares with a view to control a company by owning over 50% of the issued capital. Since shares and stocks are easily marketable and transferable, some people buy them for use as a means of exchange (<http://www.nse.co.ke>).

There are also those who buy shares as a collateral security for raising loans - on the strength of the share certificate/account at the current market prices, a bank can at short notice work out the amount of money that can be loaned to a customer, and should a borrower default in repayment, the securities pledged can easily be marketed and the loan recovered. Most investors also buy shares for speculative purposes hoping to get short-run profits (<http://www.cma.or.ke>). They buy when the share prices are low and sell when they are high. Chances of one burning their fingers here are very high. Only investors who are well versed on market movements can afford to do this effectively. There are investors who would like to invest with a bias towards safety of their investments. These investors go for corporate and government bonds and shares of very solid firms. There are also the risk-averse or small net worth individuals who want to invest in shares and bonds but fear the risk. This investor is advised to invest through collective investment schemes (CIS) like Unit trust and Mutual funds; a CIS is professionally managed investments fund which pools ones money with that of many other investors with similar investment objectives. The aggregate sum is then used by the fund to build a diversified investment portfolio, which comprises shares, bonds and other investments. Unlike stocks, whose prices are subject to change at each trade, the fund's Net Added Value (NAV) is calculated at the close of each day's trading and fund's unit price is quoted in major newspapers on the following Business Day. One can sell off their stakes at a CIS at any time in short notice ([www.nse.co.ke](http://www.nse.co.ke)).

Lofthouse (2001), explains that value managers are essentially managers who buy cheap stock with cheap being as a lot of current year earnings, or assets, or immediate income (dividends) per shilling paid; and growth investors are those looking for rapid or sustained growth in the future of earnings, assets, dividends etc. He also defines a value investor as one who invests in shares with one or more of the following attributes: Low price earnings ratio P/E (or high earnings yield E/P), high cash flow to price ratio (C/P), high dividend yield, high asset value per share and Low Growth at reasonable price ratio

Reilly and Brown (2000) give the following distinction between value and growth investors:-

A growth-oriented investor will: Focus on the EPS component of the P/E ratio and economic determinants, look for companies that he expects to exhibit rapid EPS in future; and often

implicitly assume that the P/E ratio will remain constant over the near term meaning that the stock price will rise as forecasted earnings growth is realized.

On the other hand, a value oriented investor will focus on: the price component of the P/E ratio; he must be convinced that the price of the stock is cheap by some means of comparison. Not care a great deal about current earnings or the fundamental driver of growth earnings and often implicitly assume that P/E ratio is below its natural level and the market will soon correct this situation by increasing the stock price, with little or no change in earnings. The ultimate decision to be made in investment includes what securities should be held and how much amount of money to be allocated to each. The decisions are normally made through estimating the risk and return associated with available securities over a forward holding period (security analysis).

According to (Fischer, 2001) the first step when buying securities (shares/bonds) is to decide what company to buy in. When selecting a company to invest in, one should make sure the company is in a strong industry, and/or that it is strong or growing. Choosing the company to invest in is no easy job, hence different methods include: fundamental analysis; which is a method, in which you study the company's current management and position in the market (<http://www.nse.co.ke>). Technical analysis; this is a method which is totally based on charts, in which you identify trends the company has, and invest accordingly. Secondly, return- risk estimates must be compared in order to allocate available funds among these securities on a continuing basis.

Investment however is commitment of funds made in the expectation of some positive rate of return. If investment is undertaken the return will be commensurate with the risk the investor assumes. On the other hand, investment is distinguished from speculation by the time horizon of the investor and often by risk – return characteristics of the investment. The true investor is interested in a good return earned on a rather consistent basis of relatively long period of time. The speculators seek opportunities promising very large returns earned rather quickly. Hence stock can be purchased as a speculation or as an on investment (under pricing and over pricing) (Lee,1983 and Fischer, 2001).

### **2.3 The historical development of the NSE**

The Nairobi Stock Exchange (NSE) has a long history that can be traced to the 1920's when it started trading in shares while Kenya was still under a British colony (IFC/CBK 1984). While share trading was initially conducted in an informal market, there was growing desire to have formal market that would facilitate access to long term capital by private enterprises and how also allow commencement of floating of local Government loans. The NSE was constituted in 1954 as a voluntary association of stockbrokers registered under the societies Act (NSE 1997a). The newly established stock exchange was charged with the responsibility of developing the stock market and regulating trading activities. Despite its history, however, the stock market is yet to make significant contribution in the development process. The major question is, does the path of development mimic other developed or emerging markets.

The development path of stock markets in both emerging and developed world indicates an evolutionary process where changes in institutional infrastructure and policy environment are witnessed as efforts made to facilitate the growth of stock market. The evolutionary process indicates graduation from non- formal markets to formal organizations without a regulatory body and establishment and then the establishment of a statutory body in the reform/restructuring process.

The establishment a statutory body is aimed at enhancing the confidence of investors. While statutory regulatory bodies are set up in developed markets to resolve conflicts of interest in self-regulation framework, most developing or emerging markets such are established as part of the revitalization process.

The evolutionary process is also characterized by shift in trading system from periodic auction system to a continuous trading system (KIPPRA, 2003). The trading system defines the price discovery process or the transformation of latent demand of investors into realized transactions (Madhavan, 1992). The evolutionary process trading system also indicates a shift from manual to electronic and centralized settlement clearing. It is argued that a trading system that enhances efficiency in the price discovery process provides liquidity at low cost, and no excess volatility is more desirable for the developing stock markets (Amihud,et al 1990, and Bessembinder and



Kaufman, 1997). High liquidity enhances long term investment by reducing the required rate of return and lowering the cost of capital to the issuers of securities. By understanding the development path of stock markets, it serves as pointer to factors that explain the observed performance of the stock markets (KIPPRA, 2003). The path of development in the NSE can be viewed to have depicted three phases namely: the initiation stage, the formalization stage and revitalization/restructuring stage.

### **2.3.1 Stage 1 (1920s-1953)**

Share trading was initiated in the 1920s when Kenya was a British colony. Stage I, the initiation stage of the NSE, covers the period before the establishment of a formal stock market. This period is mainly characterized by informal share trading with no formal rules or regulations to govern trading activities (IFC/CBK, 1984). Trading in shares was based on a gentleman's agreement where standard commissions were charged and clients were obliged to honour their contractual commitment of making good delivery and settling of relevant costs. There was no physical trading floor or specialized stockbrokers. Share trading was a part time job for accountants, auctioneers, estate agents and lawyers who met to exchange prices over a cup of coffee (Parkinson, 1984 and Munga, 1974). Francis Drummond established the first stock brokerage firm in 1951. Foreign investors dominated share trading mainly because they had the know how of operating organized capital markets and also because their high income sufficiently permitted them to accumulate savings and investment in securities (Aworolo, 1971). Participation of local citizens was very limited, accounting for about 5%, mainly because of their low-income and statutory restrictions during the pre-independence period.

### **2.3.2 Stage II (1954-1963): Formalization of Share Trading**

The main feature of this period is the establishment of the NSE, which marked the formalization of share trading. The desire to establish a formal market was initiated by stockbrokers who desired to have a stock exchange that facilitated access by private enterprises to long-term capital. In addition, the Minister for Finance desired to have a formal market that facilitated floating of locally registered Government loans, which would be unattractive without a stock exchange. This saw the constitution of the Nairobi Stock Exchange in 1954 as a voluntary association of stockbrokers registered under the Societies Act (NSE, 1997a). To facilitate the registration, stockbrokers obtained clearance from the London Stock Exchange (LSE), which

recognized the NSE as an overseas stock exchange, effectively enabling the NSE to gain value and credibility (Munga, 1974).

With the establishment of the NSE in 1954, a self-regulatory framework was adopted whose main responsibility was to develop the stock market. The self-regulatory framework, which borrows heavily from the London Stock Exchange (LSE), is embodied in the *Rules and Regulations of NSE 1954*.

The number of stockbrokers increased to six in 1954, with two specialists and others carrying out stock broking as subsidiary activities (Parkinson, 1984).

### **2.3.3 Stage III (1963-1970): Political Environment and Kenyanisation Policy**

According to KIPPRRA, (2003) after independence saw the Government adopt the Kenyanisation policy with a primary goal of transferring economic and social control to citizens by ensuring that majority of businesses were in the hands of citizens except where some overriding national advantage was otherwise demonstrated. This was facilitated by maintenance of a common market with free movement of capital, and maintenance of common exchange regulations regarding capital movements to countries outside East Africa (Aworolo, 1971).

### **2.3.4 Stage IV (1971-1989): Capital Issue Committee and Taxation Policy**

In this period, the Government made a first attempt to directly monitor the operations of the stock market in an effort to ensure that capital raised in the market was not used for investment outside the country. Tight taxation policies were implemented to reduce repatriation of funds by foreigners and to raise Government revenue. In addition, corporations were not allowed to deduct expenses of raising share capital of debenture issues from taxable income. As such, the high expenses of raising finance and the non-deductibility of these expenses were clear disincentives for raising equity through public issues. The effective corporate tax was also high and tended to significantly reduce the returns on shareholders. The Government made a first attempt to regulate the stock market with the establishment of the Capital Issue Committee (CIC) in 1971. The idea was aroused from the observed practice of foreign investors in the process of Kenyanisation ([www.kippra.org](http://www.kippra.org))

### **2.3.5 Revitalization Process**

Despite the efforts made to promote growth of the capital market and the financial sector in general, the contribution of the sector to economic development was viewed as unsatisfactory as the economy hanged on the balance with dwindling inflow of foreign savings. The Government viewed the reform of the sector as the best option especially if the economy was to shift its reliance on domestic resources to finance domestic investment (Government of Kenya, 1974/78). Despite the Government realizing that the capital market was playing an insignificant role in the development process in the early 1970s, as characterized by weak development of financial institutions and a thin and inactive stock market, revitalization reforms were only implemented in the 1990s following the IFC/CBK (1984) study whose recommendations became a blueprint in the reform process. The Government reaffirmed its commitment to the reform process in *Sessional Paper No. 1 of 1986* (GoK, 1986). The recommendations emphasized the need to develop money and capital markets by diversifying money market instruments and removing taxation differences between the debt and equity finance in order to achieve diversity in the sector. Another proposal made was the need to establish a regulatory authority with the powers to provide regulatory measures for improvement and proper functioning of a fair and orderly market. The reform process was implemented simultaneously with the overall financial sector reforms aimed at enhancing efficiency in the price discovery process, reducing transaction costs, facilitating competitiveness and increasing liquidity. A statutory regulatory framework was adopted during the reform period charged with the responsibility of protecting the interests of investors in addition to developing the stock market.

### **2.3.6 Statutory Regulatory Framework**

A statutory regulatory framework was established as part of the ongoing capital market reforms in an effort to strengthen the regulatory infrastructure. The establishment was recommended by the IFC/ Central Bank of Kenya study (1984) and reaffirmed in the *Sessional Paper No. 1 of 1986*. In order to establish a regulatory body, legislation was adopted to facilitate formulation of rules and enhancing the effectiveness and efficiency of the operations of the Capital Market Authority (CMA). In November 1989, the Bill was passed by Parliament and the CMA was constituted in January 1990 and inaugurated in March 1990. It is important to note that while statutory regulation is desirable to provide necessary oversight of the market and ensure its

stability by *inter alia* preventing conflict of interest, it should complement rather than substitute self-regulation (Akamiokhor, 1996).

The main purpose of setting up the CMA was to have a body specifically charged with the responsibility of promoting and facilitating the market in Kenya.

### **2.3.7 Trading System**

In November 1991, share trading moved from coffee-house to floor based open outcry system. The open outcry system was opted for to enhance transparency by according all brokers an equal opportunity to bid for securities and also to enhance handling of the growing trading activity. This followed the recommendations made by the IFC/CBK (1984) study justifying that since brokerage businesses were conducted behind closed doors, the stock exchange had not been able to generate adequate public awareness and confidence in the buying and selling of securities. The trading system, it was felt, did not guarantee that the prices obtained by buyers and sellers are best since all buying and selling interests did not get exposed to one another.

With the start of the year 2000, several legislations enacted e.g. the Central Depository Act which was passed by the parliament. This Act intended to spur activity in the capital markets as it made easier for the investors and issuers to transact business at lower cost.

The Capital Amendment act was passed by parliament (CMA Act, 2000). This Act redefines and clarifies the regulatory mandate of the Authority and introducing new provisions for the new instruments and institutions in the market which includes: CIS (collective investment scheme) and provisions for the investment banks and Authorized Securities Dealers.

Prior year 2000 growth in developing countries has been adversely affected by global financial crisis. Never the less, there has been slight recovery beginning from year 2000 with the main drivers being stimulative monetary and fiscal policy measures in industrialized countries, the return of investor confidence in South East Asia and gradual easing of financial conditions (CMA Annual Report, 2000).

The Authority, in collaboration with the Nairobi Stock Exchange, has reorganized the structure of the market in order to cater for the needs of diverse investors and issuers. The Authority released a reform strategy paper in May, 2000, outlining the proposed fundamental reorganization of Kenya's capital markets into four independent market segments: the Main Investments Market Segment (MIMS), the Alternative Investments Market Segment (AIMS), the Fixed Income Securities Market Segment (FISMS) and at a later stage a Futures and Options Market Segment (FOMS). This was seen as a way to attract small, medium and large investors in the market (CMA annual report, 2000).

#### **2.4 Factors influencing return on investment**

Expected returns of invest of investors will based upon the perceived changes that are highly anticipated to occur. Therefore, it is good to keep in mind the economic forecasts that have an impact on the return of our investment or decision e.g. the component of GNP that are closely related to the industry or a firm you as an investor has or is intending to invest on e.g. if we were examining consumer oriented firm, one would undoubtedly be interested in forecast of disposable income and per capita real GNP adjusted for price level changes. There are other factors that may have an effect on a particular industry namely the government policies, environmental, the age wave among others (World Bank Report, 2003).

The most immediate recognize effect of economic and industry influence on the specific company is probably the impact on the revenues. The sales of some industries (steel and autos) tend to move in tandem with the business cycle; others (food, telephone and utilities) are relatively immune from the cycle, others such as housing move counter cyclically. Individual company adjustments to changes in the general business cycle can differently from those of the industry in general. Product mix and pricing peculiar to specific firms can cause total revenues to respond more or less to broad economic declines and responding as demand increases. (Fischer, 2001).

Investor need to know the characteristics of various investment alternatives and must keep informed on the institutions and markets where they are available using audited financial statements for a firm; an analyst can work toward more complete and consistent information on

his own. The investment decision involves comparing the data derived from financial statements from different firms. Exploration into these financial statements enables the analyst to work with the interrelationships used in various statements in forming expectations about earnings, dividends and stock prices.

Niederhoffer and Patrick, (1992) argue that stock prices are strongly dependent upon earnings changes, both absolute and relative to analyst estimates. They observed that the common characteristics of the companies registering best price changes realized profit gain. The worst performing companies were those characterized by severe earnings declines, combined with unusually optimistic forecasts. The efficiency of profitability with which a firm uses its assets is key influence on earnings level and growth. Better-managed firms typically have higher profits than poorly managed firms. Many managers describe themselves as either growth or value investors but the distinction is less clear than often assumed. Partly this is because the word "value" gets in the way. Everybody wants to buy stocks that are of good value even growth managers. Value managers are those who buy cheap stocks with "cheap" being defined as a lot of current year earnings, assets or immediate income (dividends). Growth investors are those looking for rapid/sustained growth in future earnings, dividends etc. (Loftouse, 2001)

Lafayette, (2000), argues that general Managers have overall responsibility for the financial performance of the firm. As such, they need to focus on performance measures that are indicative of the "big picture." These measures must tie together resources and production, because effective use of resources is at least as critical a concern for the general manager as efficient production. These measures must also tell the general manager how the capital structure that has been established is performing. The key measures must cut to the very core of the cost-volume-profit relationship that is at the heart of every business, including the firms.

## **2.5 Factors affecting stock market returns**

Osborne (1959), researchers have studied the return/volume relation from a variety of perspectives. For example, previous empirical investigations have included the relation between price indexes and aggregate exchange trading volume (Granger and Morgenstern, 1963), between contemporaneous absolute price change and trading volume (Crouch, 1970), between

price change and trading volume (Westerfield, 1977; Tauchen and Pitts, 1983; Rogalski, 1978), between the variance of price change and trading volume (Epps and Epps, 1976), and between squared price change and trading volume (Harris, 1986; Clark, 1973). From these research studies two empirical relations emerge as stylized facts: the correlation between trading volume and the absolute value of the stock price change is positive, and the correlation between trading volume and the stock price change is also positive (Karpoff, 1987).

Gallant, Rossi, and Tauchen (1992) point out that much of the previous empirical work on the return-volume relation focuses primarily on the contemporaneous relation between price changes and volume. Although some models use cross correlations to imply a dynamic relation between returns and volume, these studies do not necessarily examine causal relations.

## **2.6 Researches on NSE**

Most empirical studies have been conducted on developed stock markets mostly on the relationship between stock market prices and trading volume (Ayako, 2005) and found that there is no relationship between the two.

Other studies on the companies listed on the NSE on stock market prices include Omosa (1989), researched on predictive ability of dividend valuation model finding that the models have less predictive ability in NSE. He compared predicted prices with the actual prices and tested for significance.

Mwangi (1997) analyzed price movements for some selected stocks at NSE with the objective being to determine factors that affect movements. He came up with conclusions that it was not always possible to develop models that accurately predict prices at NSE. This is because (according to him) the parameters used in forecasting vary overtime due to changes in underlying earnings generating process.

Muriithi (2002) research sought to establish whether interim dividends could be used to predict final earnings. The study used the data from NSE which was analyzed using regression analysis and found that there is no relationship between the interim dividends and eventual year ending earnings.

## **2.7 Usefulness of financial statements**

Conceptual wisdom in finance around late 1980s held that stock markets many countries are semi strong form efficient. Stocks impound publicly available information promptly without bias (Penmann, 1989). He further argued that publicly available financial statement numbers can predict future return on the stocks and prompted that fundamental analysis as a worthwhile activity. An understanding of the company's overall financial situation and enterprise relationships requires three key financial documents: the balance sheet, the income statement and the cash flow statement.

The primary objective of financial record keeping and analysis is to make better business decisions. Identifying emerging problems and initiating timely corrective action, as well as identifying potential opportunities for increased profit, are some of the obvious benefits of financial analysis. Hopefully, ongoing analysis will help the companies managers identify past mistakes and learn from them by not repeating those same mistakes again (Fridson and Fernando, 2002).

The information from these three financial statements also can be used to prepare additional financial measures that reveal the strengths and weaknesses of the company. These additional financial measures can be used to make several comparisons (Lafayette, 2000). First, the current performance of the firm can be compared to its historical and projected or budgeted performance. This comparison helps the investors understand how and why the actual outcome of the business differs from what they had expected. Second, the companies' performance can be compared to that of its peers, or similar businesses, to determine the relative status. A performance that is below the average indicates that additional profits are possible because others (peers) are proving it is possible to be more productive. The key is to identify why and take appropriate management action. These comparisons are very useful but sometimes difficult to do because of the personal nature of the information. However, the financial information that can be used to compare company's businesses available through reports and firm record-keeping. A third comparison can be made between the performance of the firm business and non-firm alternatives. This last comparison identifies opportunities, if any, that are lost or relinquished



because one has invested their time and capital in owning and operating a firm.

Reily and Brown (2000), further argue that financial statements analysis can help an analyst to understand a company's current situation, where it may be going, what factors affect it, and how those factors affect mispriced securities in this manner. It is however possible to identify firms likely to go bankrupt, firms with higher or lower betas, firms with greater or lower sensitivities to major factors. The income statement indicates the earnings of profits of the company. Instead of presenting levels at a point in time, the income statement reports flows that occur over a period of time. The sales measure the inflow of asset from selling of goods and services to the company's customer. The income statement is related to the beginning and the end of period balance sheets. Earnings are often presented on per share basis.

## **2.8 Performance measures**

Performance measurement has become significant part of investment process. The 1960 saw the beginning of a careful and systematic investment performance evaluation. Prior to that time investors including most institutional investors, were generally content to monitor their portfolios without numerical measures. The change was brought about by a number of forces including competition among money managers in rapidly rising market and the preoccupation of pension fund managers with pension cost reduction. (Altman, 1986)

### **2.8.1 Relationship between the financial and social performance measures**

Several studies have tried to define the corporate social and environmental performance of corporations. These studies have applied various definitions of corporate social performance measures. Margolis and Walsh (2001) have compiled the results of many researches of many research studies dealing with relationships between corporate performance variously defined to include other aspects, such as environmental, social, or other objectives. Prior studies (Verschoors', 1999), have also examined the question of whether there is a relationship between a corporation's financial performance and their commitment to the code conduct and diversity. Franko (1989) found there was no evidence of systematic tendency across industries toward negative relationships between multinational enterprise acceptance of minority position and company underperformance. Verschoor's (2001) studies showed that there was statistically significant linkage between management commitment to strong internal controls that emphasize

ethical and socially responsible behavior on the other hand and favourable corporate financial performance on the other.

Waddock and Graves (1989), have specifically addressed the relationship between the corporate social performance and the financial performance. Their study found a positive Bi-directional relationship between corporate social performances. Corporate social performance (CSP) appears to lead to an improved financial performance and positive financial performance apparently leads to improved CSP. Socially responsible or ethical investing has gained considerable prominence as many fund families market mutual funds containing only investment that have been screened for various social and environmental issues (Waddock and Graves, 1999).

### **2.8.2 The usefulness of performance measures**

The use of performance measures has become one of the critical factors in assessing the contribution of various sectors to the overall industry or the economy as well as in allocation of resources. Performance management in government has received increased interest since the late 1980s fostered by the re investing government movement (Osbourne and Gaebler, 1992). The American Government and performance Results Act of 1993 required all the federal and agencies to develop five-year strategic plans linked to measurable outcomes, via a series of annual performance plans from 1999. The performance plans had to cover each programme activity set forth in the agency budget, with specific performance measures and objectives, quantifiable, and measurable goals (Kravchuk and Schack, 1996).

In UK, the Financial Management Initiative introduced in early 1980s, embodied performance management but was assessed as being unsuccessful in influencing the allocation of public resources or increasing the degrees of public accountability (Osbourne *et al*, 1995; Sharifi and Bovaird, 1995). While some performance measures of the Conservative administration's management of the public sector, there has been large rise in their use. The performance targets have been linked to the resources allocated by treasury is now widespread in UK public sectors. The design of incentive contracts and the use of performance measures in these contracts is the basic problem addressed by agency theory. In general, agency models analyze the situation in

which a principal design an incentive contracts to motivate a risk and work averse agent to initiate effort. The assumption underlying these agency models is that the incentive contract and, more specifically, the performance measures used affect the agent's behavior. That is, the agent directs his attention to those aspects of the job that are being measured (Holmström and Milgrom, 1991; Feltham and Xie, 1994). Furthermore, increasing the incentive payment will lead the agent to exert more effort. As a result, agency theory predicts that the performance measure used for incentive purposes determines the direction of effort by the agent and that the incentive weight determines the amount of effort provided by the agent. This means that the use of incentive contracts will lead to higher effort levels and increased performance on those dimensions that are being measured.

The findings in the empirical accounting literature on the effects of incentive systems are consistent with the agency predictions. For example, Banker et al. (1996), Wallace (1997), and Banker et al. (2000) all find that (measured) performance increases after the implementation of an incentive plan and that the decisions made by management are consistent with the incentives provided (Wallace 1997). Further, the empirical accounting literature pays a considerable amount of attention to the effects of earnings-based incentive plans on earnings management. In general, the studies by Healy (1985), Gaver et al. (1995), and Holthausen et al. (1995) provide mixed evidence with respect to the extent to which earnings-based incentive plans provide CEOs with incentives to make accrual decisions that maximize their bonus. Guidry et al. (1999) provide a more powerful test by examining earnings management by business-unit managers using business-unit-level data. The findings are that business-unit managers manipulate earnings to maximize their bonus. Similarly, Merchant's (1990) study of profit center managers indicates that the use of financial controls provides managers with incentives to be short-term oriented and to manipulate earnings by accelerating profits.

Performance measurement has been traditionally used for organizational control and for achieving the financial goals of organizations. These models of performance measures have thus focused on maximizing the wealth of shareholders. In addition earlier studies have demonstrated the need for multidimensional performance measures along with performance models (Johnson and Kaplan, 1987; Fitzgerald *et al.*, 1991; Eccles and Pyburn, 1992). These performance

measures models will focus on different dimensions such as external and internal measures (Fitzgerald *et al*, 1991).

According to Gardner (1998) performance measures can be used by managers as indicators internally in Policy planning, control process, resource allocation and decision making monitoring the achievement of objective. Jackson (2000), argues that for operational and strategic uses the measures help to improve management practices, increase the accountability of management provide basis for policy planning and control, provide essential management information by enabling activities to be monitored at several levels of organization and to confirm that the intended outcomes of various decisions are being achieved that is; they provide information for ex-post strategic post mortems when policies and management practices and methods are viewed

### **2.8.3 Use of financial ratios**

There are four major areas in investment that financial ratios are used namely: in stock valuation, assigning credit ratings on bond, identification of internal corporate variables and predicting solvency.

### **2.8.4 Stock valuation**

Most valuation models attempt to derive an appropriate price/earning ratio for stock. The earnings multiple is influenced by the expected growth rate in earnings and dividends and the required rate return on the stock. Financial ratios can help in making both estimates (William *et al*, 2004 and Thygerson, 1995)

### **2.8.5 Identification of internal corporate variables that affect a stock's systematic risk (beta)**

CAPM asserts that the relevant risk variable for an asset should be its systematic risk which is beta coefficient related to the market portfolio of all risky assets. In the efficient market a relationship should exist between internal corporate risk variables and market determined risk variables such as beta. Numerous studies have tested this relationship by examining internal corporate variables intended to reflect business risk and financial ratios e.g. dividend pay out,

interest cover ratio current ratio among others variability measures includes the coefficient of variation of earnings, variance of operating earnings etc. Non-rate variables e.g. asset size and market value of trading stock (Thygeson, 1995)

### **2.8.6 Assigning credit quality ratings on bonds**

There are four financial ratios that are used to assign quality ratings to the bonds on basis of the issuing company's ability to meet all its obligations related to the bond major financial are: long term debt to its total asset, total debt to total capital, net income to total assets and net operating profit to total sales.

### **2.8.7 Predicting insolvency (bankruptcy) of firms**

The financial ratios mostly used are: Working capital to sales ratio, retained earnings to total assets, earning before interest and tax to total sales ratio, cash flow to total debts, and total debt to total assets.

## **2.9 Types of financial Ratios**

### **2.9.1 Profitability ratios**

This measures how well management is investing the firms total capital and raising funds. Profits acts as cushion against adverse conditions such as losses on loan or losses caused by unexpected changes in the interest rates. Most commonly used profitability ratios include: gross profit margin and operating margin (Lafayette, 2000 and Harrington, 1993).

### **2.9.2 Capital adequacy**

This measures financial leverage. Firms with high leverage will experience more volatile earning behavior. Asset credit quality measures the credit risk. Credit quality refers to the risk embodied in the institution asset portfolio. An institution with high percentage of government treasury securities and agencies securities and other high quality short term securities is exposed to less credit risk than the firm highly engaged construction lending for building shopping centers)

### **2.9.3 Market ratios**

Managers and investors are interested in market ratios, which are used in valuing the firm's stock. The price-earnings ratio and the market-to-book value ratio are often used in valuation analysis. The price/earnings ratio, universally known as the PE ratio, is one of the most heavily-quoted statistics concerning a firm's common stock (Helfert, 1997).

### **2.9.4 Dividend Per Share**

This shows the total aggregate dividends paid per sharer basis. It reflects the amount paid to stockholders and is an important component of valuation and stockholders return. The amount of dividends paid per share is dependent on the type of stock. Growth stocks can expect to pay less than growth income shares. The dividend growth in growth in company Mostly the dividend that the firms do pay are determined by the earnings that the firm has made hence the larger the the current earnings, the the higher the dividends paid. (William et al., 1999). In addition the dividends paid by a firm is depedent on the dividend policy the firm adopts as well as the investment outlay envisaged by the firm.

Other performance measures include:

### **2.9.5 Sales revenue**

Income from sales of goods and services, minus the cost associated with things like returned or undeliverable merchandise. Its either referred to as "Sales", "Net Sales", "Net Revenue", or "Revenue". The amount of sales revenue made by a company indicates how a company is commanding in the market. Simply it indicates the market share of the company. tyhe variability of sales revenue is determinant of operating risk (variability of earnings before interest and tax) sales of a company may fluctuate because of: changes in general economic conditions that affect the business activity, effects of economic policies to a particular industry and availability of basic raw materials for production, technological changes, competitors action, industrial relations, shifts in consumer preferences among others ( Pandey, 1999)

### **2.9.6 Stock market return**

According to Cutler, Poterba and Summers (1991), investors may temporarily pull financial prices away from their long term trend level. Over-reactions may occur— so that excessive

optimism (euphoria) may drive prices unduly high or excessive pessimism may drive prices unduly low. Various explanations for large price movements have been promulgated. For instance, some research has shown that change in estimated risk, and the use of certain strategies, such as stop-loss approach which theoretically could cause financial markets to overreact

Tversky, A. & Kahneman, D. (1974), explains that psychological factors may result in exaggerated stock price movements. Psychological research has demonstrated that people are predisposed to 'seeing' patterns, and often will perceive a pattern in what is, in fact, just *noise*. (Something like seeing familiar shapes in *clouds* or *ink blots*.) In the present context this means that a succession of good news items about a company may lead investors to overreact positively (unjustifiably driving the price up). A period of good returns also boosts the investor's self-confidence, reducing his (psychological) risk threshold. Another phenomenon also from psychology that works against an objective assessment is *group thinking*. As social animals, it is not easy to stick to an opinion that differs markedly from that of a majority of the group. An example with which you may be familiar is the reluctance to enter a restaurant that is empty; people generally prefer to have their opinion validated by those of others in the group.

Stephen Morris and Hyun Song Shin,(1999) draw an analogy with gambling. In normal times the market behaves like a game of roulette; the probabilities are known and largely independent on the investment decisions of the different players. In times of market stress, however, the game becomes more like poker (herding behavior takes over). The players now must give heavy weight to the psychology of other investors and how they are likely to react psychologically). Mostly the investors who are interested in maximizing the capital gains would like to invest in those stocks that give the highest rate of return. Stocks returns are usually calculated based on the market index. Opening stock prices are usually compared with the closing prices to determine the return. Growth in the stock returns is compared over the five-year period having calculated the monthly return and standard deviation of each stock a period to depict the rate of growth a company is exhibiting.

### **2.9.7 Earning after tax**

Gillian et al, (2002) argue that management typically has discretion over the recognition of accruals and this discretion can be used by management to signal their private information or to manipulate earnings. To the extent that management uses their discretion to manipulate accruals, earnings will become less informative.

However research on time series properties of annual accounting earnings indicate that earnings follow a random walk (or random walk plus drift) process. Albrecht, Lookabill and Mckeown, (1977); find that in their random walk model, the annual earnings for the forthcoming year can be thought to be equal to the earnings of the past year plus the random error term .

Earnings are the Net gains the organizations make from its operation. It is simply the operating gains or profit less the expenses incurred in the operations of the company or the organization. It is the starting point of every organization in assessing the profitability or in determining the viability of the business. In most cases the company sets targets to be attained in the forthcoming periods in comparison with the previous periods hence we talk of growth in earning. Year 2000 will be the basis of calculating the growth in earnings.



## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Research Design.**

Cross sectional research design has been adopted in the proposed study. In this kind of design data is collected over a specified duration of time i.e. The researcher measures the independent and dependent variables at the same time.

### **3.2 Population**

The population of the study consist of all companies listed in Nairobi Stock Exchange (NSE) before year 2000 and has published the financial statement from January 2000 to December 2004.

### **3.3 Sampling Frame**

The sampling consists of all companies that are active and quoted at NSE as at the beginning of January 2000. We will pick financial statement for all companies and stocks for analysis in all the market segments as follows: Agricultural Market segment, Commercial market segment, financial market segment and Industrial and Allied Market segment

Upon evaluation a list of 48 companies was established to meet the above criteria i.e. they were listed prior year 2000 and had published their financial statements for the five consecutive years.

### **3.4 Sampling**

There a several popular notions about the necessary size of the sample, one is that the sample size must be a certain proportion (often put at 5 percent) of the population; still another is that any increase in the sample will increase the precision of the sample results. The adequate size of the sample is properly estimated by deciding what level of accuracy is expected; that is, how large a standard error is acceptable (Nachmias and Nachmias-Frankfort, 1982; Dooley 1995.) In this study, all the forty-eight companies listed in the NSE have been included to increase the precision.

### 3.5 Data Collection

Secondary data has been used in this study. The source of the data will be the Nairobi Stock Exchange (NSE) and Capital Market Authority (CMA). The financial statements will be obtained from the NSE and we also refer to the financial statements published by the companies where the data is not available at NSE. Such data included movement in share prices dividends paid among others.

### 3.6 Data Analysis

The main aim of the study is to identify the relationship between the stock market return and financial performance ratios of the companies listed in NSE based on the financial ratios over the five years period. To achieve the objectives of the study, we shall use cross tabulation to reflect the performance of the 48 companies, using the various performance indicators such as sales turnover, profit after tax, dividend yield, over the five-year period (2000 – 2004). Descriptive statistics and time series analysis shall be used to describe the performance of the companies over the study period.

Average performance indexes for various performance indicators have been computed for each year and an average or mean for the five years will be computed. Thereafter, correlation tables will be used to ascertain the relationship between the performance indicators weightings. More so, the relationship of the three market segments i.e. the Main Market Investment, Alternative Market Investment and Fixed Income Market Segments will be computed on each ratio used to determine whether the relationship in the performance is significant.

### 3.7 Ratios used

- **Stock Market Return** ( $R_j$ ) = 
$$\frac{R_{t+1} - R_t + D}{n}$$

Where  $R_j$  = stock market return

$R_{t+1}$  = current stock market return

$R_t$  = Previous period return

$n$  = number of years

$D$  = Dividend per share paid

- **Earnings after tax** =  $\frac{E_n - E_0}{n}$

Where  $E_0$  = earnings for the base year

$E_n$  = earnings for the current year

$n$  = number of years

- **Sales revenue** =  $\frac{S_n - S_0}{n}$

Where  $S_n$  = sales of current period.

$S_0$  = sales for previous period

$n$  = number of periods

- **Dividends growth** =  $\frac{D_n - D_0}{n}$

Where  $D_n$  = Dividend of current period

$D_0$  = Dividends of previous period

- **Regression analysis**

$P_0 = f_n(S_n, D_n, \Pi)$

Where  $f_n$  = function

$S_n$  = sales turnover

$P_0$  = stock market return

$D_n$  = Dividends

$\Pi$  = profits before Tax

- **Correlation coefficient**

$$\text{Corr} = \frac{\text{Covariance}}{\text{Standard deviation}}$$

## CHAPTER FOUR: DATA ANALYSIS

The data analysis involves computing the correlation coefficient to establish whether there will be any relation between the stock market prices, sales turnover, dividends and profit.

Regression analysis is also used to explain the variability of stock market return as a result of variation in the profit, dividends and sales turnover.

### 4.1 Analysis for Year 2000

Table 4.10 (below) indicates that at 95% confidence limit there is a significant relationship between stock returns and dividends at .0418 and turnover at 0.541 but no significance at 99% confidence limit. There is no association of stock market return and profit in year 2000.

**Table 4.10: correlation analysis (Year 2000) of NSE listed companies**

		Stock returns	Dividend	Profit	Turnover
Stock returns	Pearson Correlation	1.000	.418(*)	.235	.541(**)
	Sig. (2-tailed)	.	.014	.129	.000
	N	46	34	43	44
Dividend	Pearson Correlation	.418(*)	1.000	-.171	-.034
	Sig. (2-tailed)	.014	.	.341	.851
	N	34	34	33	34
Profit	Pearson Correlation	.235	-.171	1.000	.190
	Sig. (2-tailed)	.129	.341	.	.223
	N	43	33	43	43
Turn over	Pearson Correlation	.541(**)	-.034	.190	1.000
	Sig. (2-tailed)	.000	.851	.223	.
	N	44	34	43	44

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Research data

### 4.2 Regression Analysis

Multiple regression analysis is used with the dependent variable being stock return as explained by the variation in sales turnover, profit before tax and dividends.

**Table 4.11: Regression analysis (Model Summary) for the year 2000**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.807(a)	.651	.615	55.5800

a Predictors: (Constant), Turnover, Dividend, Profit

Source: Research data

From the table 4.11 there is significant relationship between stock returns and dividends as well as stock return and turnover at 99% confidence level. There is no significant relationship of stock market return and profit for the year 2000. Table 4.11 indicates that the variation in stock returns mostly caused by the predictor variables at 80.7% of this variation is explained by  $R^2$  at 65 %.

**Table 4.13: Analysis of Variance (ANOVA) on regression Model**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	167054.463	3	55684.821	18.026	.000(a)
	Residual	89585.076	29	3089.141		
	Total	256639.539	32			

a Predictors: (Constant), Turn over, Dividend, Profit

b Dependent Variable: Stock returns

Source: Research data

Table 4.13 shows that the variation in stock market return as a result the other variables is significant as shown by Fischers statistics at 18.026 and it is also significant at 0.00

**Coefficients(a)**

**Table 4.14:**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.273	12.099		2.089	.046
	Dividend	7.241E-06	.000	.557	4.999	.000
	Profit	3.585E-05	.000	.343	3.069	.005
	Turn over	4.921	1.034	.524	4.757	.000

a Dependent Variable: Stock returns

Source: Research data

Table 4.14 indicates that the variation in stock market return is influenced by dividends at 7.241E-06, at 3.585E-05 by profit and 4.921 by the turnover which seem to have more effect on

the variation of the stock market return. Turnover has the highest significance with t value at 4.757.

### 4.3 Analysis for year 2001

**Table 4.15 Correlations**

		Stock returns	Dividend	Profit	Turnover
Stock returns	Pearson Correlation	1.000	.123	.264	.412(**)
	Sig. (2-tailed)	.	.476	.079	.004
	N	46	36	45	46
Dividend	Pearson Correlation	.123	1.000	-.116	.292
	Sig. (2-tailed)	.476	.	.507	.084
	N	36	36	35	36
Profit	Pearson Correlation	.264	-.116	1.000	.629(**)
	Sig. (2-tailed)	.079	.507	.	.000
	N	45	35	45	45
Turn over	Pearson Correlation	.412(**)	.292	.629(**)	1.000
	Sig. (2-tailed)	.004	.084	.000	.
	N	46	36	45	46

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Research data

Table 4.15 shows that there is significant relationship between the stock market return (0.412) and turnover as well stock market return and profit (0.629) but not significant at 99% confidence limit.

### Model Summary

**Table 4.16**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.495(a)	.245	.172	72.4997

a Predictors: (Constant), Turn over, Dividend, Profit

Source: Research data

Table 4.16 shows that the variation in the stock return is caused by the predictor variable by 49.5% and explained by  $R^2$  at 24.5%. Table 4.17 indicates that the level of significance has declined with only at F of 3.36 for the whole model.

Table 4.17

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52977.165	3	17659.055	3.360	.031(a)
	Residual	162942.267	31	5256.202		
	Total	215919.432	34			

a Predictors: (Constant), Turn over, Dividend, Profit

b Dependent Variable: Stock returns

Source: Research data

Table 4.18 Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.163	15.976		1.951	.060
	Dividend	5.607E-07	.000	.067	.391	.699
	Profit	1.777E-05	.000	.202	1.172	.250
	Turn over	10.626	5.208	.368	2.040	.050

a Dependent Variable: Stock returns

Source: Research data

### 4.3 Analysis for Year 2002

Table 4.19: Correlations

		Stock returns	Dividend	Profit	Turn over
Stock returns	Pearson Correlation	1.000	-.085	.137	.103
	Sig. (2-tailed)	.	.623	.369	.496
	N	46	36	45	46
Dividend	Pearson Correlation	-.085	1.000	-.677(**)	-.038
	Sig. (2-tailed)	.623	.	.000	.825
	N	36	36	35	36
Profit	Pearson Correlation	.137	-.677(**)	1.000	.055
	Sig. (2-tailed)	.369	.000	.	.718
	N	45	35	45	45
Turn over	Pearson Correlation	.103	-.038	.055	1.000
	Sig. (2-tailed)	.496	.825	.718	.
	N	46	36	45	46

\*\* Correlation is significant at the 0.01 level (2-tailed). Source: Research data

Table 4.19 shows that there relationship between the dividends at profit but no relationship at 99% confidence limit. There is no relation among other variables.

### Model Summary

**Table 4.20**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.164(a)	.027	-.067	65.8416

a Predictors: (Constant), Turnover, Dividend, Profit

Source: Research data

### ANOVA(b)

**Table 4.21**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3723.098	3	1241.033	.286	.835(a)
	Residual	134388.758	31	4335.121		
	Total	138111.856	34			

a Predictors: (Constant), Turnover, Dividend, Profit

b Dependent Variable: Stock returns

Source: Research data

Table 4.21 shows that the significance of model has declined from 3.36 in 2001 to 0.286 in 2002 indicating the drop in the level of significance.

### Coefficients(a)

**Table 4.22**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.962	13.671		2.484	.019
	Dividend	2.259E-07	.000	.045	.187	.853
	Profit	5.909E-06	.000	.164	.678	.503
	Turn over	1.490E-02	.033	.081	.456	.652

a Dependent Variable: Stock returns

Source: Research data



#### 4.4 Analysis for Year 2003

Table 4.23

##### Correlations

		Stock returns	Dividend	Profit	Turn over
Stock returns	Pearson Correlation	1.000	-.086	.200	.454(**)
	Sig. (2-tailed)	.	.635	.193	.002
	N	45	33	44	45
Dividend	Pearson Correlation	-.086	1.000	-.692(**)	.026
	Sig. (2-tailed)	.635	.	.000	.884
	N	33	34	33	34
Profit	Pearson Correlation	.200	-.692(**)	1.000	.393(**)
	Sig. (2-tailed)	.193	.000	.	.008
	N	44	33	45	45
Turnover	Pearson Correlation	.454(**)	.026	.393(**)	1.000
	Sig. (2-tailed)	.002	.884	.008	.
	N	45	34	45	46

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Research data

Table 4.23 shows that there is a relationship between stock returns and turnover (.454) but not significant at 99% confidence limit. There is also a relationship between profit and dividends (0.692) and between turnover at profit (0.393) but not significant at 99% confidence limit.

Table 4.24 indicates that the variation in stock market return is explained by other variables by 17.5% but the overall significant of model has declined as shown by F (1.977) which is not significant as shown in table 4.25

Table 4.24 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.418(a)	.175	.086	86.7568

a Predictors: (Constant), Turn over, Dividend, Profit

Source: Research data

Table 4.25 ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44650.462	3	14883.487	1.977	.140(a)
	Residual	210748.840	28	7526.744		
	Total	255399.302	31			

a Predictors: (Constant), Turn over, Dividend, Profit

b Dependent Variable: Stock returns

Source: Research data

**Coefficients (a)**

**Table 4.26**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	28.133	19.614		1.434	.163
	Dividend	-1.404E-06	.000	-.222	-.861	.396
	Profit	-7.572E-06	.000	-.184	-.683	.500
	Turn over	7.747	3.297	.459	2.349	.026

a Dependent Variable: Stock returns

Source: Research data

**4.5 Analysis for Year 2004**

**Correlations**

**Table 4.27**

		Stock returns	Dividend	Profit	Turnover
Stock returns	Pearson Correlation	1.000	-.108	.165	.559(**)
	Sig. (2-tailed)	.	.544	.279	.000
	N	46	34	45	46
Dividend	Pearson Correlation	-.108	1.000	-.606(**)	.011
	Sig. (2-tailed)	.544	.	.000	.951
	N	34	34	33	34
Profit	Pearson Correlation	.165	-.606(**)	1.000	.422(**)
	Sig. (2-tailed)	.279	.000	.	.004
	N	45	33	45	45
Turn over	Pearson Correlation	.559(**)	.011	.422(**)	1.000
	Sig. (2-tailed)	.000	.951	.004	.
	N	46	34	45	46

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Research data

Table 4.27 indicates that there is a relationship between stock market return and sales turnover (of 0.559) but the relationship is not significant at 99% confidence limit. There also exist a relationship between the profits and dividends of (0.422) but this relationship is not significant at 99% confidence limit

**Model Summary**

**Table 4.28**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.576(a)	.332	.263	97.8433

a Predictors: (Constant), Turn over, Dividend, Profit

Source: Research data

Table 4.28 shows that the variation of stock market return as explained by other variables is 33.2% by the other variables. The significance of the overall model has increased as shown by F statistics of (4.797) as shown in table 4.29 an increase compared to the 2003.

**ANOVA(b)**

**Table 4.29**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	137769.379	3	45923.126	4.797	.008(a)
	Residual	277626.088	29	9573.313		
	Total	415395.467	32			

a Predictors: (Constant), Turnover, Dividend, Profit

b Dependent Variable: Stock returns

Source: Research data

Table 4.30 shows that the variation in the stock market returns there is no significant variation of stock market return as explained by other variables.

**Table 4.30**

**Coefficients(a)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.029	22.470		1.158	.256
	Dividend	-2.544E-06	.000	-.341	-	.107
	Profit	-1.326E-05	.000	-.368	-	.107
	Turn over	14.858	3.978	.657	3.735	.001

a Dependent Variable: Stock returns

Source: Research data

## CHAPTER FIVE: SUMMARY AND RECOMMENDATIONS

### 5.1 Summary on key findings

The study has shown that the relationship between the stock market prices and the: sales turnover, profit before tax as well as dividends is uneven from one year to the other and where there is relationship it is not significant. Stocks are mostly determined by the expected future earnings of the companies and not the current trends that are depicted by the company performance. Investors invest in the companies stocks with the anticipation of that the company will perform well in future which will have positive impact on the stock market prices.

Various explanations for large price movements have been promulgated. For instance, some research has shown that changes in estimated risk, and the use of certain strategies, such as stop-loss limits which theoretically could cause financial markets to overreact.

Other research has shown that psychological factors may result in exaggerated stock price movements. Psychological research has demonstrated that people are predisposed to 'seeing' patterns, and often will perceive a pattern in what is, in fact, just *noise*. (Something like seeing familiar shapes in *clouds* or *ink blots*.) In the present context this means that a succession of good news items about a company may lead investors to overreact positively (unjustifiably driving the price up). A period of good returns also boosts the investor's self-confidence, reducing his (psychological) risk threshold.

Another phenomenon also from psychology that works against an objective assessment is group thinking. As social animals, it is not easy to stick to an opinion that differs markedly from that of a majority of the group. An example with which you may be familiar is the reluctance to enter a restaurant that is empty; people generally prefer to have their opinion validated by those of others in the group. Studies on stock market returns indicate that the annual reported earnings on the stock follow a random walk i.e. the annual earnings for the coming year can be equal to annual earnings over the past year plus the random error term. The return of stock market securities is dependent upon the degree of efficiency in the market. Such that any new information whether positive or negative is incorporated in stock market.

## **5.2 Limitation of the study**

Different firms may experience different endogenous factors which may affect the financial performance at different magnitude than other firms.

The risk exposure of companies differ i.e. the local and multinationals hence the financial performance differs.

Creative Accounting accounting policies used by firms may affect the returns that will be reported in their books e.g. depreciation, amortization etc

## **5.3 Areas of further research**

The relationship between the stock market return and the trade cycles in relation to fixed income securities. Stock performs differently under different economic situation depending on the industry in which the company is operating. This will be dependent upon the investment decisions made by the investor through holding different assortment of securities portfolio i.e. the comparison between the fixed income securities and the shares in stock exchange.

## REFERENCES

- Albretcht. W., Lookabill and Mckeown J. (1977). The Time Series Properties of Annual Earnings. *Journal of Accounting Research (Autumn)* pp 226-244.
- Altman I., E.,(1987). *Investing in junk bond inside high yield debt market*. John Wiley Publishers New New York USA.
- Akamiokhor, G. (1996). The role of securities commissions in emerging stock capital markets. In Sam Mensah: *African capital markets: contemporary issues*. Rector Press, p142-160.
- Amihud, Y., Mendelson H., and B. Lauterbach (1997). "Market microstructure and securities values: evidence from Tel Aviv stock exchange". *Journal of Financial Economics*, 45, p365-390.
- Amihud, Y., Mendelson, H. and M. Mwigia (1990). Stock market microstructure and returns volatility: evidence from Italy. *Journal of Banking and Finance*, 14, p423-440.
- Aworolo, E.A. (1971). The development of capital markets in Africa with particular reference to Kenya and Nigeria. *IMF Staff Papers*, 118, p420-469.
- Ayako, D.M( 2004) Emperical study on the relationship between the stock market return and the stock trading volume. *Unpublished MBA project*.
- Bae, K., Bailey W., and Mao C. X.,(2004). *Stock Market Liberalization and the Information Environment*. Mimeo, Korea University, Cornell University, and Temple University.
- Banker, R.D., Lee S., and Potter G (1996). A Field Study of the Impact of a Performance- Based Incentive Plan. *Journal of Accounting and Economics* 21: 195-226
- Bekaert, G. and Harvey C. R, (2000). Foreign Speculators and Emerging Equity Markets, *Journal of Finance* 55, pp. 565-613.

- Bernstein K.C. and Robert A Haugen(1995). Evaluating the Performance of value versus Glamour stocks: The impact of selection bias," *Journal of Financial Economics* 38. no. 3 (July 1995): 269-296
- Bessembinder, H. and Kaufman H. M. (1997). A cross exchange comparison of execution costs and information flow for NYSE listed stock". *Journal of Financial Economics*, 46(3), p293-320.
- Cutler, D. Poterba, J. & Summers, L. (1991), Speculative dynamics, *Review of Economic Studies* 58, pp. 520-546
- Curtis C. Verschoor (1999). A study of the techniques between the corporation Financial performance and its commitments to Ethics. *Journal of business Ethics* 17: 1509-1516.
- Dooley D, (1990) Social Research method Prentice Hall, upper Saddle River New Jersey USA.
- Dumas, B., C. Harvey and P. Ruiz, 2003. Are correlations of stock returns justified by subsequent changes in national outputs?, *Journal of International Money and Finance* 22, 777-811.
- Eccles, R.G. and Pyburn, P.J. (1992). *Creating a comprehensive system to measure performance*. Management Accounting (US), October, pp. 41-4.
- Fama, E., 1990, Stock returns, expected returns, and real activity, *The Journal of Finance* 45, 1089-1108.
- Fama, Eugene, and Kenneth French. Value versus Growth: The International Evidence. *Journal of Finance* 53 (1998), pp. 1975-1999.USA
- Fischer, D, E (2001). *Security Analysis and Portfolio management*. Prentice Hall-USA
- Fisher, J. (1995). Use of non-financial performance measure. in Young, M. (Eds), *Readings in Management Accounting*, Prentice-Hall, Englewood Cliffs, NJ.,.
- Fitzgerald, L., Johnston, R., Brignall, T.J., Silvestro, R., Voss, C. (1991), *Performance Measures in Service Businesses*, London, Chartered Institute of Management Accountants (CIMA).
- Gardner David (1998). *Financial management for Public Services*. Open University Press USA
- Gaver, J.J., Gaver K.M., and J.R. Austin. (1995). Additional Evidence on Bonus Plans and Income Management. *Journal of Accounting and Economics* 19: 3-28.
- Gillian H.H. Yeo, Patricia M. S. Tan, Kim W. H., Sheng-Syan C. (2002). Corporate Ownership Structure and the informativeness of Earnings. *Journal of business Finance and Accounting* 29 (7) 8
- Gitman, Lawrence J., and David M., (1997). *Fundamentals of Investing*. 3<sup>rd</sup> Edition. Harper and Row Publishers-New York USA

- Government of Kenya (1974). *Development Plan 1974/78*. Nairobi: Government Printer.
- Government of Kenya (1979). *Development Plan 1979/84*. Nairobi: Government Printer.
- Government of Kenya (1986). Sessional Paper No. 1 on economic Management for renewed growth.
- Guidry, F., A.J. Leone, and S. Rock. (1998). Earnings-Based Bonus Plans and Earnings Management by Business-Unit Managers *Journal of Accounting and Economics* 26:113-142.
- Frank, K., R and Keith Brown (2000). *Investment Analysis and Portfolio Management*. 6<sup>th</sup> Edition. The Dryden Press- Harcourt College Publishers. New York USA.
- Fridson, Martin, and Fernando Alvarez. (2002). *Financial Statement Analysis: A Practitioner's Guide*. New York: John Wiley.
- Harrington, Diana R. (1993). *Corporate Financial Analysis: Decisions in a Global Environment*. 4th ed. Chicago: Richard D. Irwin, Inc.,
- Healy, P.M. (1985). The Effect of Bonus Schemes on Accounting Decisions. *Journal of Accounting and Economics* 7: 85-107. Helfert, Erich A. *Techniques of Financial Analysis: A Modern Approach*. 9th ed. Chicago: Richard D. Irwin, Inc., 1997
- Helfert, Erich A. *Techniques of Financial Analysis: A Modern Approach*. 9th ed. Chicago: Richard D. Irwin, Inc., 1997.
- Holmström, B., and P. Milgrom. (1991). Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design. *Journal of Law, Economics and Organization* 7: 24-52
- Holthausen, R.W., D.F. Larcker, and R.G. Sloan. (1995). Annual Bonus Schemes and the Manipulation of Earnings. *Journal of Accounting and Economics* 19: 29-74.
- Hussain M., and Gunasekaran, A. (2002). Management accounting and performance measures in Japanese banks. *Managing Service Quality. Volume 12 Number 4 pp. 232-245*
- IFC/CBK (1984). *Development of money and capital markets in Kenya*. Nairobi: Government Printer.
- Jackson III, W., Jagtiani, J., (2000). Impact of Independent Directors and the Regulatory Environment on Bank Merger Prices: Evidence from Takeover Activity in the 1990s, *working paper 2000-31, Federal Reserve Bank of Chicago*.
- Jain-Chandra, S., (2002). *The Impact of Stock Market Liberalization on the Efficiency of Emerging Stock Markets*, Columbia University, Mimeo.



Joshua Daniel Margolis, James Patrick Walsh., (2001). "People and profits-the link between companies social and financial performance." Lawrence Erlbaum Associates (USA)

Kaplan, R.S., and D.P. Norton. (2001). Transforming the Balanced-Scorecard from Performance Measurement to Strategic Management: Part I. *Accounting Horizons* 15: 87-104.

Kenya Institute for Public Policy Research and Analysis (KIPPRA) (2003) Discussion paper No 27

Kravchuk M. S, and Schack D. E, (1996). Performance measures and Financial Management. *Journal of Finance* 19: 23-31

Kyle, A. (1985). Continuous Auctions and Insider Trading, *Econometrica* 53, pp. 1315-1336.

Lafayette W. (2001). Key performance measures for farm general managers. *University of Purdue Department of Agricultural Economic.*

Lawrence G. Franko,(1989). Use of minority and 50-50 Joint Ventures by united State Multinationals during the 1970s. The interaction of host countries policies and corporate strategies. *Journal of international business studies* 20(1) spring.

Lee,J.Y and Nefcy, P. (1997), "The anatomy of an effective HMO cost management system." *Management Accounting* (USA)pp 49-54

Lofthouse, S.,(2001). "Investment management". 2<sup>nd</sup> edition- British library publishers  
Merchant, K.A. 1985. Budgeting and the Propensity to Create Budgetary Slack. *Accounting, Organizations and Society* 10: 201-210.

Madhavan, A. (1992). "Trading mechanism in securities market". *Journal of Finance*, XLVII(2), p607-641

Merchant, K.A. (1985). Budgeting and the Propensity to Create Budgetary Slack. *Accounting, Organizations and Society* 10: 201-210.

Nachmias, F C and Nachmias, D (1992). *Research method in social sciences* 4<sup>th</sup> Edition. Hodder and Strington Great Britain.

Niederhoffer, A and Patrick.( June 1972) Earnings Changes, forecast and stock prices pg 65-71 – *Financial Analyst Journal* No 28

NSE (1997a). *Annual report 1997*. Nairobi: NSE.

NSE (1997b). *Rules and regulation manual*. Nairobi: NSE.

NSE (1997c). *Listing manual*. Nairobi: NSE.

NSE (1998) *Annual report 1998*. Nairobi: NSE.

Osbourne D. S, and Gaebler T. A (1992). "Usefulness of financial performance Measures. *Financial Analyst Journal* No 13-33-55.

Parkinson, J.N. (1984). "The Nairobi Stock Exchange in the context of development of Kenya". *Savings and Development*, VIII (4), p363-372.

Sandra A. Waddock and Samuel B. Graves (1999). The corporate social performance – *Financial Performance link Strategic management journal*. 18(4): 303-319

Siegel, Jeremy J. "The Equity Premium: Stock and Bond Returns Since 1802." *Financial Analysts Journal* 48, no. 1 (January/February 1992): 28-38.

Simiyu Wellington. (1992). Measuring market performance in Nairobi Stock Exchange. *Unpublished MBA Research Project University of Nairobi*.

Stephen Morris and Hyun Song Shin, *Oxford Review of Economic Policy*, vol. 15, no 3, 1999.  
Thygerson ,J. Kenneth, (1995). *Management of Financial Institution*. 1<sup>st</sup> Edition.  
Library of Congress Cataloguing Publishers. (USA)

Tversky, A. & Kahneman, D. (1974), Judgement under uncertainty: heuristics and biases, *Science* 185, pp. 1124-1131

Wallace, J.S. (1997). Adopting Residual Income-Based Compensation Plans: Do You Get What You Pay for? *Journal of Accounting and Economics* 24: 275-300.

William F. Sharpe, Gordon J. Alexander and Jeffrey V. Bailey. (1999). "*Investments* 6<sup>th</sup> Edition. Prentice Hall USA.

Williamson, O.E. (1964). *The Economics of Discretionary Behavior: Managerial Objectives in a Theory of the Firm*. Englewood-Cliffs: Prentice-Hall

Winger, R. F. (1991). *Financial Ratio analysis and the firm performance. The Essential Guide to Measuring Business Performance*, Mandarin, London.

World Bank Annual Report, (2003)

[www.cma.or.co.ke](http://www.cma.or.co.ke)

[www.investopedia.com](http://www.investopedia.com)

Appendices followed companies in NSE

**THE MAIN INVESTMENT MARKET SEGMENT (MIMS)  
AGRICULTURE**

1. Unilever Tea Kenya Limited
2. Kenya Limited
3. Tea Village Plantations Ltd
4. Kenya Tea and Coffee Limited

**COMMERCIAL AND SERVICES**

1. Kennebec Limited (Kenya) Limited
2. CIL Milkeries Limited
3. Kenyan Breweries Limited
4. Kenya Airways Limited
5. Kenya East Africa Limited
6. Kenya Media Group Limited
7. Kenya Generation Services Limited
8. Kenya Supermarkets Limited

**CONSTRUCTION AND INVESTMENT**

1. Kenya Property Group Limited
2. Kenya Investments
3. Kenya (Kenya) Limited
4. Kenya Power Company Limited
5. Kenya Investment Company Limited
6. Kenya Investment Company Limited
7. Kenya Commercial Bank Limited
8. Kenya Bank of Kenya Limited
9. Kenya Bank Limited
10. Kenya Insurance Company Limited
11. Kenya National Bank Kenya Limited

## **APPENDICES**

### **Appendices 1: Listed companies in NSE**

#### **THE MAIN INVESTMENT MARKET SEGMENT (MIMS)**

##### **AGRICULTURE**

1. Unilever Tea Kenya Limited
2. Kakuzi Limited
3. Rea Vipingo Plantations Ltd
4. Sasini Tea and Coffee Limited

##### **COMMERCIAL AND SERVICES**

5. Car and General (Kenya) Limited
6. CMC Holdings Limited
7. Hutchings Biemer Limited-
8. Kenya Airways Limited
9. Marshalls (East Africa) Limited
10. Nation Media Group Limited
11. Tourism Promotion Services Limited
12. Uchumi Supermarkets Limited.

##### **FINANCE AND INVESTMENT**

13. Barclays Bank of Kenya Limited
14. CFC Bank Diamond
15. Trust Bank (Kenya) Limited
16. Housing Finance Company Limited
17. ICDC Investment Company Limited
18. Jubilee Insurance Company Limited
19. Kenya Commercial Bank Limited
20. National Bank of Kenya Limited.
21. NIC Bank Limited.
22. Pan Africa Insurance Company Limited
23. Standard Chartered Bank Kenya Limited

**INDUSTRIAL AND ALLIED**

24. Athi-River Mining Limited 9
25. Bamburi Cement Company Limited
26. British American Tobacco Kenya Limited
27. BOC Kenya Limited
28. Carbacid Investments Limited
29. Crown-Berger Kenya Limited
30. Olympic Capital Holdings limited
31. East African Cables Limited.
32. East African Portland Cement Company
33. East African Breweries Limited
34. Sameer Africa Limited (formerly- Firestone East Africa Limited)
35. Kenya Oil Company Limited
36. Mumias Sugar Company Ltd
37. Kenya Power and Lighting Company Limited
38. Total Kenya Ltd Unga Group Limited..

**ALTERNATIVE INVESTMENT MARKET SEGMENT (AIMS)**

39. A. Baumann & Company Limited.
40. City Trust Limited.
41. Eaagads Limited
42. Express Kenya Limited
43. Kapchorua Tea Company Limited.
44. Kenya Orchards Limited
45. Limuru Tea Company Limited
46. Standard Group Limited
47. Williamson Tea Kenya Limited

## Appendices 2: Summary of ratios

Company	Year	Returns	Turnover	Profit	Dividends
Unilever	2004	76.16667	4656109	555056	8
Unilever	2003	70.54167	3975876	83479	6
Unilever	2002	54.64583	4251285	197301	2.5
Unilever	2001	95.45833	4371947	328031	2
Unilever	2000	87.125	4117143	664664	6
Kakuzi	2004	28	1424503	92996	1
Kakuzi	2003	21.079	1435388	- 19670	0
Kakuzi	2002	24.1375	1082190	8471	0
Kakuzi	2001	39.9791667	1250943	- 95934	0
Kakuzi	2000	65.375	1212796	- 85766	0
Rea Vipingo	2004	9.82	873408	177941	.8
Rea Vipingo	2003	5.13	720210	10859	.4
Rea Vipingo	2002	2.98	665830	47108	.25
Rea Vipingo	2001	3.03	598477	8955	0
Rea Vipingo	2000	3.80	595677	- 46292	0
Sasini	2004	20.59	1039639	1104137	12.20
Sasini	2003	19.51	858171	-95877	0
Sasini	2002	14.24	848445	-68416	3.79
Sasini	2001	25.97	874602	36436	5.05
Sasini	2000	35.65			
Car and General	2004	13.59	629100	44006	0.67
Car and General	2003	9.04	489308	61487	0.67
Car and General	2002	9.74	436741	20074	0
Car and General	2001	10.00	434550	-11069	0
Car and General	2000	12.28	428591	10005	0
CMC Holdings	2004	63.71		381875	1
CMC Holdings	2003	49.19		276281	1
CMC Holdings	2002	13.90	4552390	241150	1
CMC Holdings	2001	10.14	42224218	139806	0.75
CMC Holdings	2000	19.68	4112378	183904	0.75
Kenya Airways Ltd	2004	13.39	30421000		0.75
Kenya Airways Ltd	2003	7.07	27461000		0.50
Kenya Airways Ltd	2002	6.95	25165000		0.60
Kenya Airways Ltd	2001	8.03	22525000		1.25
Kenya Airways Ltd	2000	8.10	17480000		1.25
Nation Media Group	2004	188.08	4866200	894700	6
Nation Media Group	2003	128.00	4469100	875600	5
Nation Media Group	2002	68.46	4103400	635200	2050
Nation Media Group	2001	52.24	3538800	390200	1.60
Nation Media Group	2000	76.44	3022600	296100	1.75
Tourism Promotion services	2004	34.45	1,672,490	197,540	1.10
Tourism Promotion services	2003	26.70	1,217,130	42,968	1.10
Tourism Promotion services	2002	17.14	1450158	168,987	1.10
Tourism Promotion services	2001	11.57	1473952	138,699	1.10

Company	Year	Returns	Turnover	Profit	Dividends
Tourism Promotion services	2000	16.58	1404798	117,113	1.10
Uchumi supermarket	2004	18.95	7,962,986	-654,358	0
Uchumi supermarket	2003	.	8,900,858	-246,032	0
Uchumi supermarket	2002	28.82	7,936,755	80,206	.5
Uchumi supermarket	2001	18.80	7,954,005	151,082	1.6
Uchumi supermarket	2000	42.57	7,228,371	462,530	3
Standard Newspapers	2004	50.73	1762993	121908	0
Standard Newspapers	2003	.00	1510214	75173	0
Standard Newspapers	2002	6.75	1321611	14550	0
Standard Newspapers	2001	7.44	1149858	21393	0
Standard Newspapers	2000	8.00	1119236	-126226	0
Marshalls (E.A) Ltd	2004	15.08	1,273,874	22,256	0
Marshalls (E.A) Ltd	2003	7.13	1,652,221	22,045	0
Marshalls (E.A) Ltd	2002	13.49	1,424,543	1,799	0
Marshalls (E.A) Ltd	2001	18.30	1,485,722	-356,066	0
Marshalls (E.A) Ltd	2000	21.08	1,506,952	-104,028	0
Barclays Bank	2004	230.33	-	5,391,000	14.00
Barclays Bank	2003	164.25	-	4,790,000	14.00
Barclays Bank	2002	21.25848	-	2,550,000	9.00
Barclays Bank	2001	76.67	-	4,235,000	14.00
Barclays Bank	2000	90.75	-	3,035,000	10.00
CFC Bank	2004	52.29	-	880,896	0.84
CFC Bank	2003	19.10	-	529,966	0.84
CFC Bank	2002	9.09	-	323,093	0.67
CFC Bank	2001	8.91	-	260,467	0.67
CFC Bank	2000	12.06	-	360,622	0.67
Diamond Trust	2004	32.06	-	240,235	0.70
Diamond Trust	2003	22.17	-	204,106	0.70
Diamond Trust	2002	9.27	-	112,799	0.60
Diamond Trust	2001	11.36	-	51,407	0.40
Diamond Trust	2000	20.32	-	200,34	0.60
Housing Finance	2004	11.54	-	87,856	0
Housing Finance	2003	13.18	-	98,011	0
Housing Finance	2002	3.58	-	95,318	0
Housing Finance	2001	4.75	-	-255,765	0
Housing Finance	2000	8.83	-	78,618	0.38
ICDC	2004	64.38	354,570	348,451	3.00
ICDC	2003	49.89	221,028	202,948	2.20
ICDC	2002	24.46	153,975	306,611	2.00
ICDC	2001	44.98	124,375	227,160	2.00
ICDC	2000	47.83	120,077	321,767	3.00
Jubilee Insurance	2004	58.13	-	117,281	2.50
Jubilee Insurance	2003	37.52	-	169,791	2.25
Jubilee Insurance	2002	15.73	-	213,413	1.75
Jubilee Insurance	2001	15.94	-	305,664	1.75
Jubilee Insurance	2000	22.08	--	358,882	1.75
K.C.B	2004	65.08	-	1,073,467	2.00

Company	Year	Returns	Turnover	Profit	Dividends
K.C.B	2003	62.55677	-	750,151	1.00
K.C.B	2002	13.05	-	-4,178,557	0
K.C.B	2001	19.93	-	-182,958	0
K.C.B	2000	27.48	-	-765,631	0
National Bank	2004	20.53	-	743,478	0
National Bank	2003	11.24	-	491,902	0
National Bank	2002	2.87	-	390,142	0
National Bank	2001	3.10	-	-322,580	0
National Bank	2000	4.04	-	-1,619,719	0
NIC Bank	2004	50.78	-	372,556	2.40
NIC Bank	2003	32.92	-	359,301	2.25
NIC Bank	2002	14.93	-	340,224	2.00
NIC Bank	2001	15.57	-	377,040	1.60
NIC Bank	2000	24.36	-	451,165	1.80
Pan Afric Insurance	2004	25.24	-	91007	1
Pan Afric Insurance	2003	17.13	-	-68,776	0
Pan Afric Insurance	2002	8.35	-	-6,452	0
Pan Afric Insurance	2001	12.48	-	158,103	0
Pan Afric Insurance	2000	19.27	-	-54,661	0
Stan Chart Bank	2004	157.88	-	2,690,985	6.50
Stan Chart Bank	2003	113.42	-	4,009,954	8.50
Stan Chart Bank	2002	53.92	-	3,212,008	8.25
Stan Chart Bank	2001	51.42	-	3,231,694	8.25
Stan Chart Bank	2000	54.40	-	3,147,004	11.00
ATHI River mining	2004	4.94	1,639,508	172,368	0
ATHI River mining	2003	4.09	1,240,388	131,197	0.50
ATHI River mining	2002	4.18	1,126,385	82,136	0.40
ATHI River mining	2001	15.01	883,740	51,027	0.20
ATHI River mining	2000	18.90	890,415	45,601	0
Bamburi Cement Co	2004	30.09	12,284,000	2,786,000	6.12
Bamburi Cement Co	2003	38.03	10,411,000	1,742,000	2.80
Bamburi Cement Co	2002	22.69	10,073,000	2,083,000	3.50
Bamburi Cement Co	2001	82.44	8,894,000	1,340,000	1.12
Bamburi Cement Co	2000	94.18	7,710,000	487,000	0.75
BAT	2004	67.66	9,865,047	1,750,602	16.50
BAT	2003	54.72	9,446,056	1,677,595	12.50
BAT	2002	51.29	9,422,530	1,310,423	9.00
BAT	2001	140.79	10,363,992	851,343	7.9
BAT	2000	223.13	10,895,622	682,970	7.9
BOC Kenya	2004	49.61	830,675	220,980	4.50
BOC Kenya	2003	34.88	728,720	210,720	4.35
BOC Kenya	2002	33.98	697,505	154,990	4.35
BOC Kenya	2001	80.05	655,728	118,175	3.55
BOC Kenya	2000	133.29	561,941	110,159	3.55
Carbacid	2004	51.51	213,104	124,168	4.00
Carbacid	2003	39.27	218,773	125,860	23.10
Carbacid	2002	37.80	174,433	78,859	2.30



Company	Year	Returns	Turnover	Profit	Dividends
Carbacid	2001	70.90	155,474	70,813	2.75
Carbacid	2000	122.75	219,413	133,511	2.75
Crown Berger	2004	10.70	1,157,585	95,750	1.50
Crown Berger	2003	7.31	1,090,626	93,412	1.50
Crown Berger	2002	5.98	1,015,704	58,514	0.50
Crown Berger	2001	20.75	1,029,549	40,663	0.50
Crown Berger	2000	33.17	1,181,971	86,642	2.00
East Afri Portland	2004	10.13	4,166,289	-391,594	1.75
East Afri Portland	2003	10.98	3,842,138	382,164	1.75
East Afri Portland	2002	12.80	3,207,060	212,934	1.50
East Afri Portland	2001	47.06	3,169,645	974,384	1.00
East Afri Portland	2000	51.48	2,918,148	-538,860	0.00
EABL	2004	72.79	30,076,665	7,041,897	18.00
EABL	2003	79.63	28,918,151	3,640,784	15.00
EABL	2002	89.38	27,734,679	3,401,076	11.50
EABL	2001	277.25	26,813,674	2,499,117	9.00
EABL	2000	418.75	25,448,122	1,798,105	7.50
Sameer	2004	12.54	3,270,254	400,473	1.00
Sameer	2003	7.55	2,538,316	255,709	0.50
Sameer	2002	7.80	2,736,539	310,834	1.00
Sameer	2001	11.45	3,073,773	448,879	1.00
Sameer	2000	11.76	2,686,256	396,412	1.00
Kenya Oil Company	2004	78.54	34,478,830	1,200,537	2.00
Kenya Oil Company	2003	76.21	16,658,516	629,653	10.50
Kenya Oil Company	2002	83.38	13,317,933	679,174	9.50
Kenya Oil Company	2001	216.13	10,959,240	595,097	7.50
Kenya Oil Company	2000	209.40	6,565,948	250,991	6.00
Mumias Sugar Company	2004	.00	9,792,503	1138550	1.10
Mumias Sugar Company	2003	1.05	7,628,937	-244,858	0.00
Mumias Sugar Company	2002	3.29	7,847,233	104,552	0.10
Mumias Sugar Company	2001	4.02	6,659,315	685,221	0.71
Mumias Sugar Company	2000	10.34	-	-	-
KPLC	2004	60.10	20,302,734	873,684	0
KPLC	2003	30.04	19,185,376	-4,112,193	0
KPLC	2002	10.46	27,353,043	-2,849,116	0
KPLC	2001	36.13	28,188,525	-4,105,915	0
KPLC	2000	94.50	23,564,466	-4,157,793	2
Total	2004	53.98	37,628,109	931,638	2.50
Total	2003	29.42	22,393,229	756,645	2.50
Total	2002	15.37	16,291,258	604,776	.70
Total	2001	34.29	17,925,997	-318,899	10.00
Total	2000	43.52	23,157,136	333,498	0.00
Unga Group	2004	18.45	6,305,387	95,505	0
Unga Group	2003	7.88	5,702,613	-16,448	0
Unga Group	2002	4.95	5,500,307	-135,858	0
Unga Group	2001	12.81	7,142,432	-292,157	0
Unga Group	2000	15.06	6,829,041	-778,312	0

Company	Year	Returns	Turnover	Profit	Dividends
A. Baumann	2004	12.65	107,685	-11,228	0
A. Baumann	2003	8.23	110,092	-8,178	0
A. Baumann	2002	7.19	112,749	-51,494	0
A. Baumann	2001	5.96	108,808	1,060	1
A. Baumann	2000	8.11	117,836	5,463	1
City Trust	2004	21.60	13,523	11,911	6.25
City Trust	2003	17.70	9,060	7,455	2.25
City Trust	2002	18.46	9,077	7,283	2.00
City Trust	2001	21.67	12,220	9,869	2.00
City Trust	2000	43.33	12,817	10,257	2.00
Eaagads	2004	23.79	34,940	-2,760	0
Eaagads	2003	20.33	48,852	-6,572	0
Eaagads	2002	18.64	82,037	6,391	0.50
Eaagads	2001	17.20	64,378	2,656	0.50
Eaagads	2000	17.17	61,154	3,115	0
Express Kenya	2004	18.45	1,762,203	10,237	0
Express Kenya	2003	10.51	3,964,581	-108,827	0
Express Kenya	2002	7.00	3,984,859	47,608	0
Express Kenya	2001	8.26	3,595,292	-32,908	0
Express Kenya	2000	9.26	3,172,049	-5,969	0
Kapchorua	2004	150.00	16,059	56292	3.75
Kapchorua	2003	142.04	4 413,673	50,226	3.75
Kapchorua	2002	137.04	383,334	-18,043	0.50
Kapchorua	2001	118.65	345,183	-11,710	2.50
Kapchorua	2000	101.15	345,311	20,283	2.50
Kenya Orchards	2004	.00	78,815,827	-15,920,068	0
Kenya Orchards	2003	5.13	75,112,050	-10,672,835	0
Kenya Orchards	2002	5.30	67,762,662	-8,858,382	0
Kenya Orchards	2001	5.30	60,898	6,729	0
Kenya Orchards	2000	4.18	58,921	-7,809	0
Limuru Tea	2004	650.00	56,277	13,898	15.00
Limuru Tea	2003	512.48	57,491	11,666	10.00
Limuru Tea	2002	361.17	47,654	4,082	3.00
Limuru Tea	2001	355.83	45,429	-3,991	0.00
Limuru Tea	2000	257.17	56,292	16,998	55.00
Standard Group	2004	7.02	1,762,993	121,908	0
Standard Group	2003	6.68	1,510,214	75,173	0
Standard Group	2002	6.74	1,321,611	14,550	0
Standard Group	2001	24.85	1,149,858	21,393	0
Standard Group	2000	44.84	1,119,236	-126,226	0
Williamson Tea	2004	82.63	855,610	123,870	3.75
Williamson Tea	2003	95.63	837,958	94,884	3.75
Williamson Tea	2002	41.58	1,010,236	-38,425	.50
Williamson Tea	2001	78.02	1,255,517	215,539	5.00
Williamson Tea	2000	88.98	1,045,177	112,461	2.50

Source: NSE handbook 2005