COMMON STOCK RATES OF RETURNS FOR SPECULATORS AND INVESTORS ON THE NAIROBI STOCK EXCHANGE, KENYA

By

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Common stock rates of returns for

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DECLARATION

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

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This research project has been submitted for examination with our approval as university supervisors.

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DEDICATION

I dedicate this project to my dear wife Damaris Bonareri and daughters Brigid Moraa and Sharon Nyamoita.
ACKNOWLEDGEMENT

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ABSTRACT

The research project provided a comparative analysis of the rates of returns for investors who hold shares in companies for a long period of time for the dividend motive and have limited speculative ventures, with those investors who are primarily concerned with the capital gains from the sale of stock (speculators). The analysis was done for a sample of ten companies picked at random using stratified random sampling technique from the companies listed at the Nairobi Stock Exchange (NSE) for the period 1994 to 2003. The stratification was based on the NSE standard industry classification. The data collected included the company annual dividend, monthly traded volume of shares and monthly turnover, the minimum and maximum price of stock for the month. Using the monthly traded volumes and the monthly turnovers, monthly average share prices were calculated for the period under study. Price differentials were worked out between consecutive months for the period under study to obtain a series of capital gains/losses. By using geometric mean method the monthly capital gains/losses were converted to a series of annual capital gains/losses or rates of return to the speculators. A time series comparison of the dividend and stock rates of returns was done and stock returns were found to be more volatile than dividend returns for the period under study. Further the geometric mean period rates of returns for speculators and investors were calculated. The study found no discernable statistical difference between the rates of returns to the two groups of investors for the period under study.
CHAPTER ONE

INTRODUCTION

1.1 Background Information

Common stocks are a popular form of investing, used by many individual investors. They are popular, in part, because they offer investors the opportunity to tailor their investment programs to meet individual needs and preferences. In Kenya trading in stocks is mainly done through the Nairobi Stock Exchange (NSE) and the Initial Public Offering (IPO). For people depending on their investment holdings for a living, stock provide a way of earning a steady stream of current income. For investors less concerned about current income, common stocks can serve as the basis for long-run accumulation of wealth. Investors buy stock for the long haul as a way to earn, not only dividends, but also a steady flow of capital gains. These investors recognize that stock have a tendency to rise in price over time, and they simply position themselves to take advantage of that fact. Gitman and Joehnk (2002), note that it is this potential for a capital gain that attracts most investors into stock trading. They argue that whereas dividends can provide a steady stream of income, bigger returns come from capital gains. A capital gain is earned only when the particular stock is liquidated whereas dividend is earned immediately it is declared.

The stock investor has to give careful consideration to the three R’s of investing, which are return, risk and relativity, before committing money into stocks. Return comprises of the income (or dividend) and the capital gain or loss. Risk is concerned with the volatility of the market fluctuations, which can mean that “good investment” including the so
called blue chips, are exposed to high risk. Relativity is concerned with the assessment of the prices and prospects of investments relative to other available investments in deciding whether a particular investment is attractively priced under current conditions.

To make sound investment decisions accurate information must be readily available. This is particularly important in the stock market where the speed and accuracy of information dissemination to various investors will have a profound impact on their returns. O’Neill (1995), notes that the amount of erroneous information and ignorance about how the stock market really works and how to succeed in the market is down-right unavailable. Due to the problem of information asymmetry, and at times lack of it, investors are always gobbling in trying to use various strategies to maximize their returns and or to beat the market.

Depending on the individual investor’s return objective and the amount of risk he is willing to bear, one can be classified as a speculator or an investor. Speculators are more interested in the market action than its valuation. They tend to be more technically oriented and examine the market price action over the short run. Speculators who are interested in short-term price appreciation are less concerned with dividends. They add a significant amount of liquidity to the market place because they buy and sell stocks in their portfolios frequently. They help provide a market for stocks and give it a wider ownership, which enhances the capital markets of the economy. Speculation involves a higher level of risk and a more uncertain expectation of returns. It has the potential for high returns and low or negative returns. Berman (1982), notes that while speculation
carried to excess is undoubtedly an evil, reasonable speculation, that is to say speculation within the means of the individual concerned, serves a useful purpose in providing a flow of business which makes it possible for the genuine investor to buy stocks more cheaply and to sell at better prices than would otherwise be the case. Speculators have designed strategies on when to buy or make a sale in order to cut down on losses so as to protect the initial investment or make a profit. They are, however, not always lucky.

Vovk and Shafer (2002) clarify the roles of investors and speculators. They argue that an investor balances risk and return in an effort to balance present and future consumption, while a speculator's intent is to beat the market. The established theory (by the Capital Asset Pricing Model) emphasizes the role of investors and the Efficient Market Hypothesis (EMH) is usually justified by the presumed effectiveness of the speculators. Speculators have already put too much effort into beating the market that no opportunities remain for a new speculator who has no private information. The classical Capital Asset Pricing Model (CAPM), which is still the most widely used instantiation of established theory (Ibid), bases its argument on the security market line (SML), a relationship between stock return and covariance with the market perceived as a measure of risk.

They further argue that evidence shows that stock market bubbles can exist even without investor irrationality, behavioral biases, and short-sale constraints. When there are technological or financial innovations, and the average investors are uninformed of its true value, the informed speculators can inflate as stock’s price to entice more market
participation therefore improving market liquidity and make more profits. Liquidity is good for the market because it can prevent market breakdowns and manipulations, but the flipside is that too much future liquidity motivates speculators and fosters the formation of bubbles.

Wagacha (2000), found that regarding shareholders' objectives in holding their investments, a high percentage (82.1) of investors ranked short-term capital gains as the main reason. On the reasons why shareholders dispose their holdings a very large percentage (87.2) ranked as important the sales of shares to make profits. The motive to sell in order to re-invest in other shares was ranked as important to very important by 70.1% of the respondents. While selling shares due to financial difficulties was ranked by 58.7% of the respondents as not important to slightly important, 50.2% ranked the motive as important to very important. The study concluded that this was an indication that on the margins, sales of shares are not propelled by financial difficulties. This is evidence that speculation is rife at the Nairobi Stock Exchange. The ever-increasing number of stock brokerage firms, the high volumes of shares traded and the increasing number of people in common stock business further strengthens this evidence for speculation. This is despite the fact that NSE is a secondary market.

As speculators try to use various strategies to maximize their returns, Francis and Archer (1971), argue that the stock market is quite a rational, efficient, responsive mechanism that cannot be outguessed, manipulated, waylaid, or “beaten” by any single individual. This is an argument that is in line with the efficient market hypothesis (EMH) advanced
by Fama (1970). Thus, despite the enormous economic benefits of speculation to the economy, and in view of the foregoing, there is the question of whether the speculators are getting any extra return for their effort or just a return of their money (breaking even). The possibilities of huge losses are also inherent in speculative investments.

Thousands of people, world over, have been known to lose fortunes when the odds are against them. It is common to have a stock market crash or collapse as it happened with the New York Stock Exchange in 1929 and 1987 (Rachman et al, 1990). The biggest losers in the NYSE crash were stock market speculators who purchased stock on margin. They would buy stock from a broker for a small percentage of the value of the stock, in effect receiving a loan from the broker. They would not have to pay the balance until they sold the stock. This meant that a small increase in the price of stock resulted in immense profits for the speculator. But if the stock declined more than the percentage they had put down, the speculator would have to cover the difference or lose their stocks along with the margin down payment they made. For example on October 19, 1987 the Dow Jones Industrial Average plunged 508 points, losing 23% of its value in a single day making some investors lose their investments and never to fully regain ground. Kenya’s stock market has also experienced alternate periods of good and poor performance depending mainly on the prevailing political temperature. For example the NSE has experienced depressions in the years 1963-66 (when Europeans were selling off their shares and migrating back to their mother country after Kenya gained independence), 1972-73 (depression resulting from the high inflation sparked by the oil crisis of 1972), 1975 (due to the introduction of the capital gains, withdrawn later in 1985), 1977 (due to the break of the East African community) (Munywoki, 1998)
Mahani (2004) found that on average public stock traders incur losses in their speculative trades, that public traders cease to trade after a short period of time. The researcher pondered why so many speculators entered the financial markets when so many of them lose money and cease trading after a short period of time. A change from a bullish to a bearish stock market and vice versa implies gains or losses for given classes of market participants.

Investors on the other hand require some positive rate of return after carrying out sufficient analysis. They are generally more concerned with fundamental financial analysis. They are interested in earning a continuous stream of income in the form of dividend. The risk generally involved in investing for dividend is smaller compared to that of speculation. Dividends are not assured, as they are variable. The decision to pay out the dividend, and how much of the earning is to be paid out as dividend lies with the firm’s board of directors. Various valuation models have been used by investors to project dividend growth in their portfolios.

1.2 Statement of the Problem

Speculation in the stock market is good for the economy as it brings with it considerable liquidity to the market, thus enhancing economic development of the country. Evidence (see Mahani, 2004), however, suggests that most speculators, on the average, lose their money in the stock market. This is despite the fact that they put in considerable effort in trying to beat the market and assume a greater amount of risk than investors who buy and hold stock for a dividend purpose. Rates of returns to speculators are affected by stock
price fluctuations (volatility) unlike the dividend return to investors. Dividend payment decisions are made by the companies irrespective of the performance of their stocks at the stock exchange market. Despite the high risk and effort needed in speculation, evidence shows that more people are keen on it than long-term stock investment. This study sought to find out whether, on the average, speculators earn more than investors do in the Kenyan capital market.

1.3 Research Questions

(a) What is the rate of return earned by speculators?
(b) What is the rate of return earned by the investors?
(c) How do the rates of returns from speculators compare with those of investors?

1.4 Objectives of the Study

(a) To estimate the rate of return earned by speculators.
(b) To estimate the rate of return earned by investors.
(c) To compare the rates of returns of the speculators with those of the investors.

1.5 Significance of the Study

The knowledge generated from this study is important to all the current and prospective investors in the stock market as its findings will enable them make better decisions on stock investment, particularly on the aspect of speculation. The study is also important to the managers and shareholders of companies as they make management decisions that have an impact on dividends and the stock prices. Students of finance, and other scholars
and researchers will also benefit from this study, as it will form a basis for discussion and further research in similar or related areas. Government as an agent for policy change, and the general public will also use the findings of this study for formulating policy and regulatory decision in the capital market.

1.6 Assumptions of the Study

(a) The initial shilling investment by the speculators and investors is the same.

(b) The speculators incur no transaction costs and there is no dividend taxation for the investors.

(c) Speculators and investors are many and there are equal chances of selling or buying any stock. This enables the researcher to deal with their returns on an aggregate level rather trying to follow individual investors or speculators.

(d) The only objective of the management is to maximize shareholders' wealth. This gives reason for investors to stay with their current stock and for speculators to freely buy and/or sell any stock.

1.7 Scope and Organisation of the Study

The research was designed to compare returns on common stocks for speculators and investors for selected companies (stocks) listed on the Nairobi stock exchange for the period 1994-2003. This was a fairly long period and with readily available data which enabled the researcher to come up with enough data for easy comparison and generalization of the results. The research findings were generalized to all the NSE listed companies that traded in ordinary shares for all the years.
CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Literature Review

2.1.1 Types and Uses of Common Stock

Common stocks appeal to investors because they offer the potential for everything from current income and stability of capital to attractive capital gains. The market contains a wide range of stock, from the most conservative to the highly speculative. Generally, the kinds of stocks that investors seek will depend on their-investment objectives and investment programs. Gitman and Joehnk (2002), notes that investors and speculators, as one of the things they will want to understand, is the market system used to classify common stocks. This is because a stock’s general classification reflects not only its fundamental source of return but also the quality of the company’s earnings, the issue’s susceptibility to market risks, the nature and stability of its earnings and dividends, and even its susceptibility to adverse economic conditions. The writer argues that such insight is useful in selecting stocks that will best fit an investor’s overall investment objectives. The types of stock identified include the following;

(a) Blue-Chip Stock

Blue chip stocks are the cream of the common stock crop. They are stocks that are unsurpassed in quality and have a long and stable record of earnings and dividends. Large, well-established firms that have impeccable financial credentials issue them. These companies hold important, often leading positions in their industries and frequently set the standards by which other firms are measured. Not all blue chips are alike,
however, some provide consistently high dividend yields; others are more growth oriented.

Blue chips are particularly attractive to investors who are looking for quality investment outlets that offer decent dividend yields and respectable growth potential. They’re often used for long-term investment purposes and, because of their relatively low risk, as a way of obtaining modest but dependable rates of return. Blue chips are popular with a large segment of the investing public. As a result, they are often relatively high in price, especially when the market is unsettled and investors become more quality-conscious.

(b) Income Stocks

Some stocks are appealing simply because of the dividends they pay. This is the case with income stocks. These are issues that have a long and sustained record of regularly paying higher than average dividends. Income stocks are ideal for those who seek a relatively safe and high level of current income from their investment capital. But there’s more like the holders of income stocks expecting the dividends they receive to increase regularly over time.

The major disadvantage of income stocks is that some of them may be paying high dividends because of limited growth potential. Indeed, it’s not unusual for income securities to exhibit only low or modest rates of growth in earnings. This does not mean that such firms are profitable or lack future prospects. On the contrary most firms whose shares qualify as income stocks are highly profitable with excellent future prospects. By
their very nature, income stocks are not exposed to a great deal of business market risk. They are, however, subject to a fair amount of interest rate risk.

(c) Growth Stocks

Shares that have experienced, and are expected to continue experiencing, consistently high rates of growth in operations and earnings are known as growth stocks. A good growth stock might exhibit a sustained rate of growth in earnings of 15% to 18% a year over a period when common stocks, on average, are experiencing growth rates on only 6% to 8%. Generally speaking, established growth companies combine steady earnings growth with high returns on equity. They also have high operating margins and plenty of cash flow to service their debts. Some growth stocks are also rated as blue chips and provide quality growth, whereas others represent higher levels of speculations.

Growth stocks normally pay little or nothing in the way of dividends, so their payouts ratios seldom exceed 10% to 15% of earnings. Instead, all or most of the profits are reinvested in the company and used to help finance rapid growth. Thus the major source of return to investors is price appreciation. Growth shares generally appeal to investors who are looking for attractive capital gain rather than dividends and who are therefore willing to assume a higher element of risk. These are the stocks that most speculators will keep their eyes on.
(d) Tech Stocks
Tech stocks represent the technology sector of the market and include companies that produce or provide everything from computers, semi-conductors, data storage, computer software, and computer hardware to peripherals, Internet services content providers, networking and wireless communications. These are the so-called new-economy stocks, issued by the companies that are changing the way things are being done in the world. They provide the high-tech equipment, networking systems, and online services to all lines of businesses, education, health care, communications, governmental agencies and the home. These stocks would probably fall into either the growth stock category or the speculative stock class, although some of them are legitimate blue chips. Tech stocks may offer the potential for attractive and, sometimes phenomenal, returns. But they also involve considerable risks, and are probably most suitable for the more risk-tolerant investors and speculators. These stocks are not common in Kenya.

(e) Speculative Stocks
Stocks that lack sustained records of success but still offer the potential for substantial price appreciation are known as speculative stocks. Perhaps investors’ hopes are spurred by a new management team that has taken over a troubled company or by the introduction of a promising new product. Other times, it's the hint that some new information, discovery, or production technique will favourably affect the growth prospects of the firm. Speculative stocks are a special breed of securities, and they enjoy a wide following, particularly when the market is bullish.
Generally speaking, the earnings of speculative stocks are uncertain and highly unstable. These stocks are subject to wide swings in price, and they usually pay little or nothing in dividends. On the plus side, speculative stocks offer attractive growth prospects and the chance to “hit it big” in the market. To be successful, however, an investor has to identify the big-money winners before the rest of the market do and the price of the stock is driven up. Speculative stocks are highly risky; they require not only a strong stomach but also a considerable amount of investor know-how. They are used to seek capital gains, and investors will often aggressively trade in and out of these securities as the situation demands.

(f) Cyclical Stocks
Cyclical stocks are issued by companies whose earnings are closely linked to the general level of business activity. They tend to reflect the general state of the economy and to move up and down with the business cycle. Companies that serve markets tied to capital equipment spending by business, or to consumer spending for big-ticket, durable items like houses and cars, typically head the list of cyclical stocks.

Cyclical stocks generally do well when the economy is moving ahead, but they tend to do especially well when the country is in the early stages of economic recovery. They are, however, perhaps best avoided when the economy begins to weaken. Cyclical stocks are probably most suitable for investors who are willing to trade in and out of these issues as the economic outlook dictates and who can tolerate the accompanying exposure to risk.
(g) Defensive Stocks

Sometimes it is possible to find stocks whose prices remain stable or even increase when general economic activity is tapering off. These stocks are known as defensive stocks. They tend to be less affected than the average issue by downswings in the business cycle. Defensive stocks include the shares of many public utilities, as well as industrial and consumer goods companies that produce or market such staples as beverages, foods and drugs.

More aggressive investors commonly use defensive stocks. Such investors tend to “park” their funds temporarily in defensive stocks while the economy remains soft, or until the investment atmosphere improves.

(h) “Cap” Stocks

A stock’s size is based in its market value, or more commonly, on what is known as its market capitalization. Generally speaking, the stock market can be broken into three segments, as measured by a stock’s market “cap”. These are the large-cap, mid-cap and the small-cap.

Some investors consider small companies to be in a class by themselves in terms of attractive return opportunities. Because of their size, sports of growth can have dramatic effects on their earnings and stock prices.
Indeed, because many of these companies are so small, they don’t have a lot of stock outstanding, and their shares are not widely traded. In addition, small-company stocks have a tendency to be “here today and gone tomorrow”. Although some of these stocks may hold the potential for high returns, investors should also be aware of the very high-risk exposure that comes with many of them.

A common category of small-company stock is the so-called initial public offering (IPO). Most IPOs are small, relatively new companies that are going public for the first time. Like other small-cap stocks, IPOs are attractive because of the substantial, sometimes phenomenal, capital gains that investors can earn. More often than not, the small individual investor gets a chance to buy a new issue only after it has been driven way up in price and the initial investors start bailing out, taking their profits with them. IPOs are extremely high-risk investments, with the odds stacked against the investor because there’s no market record to rely on.

2.1.2 Common Stock Values

The worth of a share of common stock can be described in a number of ways. Terms such as par value, book value, market value, and investment value are all found in the financial media. Each designates some accounting, investment, or monetary attribute of a stock.

(a) Par Value

The par value refers to the stated, or face, value of stock. Except for accounting purposes, it is relatively useless and little or no significance for investors.
(b) Book Value

This is another accounting measure that represents the amount of stockholders' equity in the firm. It is commonly used in stock valuation. Book value indicates the amount of stockholder funds used to finance the firm.

(c) Market Value

Market value is simply the prevailing market price of an issue. In essence market value indicates how the market participants as a whole have assessed the worth of a share of stock. By multiplying the market price of the stock by the number of shares outstanding, the market value of the firm itself or what is known as the firm's market capitalization can be found. Because investors are always interested in an issue's market price, the market value of a share of stock is generally of considerable importance to stockholders.

(d) Investment Value

This is probably the most important measure for a stockholder. It indicates the worth investors place on the stock, in effect, what they think the stock should be trading for. Determining a stock's investment value is a complex process based on expectations of the return and risk behaviour of a stock. Any stock has two potential sources of return; dividend payments and the capital gains that arise from appreciation in market price. In establishing investment value, investors try to determine how much they will make from these two sources. They then use that estimate as the basis for formulating the return potential of the stock. At the same time, they try to assess the amount of risk to which
they will be exposed by holding the stock. Such returns and risk information helps them place an investment value on the stock. This value represents the maximum price an investor should be willing to pay for the issue.

2.1.3 Common Stock Returns

(a) Common Stock Dividends

Most Kenyan firms pay out a dividend on a regular basis. In spite of this fact dividends still don’t get much respect. Many investors, particularly young ones, often put very little value on dividends. That’s unfortunate, because dividend income is one of the two basic sources of return to investors. Dividends are far less risky and in Kenya, are subject to taxes (unless a stock is held in some type of tax-sheltered account one incurs a tax liability with each dividend cheque received) whereas capital gains are not taxed. The stream of regular dividends is far more predictable than the capital gains that may or may not occur. Companies normally pay out dividends in the form of cash, though sometimes they do so by issuing additional shares of stock. Occasionally, dividends are paid in other forms, such as a stock spin-off or perhaps even samples of the company’s product. But dividends in the form of either cash or stock remain by far the most popular in Kenya.

(b) Cash Dividend

More firms use cash dividends than any other type of dividend. A nice by-product of cash dividends is that they tend to increase over time, as companies’ earnings grow. Such a tendency appeals to investors because a steady stream of dividends shores up stock returns in soft markets.
A convenient way of assessing the amount of dividends received is to measure the stock’s dividend yield. This is a measure of dividend on relative (percentage) basis, rather than on an absolute (shilling) basis. Dividends yield, in effect, indicates the rate of current income earned on the investment shilling. It is computed as follows (see Maclaney, 2003).

\[
\text{Dividend yield} = \frac{\text{Annual dividends received per share}}{\text{Current market price of the stock}}
\]

To put dividend yield into perspective, it is helpful to look at a company’s dividend payout ratio. The payout ratio describes that portion of earnings per share (EPS) that is paid out as dividends. It is computed as follows (Ibid);

\[
\text{Dividend payout ratio} = \frac{\text{Dividend per share}}{\text{Earnings per share}}
\]

Although stockholders like to receive dividends, they normally do not like to see payout ratios over 60% to 70%. Payout ratios that are high are difficult to maintain and may lead the company into trouble.

(c) Stock Dividend

Occasionally, a firm may declare a stock dividend. A stock dividend simply means that the dividend is paid in additional shares of stock. For instance, if the board declares a 10% stock dividend, each shareholder receives one new share of stock for each ten shares currently owned. Although they seem to satisfy some investors, stock dividends really have no value, because they represent the receipt of something already owned. The stock market responds to such dividends by adjusting share prices according to the terms of the
stock dividend. The market value of an investor’s shareholdings after a stock dividend is likely to be the same as it was before the stock dividend. There is, however the only advantage is that unlike cash dividends, stock dividends are not taxed.

(d) Common Stock Income

Income on common stock is earned when the stock is sold. It can come as a capital gain or loss. Reasons for buying stock include investment (that is for the income which they will produce), capital appreciation in the light of some expected development (speculation) or a combination of the above two reasons.

The reasons for selling include raising money, whether it be to buy a house or a car or a business, or to pay debt duties, or to buy other securities which at the moment appear more attractive, or to have money in the bank in the expectation of favourable opportunities of investing it or better advantage later on and the belief that the price is going to fall (speculation).

The other reason for buying and selling is to take a profit or cut a loss on stocks that have been sold or bought for a quick income.

2.1.4 Dividend Discount Models

An asset value is determined by the present value of its future cash flows. The value of a stock equals to the discounted present value of the sum of the next period’s dividend plus next period’s stock price or the discounted present value of all future dividends. Ross,
Westerfield and Jaffe (1990), note that a common objective to applying present value analysis to stocks is that investors are too shortsighted to care about the long-run stream of dividends. These critics argue that an investor will generally not look beyond or past the time horizon. Thus prices in a market dominated by short-term investors will reflect only near-term dividends. Long-run dividend discount models hold even when investors have short-term horizons. An investor wanting to cash out early must find another investor who is willing to buy.

Rutherford (1993), gives the following models for estimating Holdings Period Returns (HPR);

(a) One year period return

\[
HPR = R = \frac{D_1 + P_1 - P_0}{P_0} \quad (2.1)
\]

Where

\( D_1 \) – expected income to be received during the period.

\( P_1 \) – expected value of the stock at the end of the period.

\( P_0 \) – cost of the stock

(b) \( n \) years

\[
P_0 = \frac{D_1}{(1 + r)} + \frac{D_2}{(1+r)^2} + \ldots + \frac{D_n}{(1+r)^n} + \frac{P_n}{(1+r)^n} \quad (2.2)
\]

\( P_n \) – Value of stock at end of \( n \) years

\( D_1 \) – Income to be received in the 1\textsuperscript{st} year

\( r \) – Expected annual rate of return whatever the holding period.
But since the interest rates and required rates of return will vary according to time, the cost of stock \((P_0)\) will be:

\[
P_0 = \frac{D_1}{(1 + r_1)} + \frac{D_2}{(1 + r_2)^2} + \ldots + \frac{D_n}{(1 + r_n)^n} + P_n \quad \text{(2.3)}
\]

Applying equation (2.3) to different growth stocks, equations (2.4), (2.5) and (2.6) are obtained.

(a) Zero growth stock

\[
P_0 = \frac{D_1 + D_2 + \ldots + D_n = D}{(1+r)(1+r)^2(1+r)^n} = \quad \text{(2.4)}
\]

(b) Constant Growth stock

If dividends grow at a rate \(g\) then,

\[
P_0 = \frac{D + D(1+g) + D(1+g)^2 + \ldots = \frac{D}{(1+r)(1+r)^2(1+r)^3}}{r - g} \quad \text{(2.5)}
\]
(c) Differential growth

Figure 2.1: Differential growth rate

Dividends
Per share

\[ \text{Low growth} \]
\[ \text{High growth} \]
\[ g_2 \]
\[ \text{Differential growth} (g_1 > g_2) \]
\[ \text{Constant growth} \]
\[ \text{Zero growth} \]


The value of the firm is a function of its growth rate ‘g’ and its discount rate ‘r’. g can be estimated by the formula;

\[ g = \text{retention ratio} + \text{return on retained earnings}. \]

The value of the growth stock is

\[ P_0 = \frac{D_1V}{r - g} \]

Thus

\[ r = \frac{D_1V + g}{P_0} \]

\[ \text{DIV} \text{ can be calculated from the publicly available information.} \]

\[ P_0 \]
Estimation error for $r$ on a single security is too large to be practical; therefore an average $r$ for the entire industry is used to discount the dividends of a particular stock in the same industry.

2.1.5 When Speculators Can Make Abnormal Profits

(a) Counter Evidence on Weak Form Efficiency

There is an increasingly large body of evidence of an apparent tendency for investors to overreact to new information. There seems to be evidence that the release of an item of news that reduces the price of a particular stock tends to cause the price to reduce more than justified. This overreaction is subsequently corrected by the price increasing by a small but significant amount. It seems that investors who exploit the tendency to overreact, by for example, buying stocks immediately following some "bad news" can make abnormally large capital gains as the overreaction is corrected (Mclaney (2003)).

(b) The Weekend or Monday Effect

There is also evidence of a ‘weekend’ or monday effect, where there are significantly higher capital gains from either buying stocks on a monday morning and selling them on a monday evening, or selling them in the morning and buying them back in the evening, than the normal expected capital gain from the stocks over one day (Ibid). The problem with generating abnormal capital gains from exploiting this apparent weakness is that the effect seems inconsistent. Over some periods (and for the stocks of some sizes of business), incomes are positive, but over other periods (and for different sizes of business) they are negative.
(c) Strong Form Evidence

Mclaney (2003) notes that from the strong form efficiency, insiders who have genuine information can use it to their advantage to make large capital gains. However, those not having access to such information are not, on a continuing basis, able to achieve better than average incomes irrespective of whether they are 'experts' or not.

(d) Model for Speculative Profits

The random walk asserts that speculative profits cannot be made using charts. However, notes Francis and Archer (1971), note that if a speculator can accurately forecast the market indices, a speculative profit on short-run trading exceeding that available from a naïve buy-and-hold strategy could be earned. Of course, accurately forecasting the index is the difficult task. Assuming rates of return on the Index \((r_i)\) can be forecast accurately, equation (2.7) provides a basic model to use for speculation.

\[ r_i = a_i + b_i (r_t) = E(r_t/r_t) \]

\[(2.7)\]

where \(r_i = \text{rate of return on security } i, r_t = \text{rate of return on the market, } a_i \text{ and } b_i \text{ are constants. Depending on whether the constant } b \text{ is positive or negative figures 2.2(a) and 2.2(b) will be obtained.}\]
Given a value for $r_I$, equation (2.7) yields a forecasted rate of return ($r_i$) on the $i^{th}$ security. Since it is not difficult to fit numerous regression lines in equation (2.7), numerous stocks return may be forecasted with this model from a single forecasting of $r_I$.

According to Francis and Archer (1971), for successful speculation those stocks which possess the following characteristic are the best:

(i) A high positive value for the regression coefficient ($b_i$) in equation (2.7) will indicate that the returns of the firm tend to be sensitive to changes in the index $r_I$. These stocks will experience large capital gains and losses as $r_I$ varies.

(ii) A high correlation coefficient between $r_i$ and $r_I$ will tend to indicate a dependable ability to predict of course, if the nature of the firm or any of the processes underlying the model have changed, then equation (2.7) must be adjusted.
If the firm’s rate of return is predicted to make a large drop quickly, change is usually due to capital loss since dividends do not vary.

Thus when equation (2.7) above predicts a falling \( r \), the speculators should sell short in the short-run. Short selling involves the selling of stock borrowed from a broker with the intention of buying it back later at a lower price, repaying the broker and pocketing the profit. Likewise, when the model predicts a sharp rise in \( r \), capital gains are predicted and the speculator should buy long (buy securities and hold them until the price rises to a desired level, then sell them) in the short run.

(e) Under- and Over- Priced Stocks

Capital market theory gives an apparatus with which to reveal under – or overpriced stocks, the Security Market Line shown in figure 2.3

Figure 2.3: Security Market Line

In figure (2.3) point L represents under-priced stocks. These stocks have high returns and therefore enjoy strong demand. This will bid their prices up until their equilibrium rate of return is driven onto the SML at point L. Point H represents the stocks whose prices are too high. These stocks have low returns and low demand which will bid their prices down until their equilibrium rate of return is driven onto the SML. R is the risk-free return.

Figure (2.3) is a simplified form of the SML. In reality the SML is a fuzzy band, and only significant departure from the band may be expected to cause the direction the theory indicates. Points off the SML may merely represent poor expected returns and risk estimates.

Defensive stocks offer the opportunity to reduce portfolio risk while aggressive stocks offer opportunities for speculators as their dividend and price reactions to changes in market conditions are more dramatic than the reactions of defensive stocks.

Suffice it to say, expected return is a function of risk. Thus if an investor buys a risky security or portfolio, high on the SML or the Capital Market Line (CML) and holds it over a “representative period”, a higher – than – average rate of return is expected to be earned.

(f) Speculative Bubbles

It is a common practice to look back on dramatic collapses in stock prices and assign them to the bursting of a bubble. A speculative bubble reflects a difference between the
fundamental value of a stock and its market price. Clearly a bubble is not merely a random deviation of price from fundamental value, for the law of large numbers suggests that purely random deviations will wash out over time without any necessity of collapse. Bubbles are self-fulfilling departures of prices from fundamental value, which continue until, for some reason, the condition of self-fulfillment disappears. Lofthouse (2001) suggests three types of bubbles, which are rational, irrational and endogenous.

Rational bubbles are realistic descriptions of stock price performance, if the “market’s” horizon is shorter than the time to the popping of a bubble, the bubble can continue. This is the essence of the “Greater fool” explanation of speculative episodes, you will knowingly pay a price above fundamental value because you will believe that someone later on will pay an even greater premium over fundamental value.

A rational bubble will not affect the sequence of prices until it breaks and thus impossible to uncover its existence. However, the disappearance of a bubble, such as a major decline in stock prices, can be examined to determine whether it was preceded by a speculative bubble price.

Irrational bubbles theories assume two classes of investor, informed and uninformed investors may follow feedback strategies the earliest being to follow trends. What goes up will continue to go up. Informed investors see that assets are under-priced but follow the trend too. After a while they jump ship and the market drops back. There is scant evidence to support the existence of these two ways.
Endogenous theories assume that bubbles are inherent in the system. As the latest crash, scandal or whatever, becomes a distant memory, the risk-aversion of speculators declines. As a market rises, the speculators become more optimistic and may take on debt to finance their activities. But as prices rise, while the perceived risk is low, the actual risk is rising. Some surprising events may trigger a crisis.

(g) Noise Trading

Rose (1973), notes that prices do diverge systematically from fundamental values because even well-informed investors are risk averse and will not engage in sufficient arbitrage activity to prevent this. This view is formalized by a model of irrationality called "noise trading" by its proponents (Black 1986; Shleifer and Summers 1990). The noise-trading model proposes that an important segment of the market consists of investors who bid prices away from fundamentals, thus introducing "noise" into stock prices. This noise, or "investor sentiment," is sufficiently broad in impact, affecting many stocks, and that investors cannot avoid it by diversification and must accept it as a source of systematic risk. Because it is systematic and undiversifiable, the noise affects the rate of return investors require on stock and, therefore, market prices.

In the absence of noise trading, stock prices would always equal fundamental values, but with noise trading, stock prices will be more volatile than fundamental values because of the changing perceptions of noise traders. Friedman (1953) argued that, in the long run, prices miss to conform to fundamentals because speculators who paid incorrect prices
would either go broke if they tended to buy high and sell low, or would force prices to equal fundamental value if they were sharp enough to buy low and sell high. Indeed, not only is noise trading consistent with an average return above the riskless rate, but it can be consistent with a higher average return for noise traders than for sophisticated investors, as it seems likely noise traders tend to invest more heavily in noise-laden stocks, hence earning more of the risk premium associated with small stocks.

2.2 Empirical Literature Review

A lot of research has been carried out in the area of investment in stocks in many parts of the world. Most of these studies have, however, mainly concentrated on such areas as the determinants of stock returns, stock price volatility, dividend payment, measurement of stock returns, and tests on the Capital Asset Pricing Model (CAPM) and the Arbitrage Pricing Model.

Closely related to the current topic is Wagacha’s (2000) study on the motives of buying and selling stock at the Nairobi stock exchange. The researcher’s findings were that the traders were seeking short time capital gains, which in effect gives evidence of speculation at the NSE.

Balke and Wohar (2002) found that under the assumption of a constant discount factor stock prices were too volatile to be consistent with movements in future dividends. They argued that stock price movements could not solely be explained by dividend variability as suggested by the present value model with constant discounting. Shiller (1989), using
the vector autoregression (VAR) method showed that the variability of current stock returns could be broken into the variability of future dividend growth and future stock returns. The study attributed most of the movements in stock prices to revisions in expectations about future stock returns rather than the future dividend growth.

Brooks and Katsaris (2004), in their three-regime model for speculators and using data from the S&P500, showed that their model yielded higher end of period returns than the buy and hold strategy. The speculator would use the three-regime model to identify optimal market entry and exit points. They identified the three regimes as the dormant, explosive and collapsing regimes.

Mahani (2004) found that most speculators were short time players as they exited the market after incurring loses and that survivors increase their trade intensities with more experienced speculators doing better.

De Long et al (1990), using their noise-trading model, showed that abnormal returns from stock could be obtained by appropriate use of the model by speculators.

Studies on the NSE include those ones by Munga (1974) who studied the history, organization and role of the NSE in the Kenya economy. The study found the NSE to be characterized by illiquidity and low turnover and this situation has, however, since changed. Kerandi (1993) tested the predictive ability of the dividend discount valuation model at the NSE and found that the model has less predictive ability. Mwangi (1997)
analysed price movements for some selected stocks and concluded that it was not always possible to develop models that accurately predict prices at the NSE because the parameters used in forecasting vary over time due to changes in the underlying earning's generating process. Rioba (2003) studied the predictability of ordinary stock return at the NSE and by using econometric tests, found that the predictability evidence for ordinary shares in the NSE is weak and not conclusive.

On market timings, Dyl (1977) examined the influence of capital gains tax on investors' market behavior. The research findings were that there was significant trading volume in December of common stocks that depreciated during the year and abnormally low trading volume for those stocks that appreciated during the year. Kamau (2003) studied the turn of the month effect and found that stock returns are positive on the average in the beginning and during the first half of calendar months and zero during the second half of the month. Rozeff and Kinney (1976) carrying out their study on capital market seasonality found that stock returns are higher in January compared to other months. A study by French (1980) on the weekend effect on stock trading found that stocks have negative returns on mondays but are positive on other days.

### 2.3 Overview of Literature

None of the studies reviewed in the literature have specifically touched on the comparison of rates of returns to speculators and investors. Wagacha (2000) showed evidence of the existence of speculation at the NSE but the study never on the issue of the rates of returns to the speculators. Balke and Wohar (2002) showed that stock price
volatility cannot solely be explained by the changes in dividends but failed to compare the rates of returns earned through capital gains (losses) and dividends. Brooks and Katsaris (2004), using a three-regime model for speculators, showed that speculators would earn higher end of period returns than the buy and hold strategy but the model has not been tested empirically. Mahani (2004) found that most speculators lost their money in the stock market and that this led them to exit the market after a short while. The study however failed to quantify the losses to the speculators. De Long et al (1990) showed that abnormal returns could be obtained by appropriate use of a noise-trading model but this was only in relation to those speculators who did not use the model. Kamau (2003), Rozeff and Kinney (1976) and French (1980) showed that stock returns were higher on certain periods of the year or days of the month or week as compared to others but did not compare these with the dividends earned. These gave the researcher the inspiration to carry out a research in the current topic area.
CHAPTER THREE

THEORETICAL FRAMEWORK AND RESEARCH METHODOLOGY

3.1 Theoretical Framework

This study closely followed those that were done by Odero (2000) and Kamau (2003). The average period returns were the geometric means calculated as;

Geometric average return $= \left\{ (1+R_1) (1+R_2) + \cdots + (1+R_n) \right\}^{1/n} - 1$ \hspace{1cm} (3.1)

Where $R_1, R_2, \cdots, R_n$ are average period returns and $n$ is the number of periods. This method was suitable for this study because it compounds cumulative returns over more than one period unlike arithmetic mean which does not reflect the realized change in stock price over multiple periods. Because of the difference in market capitalisations and the monthly traded volumes for the companies (stocks) under this study, the average returns from capital gains (losses) was worked on an aggregate basis, and a calculation similar to the one used for calculation of stock return indices was performed.

Applying the above formula gave the two models for investors and speculators.

Geometric average period return for investors, $R_i$, was given by;

$$R_i = \left\{ (1+D_1)(1 + D_2) \times \cdots \times (1 + D_n) \right\}^{1/n} - 1 \hspace{1cm} (3.2)$$

Where; $R_i =$ geometric average period return from dividends for the investors

$n =$ number of years for the period under study

34
$D_n =$ annual arithmetic average of the dividends for the $n$th year and is calculated as:

$$D = \frac{c_1 + c_2 + c_3 + \cdots + c_k}{k} \quad (3.3)$$

where $c_k$ is the annual dividend of the $k$th company and $k$ is the sample size.

Geometric average period return for speculators, $R_s$, was given by:

$$R_s = \left\{ (1+G_1) (1+G_2) (1+G_3) \times \cdots \times (1+G_n) \right\}^{1/n} - 1 \quad (3.4)$$

where $G_n$ is the annual geometric average return of the capital gains (losses) for the $n$th year and will be calculated as:

$$G_n = \left\{ (1+T_1) (1+T_2) (1+T_3) \times \cdots \times (1+T_j) \right\}^{1/j} - 1 \quad (3.5)$$

$T_j$ is the average monthly return for all the stocks and is calculated as:

$$T_j = \frac{(\Sigma P_i V_i / \Sigma V_i) - (\Sigma P_{i-1} V_{i-1} / \Sigma V_{i-1}), i = 1, 2, 3, \cdots, k}{(\Sigma P_{i-1} V_{i-1} / \Sigma V_{i-1})} \quad (3.6)$$

Where; $P_i =$ average price of the individual stock at the $j$th month.

$V_i =$ the monthly traded volume for the particular stock in the $j$th month.
3.2 Population.

The population consisted all the companies that are listed on the Nairobi stock exchange and trade in ordinary shares. There were forty-seven companies that traded in ordinary shares at the NSE (refer to appendix A).

3.3 Sampling Technique

Stratified sampling technique was used to select a sample, from the various NSE standard industrial groupings (refer to table 3.1), for the purpose of this study. Within each group, the companies were selected randomly. A sample of ten proportionately selected companies was used to give a stream of dividends. From the Main Investment Market Segments (MIMS), one company was selected from the Agriculturals, two from the Commercial and Services, two from the Finance and Investment, three from the Industrial and Allied and two from the Alternative Markets Segments (AIMS). The same sample was used for generating the stream of capital gains (losses). Particular attention was, however, paid to the selection process in order to ensure that only those companies that had consistently been listed and frequently paid a dividend, for the period 1994 to 2003, were selected.

Table 3.1: Number of Companies listed and selected from various sectors

<table>
<thead>
<tr>
<th>Market Segment</th>
<th>Number of companies listed</th>
<th>Number of companies in the sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Sector</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Commercial and Services</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Finance and Investment</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Industrial and Allied</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Alternative Investment Mkt</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>10</td>
</tr>
</tbody>
</table>
3.4 Data

Secondary data were used for the purpose of this study. Data collected included name of organisation, annual dividend, highest and lowest monthly stock price, monthly traded volume and monthly turnover.

Data on dividends were collected from the companies’ quarterly, half yearly and annual reports for the period under study. Interim dividends were added to the final dividend to obtain the annual dividend for each company.

Data on stock prices, for each company (stock), were collected from the NSE on a monthly basis. Stock prices of companies that had declared bonuses and rights issues were adjusted to reflect those changes.

The annual mean dividend was the arithmetic mean of the percentage dividend payouts by the individual companies. The annual mean dividends were used to work out a geometric percentage mean return on dividends for the period under study.

The monthly data on stocks was used to calculate monthly weighted average of the stock price for all the companies (stocks) in the sample. The monthly weighted average of the stock price was used to calculate monthly stock return by getting the price differential between two consecutive months. An annual geometric mean of percentage stock returns were calculated for all the companies (stocks). The period stock rate of return was the geometric mean of the annual means.
Time series comparison was used to depict the differences in dividend and capital gain (loss) on a yearly basis. Further student t-test, at 5% significant level, was used to compare the final mean rates of returns to the two groups of investors for the period under study.
CHAPTER FOUR
EMPIRICAL FINDINGS

4.1 Results

The companies that were picked for the purpose of this study were A. Baumann, British American Tobacco, Brooke Bond, East African Portland Cement, George Williamson, Jubilee Insurance, East African Breweries, Kenya Commercial Bank, Nation Media Group and Uchumi Supermarkets (refer to appendix B). Two types of data were collected for each company for the period 1994 to 2003. The first type of data was the annual dividend rate for each company, for the ten-year period. This data were obtained from the Nairobi Stock Exchange information centre and it is shown in table 4.1.

Table 4.1: Annual Dividend Rate (%)

<table>
<thead>
<tr>
<th>Company/Year</th>
<th>94/95</th>
<th>95/96</th>
<th>96/97</th>
<th>97/98</th>
<th>98/99</th>
<th>99/00</th>
<th>00/01</th>
<th>01/02</th>
<th>02/03</th>
<th>03/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Baumann</td>
<td>1.5</td>
<td>1.5</td>
<td>0.8</td>
<td>0.8</td>
<td>1.3</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>B.A.T</td>
<td>4.0</td>
<td>5.0</td>
<td>6.0</td>
<td>6.0</td>
<td>7.5</td>
<td>10.5</td>
<td>6.3</td>
<td>7.9</td>
<td>6.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Brooke Bond</td>
<td>5.0</td>
<td>1.0</td>
<td>2.0</td>
<td>0.0</td>
<td>4.0</td>
<td>4.0</td>
<td>6.0</td>
<td>2.0</td>
<td>2.5</td>
<td>6.0</td>
</tr>
<tr>
<td>E.A Portland</td>
<td>1.0</td>
<td>0.0</td>
<td>0.3</td>
<td>0.7</td>
<td>1.0</td>
<td>0.0</td>
<td>1.0</td>
<td>0.5</td>
<td>1.8</td>
<td>0.0</td>
</tr>
<tr>
<td>G. Williamson</td>
<td>5.0</td>
<td>1.0</td>
<td>1.5</td>
<td>7.5</td>
<td>0.0</td>
<td>5.0</td>
<td>0.5</td>
<td>3.8</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Jubilee Ins.</td>
<td>0.8</td>
<td>2.5</td>
<td>0.8</td>
<td>1.8</td>
<td>0.8</td>
<td>0.8</td>
<td>1.8</td>
<td>3.0</td>
<td>1.8</td>
<td>2.3</td>
</tr>
<tr>
<td>K. Breweries</td>
<td>5.0</td>
<td>1.5</td>
<td>6.0</td>
<td>6.0</td>
<td>7.0</td>
<td>7.5</td>
<td>9.0</td>
<td>11.5</td>
<td>15.0</td>
<td>18.0</td>
</tr>
<tr>
<td>KCB</td>
<td>2.5</td>
<td>6.0</td>
<td>7.0</td>
<td>8.0</td>
<td>3.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Nation M. G.</td>
<td>2.2</td>
<td>2.3</td>
<td>2.8</td>
<td>2.8</td>
<td>1.7</td>
<td>1.8</td>
<td>1.8</td>
<td>2.4</td>
<td>1.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Uchumi S.</td>
<td>5.0</td>
<td>5.0</td>
<td>3.4</td>
<td>3.1</td>
<td>2.3</td>
<td>3.0</td>
<td>1.6</td>
<td>0.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: own
Table 4.1 shows the annual dividend rate paid by each of the companies in the sample for the period under study. During this period the highest dividend that was paid was 18% while the lowest was 0%.

From Table 4.1 the annual mean dividend rate was calculated by using equation 3.3. Table 4.2 was obtained.

Table 4.2: Annual Mean Dividend Rate (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>94/95</th>
<th>95/96</th>
<th>96/97</th>
<th>97/98</th>
<th>98/99</th>
<th>99/00</th>
<th>00/01</th>
<th>01/02</th>
<th>02/03</th>
<th>03/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Div. Mean</td>
<td>3.2</td>
<td>2.6</td>
<td>3.0</td>
<td>3.6</td>
<td>2.9</td>
<td>3.4</td>
<td>2.9</td>
<td>3.3</td>
<td>3.3</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Source: Own

Table 4.2 shows the annual mean dividend rate for the companies in the sample during the period under study. From the table the range of the annual mean dividend was between 2.6% and 4.6%.

By using equation 3.2 and Table 4.2 the geometric mean dividend rate of return ($R_i$) to investors, for the period under study, was calculated. $R_i$ was obtained to 3.3%. This value was computed for the purposes of comparison to that of the speculators during the same period.

The second type of data was on stock returns and it included the monthly traded volume of shares for each company, the corresponding minimum and maximum stock prices for each month and the monthly turnover for each company. This was done for the one hundred and twenty months for the period under study, that is, 1994 to 2003. The raw
data that were collected occupied one hundred and five pages of text and had to be given an initial processing to yield a table of monthly weighted average turnover for all the companies under study. From the data collected, monthly weighted stock price averages were calculated for all the months in the period under study to obtain table 4.3.

Table 4.3: Weighted monthly average stock price (Kenya shillings)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>98</td>
<td>86</td>
<td>67</td>
<td>68</td>
<td>52</td>
<td>61</td>
<td>45</td>
<td>47</td>
<td>36</td>
<td>46</td>
</tr>
<tr>
<td>Feb</td>
<td>103</td>
<td>82</td>
<td>65</td>
<td>60</td>
<td>75</td>
<td>51</td>
<td>38</td>
<td>64</td>
<td>26</td>
<td>79</td>
</tr>
<tr>
<td>Mar</td>
<td>60</td>
<td>75</td>
<td>62</td>
<td>1264</td>
<td>63</td>
<td>65</td>
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<td>62</td>
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<td>50</td>
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<td>84</td>
<td>44</td>
<td>36</td>
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<td>60</td>
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<td>42</td>
<td>27</td>
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<td>82</td>
<td>60</td>
<td>56</td>
<td>81</td>
<td>61</td>
<td>60</td>
<td>49</td>
<td>26</td>
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<td>Oct</td>
<td>75</td>
<td>64</td>
<td>43</td>
<td>61</td>
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<tr>
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<td>63</td>
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<td>90</td>
<td>72</td>
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<td>67</td>
<td>47</td>
<td>61</td>
<td>64</td>
<td>61</td>
<td>172</td>
</tr>
</tbody>
</table>

*Source: Own*

Table 4.3 was obtained by using the formula (Odera, 2000);

Weighted average = \( \sum (\text{Monthly Price} \times \text{Weight}) / \sum \text{Weight} \)

\[ = \sum \text{Monthly turnovers} / \sum \text{Weights} \]
where the weights were the monthly traded volumes.

The weighted averages in table 4.3 served as the monthly stock price indices for the sample of companies under study. Equation 3.6 and table 4.3 were used to calculate the monthly rates of stock returns. The results were tabulated in table 4.4.

Table 4.4: Monthly stock rates of return (%)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Jan</td>
<td>5.1</td>
<td>-4.7</td>
<td>-3.0</td>
<td>-11.8</td>
<td>44.2</td>
<td>-16.4</td>
<td>-15.6</td>
<td>36.2</td>
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<td>-8.5</td>
<td>-4.6</td>
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<td>-16.0</td>
<td>27.5</td>
<td>57.9</td>
<td>-20.3</td>
<td>142.3</td>
<td>-21.5</td>
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<td>Mar</td>
<td>10.0</td>
<td>-4.0</td>
<td>-14.5</td>
<td>-94.9</td>
<td>17.5</td>
<td>9.2</td>
<td>-15.0</td>
<td>-2.0</td>
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<td>-6.5</td>
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<tr>
<td>April</td>
<td>-31.8</td>
<td>6.9</td>
<td>-18.9</td>
<td>12.5</td>
<td>0.0</td>
<td>-4.2</td>
<td>-13.7</td>
<td>-22.0</td>
<td>84.2</td>
<td>34.5</td>
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<tr>
<td>May</td>
<td>168.9</td>
<td>0.0</td>
<td>7.0</td>
<td>177.8</td>
<td>1.4</td>
<td>-11.8</td>
<td>-4.5</td>
<td>5.1</td>
<td>105.7</td>
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<td>June</td>
<td>5.0</td>
<td>-5.2</td>
<td>17.4</td>
<td>-87.5</td>
<td>-16.0</td>
<td>40.0</td>
<td>4.8</td>
<td>-12.2</td>
<td>-27.8</td>
<td>-38.5</td>
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<tr>
<td>July</td>
<td>3.1</td>
<td>-11.0</td>
<td>-16.7</td>
<td>140.0</td>
<td>19.0</td>
<td>-6.0</td>
<td>-4.5</td>
<td>-25.0</td>
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<tr>
<td>Aug</td>
<td>-37.4</td>
<td>-7.7</td>
<td>24.4</td>
<td>35.0</td>
<td>-18.7</td>
<td>-24.1</td>
<td>16.7</td>
<td>-3.7</td>
<td>-21.2</td>
<td>-4.6</td>
</tr>
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<td>-8.5</td>
<td>6.7</td>
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<td>-24.7</td>
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<td>1.7</td>
<td>20.4</td>
<td>92.3</td>
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<td>-5.6</td>
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<td>Oct</td>
<td>12.0</td>
<td>23.4</td>
<td>11.6</td>
<td>1.6</td>
<td>12.7</td>
<td>-16.4</td>
<td>6.8</td>
<td>-30.0</td>
<td>18.2</td>
<td>-5.1</td>
</tr>
<tr>
<td>Nov</td>
<td>7.1</td>
<td>-8.9</td>
<td>-6.3</td>
<td>-19.4</td>
<td>-5.6</td>
<td>-7.8</td>
<td>-3.2</td>
<td>82.9</td>
<td>56.4</td>
<td>53.6</td>
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<tr>
<td>Dec</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Own

Since the rates of returns in table 4.4 were percentage differences in stock price indices between consecutive months, there were no entries for the month of December since it
was the last month in the series. The table shows that for the period under study, speculators had both positive and negative rates of returns.

From table 4.4, and using equation 3.5, the annual geometric mean rates of stock returns were calculated for all the companies in the sample. Table 4.5 was obtained.

Table 4.5: Annual geometric mean rates of stock returns (%)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual geo mean</td>
<td>-0.8</td>
<td>-1.6</td>
<td>-3.6</td>
<td>-2.8</td>
<td>2.3</td>
<td>-2.3</td>
<td>2.8</td>
<td>2.8</td>
<td>4.9</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Source: Own

Table 4.5 shows that the lowest rate of return earned during the period under study was -3.6% while the highest was 12.7%. Using the geometric mean method (refer to equation 3.4) the period rate of stock return (R_s) for speculators was calculated. R_s were obtained to be 1.4%.

A summary of tables 4.2 and 4.5 gave rise to table 4.6.

Table 4.6: Annual rates of returns for stocks and dividends (%)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stocks</td>
<td>-0.8</td>
<td>-1.6</td>
<td>-3.6</td>
<td>-2.8</td>
<td>2.3</td>
<td>-2.3</td>
<td>2.8</td>
<td>2.8</td>
<td>4.9</td>
<td>12.7</td>
</tr>
<tr>
<td>Dividends</td>
<td>3.2</td>
<td>2.6</td>
<td>3.0</td>
<td>3.6</td>
<td>2.9</td>
<td>3.4</td>
<td>2.9</td>
<td>3.3</td>
<td>3.3</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Source: Table 4.2 and 4.5
A simple trend analysis shows the presentation of the comparison of rates of returns to investors and speculators on a per share/stock basis.

Figure 4.1 shows that there was higher volatility in the rates of stock returns as compared to dividend rates of returns because the stock rate of return curve fluctuates more than the dividend rates of return curve. This high volatility in stock rates of returns has the potential for huge capital gains or losses depending in the timing of a particular speculator.

Source: Table 4.6
4.2 Test of Hypotheses

The null hypothesis for this study was that there was no difference in the rates of returns to the two groups of investors, that is;

\[ H_0; \mu_s - \mu_i = 0 \]

while the alternative hypothesis was that speculators earned a higher rate of return than the investors, that is;

\[ H_A; \mu_s \neq \mu_i \]

where \( \mu_s \) and \( \mu_i \) are the population mean rates of returns to speculators and investors respectively.

Student's t statistic at 95% confidence interval, was used to compare the rates of returns to the two groups of investors.

\[ \mu_s - \mu_i = R_s - R_i \pm t_{5\%}S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}} \]

Where \( \mu_s - \mu_i \) = the difference in mean rates of returns for the population, \( S_p \) = pooled standard deviation of the samples, \( R_i \) = sample mean dividend rate of return to investors, \( R_s \) = sample mean stock rate of return to speculators.

From the above values,

\( S_p = 3.48\% \), \( R_i = 3.3\% \), \( R_s = 1.4\% \), \( t_{5\%} = 2.10 \) and \( n_1 = n_2 = 10 \) (degrees of freedom = \( n_1 + n_2 - 2 = 18 \)). Thus;

\[ \mu_s - \mu_i = 1.4 -3.3 \pm 2.10 \times 3.48 \sqrt{\frac{1}{10} + \frac{1}{10}} = -1.9 \pm 3.27 = -5.17 \text{ to } 1.37 \]

Thus with 95% confidence interval, the average rate of return by speculators was -5.17% below that of investors or 1.37% above or in between.

Now, \( \mu_s - \mu_i = 0 \) lies inside the range of -5.17% to 1.37%. This leads to the acceptance of the
null hypothesis and rejection of the alternative hypothesis since the range -5.17% to 1.37% includes a value of zero. This means that there was no discernible difference in the average rates of returns between the two groups of investors.

From the literature reviewed it was seen that speculators have chances of making huge profits or losing their investments in stocks, and eventually quitting the stock market unlike dividend earners who always have some certainty on the safety of their investments. The findings of this study agree to this fact because of the higher volatility in stock rates of returns compared to those of dividends (refer to figure 4.1). However over a long period of time the mean rates returns to the two types of investors are statistically the same.
CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary
This chapter is based on the findings of the study. It gives the interpretation and conclusion on the findings. It also gives recommendations and highlights the limitations of the study and gives suggestions for further research.

5.2 Conclusions
The average rate of return earned by speculators was found to be 1.4% while that of the investors was 3.3% for the period under study. Although there was higher volatility in annual stock rates of returns compared to dividend rates of returns. Within the limit of the tools of analysis used for the purpose of this study and other limitations it was concluded that there was no discernable difference between the rate of return to speculators and that of the investors for the period under study.

This conclusion was only based on the returns per share/stock but does not tell the actual shilling amounts that were earned by the two groups of investors. There would be huge differences in the actual shilling amounts earned by the two groups of investors as this depends on the number of shares/stocks held and the frequency of trading (a small rate of return earned several times as a capital gain will translate into huge sums of money compared to a big rate of return earned just once on dividends of a few shares).
For instance, the number of people trading in stocks vary with those holding shares in companies. This will have the effect of distributing the returns unevenly. Company charter limits the number of shares that can be held by an individual whereas speculators can hold as many stocks as possible depending on their financial ability and as long as there is no market crash.

5.3 Recommendations

(i) From the findings of the study, the only likely limitation on the cash returns to investors is the number of shares held and it is therefore recommended they hold as many shares of companies as possible so as to increase their cash returns.

(ii) For speculators it is recommended that they hold well-diversified portfolios in order to in minimise losses due to stock price volatility.

(iii) Investors who hold shares for a long period of time would also be advised to venture into the stock market to take advantage of the stock price volatility. This will be beneficial particularly when there an upward trend on the stock prices, as they will earn good capital gains.

(iv) Since the study found no discernable difference in the rates of returns to speculators and investors, the government should withdrawing tax imposed on dividends so as to encourage more people to invest in shares.
5.4 Limitations of The Study

Due to the nature of the industry, its confidentiality and frequency of trading, it was impossible to identify and collect the lists of the speculators and the investors. This left the researcher with the option of using secondary data on returns to the two groups without the names of the underlying personalities. The frequency of speculation was reduced to a monthly basis for the purpose of the study. Ideally the frequency of speculation in the stock market is much higher as trading in stocks is a daily activity.

The researcher was also faced with the problems of limited time scope and scarcity of funds for the study.

5.5 Suggestions for Further Research

The researcher suggests the following areas for future research;

(i) A research on the factors that shareholders consider when investing in a particular company.

(ii) A research on why some investors stick onto shares of particular companies for a long time.

(iii) A research on what speculators do to maximize their gains.
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## APPENDIX A

### TABLE 5.1

**LIST OF COMPANIES THEIR QUOTATION DATE & SHARE PAR VALUE**

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<tr>
<th>Company</th>
<th>Quotation date</th>
<th>Share Par Value</th>
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</tr>
<tr>
<td>Rea Vipingo</td>
<td>1996</td>
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</tr>
<tr>
<td>Sasini</td>
<td>1951</td>
<td>5.00</td>
</tr>
<tr>
<td>Kakuzi</td>
<td>1975</td>
<td>5.00</td>
</tr>
<tr>
<td>African Lakes Corporation</td>
<td>1996</td>
<td>5.00</td>
</tr>
<tr>
<td>Hutching Biemer</td>
<td>1961</td>
<td>5.00</td>
</tr>
<tr>
<td>Nation Media</td>
<td>1973</td>
<td>5.00</td>
</tr>
<tr>
<td>Car &amp; General</td>
<td>1951</td>
<td>5.00</td>
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<tr>
<td>Kenya Airways</td>
<td>1996</td>
<td>5.00</td>
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<td>TPS Serena</td>
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<td>HFCK</td>
<td>1992</td>
<td>5.00</td>
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<td>Jubilee Insurance</td>
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<td>National Bank of Kenya</td>
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<td>Standard Chartred Bank</td>
<td>1988</td>
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<td>NIC Bank</td>
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<td>Dunlop Kenya</td>
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<td>E.A. Breweries</td>
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<td>E.A. Cables</td>
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<td>1971</td>
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<td>Mumias sugar company</td>
<td>1991</td>
<td>5.00</td>
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<td>Kenya power &amp; Lightening</td>
<td>1972</td>
<td>20.00</td>
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<td>A.Baumann</td>
<td>1972</td>
<td>5.00</td>
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<td>Eaagads</td>
<td>1972</td>
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<td>Kapchorua Tea Co. Ltd</td>
<td>1964</td>
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<td>Standard Newspapers</td>
<td>1954</td>
<td>5.00</td>
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<td>City Trust Ltd</td>
<td>1987</td>
<td>5.00</td>
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<tr>
<td>Kenya Orchards</td>
<td>1996</td>
<td>5.00</td>
</tr>
<tr>
<td>E.A. Packaging Industries</td>
<td>1971</td>
<td>5.00</td>
</tr>
<tr>
<td>Williamson Tea Kenya</td>
<td>1950</td>
<td>5.00</td>
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<td>Limuru Tea Company Ltd</td>
<td>1967</td>
<td>20.00</td>
</tr>
</tbody>
</table>
APPENDIX B

LIST OF SAMPLE COMPANIES

MAIN INVESTMENT MARKET SEGMENTS (MIMS)

AGRICULTURALS

1. Brooke Bond (K) Ltd

COMMERCIAL AND SERVICES

1. Nation Media Group
2. Uchumi Supermarket Ltd

FINANCE AND INVESTMENT

1. Jubilee Insurance Company Ltd
2. Kenya Commercial Bank Ltd.

INDUSTRIAL AND ALLIED

1. British American Tobacco
2. E. A. Breweries
3. E. A. Portland Cement Company Ltd

ALTERNATIVE INVESTMENTS MARKET SEGMENTS (AIMS)

1. Williamson Tea Company Ltd
2. A. Baumann and Co. Ltd
## Appendix C

**Sample of Data Collected on Stocks**

Table 5.2: Returns of Traded Transactions for the months of March and April '01

<table>
<thead>
<tr>
<th>Company</th>
<th>Shares Traded</th>
<th>Deals</th>
<th>Max Price</th>
<th>Min Price</th>
<th>Turnover (KSh.)</th>
</tr>
</thead>
<tbody>
<tr>
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### APPENDIX D

Data on Annual Dividends

Table 5.3: Annual Dividend Rate (%)

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</table>

*Source: Data collected*
TO WHOM IT MAY CONCERN:

Dear Sir/Madam,

RE: RESEARCH PROJECT: DATA COLLECTION
(JOHN KEBASO OMURWA - D53/7252/02)

This is to confirm that the above named student has completed his MBA coursework, MBA (Finance Option) in the School of Business, Kenyatta University, and he is embarking on his project this second semester before he completes his degree programme in December 2004.

Any assistance you may accord him will be highly appreciated.

CHAIRMAN, BUSINESS ADMINISTRATION DEPARTMENT
APPENDIX F

Own Letter

John K. Omurwa
RegNo. D53/7252/04
Institute of Business, Kenyatta University
P. O. Box 43844
Nairobi
24th August 2004

Dear Respondent,

RE: DATA COLLECTION

Refer to the above subject.

I am a final year Master of Business Administration (MBA) student at Kenyatta University. Currently am undertaking a research on common stock returns to speculators at the stock exchange and investors in dividends. The research is aimed at coming up with the trend and comparison of returns for the two groups of investors for the period 1994-2003. The type of data required will include stock price and traded volume on the last day of trading of each month for the stocks (companies) that comprise the sample and their corresponding annual dividend. Attached is the list of (stocks) companies that comprise the sample.

Your assistance and cooperation will highly be appreciated.

Thank you.

Yours sincerely,

John K. Omurwa