AN INVESTIGATION OF THE RELATIONSHIP BETWEEN SYSTEMATIC RISK AND RETURNS OF SECURITIES: A CASE OF COMPANIES LISTED ON THE NAIROBI STOCK EXCHANGE (NSE)

JOHN K NGATIA
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DECLARATION

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

Signature ..... Date 19/3/09

JOHN KIHARA NGATIA

This research project has been submitted for examination with my approval as University Supervisor.

Signature ..... Date 19/3/09

J. M Theuri
Department of Accounting & Finance
Kenyatta University

This research project has been submitted for examination with my approval as the Chairman of the Department of Accounting and Finance.

Signature ..... Date 21-4-09

J. M Muturi
Chairman
Department of Accounting & Finance
Kenyatta University

DEDICATION

To my wife Catherine Njeri and my child who did not have a chance to sleep during the trying periods of brutish neglect when I was undertaking my fieldwork for this masters programme.

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ABSTRACT

Prior to June 2001, all companies in the NSE traded under one market segment. Classification was done and they were re-classified into Main, Alternative Investment Segments and Fixed Income Securities. The period between 2001 to 2008 brought about phenomenal changes at the bourse. In addition to market segmentation, the increased number of newcomers in the stock market and other major changes that took place in the Kenyan economy affected the stock market significantly and thus the amount of risk exposure. These changes in the market made it totally different in terms of systematic risk. This study sheds light on the post-classification period after the companies have traded for a couple of years and it aimed at illuminating areas of systematic risk and how they relate to shareholders returns and whether the classification of the market into various segments trading under different requirements had effect on the investment returns of the shareholders. A study performed at the Warsaw stock exchange which is an emerging market with similar segments as the NSE revealed that the main market segment earnings results were slightly stronger than the whole market while being definitely stronger than the parallel (Alternative) market segments (Jarmathowicz & Gornit 1998). In light of market segmentation concept, this shows that the performance of the three market segments namely, Main, Alternative and Fixed Income Securities investment segments, ought to be significantly different. It is therefore important to understand whether the re-classification of companies at NSE three market segments reflects significant differences in performance levels of those companies. This study sought to establish whether the companies that are classified under MIMs are actually different in terms of risk and return with those that are classified under AIMs at NSE. Descriptive design approach was used to provide further insight into the research problem by describing the variables of interest and examining associative relationships. It involved taking repeated measures over time that was useful for conducting trend analysis and tracking changes in relationship over time. Systematic risk was found to have minimal effect on dividends and stronger positive effect on bonuses to investors. Main investment market segment had the highest systematic risk and posted the highest returns to investors compared to Alternative investment segment. Systematic risk and return relationship was found to be stronger in companies under MIMS compared to companies under AIMS. Future researchers may investigate the unsystematic risk return relationship at the NSE and establish the effect of different economic situations on the risk and return relationship.

TABLE OF CONTENTS

CHAPTER THREE: RESEARCH METHODOLOGY

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND DISCUSSION

CHAPTER FIVE: SUMMARRY, CONCLUSION, AND RECOMMENDATION

LIST OF ABBREVIATIONS

AIMS	Alternative Investments Market Segment
ATS	Automated Trading System
BRVM	Bourse Regionale des Valeurs Mobilieres
CAPM	Capital Asset Pricing Model
CDS	Central Depository System
CMA	Capital Market Authority
FISMS	Fixed Income Securities Market Segment
GDP	Gross Domestic Product
IMF	International Monetary Fund
IPO	Initial Public Offering
LAN	Local Area Network
MIMS	Main Investments Market Segment
NSE	Nairobi Stock Exchange
NPV	Net Present Value
ROE	Return on Equity
RONA	Return on Net Assets
SML	Security Market Line
WAN	Wide Area Network

DEFINITION OF TERMS

Authorised capital

This is the amount of capital that a company has been authorized to raise by way of equity and preference shares through the Articles of Association / Memorandum of Association of the company.

Arbitrage

Arbitrage consists of purchasing a commodity or security in one market for simultaneous sale in another market. The purpose is to make riskless profits.

Bonus shares

Shares issued by companies to their shareholders free of cost by capitalization of accumulated reserves from the profits earned in the earlier years

Broker

A member of a Stock Exchange who acts as an agent for buying and selling shares for them

Commercial paper

A short-term promise issued by a company to repay a fixed amount that is placed on the market either directly or through a specialized intermediary.

Dividends

Payment made to shareholders out of a company's earnings. Dividend is declared on the face value or par value of a share, and not on its market price. For investors, dividends contribute the returns on shares bought in addition to price appreciation.

Diversification

Risk reduction by having relatively uncorrelated financial instruments in a portfolio.

Demutualization

Is the process by which a customer-owned mutual organization or co-operative changes legal form to a joint stock company. It is sometimes called stocking or privatization.

IPO

IPO stands for Initial Public Offering and means the new offer of shares from a company which was previously unlisted.

Risk

It is the degree of uncertainty that exists about the occurrence of future planned events. It is the variability or dispersion of possible returns from expected returns.

Systematic risk

It is the un-diversifiable risk associated with every stock which relates to the risk of the economy as a whole.

Unsystematic/Specific risk

This is a risk that affects a very small number of assets. It is non-market risk.

Beta coefficient,

In finance and investing, it is used to describe how the expected return of a stock or portfolio is correlated to the return of the financial market as a whole.

Return

Returns to shareholders include capital gains/loss through movement of share price, dividends and bonuses paid.

Capital Asset Pricing Model (CAPM)

It is a model used to determine a theoretically appropriate required rate of return of an asset, if that asset is to be added to an already well-diversified portfolio, given that asset's non-diversifiable risk. The model takes into account the asset's sensitivity to non-diversifiable risk (also known as systemic risk or market risk), often represented by the quantity beta (β) in the financial industry, as well as the expected return of the market and the expected return of a theoretical risk-free asset.

Security Market Line (SML)

It is the graphical representation of the Capital Asset Pricing Model. It displays the expected rate of return for an overall market as a function of systematic (non-diversifiable) risk (beta).

Gross Domestic Product (GDP)

Is the sum total of all the goods and services produced within the frontiers of a country in a year.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The Stock Exchange is a market that deals in the exchange of securities issued by publicly quoted companies and the government. The major role the stock exchange has played, and continues to play in many economies is that it promotes a culture of saving. The very fact that institutions exist where savers can safely invest their money and in addition earn a return, is an incentive to people to consume less and save more. The stock exchange assists in the transfer of savings to investment in productive enterprises as an alternative to keeping the savings idle. It should be appreciated that in as much as an economy can have savings, the lack of established mechanisms for channeling those savings into activities that create wealth would lead to mis-allocation or waste of those savings.

Investors of any rank at stock markets are interested in knowing how much return their investment can earn. For making better investment decisions, it is imperative for investors to have knowledge about investment risk and return. Investment return is an important element that any investor takes into consideration in making investment decisions. Similarly, the risk that is associated with a particular investment return is even more important to investors as it influences the return levels.

Risk is associated with the degree of uncertainty that exists about the occurrence of future planned events. Normally, a higher rate of return or discount or interest will be used where investment is expected to be risky. Theoretical expectations are that there should be a positive risk - return relationship for the simple reason that investors need to be compensated via the provision of a risk premium if they are to take additional risk. A risk premium is the minimum difference a person requires to be willing to take an uncertain bet, between the expected value of the bet and the certain value that he is indifferent to.

In finance, the risk premium can be the expected rate of return above the risk-free interest rate. When measuring risk, a common sense approach is to compare the virtually risk-free return on Treasury bills (T-bills) and the very risky return on other investments. The difference between these two returns can be interpreted as a measure of the excess return on the average risky asset. This excess return is known as the risk premium.

Risk is measured by the variability or dispersion of possible returns from expected returns. Individual securities returns could exhibit different degrees of fluctuations. Fluctuations are mainly caused by movement in share prices and changes in dividends. Risk can be classified as systematic or unsystematic. Systematic risk refers to that portion of total variability in returns from assets caused by factors affecting all assets though at different magnitude. Economics, political and sociological changes are sources of systematic risk. Their effect is to cause the value of nearly all assets to move together in the same manner. Firms with higher systematic risk tend to be those whose sale profits

and stock prices follow movements in level of economic activity. In a balanced portfolio of assets, there would be a spread between general market risk and specific risks to individual components of that portfolio. Unsystematic/specific risk is a risk that affects a very small number of assets.

The unsystematic risk can be reduced or eliminated through diversification whereas the systematic risk cannot be diversified away. The systematic risk is a market-related risk while the unsystematic is non-market risk. Diversification can thus reduce the risk of a portfolio by reducing the unsystematic component of the total risk (Philips & Riche 1983). The extent to which diversification reduces risk in a portfolio depends on relationship between the returns of the securities in the portfolio.

Nairobi Stock Exchange (NSE) was started in the 1920s by the British as an informal market for Europeans only. In 1954, the market was formalized through incorporation into a company. In 1963, Africans were allowed to join and trade in the market. The market has transformed into strides since then and has developed to be the Sub-Saharan Africa's fourth-largest bourse.

During the year 2000, NSE embarked on a major reform of the moment dubbed "Market segmentation and re-organization'. The aim of the reform was developing and operating an efficient and transparent securities market to the best international standards for the benefit of all stakeholders (NSE library, 2001).

The fundamental market reform process was launched with effect from July 1st 2000. This reform process involved the re-organization of the market into independent market segments. NSE market reform and segmentation process was done with consideration of various other foreign models of capital market operations like London Stock Exchange, Indian Capital Market, Malasyan Capital Market. The entire process of re-organization was under the directorship of CMA the NSE regulating authority (NSE Library, 2000).

As part of the process of market reforms and segmentation, the existing companies listed at the stock exchange were reclassified with some of them falling under the Main Investments Market Segment (MIMS) while others under Alternative Investments Market Segment (AIMS). Consultations were held between CMA, NSE and stakeholders during the re-organisation. All market participants were then allowed transition period that extended into the year 2001 to enable them to implement changes to meet the minimum requirements of the segments under which they wished their securities to be listed.

The market segments had different listing requirements. Listing requirements are the set of conditions imposed by a given stock exchange upon companies that want to be listed on that exchange. Such conditions sometimes include minimum number of outstanding shares, minimum market capitalization, and minimum annual income. Segmentation in the NSE was as follows:

Main Investments Market Segment (MIMS): This is the main market and has the highest entry and continuity market requirements with respect to net assets and share capital among others . To be listed under MIMS, a company must be limited by shares and registered under the Companies Act (Cap 486) as a public limited company, the company must have a minimum authorized, issued and fully paid up share capital of Kshs 50 million and net assets of Kshs 100 million before the public offering of shares. As at 30th July 2008, there were 47 companies listed under MIMs.

Alternative Investments Market Segment (AIMS): This segment has the same strict disclosure requirement as MIMS and also has lower entry and continuity requirement with respect to minimum assets and share capital. To be listed under AIMS, a company must be limited by shares and registered under the Companies Act (Cap 486) as a public limited company, the company must have a minimum authorized, issued and fully paid up shares of Kshs 20 million and net assets of Kshs 20 million before seeking listing. As at 30th July 2008, there were 8 companies listed under AIMs

Fixed Income Securities Market Segment (FISMS): Among other listing requirements and in addition to being a company limited by shares and registered under the Companies Act (Cap 486) as a public limited company, the company must have a minimum authorized, issued and fully paid up share capital of Kshs 50 million and net assets of Kshs 100 million before the public offering of the securities.

1.1.1 Objective of NSE Market Segmentation.

The number of listed companies has remained below 60 for a long time. Following consultations with stakeholders in the capital market industry, NSE undertook fundamental reform focused on its market structure. Specifically, the reforms focused on creating alternative market to cater for the specific needs of different issuers and investors. (NSE Library, 2001).

The MIMs was created with the objective of making it the main quotation market, with more stringent listing requirement similar to those previously existing at NSE. On the other hand, AIMs objectives included providing access to the capital markets for small and medium sized companies with high growth potential. AIMs like MIMs was also aimed at facilitating liquidity to companies with large shareholder base through the process of 'introduction ', a process by which existing shares are listed for purpose of marketability and not for the purpose of raising capital. Finally, the AIMs segment was established with the purpose of offering investment opportunities to institutional investors and high net worth individuals to diversify their portfolios and access high growth of the economy. The decision on new entry and continuity at the market segments is vested on CMA which regulates NSE activity.

In addition to Market segmentation, the period between the years 2001 to 2008 brought about other phenomenal changes at the bourse. Companies listed on stock exchange changed in that new ones have been listed while others have been delisted since the

previous studies. This indicates a change in market portfolio and may have resulted in different risks for the mix of securities held by an investor.

There has been a transformation in the system of trading moving from the older call over system to the floor based open outcry system and finally to the Automated Trading System (ATS) where 40% of the record breaking turnover of 2006 was done after the implementation of the ATS. Wide Area Network (WAN) has too been implemented to allow members to trade from their offices.

Number of trading hours has been increased to 6 hours meaning trading starts when its Three pm in Tokyo and close when its Seven pm in New York. Use of Central Depository System (CDS) accounts is fast gaining acceptance and there is increased trade via this new system. There is increased activity to facilitate a partnership with some of the Asian economic tigers by opening up local bourse to Chinese investors whose daily turnover back at home is estimated at $2 trillion.

Accelerated economic growth since 2003 has driven up corporate earnings, a trend not witnessed since late 1970s and early 1980s. Catalyst to the robust growth included pension sector reform, budgetary reform, improved revenue collection, better management of public sector entities and government divesture. In addition to the increased number of newcomers in the stock market, other major changes have taken place in the Kenyan economy that have affected the stock market significantly and thus

the amount of risk exposure. These changes in the market made it totally different in terms of systematic risk measured in previous periods. It is, therefore, important to examine the risk levels associated with shareholders return to establish how they compare among the different segments of the stock market

A trend witnessed at the NSE covering a period of the last four years ending 31st July 2008 indicated that Alternative Investment Market recorded much lower activity compared to the Main Investment Market contributing less than 1.5% of the total market equity trading volumes. Therefore, more investor activity was centred on Main Market. However, the Main Market also registered the highest number of mergers or delisted companies compared to other market segments indicating that the level of risk was different across the different market segments. (NSE Monthly Bulletins 2008).

Available literature indicated that so far, no study had attempted to address the risk and return relationship covering the post-classification period and the study therefore investigated critically the two variables of interest and examined the associative relationships in the two market segments during this period.

1.2 Statement of the Problem

While choosing among alternative investment instruments, investors estimate and evaluate the expected risk -return trade off for alternative investment available. Each of

these parameters also serves as good yardstick in determining which market segment or asset portfolio to invest in.

A study performed at the Warsaw stock exchange which is an emerging market with similar segments as the NSE revealed that the main market segment earnings results were slightly stronger than the whole market while being definitely stronger than the parallel (Alternative) market segments (Jarmathowicz & Gornit 1998). In light of market segmentation concept this showed that the performance of the two market segments ought to be significantly different.

Covering the post-classification period, the study sought to establish whether the companies that are classified under MIMS were actually different in terms of systematic risk and return with those that are classified under AIMS at the NSE. This research analysed the risk return relationship between the two market segments i.e. systematic risk return relationship between companies listed under the MIMs and AIMs.

1.3 Objectives of the Study

The main objective of the study was to evaluate the relationship between risks and returns of securities for the listed companies at the NSE.

1.3.0 Specific Objectives

1.3.1 To identify firms' specific systematic risk levels and their effect on dividends.

1.3.2 To identify firms' specific systematic risk levels and their effect on bonuses.

1.3.3 To identify shareholders' adjusted returns for each firm in the two investment segments.

1.3.4 Comparison in systematic risks and returns between Main and Alternative investment segments.

1.4 Research Questions

i. How does the level of systematic risk affect dividends?

ii. How does the level of systematic risk affect bonuses?

iii. How independent are shareholders' returns from investment segment?

iv. How do the systematic risks and returns between Main and Alternative investment segments compare?

1.5 Significance of the Study

CMA

Findings of this study will provide further knowledge on how the NSE market segmentation has been done and would aid the CMA in making future adjustments if need be.

Investor

The study was intended to provide information for existing and potential stock investor for use while making stock investment decisions on firms to invest in.

Investment advisors will have a better position in recommending the NSE to both foreign and local investors.

NSE and stock brokers

It will provide information useful to NSE and stockbrokers in advising stock investors

Scholars

Scholars interested in the same area of study will use the same information provided by the study.

1.6 Scope of the Study

The study was conducted covering the period between Year 2003 to 2007. This was chosen in order to capture the influence of factors in the economy that could have affected share prices and dividends. The five-year period was comparable to that used in previous studies (Kiprono 2004 & Ayieye 2004). It is also assumed that investors required about 5 years to assess the risk of a certain stock. A similar period was used to determine the risk return classes among New York stock exchange under similar assumption (Sharpe and Cooper, 1972). A second justification for the use of five-year period was that a much longer period would increase stochasticity of betas (Sharpe & Cooper 1972, Blume 1973, Fabozzi & Francis 1978). The study covered companies dealing with equity shares and excluded those trading exclusively on preference shares. The scope was limited to companies listed at NSE because of the readily available data and information from their published annual reports and accounts. Private/unlisted

companies oftenly did not publish annual reports and there was also limited time for the data to be made available.

1.7 Limitations of the Study

The study coverered the period of trading at the NSE between the years 2003 and 2007 during which some companies may not have declared dividends or bonuses. Ascertaining shareholders returns was done by the method of using share prices only.

1.8 Delimitations of the Study

Lack of dividends/bonuses being declared for certain companies was delimited by studying the target population of 47 listed companies being 86% coverage of NSE Limitation on shareholders returns calculation was addressed by employing capital gain plus dividend yield formula adjusted with bonuses.

CHAPTER TWO

LITERATURE REVIEW

2.1 General Literature

In the past 15 years, liberalization and privatization have become dominant themes in development strategies particularly in Africa. Donors, governments and development practitioners have exhibited changing attitudes towards the role of the private sector in the development of African economies and acknowledged the need to facilitate private sector development.

Promotion of economic growth led by the private sector requires the creation of an enabling environment within which the private sector can flourish. A key factor is the healthy growth of a nation's financial sector, which in turn, improves the private sector's access to services such as bank credit, equity capital, payments and risk management services. Generally, the development of financial sectors has followed a trend beginning with channeling savings and investments through banks followed by the development of capital markets as savers search for higher returns and firms seek cheaper capital.

For a period of about 15 years (1990 – 2005), liberalization and privatization have become dominant themes in development strategies in Africa. The changing attitudes towards the role of the private sector in the development of African economies have facilitated the development of the capital markets. In the 1990s, many countries in Africa

set up stock exchanges as a precondition for the introduction of market economies under the structural adjustment programs propagated by the international monetary institutions and to facilitate the privatization of state owned enterprises. Currently, Africa has eighteen securities exchanges, eleven of which began operations in the 1990s.

The growth in market capitalization in Africa has been described as remarkable as more countries outside of the more advanced economies of the Maghreb region (Northern Africa) and South Africa venture into the development of their capital markets.(Sunil,2005). The growth has not only been in market capitalization, but also in innovation such as is characterized by the integration of regional markets in the francophone countries of West Africa. Eight (8) French-speaking members of the West African Economic and Monetary Union (UEMOA), namely, Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo created the world's first regional exchange, the Bourse Regionale des Valeurs Mobilieres (BRVM- Regional Stock Exchange).(Mbendi, 2005).

The objective of the integration was the consolidation of the value of developing a common hub for capital market development in the geographical zone where these countries are located. The BRVM – Regional Stock Exchange has been innovative in using the most modern electronic and satellite communications equipment, which has enabled it to maintain performance despite the under-developed communications infrastructure in the individual countries comprising the exchange. Another example of

integration is in the East African Countries of Kenya, Uganda and Tanzania which are currently in the process of integrating their stock markets into a regional East African stock market.

The majority of the countries establishing new exchanges in Africa have established new legal and regulatory regimes. International financial institutions such as the International Finance Corporation of the World Bank and various bodies of experts belonging to national securities exchanges of industrialized countries have provided important assistance with a view to building the legislative, regulatory, and accounting basis for the proper running of African securities exchanges.

The African markets are not closely linked to other international markets as is the case in Asia. While this may be a disadvantage to their growth, this 'independence' has made them attractive to investors who are looking for markets that will not be significantly affected by shocks to major world markets as was the case during the Asian crisis in the 1990s. In addition, equity investors traditionally look for high growth opportunities and "Africa offers an unparalleled opportunity in that regard." (Bryant, 2005).

The returns on investment in Africa are beginning to be very impressive despite weaknesses inherent in the capital markets. Bond markets are relatively underdeveloped in Africa's capital markets, yet they have the potential of mobilizing significant amounts of capital. They can also give African stock exchanges a tremendous boost in turnover as

bonds are usually more attractive to investors than stocks. A well integrated and customized financial information service that provides timely and accurate information service to individuals and corporate institutions is necessary for the development of bond markets. Stringent eligibility requirements have discouraged local entrepreneurs and indigenous enterprises that wish to raise funds from capital markets. The eligibility requirements as exemplified in the requirements for listing at the NSE have created high barriers to potential entrants to the stock exchanges such as the numerous family owned businesses in Africa. Thus, the stock exchanges tend to operate like closed membership organizations.

Creating an efficient regulatory system for securities exchanges is a difficult goal to achieve and maintain. Hence, some African stock exchanges have limited institutional capacity to police and enforce rules. Most of the smaller African exchanges lack the trained manpower and experience to adequately police the modern regulatory regimes they have adopted. Consequently, enforcement actions are rare and abuses are not uncommon. In addition, investors, particularly minority shareholders, lack confidence in the market as some listed companies continue to operate under poor corporate governance structures.

A stock exchange, share market or bourse therefore, is a corporation or mutual organization which provides trading facilities for stock brokers and traders, to trade stocks and other securities. Stock exchanges also provide facilities for the issue and

redemption of securities as well as other financial instruments and capital events including the payment of income and dividends. The securities traded on a stock exchange include: shares issued by companies, unit trusts and other pooled investment products and bonds. To be able to trade a security on a certain stock exchange, it has to be listed there. Usually, there is a central location at least for recordkeeping, but trade is less and less linked to such a physical place, as modern markets are electronic networks, which give them advantages of speed and cost of transactions. Listing requirements are the set of conditions imposed by a given stock exchange upon companies that want to be listed on that exchange. Such conditions sometimes include minimum number of shares outstanding, minimum market capitalization, and minimum annual income. Nairobi Stock Exchange (NSE) was established in 1954, as a voluntary association of stock brokers registered under societies act. Since its inception, the NSE has undergone various major changes some of which include the following:

In the early 1980s, the government began to focus more immensely on the country financial system. It aimed at adopting more market friendly reforms to foster competition and more sustainable economic growth. These reforms gained momentum in the late 1980s with the privatisation programme targeting the state corporations such us KCB, Kenya Airways etc.

The NSE was chosen as a market in which shares of the government in this state corporation were floated to the public for instance, Kenya Airways (KQ) floated to the

public its shares in 1996 and more than 110,000 shareholders acquired a stake in the airline. In the same year, KQ privatisation team was awarded the World Bank award for excellence for being a model success story in the divestiture of state-owned enterprises. The aim of floating the shares through NSE was to encourage local investments.

In line with the government aim to re-emphasise its commitment to the financial reform process and further boost investor confidence, a regulatory body to oversee NSE activities among other objectives was created through an act of parliament, the Capital Markets Authority (CMA) Act (CAP 485 A) of the laws of Kenya.

The key words in the objectives of creating the CMA were "promotion" and 'facilitation' of an orderly, fair and efficient capital market in Kenya. The ultimate test of CMA's worthiness as a public institution is its ability to satisfactory respond to the users of the services the investors, companies in need of capital, stock brokers, dealers excetra. In January 1991, the NSE changed its status into a company limited by guarantee. Further to this, it ended the old 'call over trading system in favor of floor based open outcry system and finally to the Automated Trading System (ATS).

The World bank and International Monetary Fund (IMF) have been the players in promoting changes geared boards privatisation and strengthening of financial makets in Africa, Latin, American, Asia, Central and Eastern Europe (Jermakowicz & Gornik

(1998). The two organisations have contributed significantly to the reform process at NSE.

Nairobi Stock Exchange is Africa's fourth largest stock exchange in terms of trading volumes, and fifth in terms of market capitalization as a percentage of Gross Domestic Product (GDP). The Exchange works in co-operation with the Uganda Securities Exchange and the Dar es Salaam Stock Exchange, including the cross listing of various equities.

2.2 Empirical Literature

One of the most difficult problems for investors is to estimate the highest level of risk one is able to assume, any such estimate was essentially found to be subjective, however, by use of security market line, most investors are able to select securities that are consistent with their risk preferences. The relationship between risk and return is important in a portfolio context since these two parameters are considered the main objects of choice.

If security and returns are not related, diversifications could eliminate risk (Markowitz, 1952). The author compared the risk reduction through diversification to flipping a large number of coins where one cannot predict with confidence the outcome of a single flip but if many coins are flipped, we can be virtually sure that heads will appear approximately one half of them. Correlation among security returns would be perfect if returns of all securities moved up and downed together in perfect unison, thus

diversification could do nothing to eliminate risk. The fact that security returns are highly correlated, but not perfectly correlated, implies that diversification can reduce risk but not eliminate it.

Investors are aware that expected return increases as risk increases (Cheney & Moses, 1989). Risk can be measured by standard deviation and risk per unit of expected return can be measured by coefficient of variation, which is defined as risk divided by returns.

A previous study found that it was apparent that Kenyan publicly quoted companies do exhibit a true relationship between systematic risk and return. This relationship however, was not statically significant thereby suggesting that investors may either be under or over compensated for taking high risk. This suggested the need for risk analysis on the part of investor (Gitari, 1990).

Another study evaluated the risk reduction benefits of portfolio diversification at NSE. The analysis indicated that there is significant risk reduction at the NSE as portfolio grows in size. It continued until a portfolio size of about 13 securities was held. Beyond this size, the risk reduction became insignificant. (Bowa, 2001).

A study sought out to determine the relationship between cash flows and earnings performance measures for companies listed at NSE. Using the principles of ROE and

RONA, it investigated the impact of cash flows on the performance of the companies at the NSE (Kiprono, 2004).

The return and risk relationship are based on the mean -variance framework of portfolio selection. Theoretical expectations are that there should be a positive risk - return relationship for the simple reason that investors need to be compensated via the provision of a risk premium if they are to take additional risk. The theoretical risk - return relationship is thus based on the premise of risk aversion. (Markowitz, 1952, Sharpe, 1965).

Exceptions have however been noted to this general conclusion. For example, a previous study discovered that within most industries, risk and return were negatively correlated (Bowman, 1980). Another study discovered a negative relationship between risk and return (Fiegenbaum & Thomas, 1988). Various explanations have been advanced to explain this apparent contradiction. Some scholars have questioned the premise of risk aversion arguing that it is not universally applicable (Markowitz.. 1952 and Swaim, 1966).

Individuals are not uniformly risk averse, but adopt a mixture of risk -seeking and risk-averse behaviors (Laughbunm, 1980). He further established that target or prospects are important in determining this behaviour. Thus when returns have been below target, there is risk-seeking behaviour and when the returns have been above target, there is risk-

aversion behavior. These "prospect theory" explanations for negative risk-return relationship have also received support in corporate context which established that troubled firms or firms whose returns are below prospect returns are more risk-seeking than healthy firms (Fiegenbaum & Thomas, 1988) and (Bowman, 1980). It is, therefore, clear that the non-universality of risk-aversion is the most important explanation for any negative risk- return relationship.

Mean – variance criterion has remained the most widely used bases for portfolio selection since the portfolio theory was originally postulated by Hurry Markowitz in 1952. The main objective of portfolio selection is to maximize investors utility. The mean-variance criterion is an appropriate measure of risk for any risk-averse investor. These are investors who will prefer more to less return for any given level of risk and less to more risk at a given level or return. It is attractive because it is simple to apply.

This method has however been criticized in that the mean variance criterion is sufficient for dominance only when the utility function is quadratic or the probability distribution of the resultant portfolio can be fully described by two parameters that are independent of each other (Hanoch & levy, 1970). It is also valid when the returns are normally distributed. As reported by a previous study, most returns tend to be lognormally distributed and it is the mean variance criterion that may not, in practice provide the best basis for portfolio selection. (Muli, 1991). As a result of arguments against mean

variance approach in portfolio selection, other frameworks have been developed that require less restrictive conditions.

Characteristic Dominance criteria comprise a set of inequalities involving functions of the probability distribution of the returns. These functions induce partial ordering of the set of probability distributions. These orderings provide on admissible set of choices under restrictions on the decision makers utility functions, that follows some prevalent and appealing models of economic behaviour. This model is of limited practical application compared to the mean – variance approach and also calls for complex mathematical computations.

Time dominance consists of rules which provide partial orderings of temporal prospects, yielding on efficient set from which the ultimate choice will be made (Ethern, 1981). Temporal prospects are decisions alternatives distributed over time and inferior alternatives are eliminated using Net Present Value (NPV) rule.

The minimax criterion was developed by William Krasker (1982). His model assumed that investors select their portfolios such that the portfolios have some minimax properties i.e. they have for instance, some guaranteed level of some minimum utility. This criterion also gave some portfolios that were fully identical to those selected under other criteria such as mean variance. Since portfolio selection involves utilisation of all available information, minimax behaviour seeks to protect the investor from the

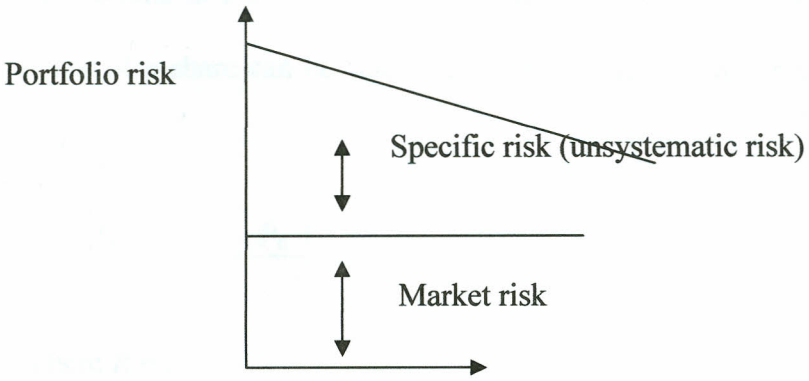
possibility that their probability distribution is incorrect due to the nature of information that the investor has. In a portfolio context, investors will feel uncomfortable when they make decisions based on subjective probability distribution formed on basis of vague information.

From the foregoing, the search for the best portfolio selection criteria is still going on. But so far, the mean – variance criterion remains the most widely used portfolio selection method. The effect of market conditions such as restriction on short sales will be simpler if we are willing to accept the concept of homogenous investor behaviour. Where short sales are not allowed, the effect will be to increase the price of risky assets consistently (Jarrow 1980). The mean variance approach can then be considered as correctly reflecting the best portfolios to maximize the investors' utility. Coefficient of variation of expected returns is used to de-limit the standard deviation as a measure of risk for the simple reason that a higher standard deviation does not necessarily mean a higher risk.

Portfolio Risk Diversification

A portfolio is a collection of assets in which funds have been invested. The best measure of a portfolio risk is the extent to which future actual portfolio values are likely to deviate from the expected returns. The unsystematic risk can be reduced or eliminated through diversification whereas the systematic risk cannot be diversified away. The systematic risk is a market related risk while the unsystematic is non-market risk.

Fig 2.1: Systematic and unsystematic risk



Source: Jaffe (1990)

Diversification can thus reduce the risk of a portfolio by reducing the unsystematic component of the total risk (Philips & Riche 1983). The extent to which diversification reduces risk in a portfolio depends on the relationship between the returns of the securities in the portfolio.

2.3 Conceptual Framework

All investments in assets have an element of risk. This risk is brought about by fluctuations in the returns. The returns are what is actually earned by an investor. The return of a share can be calculated as the dividend yield plus the capital gains (Pandey, 2001).

$$R = \left[\frac{DiV_1 + P_1 - P_0}{P_0}\right] \quad \ldots\ldots\ldots\ldots\ldots\ldots \text{(i)}$$

Where R = Returns

DIV_1= dividend/bonuses at the year end

P_1=closing prices

Po= opening prices.

$$\text{Average Return} = \frac{\textit{Periodical Rates of Return}}{\textit{Number of Periods Considered}} \quad \ldots\ldots\ldots\ldots \text{(ii)}$$

Rate of return = average of returns

$$R = \frac{1}{n}[Ri + R_2 + \ldots\ldots + R_n] \quad \ldots\ldots\ldots\ldots \text{(iii)}$$

Where:

R_1, R_2 represent returns in year one and two

R_n represents returns in period n

Risk is measured by the variability of returns. Individual securities returns could exhibit different degrees of fluctuations. Fluctuations are mainly caused by movement in share prices and changes in dividends.

Measurement of Risk

The risk that results from variations can be measured by statistical measures such as the variances and standard deviations according to Pandey (2001).

Variance $[\delta^2] = 1/n \sum (R_I - R)^2$ .....(iv)

Where

δ^2= variance of the shareholder's returns.

$\delta = \sqrt{}$variance of the shareholder's return

R_1 represents the shareholders' return

R represents the expected shareholders' returns

$(R_t - R)$ represents deviations from the expected returns

For each security i its weight w is computed as

$$Wi = \frac{\text{Market Capitalisation of security i}}{\text{Total market capitalization of all securities in the portfolio}}$$

$\delta m = [\sum wi^2 \delta i^2 + \sum\sum wiwj\delta i\, \delta j\, eij]^{1/2}$.....(v)

where $\rho ij = covij/\delta i\ \delta j$

$\delta i\ \delta j$ = standard deviation of returns of security i&j resp.

δm = systematic return risk for market

covij = variance between returns of securities i & j

market return computed as

$Rm = \sum wiRi$

Risk measured by variance of returns of portfolio can be measured by

$\delta^2 \rho = wi\ \delta^2 i + wj\ \delta^2 j + 2wiwj\ covij$.....(vi)

where $\delta^2 \rho$ =variance of portfolio returns

covij - covariance

To remove the element of size on standard deviation as a measure of risk, coefficient of variation (CV) of expected returns will be computed .

From portfolio theory,Capital Asset Pricing Model (CAPM)

$\hat{E}R_i = R_f + \beta(\hat{E}(R_m) - R_f)$ .....(vii)

Where:

$\hat{E}R_i$ is the expected return on the capital asset

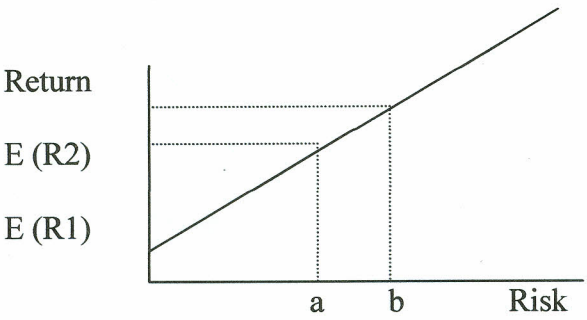
R_f is the risk-free rate of interest such as interest arising from government bonds

β (the beta coefficient) is the sensitivity of the asset returns to market returns, or also ,

is the systematic risk.

$\dot{E}(R_m)-R_f$ is sometimes known as the market premium or risk premium (the difference between the expected market rate of return and the risk-free rate of return).

Fig 2.2 : Risk - Return relationship



Where: E (R2 and R1) =expected returns

a and b =portfolio risk

Source: Pandey (2000)

The above figure shows the relationship between risks and returns. It was found that expected returns on a security was equal to the returns of the risk-free rate of interests plus the expected return on the market portfolio. From the figure 2.2, it is indicated that risk is directly related to the returns. Just like Pandey, it was found that there was a positive relationship between risk and returns that is the greater the risk, the grater the expected returns (Johnson, 1977).

2.4 Summary/Gaps to be Filled by the Study

A previous recommendation for future research was to establish the relationship if any between firm size and earnings performance measures (Kiprono, 2004).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research design

The study was of descriptive design. This was mainly because it was aimed at providing further insight into the research problem by describing the variables of interest and examining associative relationships. It involved taking repeated measures over time that was useful for conducting trend analysis and tracking changes in relationship over time.

3.2 Target Population

The research population consisted of all the quoted companies at the NSE over the study period. The study focused on equity shares. The companies were classified into five sectors as follows; Agricultural, Commercial and Services, Finance and Investment, Industrial and Allied and Alternative Investment Market segments. The assumption made on the choice of the period of study was that investors needed about five years to assess the risk of a certain stock shares. Sharpe used a similar period in 1972. Returns and risk per year were averaged.

3.3 Sampling Plan

The sectors in within the segment chosen for the study included; Agricultural, Commercial and Services, Finance and Investment, Industrial and Allied and Alternative Market segments. The study was conducted covering the period between 2003 to 2007. Purposive sampling was done. The study focussed on companies that have consistently

traded at the stock market over the study period of between 2003 and 2007, the total number of the companies was found to be 47 being 86% coverage of NSE. The companies were drawn from Main and Alternative Investment Segments. The remaining eight companies were not considered in this study as for some, there was unavailability of data due to suspension from trading while others were listed very recently at the NSE.

Table 3.1: Number of companies at NSE per segment

	Population	**Sample**
MIMS	47	39
AIMS	8	8
Total	55	47

3.4 Data Collection

Data collection was by use of schedules. The schedules helped in controlling the type of information needed. The study relied on secondary data on the bonuses and dividends. Data distribution by the quoted companies on security (beta) risk was also collected. The dividends and bonuses covering the stated five-year period under study were collected from the published financial statements of quoted companies.

3.5 Data analysis and interpretation

Data collected were analysed by use of statistical measures of dispersion and location such as mean, variance, standard deviation and coefficient of variation. Data collected

were averaged annually. Sectors were captured by use of dummies where Agriculture was assigned a dummy of 0, Commercial and Services was assigned a dummy of 1, Finance and Investments was assigned a dummy of 2, Industrial and Allied was assigned a dummy of 3 and Alternative Investment segments was assigned a dummy of 4.

Simple regression was used to determine the relationship between risks and dividends, risks and bonuses, returns and investment segment. The regression model was given as follows;

$Y=\beta_o+\rho_1 X+\varepsilon_1$ .....(viii)

Where

Y Dependent variable

βo Intercept

ρ_1 Contribution risk to dependant variable

ε_1 Error coefficient

X Independent variable

Adjusted returns was calculated by use of the following formulae;

$$R = \frac{DiV_1 + P_1 - P_0}{P_0} \quad \text{.....(ix)}$$

Where R = Returns

DIV_1= Dividend/bonuses at the year end

P_1= Closing prices

Po= Opening prices.

Average return was computed as below;

$$\text{Average Return} = \frac{\textit{Periodical Rates of Return}}{\textit{Number of Periods Considered}} \quad \ldots\ldots\ldots\ldots \text{(x)}$$

Rate of return = average of returns

$$R = \frac{1}{n}[Ri + R_2 + \ldots\ldots + R_n] \quad \ldots\ldots\ldots\ldots \text{(xi)}$$

Where:

R_1, R_2 represent returns in year one and two

R_n represents returns in period n

Chi-square test was performed to determine if return is independent of investment segment.

Comparison was done of the analysed data of risk and returns between MIMS and AIMS over the study period and interpretation on trends or tracked changes made.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

The study sought to evaluate the relationship between risks and returns of securities trading in the different equity market segments at the NSE. In this chapter, the research questions are investigated in detail. Data collected in form of dividends, bonuses and capital gains was analysed by the use of regression model of analysis and chi-square test statistic and interpretation done. The study focussed on companies that have consistently traded at the stock market over the study period of between 2003 and 2007, the total number of the companies was found to be 47 .The companies were drawn from Main and Alternative Investment Segments. The remaining eight companies were not considered in this study as for some, there was unavailability of data due to suspension from trading while others were listed very recently at the NSE.

4.2 Data Analysis and Interpretation

All the sectors within each segment were considered namely; Agriculture, Commercial and Services, Finance and Investments, Industrial and allied and Alternative Investment segments. These companies have been shown in the appendix 1.

Companies' share price gains/loss, bonuses and dividends were collected and averaged annually. Risk was captured as beta and was extracted from investors handbook. The

averages calculated from the data were used for the analysis. The results of regression analysis between adjusted returns, segment and systematic risks are as shown in the table 4.1 to table 4.5.

From the data schedule in Appendix 1, companies that paid the highest dividends to shareholders included, Nation Media Group, Barclays Bank, Jubilee holdings, East Africa Breweries and Carbacid Limited Company. From data on average dividend, Barclays Bank had the highest dividends paid to shareholders followed closely by East African Breweries. Companies that did not pay dividends included the following, Standard Group, National Bank of Kenya (NBK), Olympic capital holdings limited, Kenya Orchads Limited and A Bauman limited.

The companies that registered relatively good bonuses were, Barclays Bank, Jubilee Holdings, East African Breweries, Diamond Trust Bank, NIC Bank, and Nation Media Group. East Africa Breweries posted the highest bonuses followed by Barclays Bank. This scenario might have been caused by companies to woo new shareholders with bonuses or trying to retain investors. Companies that did not pay bonuses included the following, ICDC, National Bank of Kenya (NBK), Athi River Mining Limited, Total Kenya, Eaagards Limited, Kenya Orchards Limited. Seventy- five percent of companies under AIMS did not pay bonuses compared to forty four percent under MIMS. This illustrates element of continuous profitability for companies listed in the Mains Investment segments.

In terms of risk, East African Breweries Ltd had the highest risk followed by Barclays Bank and Standard Chartered Bank. The same companies also posted impressive returns to the shareholders. The lowest risks were registered with Marshalls Limited, National Bank of Kenya and Kakuzi Ltd. These companies also posted the lowest adjusted returns to investors during the period. This difference in risk levels was a result of the fluctuation of the price causing returns of some companies to fluctuate compared to the rest.

4.2.1 Dividends and Systematic Risk

$Dividends=\beta_o + \rho_1 Risk+ \varepsilon_1$

Where

β_o Autonomous constant

ρ_1 Beta

ε_1 Error coefficient

Table 4.1: Simple regression analysis dividends versus risk

Coefficients(a)

Constant	Risk	Adjusted R^2	F-Test	Observations
0.060	-0.205	0.441	13.62	47
(0.054)	(0.249)			

The results are significant at 0.05 level of significance

Source: SPSS programme (2008)

Regression results between dividends and risk show that the coefficient of determination (R^2=0.441) and the beta coefficient is -0.205. The calculated F, 13.62 was greater than critical F, 5.05 therefore indicating systematic risk does have effect on dividends. Figures in parentheses are standard errors of the coefficients. The negative beta implied an inverse relationship between dividends and systematic risk. This is explained by the fact that companies when compensating investors expect investors to be indifferent between receiving returns as dividends or as capital gains, meaning a lower dividend implies greater capital gains and higher dividends implies a lower capital gain. Therefore, with risks being higher for companies under MIMS which dominated more than ninety six percent of market equity trading volumes, capital gains were relatively higher hence lower dividends to investors. These results also implied that there is a weak relationship between systematic risk and dividends in that only 44.1% of the observation explained the dependent variable. The significance indicated that the observations are not significant at 95% confidence level. Therefore, from the above analysis, systematic risk has minimal effect on dividends

4.2.2 Bonuses and systematic risk

$Bonuses=\beta_o + \rho_1 Risk+ \varepsilon_1$

Where

βo Autonomous constant

ρ_1 Beta

ε_1 Error coefficient

Table 4.2: Simple regression analysis bonuses versus risk

Coefficients(a)

Constant	Risk	Adjusted R^2	F-Test	Observations
0.006	1.068	0.788	30.792	47
(0.001)	(0.157)			

Source: SPSS programme (2008)

The results are significant at 0.05 level of significance

From Table 4.2 above, coefficient of determination (R^2=0.788) indicated that 78.8% of observation explained the dependent variable. The calculated F, 30.79 was greater than critical F, 5.05 therefore indicating systematic risk does have effect on bonuses. The beta coefficient showed that risk contribution to bonuses is 1.068 and therefore from the foregoing regression results between systematic risk and bonuses, there is a relative stronger positive relationship between systematic risk and bonuses. Companies with high risk posted high returns and from this results, investors in this market are rewarded for assuming additional risk.

4.2.3 Relationship between Returns and Segment

Table 4.3: Chi-square results between returns and segment

ANOVA(c)

	Value	df	Asymptotic signf	Critical value
Pearson chi square	0.957	45	1.0	19.933

Source: SPSS programme (2008)

The results are at 0.05 level of significance

Testing the independence of market returns from segment at 95% confidence level, the results were as table 4.3 above. The calculated chi was 0.957 and critical chi 19.933. The calculated chi is less than the critical chi. This therefore implied that returns are not dependent on segment.

4.2.4 Adjusted Returns and Systematic Risk under MIMS

$R_1=\beta_o + \rho_1 Risk + \varepsilon_1$

R_1 is adjusted return in MIMS

Table 4.4: Simple regression analysis, systematic risk versus adjusted returns under MIMS

Coefficients(a)

Constant	Risk	Adjusted R^2	Frequency (F)	Observations
166.988	0.915	0.833	19.0	39
(14.452)	(12.107)			

Source: SPSS programme (2008)

The results are significant at 0.05 level of significance

Systematic risk and return relationship in the Main Investment Market Segment (MIMS)

Regression results between adjusted returns and risks in the MIMS segment are as in Table 4.4 above. The calculated F, 19.0 was greater than critical F, 5.05 therefore indicating systematic risk does have effect on returns in companies under MIMS. Coefficient of determination (R^2=0.833) indicated that 83.3% of observation explained the dependent variable. The beta coefficient showed that risk contribution to adjusted returns is 0.915. This implied under MIMS segment of the stock market, there is a strong positive relationship between adjusted returns and systematic risk. Companies under MIMS registered the highest risks and also posted the highest returns meaning investors were compensated for taking the additional risk.

4.2.5 Adjusted Returns and Systematic Risk under AIMS

$R_2=\beta_o + \rho_1 Risk+ \varepsilon_1$

R_2 is adjusted return in AIMS

Table 4.5: Simple regression analysis risk versus returns under AIMS

Coefficients(a)

Constant	Risk	Adjusted R^2	Frequency (F)	Observations
33.644	0.530	0.161	2.34	8
(21.985)	(26.201)			

The results are significant at 0.05 level of significance

Source: SPSS programme (2008)

Regression results between adjusted returns and risks in the AIMS segment are as in Table 4.5 above. The figures in parentheses are standard errors of the coefficients. The calculated F, 2.34 was less than critical F, 5.05 therefore indicating systematic risk has nil effect on returns. Coefficient of determination (R^2=0.161) indicated that 16.1% of observation explained the dependent variable. The beta coefficient shows that risk contribution to adjusted returns is 0.530. This implied under AIMS segment of the stock market, there is a very weak relationship between returns and systematic risk, however the risk beta indicated the relationship is a positive slope.

The weak relationship between systematic risks and returns under AIMS can be explained by the fact that the segment had the lowest activity on equity trading volume

and therefore the lower risk meant relative low returns to investors. The nature of the structure and size of the companies listed under AIMS is smaller compared to ones listed under MIMS and returns to investors were also low.

4.3 Discussion.

The result discussed in this section are based on the four study objectives .On the relationship between systematic risk and dividends, analysis results from table 4.1 indicated that there is a weak relationship between risk and dividends and therefore the effect of systematic risk on dividends is minimal. The negative beta implied an inverse relationship between dividends and systematic risk. This is explained by the fact that companies when compensating investors expect investors to be indifferent between receiving returns as dividends or as capital gains, meaning a lower dividend implied greater capital gains and higher dividends implied a lower capital gain. Therefore, with risks being higher for companies under MIMS which dominated more than 96% of market equity trading volumes, capital gains were relatively higher hence lower dividends to investors.

On systematic risk and bonuses, analysis results from table 4.2 implied that there is a stronger relationship and therefore systematic risk had a bigger influence on bonuses. Adjusted returns for the firms under MIMS and AIMS were evaluated and shown in appendix 1. Findings in table 4.3 indicated that shareholders returns are independent of the two market segments, MIMS and AIMS.

Relationship on systematic risk and returns was found to be stronger under MIMS with 83% of the observation explaining the dependent variable. This is indicated by analysis results table 4.4. This is explained by the fact that companies listed under MIMS are the big players and by the nature of their structure and size they are able to raise and utilise substantial capital and generate superior returns to investors at the same time incurring extra market risk.

Under AIMS, the results from table 4.5 indicated a very weak relationship between systematic risk and returns with only 16.1% of the observations explaining the dependent variable. The weak relationship between systematic risks and returns under AIMS can be explained by the fact that the segment had the lowest activity on equity trading volume and therefore the lower risk meant relative low returns to investors .The nature of the structure and size of the companies listed under AIMS is smaller compared to ones listed under MIMS and returns to investors were also low.

From the analysis of systematic risk and returns on the two investment segments, MIMS and AIMS, the analysed risk beta was positive therefore indicating that the relationship is a positive slope. It will also be noted that the companies that had the highest returns to shareholders also posted higher risks compared to the companies which did not pay dividends and bonuses and thus had lower risk and low returns to shareholders.

An acceptable theory for compensating investors for risk assumed is that investors are only compensated for the risk that they cannot do away with such risks is the market risk or systematic risk. It is clear from the results that companies that had high risk posted high returns and therefore investors at the NSE were rewarded for assuming additional risk. The overall relationship between risk and return for NSE is linear and positive.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMENDATIONS

5.1 Summary

The relationship between systematic risk and dividends was found to be weak whereas the relationship was much stronger between systematic risk and bonuses. An analysis of the independency between returns and segment indicated that there is independency between returns and segment.

The results of this study also indicated that there is a positive relationship between systematic risk and returns meaning that with an increase of systematic risk, there is an increase in returns to shareholders. MIMS registered higher risk levels and higher returns compared to AIMS which had lower risks and thus lower returns to shareholders.

Over the period covered by the study, higher trading activities were recorded in MIMS compared to AIMS with AIMS recording less than 1.5% of the total market equity trading volumes. (NSE Monthly Bulletins 2008). This goes to explain that most investors at the NSE are risk-takers and therefore, seek compensation via risk premium on their investments for the additional risk. These results should be understood in the light limitation of short period covered by the study. It should be expected that longer time frame will add statistical significance to the results.

5.2 Conclusion

Systematic risk has small effect on dividends and relatively stronger influence on bonuses. The results also indicate that returns are independent on the investment segment. From the study, it is also apparent that there is a positive relationship between shareholder's returns and systematic risk and this implies that systematic risk has got a positive influence on returns. This also means that as risk raises, shareholders' returns rise. There are higher systematic risk and returns under MIMS compared to AIMS which posted relatively low systematic risk and hence low returns.

5.3 Recommendation

i. Future researchers should establish unsystematic risk and return relationship at the Nairobi Stock Exchange.

ii. Future researchers should establish if different economic situations affect the risk and return relationship.

iii. Future researchers should establish risk return relationship for companies not listed at Nairobi Stock Exchange.

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APPENDIX 1

Schedule 1

AVERAGED DATA ON PRICE GAINS,DIVIDENDS BONUSES AND BETA

Price,dividends,bonus and returns in Kshs per share

		Beta	Price	Dividends	Bonuses	Return
	Agriculture					
1	Kakuzi	0.18	0.25	0.20		0.45
2	Rea Vipingo plantation	0.27	0.62	0.61		1.23
3	Sasini Ltd	0.88	0.75	0.40	130	131.15
4	Unilever Tea	0.4	-0.03	4.10		4.07
	Commercial And Services					
5	Car General (K)	0.73	0.50	0.54		1.04
6	CMC Holdings	0.87	0.76	1.16	16.5	18.42
7	Kenya Airways	0.95	0.92	0.70		1.62
8	Marshalls (E.A)	0.37	0.53	0.40		0.93
9	Nation Media Group	1.02	0.36	6.95	148.8	156.11
10	Standard Group	0.88	-0.09		107.2	107.11
11	TPS EA (Serena)	0.46	0.38	1.16	73	74.54
12	Uchumi Supermarket	0.39	-0.10	0.10	3.4	3.40
	Finance And investment					
13	Barclays Bank	2.87	0.16	10.64	478	488.80
14	CFC Stanbic Holdings	0.93	0.83	1.14	58	59.97
15	Diamond Trust Bank	2.51	0.68	0.74	272.6	274.02
16	Housing Finance co	0.31	0.78	2.44		3.22
17	Jubilee Holdings	2.5	1.05	3.05	227.2	231.30
18	KCB	0.6	0.56	2.60	12.2	15.36
19	ICDC	0.43	0.83	2.00		2.83
20	NBK	0.38	0.75			0.75
21	NIC Bank	1.17	0.41	2.25	176.4	179.06
22	Olympic Capital Holdings	0.34	0.55		3.9	4.45
23	Pan Africa Insurance	0.29	0.93	0.74		1.66
24	Standard Chartered	2.74	0.38	6.74	454	461.12
	Indusrial And Allied					
25	Athi River Mining	1.28	1.21	0.92		2.13
26	B.O.C Kenya	0.38	0.61	4.54		5.15
27	Bamburi Cement	0.39	0.54	5.25		5.78
28	BAT Kenya Ltd	0.6	0.69	10.60		11.29
29	Carbacid Investments	0.38	0.42	3.95		4.37
30	Crown Berger	0.45	0.89	1.10	76	77.99
31	E.A Cables	0.29	0.93	0.30		1.23

32	E.A Portland Cement	0.29	0.98	2.44		3.42
33	East African Breweries	3.54	0.43	10.22	655	665.65
34	Kenya Oil Co	1.18	0.52	5.15		5.67
35	KP&LC	0.97	0.79	0.72		1.51
36	Mumias Sugar Co	0.88	0.66	1.19	7.9	9.75
37	Sameer Africa	0.14	0.13	0.20		0.33
38	Total Kenya	0.13	0.08	1.84		1.92
39	Unga Group	0.16	0.46			0.46
	Alt Investment Market Segment					
40	A.Baumann & Co	1.2	1.31			1.31
41	City Trust	1.65	0.43	4.02	144	148.45
42	Eaagads	0.11	0.17	0.70		0.87
43	Express	1.88	2.60	0.18	54	56.78
44	Williamson Tea Kenya	0.61	0.34	1.95		2.29
45	Kapchorua Tea Co	0.07	-0.18	2.80		2.62
46	Kenya Orchards	1.81	5.76			5.76
47	Limuru Tea Co	-0.03	0.08	8.60		8.68

APPENDIX 2

JOHN NGATIA

KENYATTA UNIVERSITY

INSTITUTE OF BUSINESS

P.O BOX 43844

NAIROBI.

Dear respondent.

I am a postgraduate student in the Institute of Business, Kenyatta University, studying an MBA project on 'Investigation of relationship between systematic risk and returns of securities, a case of companies listed on the Nairobi Stock Exchange'.

This is in partial fulfilment of the requirements for Masters of Business Administration (MBA) degree.

Kindly, assist me with the information of the companies that have been quoted consistently at the Nairobi Stock Exchange for the last five years up to 31st December 2007.

This information is needed purely for academic research purposes and it will be treated with strict confidence it deserves.

Your assistance and co-operation will be highly appreciated.

Thanks in advance

Yours faithfully

John Ngatia