"A STUDY OF FACTORS THAT INSTITUTIONAL INVESTORS CONSIDER IN MAKING DECISION ON INVESTMENTS IN SHARES TRADED AT THE NAIROBI STOCK EXCHANGE"

By

MUGO ELIZABETH WAKAGUYU

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

Signed: _____

Mugo Elizabeth Wakaguyu

Date: 23-2-2000

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

Signed: _____

MR LUTHER OTIENO ODHIAMBO,

LECTURER, DEPARTMENT OF ACCOUNTING,

UNIVERSITY OF NAIROBI.

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DEDICATION

To my husband Mr Kiburi, children, Githae and Wairimu and my late mother Wamaitha.

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ABBREVIATIONS

IFC	-	International Finance Corporation
NSE	-	Nairobi Stock Exchange
CMA	-	Capital Market Authority
RBS	-	Retirement Benefit Schemes
IC	-	Insurance Companies
FMC	-	Fund Management Companies

ABSTRACT

This study was an exploratory study on factors that Institutional Investors consider when making investment decision. Investment on ordinary shares of quoted companies at the Nairobi Stock Exchange. Those who may find the research useful include the Capital Markets Authority; local and foreign, current and potential, individual and institutional investors, the Nairobi Stock Exchange and the other regulators.

The emphasis on this study was on institutional investors at the Nairobi Stock Exchange who are a major player in the market, holding more than 80 percent all the outstanding ordinary shares at the stock exchange.

The objectives of the study were to determine the relative importance of the investment factors identified in the finance literature to insurance companies, retirement benefit schemes and fund management firms in investment decisions. Decisions on ordinary shares of quoted companies at the Nairobi Stock Exchange. This was to enable us list the factors of utmost importance to the institutional investors. Another objective was to determine the relationship between selected characteristics of the institutional investors and the factors considered in making investment decisions on ordinary shares of quoted companies at the Nairobi Stock Exchange. These are characteristics such as total assets, turnover and the number of employees

The primary data was obtained through scheduled and structured questionnaires. This had both open ended and close ended questions from a sample of 45 institutional investors comprising of 15 retirement benefit schemes, 15 insurance companies and 15 fund management based in Nairobi who had invested in ordinary shares of listed companies at the NSE as at 31st December 1998. The data was analyzed through frequency tables, percentages and bar charts and correlation, rank and percentiles, and means and standard deviations.

The findings confirmed that the factors identified in the finance literature are considered in the investment decisions by the institution investors at the Nairobi Stock Exchange. The institutional investors consider the relevance of the factors different. Insurance companies and fund management companies considering company factors more important in their investment decision making than any other factor while retirement benefit schemes consider industry factors more relevant in their investment decisions. The following seven factors were found to be the most relevant in the overall group investment decision making on ordinary shares. They had the highest means and the least standard deviations: -quality of management: technological advancements, changes in investments trends, amount of capital, safety of the principal capital, return on equity, company growth in sales

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CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

The study was on one major player at the Nairobi Stock Exchange, the institutional investor, investors who invest on behalf of others. Institutional investors invest for individual and corporate clients both local and foreign. Institutional investors in Kenya can invest in real assets or financial assets. In financial assets, they can invest either in the money market or capital market. The study was on institutional investor investments in financial assets in the capital market.

In the capital market, the institutional investors have alternative financial assets to invest in: ordinary shares, preferred shares, debentures, government and corporate bonds. All these assets have different values determined by their risk and return levels. The study was on investment decisions on ordinary shares by institutional investors in the Kenyan capital markets. In Kenya, apart from initial public offer, the buying and selling of ordinary shares takes place at the Nairobi Stock Exchange, which is a secondary market. (Institutional investors have qualified personnel and a large pool of money to invest).

The investors must however compare the expected returns from their share investments in capital markets with those from the risk free investment in the money market and those from the real investments (In the Kenyan case, the returns from the treasury bills are the risk free rates.) Considering the risk exposure of the particular asset, the institutional investor will be looking for a value to attach to an asset and it is only after an asset is considered valuable that an investment decision will be taken.

The following are some of the factors considered by institutional investors in their investment decisions in searching for valuable assets, which will enable them, achieve set investment objectives

Risk: in an investment means that future returns are uncertain (Ross and Westerfield, 1988, pg. 144). This is the probability that realized returns will vary from the expected returns it is therefore very important for risk to be considered in investment decisions. There are two types of risks, diversifiable risk and non-diversifiable risk. Institutional investors must relate the risk perceived in a given security not only to the return but also to their own altitude towards risk. This is whether they are risk averse, risk indifferent or risk seekers.

Returns: all investment decisions are made in anticipation of a return. This is the income component as dividend, capital gains or the value inherent in a stock split.

Safety of the principal: investment capital must be protected against loss under reasonably likely conditions or variations of the principal amount invested.

Asset liquidity: investments should be in assets that can be converted into cash immediately at full market value in any quantities.

Stability of income: dividend or capital gain should be consistency, which results in cash flow stability.

Purchasing power stability: the purchasing power of future funds should be considered by the investor because investment is done today while the returns are expected in the future which is uncertain.

Capital growth: which is appreciation in value of the asset when it is the right asset, in the right industry, bought at the right time is a strong determinant of investment decisions.

Tax status: different investors pay taxes at different rates, dividends is taxable while capital gain is not taxable in Kenya since 1985, interest rates are tax deductible while dividend are not. This results in double taxation of dividends.

To minimize their risk and increase their returns, institutional investors hold diversified portfolios. These stem fundamentally from diversity in the economic cycles in Kenya. From their portfolios, there seem to be an optimum investment strategy considering the risk- return ratio.

Institutional investors have various motives for investing but for most, their reason is largely pecuniary, to earn a maximum return either from capital gains or dividends, subject to their risk tolerance levels. Institutional investors face the real risk that realized returns would fall short of expected returns.
They undertake ordinary share analysis within a return-risk context to identify valuable shares, to make investment decisions on portfolio analysis, selection, management and performance appraisal.

At the Nairobi Stock Exchange, investors are either institutions or individuals. The institutional investors are numerous e.g. insurance companies, pension schemes, financial institutions, investment companies, banks etc. They purchase shares through the brokers or through third party organizations such as fund management firms. Those who purchase directly, normally have an investment division headed by an investment manager, chief accountant, or a financial controller. They make investment decisions internally while those who rely on third parties to make investments are not directly involved in investment decisions.

This study focused on the following three institutional investors.

Insurance Companies

Insurance companies have two types of insurance policies: general and life. These policies build up cash in form of premiums paid by the policyholders. This cash is placed in reserve to pay the policyholders or their beneficiaries in latter years. The policyholders share of the reserve is a fixed commitment by the insurance companies and is available for investment. The returns on these investments must compensate the policyholders for both time and future uncertainties. The insurance companies follow set investment guideline on the percentages of their capital they can invest in certain assets. The Commissioner of insurance controls the industry. The insurance companies must carefully select investments that have high returns and less risk. This is because they have a commitment to the policyholders to pay them in future. Thus, their investments must be liquid enough to enable them settle their obligations as they fall due. The companies have obligations in the short, intermediate and long term.

Retirement Benefit Schemes

The schemes accumulate funds to disperse to workers after they retire. In Kenya, they are the largest institutional investor group with the largest collection of investment capital, more than Shs.130 billion every year (Nation Newspaper, 20 August 1999). When pension schemes were established no one realized that, they would quickly take over the stock market (Monks and Minow Pg. 125, 1995). Retirement benefit schemes should be committed to earn highest possible rate of return. In reality, it seems there is little incentive for most of them to earn better than the actuarially defined return necessary to meet a market rate of return. In Kenya, there is one public pension scheme and several private pension schemes. The growth of the pensions industry has

resulted in the creation of the Retirement Benefits Authority to give guidance in this sector.

Fund Management Companies

The companies pool resources from various investors and invest on their behalf. They are open to the public. They exercise complete discretion over the investments of the funds in a very conservative way; they invest other people's money *(Fisher and Jordan, 1996).* The fund managers select which shares to buy, at what prices and quantities, with or without consulting the resource providers. Their investments have different characteristic such as aggressive growth, large capitalization, fixed income and cost structure.

The institutional investors can only meet their objectives and those of their clients if all the other partcipants at the stock exchange perform their part. These are market regulation by the Capital Market Authority, a functioning market by the Nairobi Stock Exchange Limited, qualified brokerage firms, experienced and knowledgeable investment advisers and all other market players. They are licenced by the Capital Markets Authority. The fund management companies assist various pension plan sponsors in the management and administration of the plan assets; they also offer segregated and pooled fund products to suit clients needs. The funds are managed on a discretionary or nondiscretionary basis. It is therefore very important for the fund managers to understand the client's investment objectives.

The companies have a well-established network of investment professionals, which is the basis of their strength. Continuous global interactions with investment professionals should sustain the edge in their investment strategies. The investment teams undertake analysis to select the sectors and

securities to invest in, placing emphasis on fundamental analysis of the economy, industries and companies under consideration. The strategy is to identify and select valuable shares to create quality portfolios, which will give consistent short, intermediate and long-term high returns at low risk levels. This is however dependent on the clients risks return profile and investment objectives.

Over the last six years, the growth of the NSE has been made possible through initiatives by the Kenya government and the Capital Markets Authority. Regulatory and control frameworks to protect the investors and to encourage institutional investors capital markets investments have been put in place.

- A favorable tax regime in Kenya exempts listed securities from stamp duty and value added tax. Withholding tax on qualifying dividends is low at five (5%) percent for residents and ten (10%) percent for non-residents consequently reducing double taxation and equity investment income entirely.
- Tax on capital gains remains suspended since 1985 while interest rate on debt is tax deductible.
- In January 1995, the government relaxed exchange control Act. It permitted foreign investors to participate in locally controlled quoted companies to an aggregate corporate and individual limit of (20) percent and (2.5) percent, which was subsequently, doubled in June 1995 to (40) percent and (5) percent respectively. In the period 1995-1997, foreign investors brought in US Dollars 50 million inform of foreign portfolio investment.

- In June 1997, foreign fund managers were allowed to participate in the local capital markets. This was by acquiring beneficial ownership in local fund-management firms, precisely up to (70) percent resulting in flowing into the local markets of specialized expertise in fund management and foreign inevitable funds.

Since 1993, there have been various developments at the Nairobi Stock Exchange, which have encouraged investments by the institutional investors-

- The Nairobi Stock Exchange trading floor shifted to its present spacious modern floor at the Nation Center in 1994. This was after the shift from the call-over trading system to the more transparent open out-cries system, which accords all, brokers an opportunity to bid for securities.
- In the same year 1994, NSE emerged as one of the most modern and active markets in Africa. It experienced a boom and was rated by IFC as the best emerging market with an investor return of 73 percent in dollar terms.
- Since 1993, privatization has boosted both the shares available for trading and levels of public awareness on investments in the capital market, Kenya Airways has been the largest privatized share with 235 million shares in March, 1996.
- In February 1997, the government listed for the first times at NSE Treasury bonds issue valued at Kshs. 2.8 billion thus increasing the financial assets available in the capital market.
- There was improved performance by all the market statistical measures as evidenced in appendix 7.

- The period 1997-1998 saw the Nairobi Stock Exchange market exposed to the volatility of the global financial market as evidenced by the reduced participation by foreign investors.

There have been many incentives to develop investments in the stock market. These investments must be based on investment decisions by investors through considering several factors.

Investment decisions

Institutional investments are a commitment of funds to an institution that in return manages the investment on behalf of the investor. The basic principle of institutional investment decisions is to compare investment proposals with alternatives in the financial market (Ross and Westerfield, 1988, pg. 112).

For the institutional investor to achieve their investment objectives, selection of the right ordinary shares is by undertaking fundamental analysis on macro-economic and micro-economic factors. This will determine the real worth of a firm both at present and in the future. This will lead to viable investment decisions.

1.2 Working definitions

Institutional investors – Insurance companies, fund management companies, and retirement benefit schemes combined.

Security – stocks, shares

Capital market - markets where financial assets are bought and sold.

Dividend - cash payment made to shareholders.

Money markets - a market where financial assets with a life span of one year or less are sold and bought.

Ordinary shareholders - they are owners of ordinary shares in a company.

Emerging markets (IFC definition) - a country that has begun a process of change, with the capital market, growing in size and sophistication in contrast to markets that are small and give little appearance of change.

Privatization - the sale of state owned assets to the private sector.

An index - a mathematical measure of relative value used to compare the changes in stock market performance.

Fund management firms - Firms that invest on behalf of resource providers.

Retirement benefit Schemes - those firms that receive funds to manage and administer on behalf of the plan sponsors and workers until such a time when the workers retire.

1.3 Research problem

Investment decisions are an outcome of exceptional premises. The investment processes emphasis alternative investments and valuation assumptions. This process is relatively subjective because it requires estimates of preferences for the size and regularity of the income to be received; the safety of investment; and negotiability of specific investment or combination of investments etc. Institutional investors are expected to undertake analysis of several economic, industrial and company factors. This is to enable them make investment decisions on ordinary shares to create quality portfolios. The assumption is that quality portfolios will enable them achieve investment objectives within certain risk-return context.

At the Nairobi Stock Exchange, institutional investors, hold over 80 percent of the outstanding shares at the market (Suntra Stocks LTD, 1998). However, scanty reliable empirical evidence exists on the factors that institutional investors consider in their investment decisions on ordinary shares. This suggests that investment advisers and regulatory authorities risk making decisions on incomplete information because of the problem of information asymmetry.

The aim of this study was to determine the factors institutional investors consider in making decision on investments in ordinary shares traded at the Nairobi Stock Exchange.

1.4 Objectives of the study

a) To determine the relative importance of the investment factors identified in the finance literature to insurance companies, retirement benefit schemes and fund management companies in investment decisions on ordinary shares of quoted companies at the Nairobi Stock Exchange. This was to enables us list factors of utmost importance to institutional investors in decision making.

b) To determine the relationship between selected characteristic of institutional investors such as total assets, turnover and the number of employees and the factors considered in making investment decisions on ordinary shares of companies listed at the Nairobi Stock Exchange.

1.5 Importance of the study

Corporate Managers and Directors

The study is about identifying the basic preferences of institutional investors in an investment environment. A number of market players are likely to find the study useful in their investment decisions making. As mentioned earlier if corporate managers know how investors' think then we might be successful in designing borrowing instruments that appeals to them.

It will enable them know what factors institutional investor consider important when making investment decisions This study will help explore the expectations of the this group of investors in form of risk and return. This will enable corporate managers make decisions that are in line with the preferences of this major group of investors. This will enable them design-borrowing instruments that are cost effective and appealing to the suppliers of the investment funds. Managers may rely on this study to determine the extent to which they have been meeting the expectation of the institutional investors.

Foreign investors

Foreign investors look for both value and growth stocks in which institutional ownership is low and at least declining *(Posner, 1998)*. It is beneficial for foreign investors to know the factors that are considered important by institutional investors in investment decisions in Kenya. It is advisable to know whom they are competing against at the NSE.

The Regulators

The Government and its agent the Capital Markets Authority, may use the results of the study to formulate policies and regulate the capital market. This will make investments favorable to the investors and promote trading at the

Nairobi Stock Exchange thus facilitating economic growth. The information can be used for legislative, regulatory and tax purposes and licensing. It is only by identifying the expectations of the investors that the regulators can safeguard their interests. The interpretation of the results may give an indication of how successful companies may be in raising capital through the NSE.

Individual Investors

Compared to individual investors, institutional investors have the capacity to be market leaders. This is because institutional investors have qualified investment professionals with continuos global interactions. This enables them to sustain an edge on investment strategies. Individuals and other potential investors can conveniently rely on institutional investors to help them select shares and by extension setting guide to set up replica portfolios. In other words, the individual investor experience cost savings. This is by relying on the investment practices of the institutional investors, instead of investing heavily on information gathering. They can know the companies that fulfill most of the investor's expectations and this will enable them to tailor their investments accordingly.

Investment advisors

The information from the study will help the investment advisors advise their clients on the factors to consider when making investment decisions, the risk exposure of the ordinary shares at the NSE, the companies that met investor's objectives. Also on what to expect of the institutional investors in case of a new issue and the general expected rate of return at the NSE.

Academicians

The findings will add to the body of knowledge in the finance discipline. The results will give an indication of the factors that are useful in investment decisions on ordinary shares and it can be compared with studies done in other countries. It tells us the experience of the institutional investors at the NSE. The results will also give an indication of the general risk level of ordinary share investments at the NSE as perceived by the institutional investors. A study can be undertaken in future to ascertain whether the companies that have satisfied investor expectations have changed.

This study is a basis for future research on institutional investors. Other studies can be undertaken on other institutional investor and the results compared. Studies on the individual investors can be undertaken on the Kenyan setting.

CHAPTER 2

LITERATURE REVIEW

2.1 THE STATE OF INVESTMENTS TODAY

Setting investment objectives is as important as the selection of the investment assets, (Hirt and Block/1993). Investors select assets within a risk-return context. The assets must have potential for maximum return while minimizing risk.

Companies sell ordinary shares to raise money to finance their business start up costs and help pay for their ongoing business activities. Investors invest in company shares because they represent a good investment with potential to increase in value. Risk and return are therefore fundamental in any investment analysis.

RETURN

This is the expected gain from an investment. In ordinary shares investment, the returns are inform of the capital gains, dividend income and the inherent value from stock split. For a risky investment to be worthy, it must earn a return more than the risk free rate. The risk free rate is that on the treasury bills. An investor must be compensated for taking the extra risk of investing in ordinary shares with a risk premium.

Dividend return is in form of cash dividend or bonus dividend. There is no share repurchase in Kenya. Dividends are not mandatory but are at the discretion of the board of directors who follow different dividend payout ratios in different companies.

The amount of dividend payable is dependent on such factors as profitability of the company, which in itself depends on the market share, growth in sales, stage in company growth, innovation and the investment opportunities available to the company. Institutional investors will therefore give a company's capital structure great consideration.

Operational capacity, technological advancement, investment trends, inventory turnover and collection period are very important to the potential investors because of the cost factor. Individual companies must seek to reduce operating costs to increase profitability and therefore increase compensation to the investor in dividend income and capital gains this will result in valuable shares.

The institutional investors may relate the returns from the particular shares with the overall return in the market. To do this they use the Nairobi 20-share index, a geometric mathematical measure of relative value to compare changes in the market performance. It is expected to serve as a bench- mark for evaluating investment performance, and guides' portfolio selection and a tool for monitoring and analyzing the market in search of opportunities.

RISK

The basic principle in investment decisions is to compare investment proposals with alternative investments. Returns are in the future which is uncertain. Investments should be evaluated from a risk return perspective and this presents a difficult task in identifying and evaluating the risk. This will be overcome by gathering information based on investors' experiences and those of others and by use of financial planning services. The Kenyan capital market, like any other capital market has both systematic and unsystematic risk.

In the absence of financial instruments such as futures, swaps and options to manage the systematic risk exposure, the institutional investors in Kenya must conduct a comprehensive analysis of all the significant risk exposures. The principal focus is on the risk of cash insolvency and the firm's capacity under various risk scenarios to service fixed charges of any kind because of the risk of financial distress. This is also to avoid overlooking important investment factors. Risk analysis has a predictive value because risk measures are highly correlated with future share returns.

Diversification helps to spread the portfolio and reduce the risk. It also helps in selecting individual shares that are solid enough to withstand the deterioration in the risk rating recognizing that the market often anticipates changes and risk. This is reflected in form of risk premium. Reducing total risk will increase expected cash flow thereby increasing the value of the firm.

There are various risk measuring models developed in the developed world, the most commonly used being Beta which is a measure of the responsiveness of the returns for a particular investment to the average market return. Other methods used to quantify the risk are standard deviation and variance.

To determine a share's market value, investors use three theories;

a) Efficient markets theory urges that opportunities to make unusual profits are rare. They are the result of temporal market disequilibria and not actions of irrational investors who bid share prices away from the fundamentals. They are quickly eliminated by the actions of rational investors. Share prices movements are purely random.

b) Technical theory which proposes that a stocks market value is determined by the forces of supply and demand in the market as a whole.

c) Fundamental theory is based on the assumption that the future earnings of the company determine a shares intrinsic or real value. This is considering the financial strength of the company, the industry and the overall economic growth.

Institutional investors must undertake an analysis of micro and macro-economic factors to select a share that is valuable currently and in future, in expected dividend income, capital gains or share split. This will be the right ordinary share, selected at the right time to help the institutional investors achieve set investment objectives.

1. Macro-economic analysis (economic and industry analysis)

a. **Economic analysis**

To obtain investment perspective, the economic environment must be determined and must be well understood by the investors. This is current and future potential, the stage of national economy, priorities and probable direction. Shift in interest rates will have a stimulating impact on certain types of companies and depressing effect on others. Monetary policy, fiscal policy and similar economic time series provide the present and potential investor with knowledge of the investment environment and the direction it is taking. There is a close relationship between economic activity aspects and stock prices. When the economy is growing, corporate earnings and in turn dividends and capital gains increase. (Bhalla, 1979).

b. Industry analysis

An Ideal investment is in a firm in a growing industry because demand of firm's output is anticipated to grow and profitability will be maintained in the

face of increased competition with other industries. The stage of the industry growth and its stability of sale are important factors to consider especially at the time of economic recession. The innovation in the industry will give the overall direction of the industry (Bhallah, 1979).

2. *Micro-economic (company analysis)*

Specific market and economic environment impacts positively and negatively on a company's performance for a short period of time, however a firms own managerial capabilities will determine its performance over a long period of time. Ratio analysis highlights the direction the company is taking and its financial position.

The other specific factors that might be of interest in company analysis are marketing influences, future company earnings in terms of both quantity and quality. Market share, growth in sales and stability of sales determine this. The accounting policies should be considered because there exist a risk of faulty interpretation of corporate earnings resulting in poor investment decisions. The value of inventory may change greatly during an operating period due to changes in prices affecting profitability and inventory costs. Change in provision for depreciation will affect net income and the valuation of assets. High depreciation will reduce income and undervalue the fixed assets of the firm.

Non-operating income such as dividend and interest income occurring to the firm should be analyzed for gains or losses that may affect the workings of the company. Inadequate tax provisions will affect profitability as well as total assets and net worth of the company. Corporate tax and tax differed should also be analyzed.

Profitability ratios namely gross profit margin, net profit margin, earning ratio, return on equity, and earning per share explains the relationship between expenses and sales.

The companies operating characteristics directly influence operating efficiency and earnings of the company. Quality management is important to investment success, in maintaining a competitive position of the company and successfully run it's affairs to produce profits. Management should be able to plan, organize, direct, control and co-ordinate the activities of the company to accomplish stated objectives.

With a substantial shareholding of ordinary shares at the Nairobi Stock Exchange, institutional investors represent a powerful force in Kenya's stock market. Analyzing all above factors will help the institutional investors select ordinary shares that will enable them achieve their investment objectives.

2.2. FINDINGS OF OTHER RESEARCHERS

The importance of the above factors to investment decision making has been researched in various studies.

Lease et al (1974), found that long term capital appreciation, dividend income and intermediate - term gains were paramount investment concern by individual investors. They had portfolios consisting of income and capital appreciation securities in 40/60 proportions and benefited from diversification inferring that the investors had eliminated 90 percent or more of the non systematic risk from their respective portfolios. This study was undertaken on individual investors. The findings of this study were relevant to the study because both studies were about perception of investors. The ultimate returns go to the individual investors. This study also addresses the issue of risk and return trade off. The results show that there is a relationship between expected returns and the level of diversification to spread and hence reduce risk.

Corporate and personal double taxation discourages the distribution of corporate earnings and reduces the amount of funds available for dividend. Less taxation of financial assets and less interference in the capital markets calls for less taxation of the income capital, *Brean (1993).* This has a bearing on this study because dividend is taxable in Kenya both at corporate and personal levels at rates of 30 and above per cent. It is important to consider the importance of taxation in investment decisions by the institutional investors.

Miller et al (1961) proved that in a world without taxes, transaction costs or other market imperfections, a company's dividend policy would not affect its value. Value is determined by choosing optimal investments and therefore investors will not pay a premium for any particular dividend policy. Their

analysis was based on restrictive assumptions, but dividend policy matters if the underlying assumptions are violated.

Dividends are taxed as income, a disadvantage with respect to capital gains in Kenya especially for investors in the high tax bracket and therefore companies that pay high dividend should be valued less than companies that pay low dividend. Managers adjust dividend to signal future prospects.

Brealey et al (1991), concluded that companies have long-run target payout ratio. Managers focus more on dividend changes than on absolute levels, smooth dividends and are reluctant to make dividend changes that might have to be reversed later. These two studies contradict and the results of these study will show, which study, is relevant to institutional investors in Kenya.

Black. F et al (1974) observed that because of a tax bias each investor determines clearly definable tax based preferences and will invest in securities that reflect these preferences.

Miller M.H. (1977) concluded that investors hold securities for the consumption opportunities they offer and will evaluate them in terms of their yield net of all tax drains and therefore dividend income is very important to investors.

Farrar and Selwyn (1967) also avers that investors attempt to maximize their tax incomes by choosing to either own shares in an all equity firm and borrow in order to provide personal leverage or buy shares in a levered firm. They concluded that as long as there is preferential tax treatment of capital gains over dividend income, preference for capital gains would remain. They further

observed that firms can pay their shareholders the earnings in the form of dividends or retain the earnings and allow the shareholders to take their income inform of capital. The best form of payment is one that subjects the shareholders to least taxation.

David Scott (1972) concluded that in every firm there is a conscious policy on the part of the financial decision-makers to adjust the composition of their sources of funds to the business risk a firm is exposed to. The policy is also to the capital structure of a firm in a given industry. Firm's cluster, supporting the notion that there is a central relation between capital structure and the value of the firm recognized by practicing managers. It is therefore important to find out whether *Scott's* conclusion can be generalized to the Kenyan situation.

Moon and Bates (June 1992) found that Maxwell Communication Corporation (MCC) was reasonably profitable though heavily indebted after undertaking straightforward financial analysis. This was after media speculation about fraudulent transactions and accounting deficiencies. The implication being that unsuspecting shareholders were loosing through no fault of their own as it would not have been possible for them to predict any potential business failure from the given published accounting information.

They concluded that all the information about the financial stability of MCC was in the audited accounts, if the investors had bothered to analyze the accounts. Most times, financial statements do not disguise the true financial position in a company and are reliable, not misleading nor fraudulent.

This calls for deeper analysis of published accounting information. All the factors considered in this study are not found in the audited accounts and the

study will show the extent to which institutional investors rely on these accounts and what other factors they consider important.

Horne and McDonald (1971), concluded that optimal dividend Policy which implies dividend pay out rate, which maximizes shareholders wealth, a dividend policy should consider the firm's investment opportunities. Any preferences that investors have for dividends as opposed to capital gains or vice versa and should be investigated.

There are arguments that dividend policy may affect the value of a firm in that the investors may have a net preference for dividend relative to capital gains or vice versa. This is owing to uncertainty resolutions, transaction and inconvenience costs and differential tax rates,

The results of the study will show whether institutional investors in Kenya prefer capital gains or dividend and whether they consider the pay out ratio important.

Kinandu Muragu (1993) found that Nairobi Stock Exchange provides empirical results consistent with weak-form efficiency, that is the results do not contradict the weak form of efficient market hypothesis. He concluded that one of the study's implications would be that the investors must accept that it is not possible to consistently out perform the market if they use the information contained in past prices of stocks. They should therefore select a well-diversified portfolio instead of spending resources to seek out misplaced securities. Most of the factors under consideration can be considered past information and the results of this study will show to what extent the institutional investors rely on past information to make investment decisions.

Chidozie Emenuga (1993, found that returns on Nigerian securities are not systematically effected by macroeconomic factors such as money supply, exchange rate, interest rate, changes in the rate of inflation, the expected and the unexpected rates of inflation. He also found that macro economic factors are not associated with the risk premia. This is an indication that the stock market may not be efficient in its returns generating structure. The question is, can these results be generalized for the Nairobi Stock Exchange?

This evidence contradicts efficient market theory by *Fama, 1970.* The capital assets pricing model (CAPM) and asset pricing theories (APT) which had concluded that returns across securities are determined by the systematic risks of the securities i.e. assets exposure to instability in the economic-wide variables.

Modiglian and Miller (1959) after their study on capital structure concluded that capital structure does not affect the value of a firm because it does not affect the cash flows to the security holder of a company. The overall returns they enjoy and therefore does not affect the cost of capital of the company.

Michel Habib (1996) found that capital structure matters in presence of taxes because interest payment are tax deductible while dividend payment are not and therefore there is preference for debt financing over equity financing. Capital structure also matters when cash flows of a firm are determined not only by the assets of the company but also by the manner in which these assets are utilized by its management.

Jensen and Mekling, (1976) found that capital structure of a company affects the efficiency with which its assets are utilized.

Elton and Grubber (1970) also found that the investor would be attracted differently to two firms, a levered firm and an unlevered firm. In the Kenyan situation, it is important to find out to what extent institutional investor consider capital structure important in their investment models on ordinary shares?

CHAPTER THREE

3.0 RESEARCH DESIGN

3.1 INTRODUCTION

This chapter defines the population of interest, sampling frame, the sample and the procedure used to select the sample elements. It covers the research instrument and the procedure for collecting the primary data, and defines the methods used to analyze data.

The study is a survey of three institutional investors at NSE by use of primary data. Its is on the factors institutional investors might consider in making investment decision on ordinary shares. Data was collected by use of questionnaires.

3.2 POPULATION

The population comprised of institutional investors who hold ordinary shares in companies listed at the Nairobi stock exchange as at 31 December 1998. Institution investors at the NSE are many and diverse. This study selected only insurance companies, fund management companies and retirement benefit schemes as a group to be studied. They were selected because of convenience and the fact that they are major active players. Furthermore, they are able to pool resources and exploit economies of scale, with the benefits from the investments accruing to the resource providers. The institutional investors have a fiduciary duty and have to repay the resource providers at some time in future. This forces them to select their shares carefully. They are relatively well-structured institutions that are easy to study. They are expected to emphasis on programmed decisions.

Furthermore, the three institutional investors are under statutory control by various bodies. The fund management firms are under Capital Market Authority. The retirement benefit schemes are under the Retirement Benefit Authority while the insurance companies are under the Commissioner of Insurance.

The institutional investors have a very large pool of investable resources, have a substantial shareholding, and are therefore in a position to make changes in the companies they have invested in through their voting rights. The approximate population was 150 institutional investors

The date 31st December 1998 was selected because it is six years since a study on institutional investors decision making though different was undertaken by *Njoroge* (1993). This period is considered long enough for even replica studies given that several changes have taken place in the investment environment in Kenya.

3.3 SAMPLING FRAME

The sampling frame was constructed using original information supplied by the registrars of the listed companies to Suntra Stocks Limited, a brokerage firm. This is the top twenty investors in 54 companies of the 56 listed companies at the NSE as at 31st December 1998. In this data, all three categories of institutional investors were represented. This information indicated that the investors held an average of over 80 percent of all outstanding shares at the Nairobi Stock Exchange as at 31 December 1998.

3.4 SAMPLE

The sample consisted of insurance companies, fund management firms and retirement benefit schemes who had invested in ordinary shares of listed companies at the NSE as at 31st December 1998. A sample of 45 institutional investors was considered adequate. This consisted of 15 insurance companies, 15 fund management companies and 15-retirement benefit schemes. These were selected from the above sampling frame depending on the size of their portfolio holding.

Sample qualification factors

Top institutional investors as per the size of their portfolio holding whom had invested at the Nairobi Stocks Exchange in ordinary shares as at 31 December 1998. They had to be situated in Nairobi because of limited time and scarce financial resources. In addition, they had to be retirement benefit schemes, insurance companies, and fund management companies.

The sample size of 15 within of each of the three categories was chosen because of the financial and time constraints.

To select the 45 top institutional investors, all the 20 top investors in each of the 54 trading companies of the 56 quoted companies was categorized into individual and institutional investor. Institutional investors were categorized on industry basis: insurance companies, retirement benefit schemes etc. From the list of the insurance companies, retirement benefit schemes and fund

management companies, the top 15 investors were selected. This was in line with the size of their portfolio.

3.5 DATA COLLECTION METHODS

Similar structured questionnaires (see appendix 2) were sent to all potential respondents. The questionnaires had both closed and open ended questions, administered by drop and pick method. Scheduled personal visits to fund managers in the fund management firms, the financial controllers, chief accountants or the investment managers in insurance companies and retirement benefit schemes were made after an initial telephone conversation to the likely respondent.

The questionnaire contained questions A to E, which covered general information about the company. Question F was on investment factors and was divided into two parts, part A covered return factors while part B covered risk factors. Questions G to L covered additional information about the company.

The scale used on question (F) was Four - Point Likert scales ranging from very important (VI) to irrelevant (I). Likert scale involves a list of statements related to the attitude in question. Respondents were asked to indicate the degree of agreement with each statement. Each degree of agreement was given a numerical score, the highest score being 4 and the lowest score was 1 and the respondents total score was computed by summing up these scores from all the

statements. The response scores were as follows: 4 - Very important; 3 – Important; 2 - Slightly important; 1 - Irrelevant.

Likert scales enable one to rank altitudes, are more discriminating and reliable because of the large range of responses typically given in Likert scales. However, Likert scales have a disadvantage in that similar scores can be achieved through varying combinations of responses.

The questionnaires were reinforced by scheduled personal interviews as a follow up to obtain further information in some particular cases. In other cases the respondent were interviewed and the researcher filled the questionnaires in the presence of the respondent and clarification sought where necessary. Editing was done in the field and clarification sought on any unanswered questions.

After the questionnaires were collected, they were edited. There were 36 positive responses out of 45 questionnaires sent out. One questionnaire was however incomplete and was therefore omitted from the analysis. The data collected was analyzed by different methods.

3.6 METHODS OF DATA ANALYSIS AND PROCEDURE

Data collected was analyzed by use of descriptive statistical methods to reduce the information to an understandable form. This entailed the use of:

- Frequency distribution tables with frequencies converted to percentages, which reflected the relative weights of specific category variables in a

distribution. Bar charts were used to display the information for various categories organized in frequency distributions.

Frequency tables and bar charts was used to determine whether economic, industry or company factors are relevant to the retirement benefit schemes, insurance companies, and fund management companies. Correlation's were used to indicate the relationships among the various factors (appendix 10).

Means and standard deviations (appendix 9) were calculated to indicate the relative importance of the specific factors to the investment decisions by the institutional investors. This was to enable the researcher come up with specific factors of relative importance to the institutional investors.

CHAPTER FOUR

4.0 DATA ANALYSIS, INTERPRETATION AND DISCUSSIONS

4.1 OVERALL IMPORTANCE OF THE INVESTMENT FACTOR TO INSTITUTIONAL INVESTORS

An attempt was made to summarize the importance or lack of importance the institutional investor groups attach to investment factor.

Year of Incorporation

The year of incorporation ranged from 1930 to 1998. The insurance companies were incorporated the earliest followed by retirement benefit schemes and fund management companies.

Size of company

1) Assets Size

The information on size of assets was needed to fulfil the second objective. The question on the size of assets was not responded to satisfactorily. Most of the respondents declined to respond to this question. They felt that the information sought was confidential and would expose them to their competitors. However, all insurance companies disclosed their asset sizes. One retirement benefit

schemes and eight fund management companies declined to disclose the size of their asset base.

The respondents have a large asset base ranging from Shs. 0.3 million to Shs. 50,000 million with an average of Shs. 3863. million. Insurance companies are the largest in this respect followed by fund management companies while retirement benefit schemes are the smallest; this is with the exception for the public retirement benefit- scheme. The lack of adequate information here means that the second objective was not be met.

2) Size of turnover

The size of turnover information was required for the purpose of the second objective. Little information was availed and this is attributable to the fact that some respondents have income instead of turnover, while others considered the information confidential. From the available information the turnover ranged from 10 million to 1600 million with an average of 682.2 million. There were only 19 positive responses with 2 from retirement benefit schemes, 11 from insurance companies and 6 from fund management companies. This can be interpreted as (22) percent, (100) percent, and (40) percent response rate respectively. The interpretation here is that the insurance companies are more transparent as far as information release is concerned. The institutional investors cannot be compared with each other based on the size of turnover because retirement benefit schemes have income instead of turnover,

and the fact that to some investor the information is confidential. The response on the question on turnover was not adequately just like that on question on size of assets.

3) Employee size

The number of employees ranged from 3 to 1800 with an average of 119. There were 30 positive responses with 8 from retirement benefit schemes, a response rate of (89) percent, 11 from insurance companies a response rate of (100) percent and 11 from fund management companies with a response rate of (73) percent.

The three categories of individual investors have different employee sizes with the insurance companies having the largest employee number followed by fund management companies, and the retirement benefit schemes have the least, with the exception of the public retirement scheme.

The interpretation is that not all-institutional investors are willing to disclose the size of their employee's numbers. The range is large because the retirement benefit schemes, with the exception of the public pension fund have a small number of employees. This is because they operate within the plan sponsors operations. They are dependent companies that operate as a division of the plan sponsors. The insurance companies have various departments that need many employees e.g. marketing departments. While the fund management companies are heavily computerized and they have fewer employee.

d) **First and most recent share purchase**

A: All respondents answered the questions on when they first purchased ordinary shares and their most recent buy as follows:

***Table 4.1*: First share purchase**

Year of first investment after incorporation	1-5	5-10	10-20	<20
Retirement benefit schemes	67%	11%	22%	0%
Insurance companies	82%	0%	9%	9%
Fund management companies	87%	0%	0%	13%

Source: Research data

A higher percentage of fund management companies purchased shares within the first 5 years of incorporation followed by insurance companies and finally retirement benefit schemes. A possible interpretation is that the institutional investors recognize ordinary share investments as a worthy investment early enough. Such investments are within their risk -return profile that enables them maximize return while minimizing risk. Ordinary shares are liquid assets that can be used as collateral for loans and overdraft. Some shares offer regular incomes in the form of dividends. An insurance company may rely on regular dividends to settle the claims of the clients and meet their growth requirements.

B: The following is a table of the current share purchase practice by the institutional investors.

***Table 4.2*: Recent share purchase**

	Still buying	Stopped buying
Retirement benefit schemes	78%	22%
Insurance companies	82%	18%
Fund management companies	100%	0%

Source: Collected research data

Twenty-two (22%) percent of the retirement benefit schemes and eighteen (18%) percent of insurance companies have stopped investing in ordinary shares. This could perhaps help in interpreting the decline in the Nairobi 20-share index. There is absence from the NSE of some very important investors who have the resources and professional expertise in investments. Their absence has resulted in decreased demand for the ordinary shares the NSE (see chapter 5 for further explanation).

e) **Shares in non-quoted companies**

All institutional investors indicated whether they hold shares in other companies not quoted at The Nairobi Stock Exchange. The following table shows the percentage of the respondents who hold and those who do not hold shares non-quoted companies.

Eighty-two (82%) percent of insurance companies and thirteen (13%) percent of fund management companies hold shares in non-quoted companies. The retirement benefit schemes do not hold shares in non -quoted companies. A large percentage of insurance companies have diversified in companies not quoted at the NSE.

Table 4.3: **Investments in non- quoted companies**

Respondents	Yes	No
Retirement benefit schemes	0%	100%
Insurance companies	82%	18%
Fund management companies	13%	87%

Source: Collected research data

f) (I) **NSE 20- share index**

The aim was to find out whether this class of investors relies on the NSE 20 -share index as an investment guide

None of the insurance companies and fund management companies reported that NSE 20- share index is irrelevant. Eleven (11) percent of retirement benefit schemes indicated that NSE 20 -share index is irrelevant in their decision making on ordinary shares. This is probably because until recently when the AMMI 27- share index was introduced, the NSE 20- share index was the only index available in the market. The insurance companies and

fund management companies had to rely on it to make investment decisions. The scores of various investors are summarized below:

Table 4.4: **NSE 20 share index**

Respondents	Very Important	Important	Slightly Important	Irrelevant
Retirement benefit schemes	11%	56%	22%	11%
Insurance companies	27%	27%	46%	0%
Fund management schemes	20%	40%	40%	0%

Source: Collected research data

Fifty six (56) percent of retirement benefit schemes reported that NSE 20-share index is important in their investment decision making while (22) percent and (11) percent indicated that it is slightly important and very important respectively.

The response by the retirement benefit schemes can be interpreted to mean that the retirement benefit schemes do not purchase shares frequently for them to keep on tracking the NSE 20 -share index.

It can also mean that they buy the shares for long-term investment and are therefore not interested in the day to day movements of the NSE-20 share index.

In the insurance industry, (46) percent indicated that NSE 20- share index is slightly important in their decision making while (27) percent and (27) percent indicated that it is important and very important respectively.

An equal percentage of fund management firms indicated that it is important and slightly important this was (40) percent. The rest (20) percent indicated that NSE 20- share index is very important in their investment decision making on ordinary shares of quoted companies at the NSE. *Posner (1998)* says that "a good market index measures the "mood" of the market place, serves as a "benchmark" for evaluating investment performance and guides portfolio selection", and that "indexes are an important tools for monitoring and analyzing emerging markets". Kenya is an emerging market. When (11) percent of the retirement benefit schemes, consider the NSE 20 share index irrelevant, this can only mean that they do not have confidence in the index itself.

f) (ii) **Investment factors**

Factors that institutional investors consider when making investment decisions on ordinary shares are of varying importance to the three institutional investors.

The maximum score for each factor was the "**number of respondents x number of factors x four** (the highest score)".

The score that each category of investors scored was arrived at as;

"Number of respondents in a category x number of factors x score (in economic, industry and company factors)". The percentages were calculated to zero decimal points. The level of relevance is as follows;

Percentage	Ranking
75 - 100	Very Important
50 - 74.99	important
25 - 49.99	slightly important
0 - 24.99	irrelevant

1. **Economic environment factors analysis**

The respondents rated the importance of a number of economic factors in their decisions making on ordinary shares. The following was the response rate of the importance of economic factors to the institutional investors.

Table 4.5: **Economic factors**

	Scored points	Maximum points	Percentage % importance
Retirement Benefit Schemes	137	180	76%
Insurance Companies	142	220	65%
Fund Management Companies	196	300	65%

Source: collected search data

The retirement benefit schemes consider economic factors more important than the insurance and fund management companies. Apart from the above factors, other economic factors considered by the institutional investors were government policy, exchange rate and domestic debt and commodity prices. These factors are the monetary and fiscal policies. The retirement benefits schemes will be more interested in the government policies on the economy than both the insurance and fund management companies. The retirement benefits schemes have not narrowed down to specific company and industry factors.

The insurance companies and fund management companies do not give much emphasis to these factors compared to industry and company factors. Specific

market and economic environmental factors impacts positively and negatively on a company's performance for a short period in time. The retirement benefits schemes are more focused on inflation and the rates of taxes. From the finance literature, stock markets perform better during inflation. The investors are trying to hedge. The corporate and personal tax rates affect the eventual amount of income payable to the investors and the capital gains. As *Bream (1993)* found out, corporate and personal double taxation discourages the distribution of corporate earnings and reduces the amount of money available for dividends.

2. Industry factors analysis

The following table shows the response to industry factors relevance in investment decisions by institutional investors.

***Table 4.6*: Industry factors**

	Scored Points	Maximum points	Percentage importance
Retirement benefit schemes	128	144	89%
Insurance companies	132	176	75%
Fund management companies	206	240	86%

Source: collected research data

From the analysis, retirement benefit schemes, fund management

companies and insurance companies regard industrial factors as very important in their investment decisions. Other factors indicated by the respondents in their industry analysis were external investment and the level of imports and exports. The level of importance varies with the retirement benefits schemes with the highest level followed by fund management schemes and insurance companies last. This means that the institutional investors recognize that the ideal investment is in a growing industry where demand of firm's products is expected to grow and profitability will be maintained in the face of increased competition. This results in maintained dividend and hence capital gains. This is however assuming there are no investment opportunities to invest in.

Chidozie (1995) found that the returns on the Nigerian securities were not affected by macroeconomic factors and that the macroeconomic factors are not associated with the risk *premia*. If the findings can be generalized to the NSE then this can help explain why the insurance companies and the fund management companies rate them at the same level of importance with company factors.

3. **Company factors analysis**

a) Specific company factors are of varying importance to the institutional investors.

All the institutional investors consider the company specific factors to be very relevant in their investment decisions. Fund management companies regard

company factors more relevant followed by retirement benefit schemes while insurance companies regard them the least.

The following table shows the relevance of the factors in investment decisions of institutional investors.

Table 4.7: **Relevance of Company Factors**

	Scored Points	Maximum points	Percentage importance
Retirement Benefit schemes	931	1152	81%
Insurance Companies	1129	1408	80%
Fund Management Companies	1581	1920	82%

Source: collected research data

Bhalla (1979) says, institutional investors recognize that firm's own capabilities will determine its survival over a long period. This will give an indication of the risk and returns to expect in future by helping point and identify the mis-priced shares that are valuable and have potential for increased dividend and capital gain. The fact that institutional investors consider all company factors relevant means that they are using the three investment theories; efficient market theory, technological theory and fundamental theory to identify valuable assets to invest in. *Kinadu (1993)* concluded that the NSE provides empirical results consistent

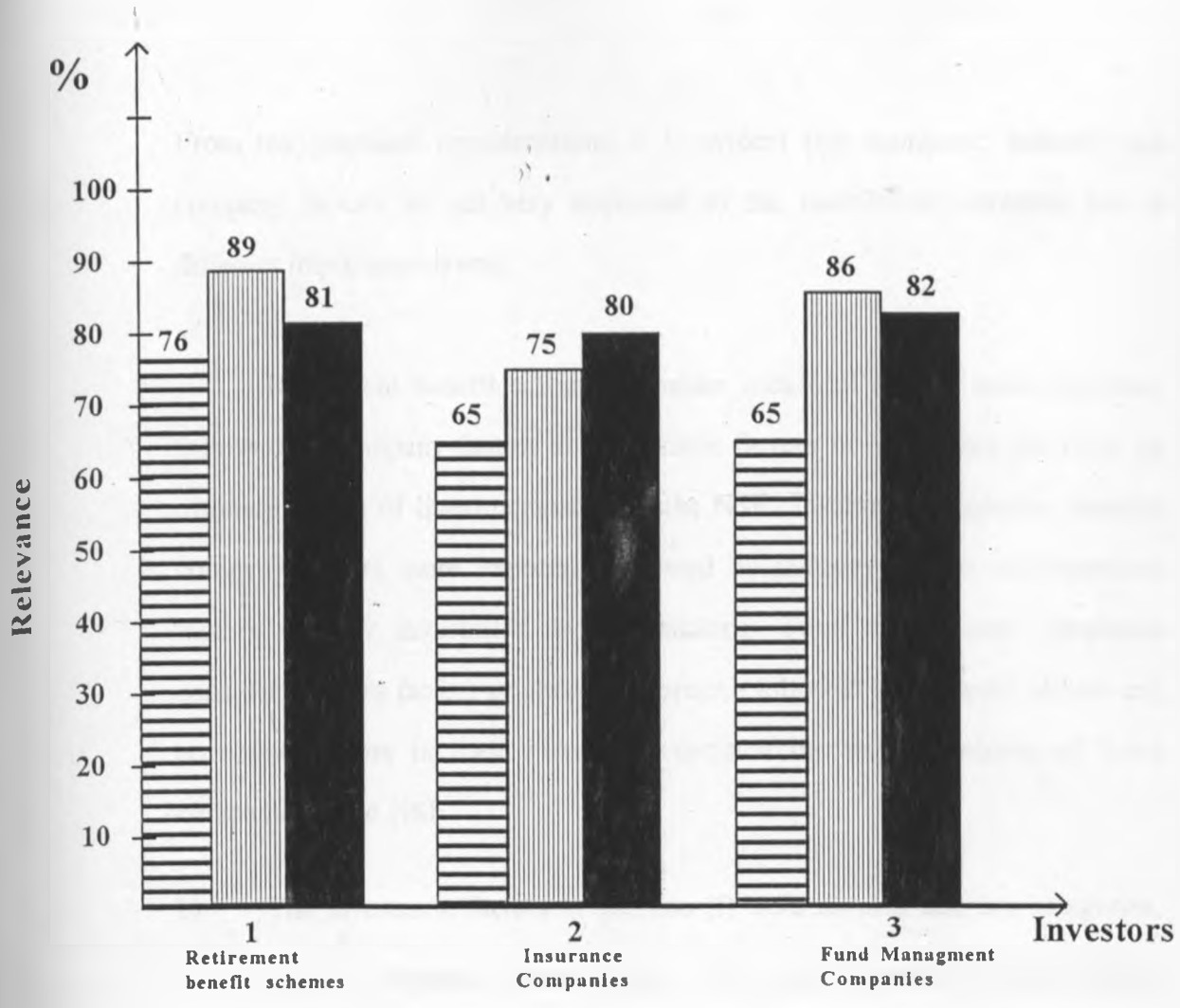
with weak form efficiency. One of the studies implications is that investors must accept that it is not possible to consistently out- perform the market if they use the information contained in the past prices of the stocks. They should therefore select well-diversified portfolio instead of spending resource to seek out mis-priced shares. The evidence presented here is that the investors are still seeking mis -priced securities.

The institutional investors are also preoccupied with looking for the share intrinsic value, which is determined by the future earnings of the company. The fact that institutional investors consider company factors very important means that they are interested in the audited accounts of the quoted companies so that they can undertake financial and any other analysis. This they analyze because as *Moon and Bates (June 1992)* found out audited accounts if analyzed properly have sufficient disclosure to enable analysts make appropriate adjustments and read the figures in their true light.

Other company factors considered by the respondents in their investment decisions were price earnings ratio, dividend yield, company's book value, rights issue, revenue reserves. The strategic direction and long term strategy, company history, product lines, the level of restructuring and cash flow position were also considered.

The following is the graphical representation of economic, industry and company factors relevance to the three categories of investors: -

GRAPH ONE



Source: collected research data

Key

Economic factors

Industry factors

Company Factors

From the graphical representation, it is evident that economic, industry and company factors are all very important to the institutional investors but at different importance levels.

Retirement benefit schemes consider industrial factors more important followed by company factors and economic factors in investment decisions on ordinary shares of listed companies at the NSE. Insurance companies consider company factors more important followed by industry factors and economic factors in their investment decision making. Fund management companies consider industry factors of utmost importance followed by company factors and economic factors in their investment decision on ordinary shares of listed companies at the NSE.

b) The investment factors in question (f) were divided into two categories, part A contained return factors while part B contained risk factors. Further analysis of company factors was done on part A and part B of the question (f).

c) The results of the analysis are that the fund management companies consider the return factors more relevant than do retirement benefit schemes and insurance companies.

From the risk factors analysis, it is evident that the fund management companies consider risk factors more relevant than do the retirement benefit schemes or the insurance companies who consider them with equal relevance at 80 percent.

The results of the return and risk factors analysis comparatively are as follows:

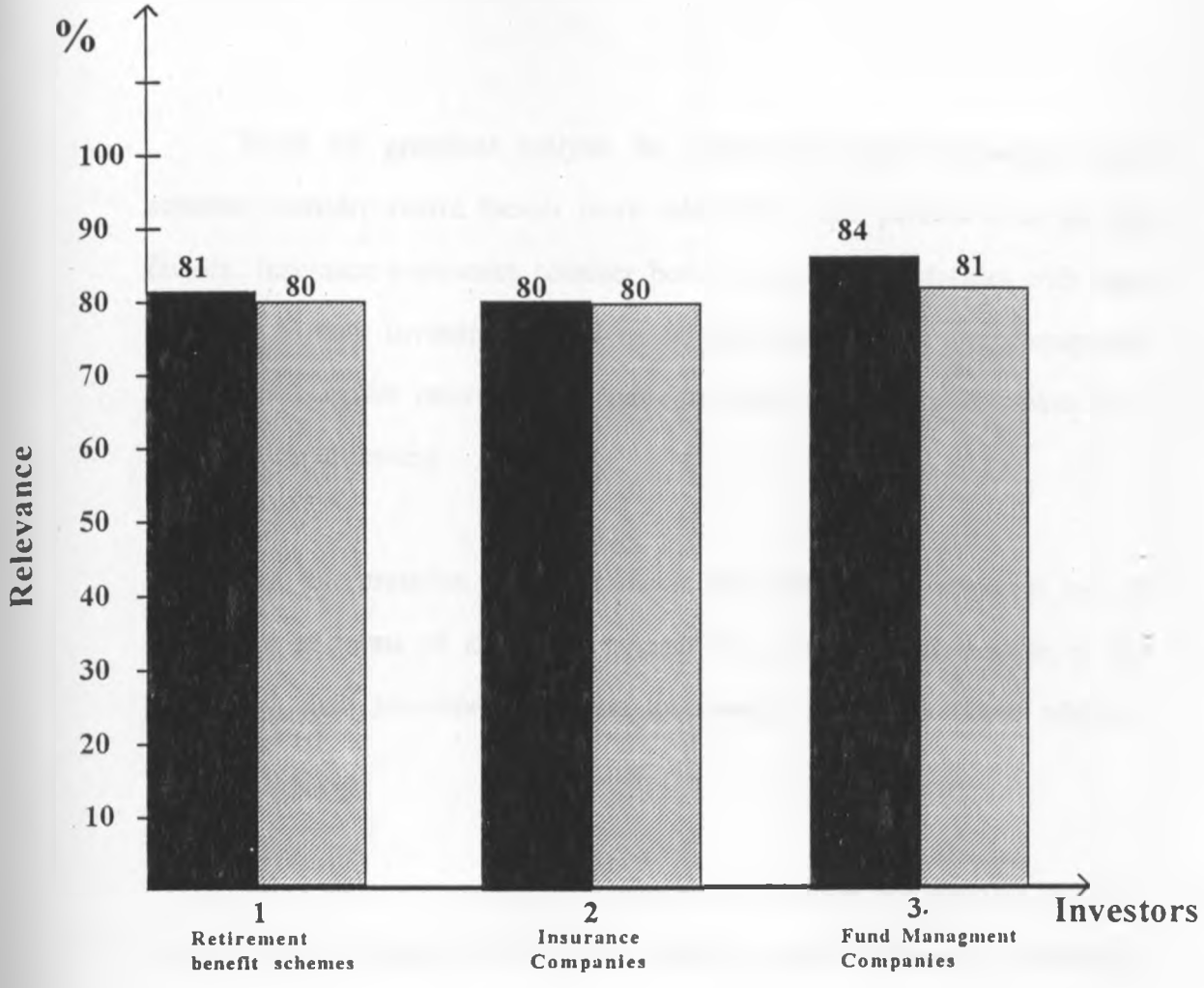
Table 4. 8: **Return and Risk factors**

	Return factors	Risk factors
Retirement benefit schemes	81%	80%
Insurance companies	80%	80%
Fund management companies	84%	81%

Source: collected research data

The results of the return and risk factors analysis comparatively are shown graphically as follows:

GRAPH TWO



Source: collected research data

Kev

Return Factors

Risk Factors

From the graphical analysis the indication is that retirement benefit schemes consider return factors more relevant by one percent over the risk factors. Insurance companies consider both risk and return factors with equal relevance to their investment decisions on ordinary shares. Fund management companies consider return factors more relevant than the risk factors by a margin of three percent.

The interpretation of the results is that institutional investors look at investment in terms of risk and returns. They are aware that there is risk inherent in their investments because the returns are in the future which is uncertain.

Overall other factors considered in investment decision are political stability, market "gossip", actuarial advice, NSE stability, group investments philosophy and anchor share holder.

g) **Risk Perception**

Three measures of perceived inherent risk in ordinary shares were given. These were high, medium and low risk.

The following are the percentages of perceived risk inherent in ordinary shares by the institutional investors.

Table 4. 9: **Risk perception**

Respondents	High Risk	Medium Risk	Low Risk
Retirement benefit schemes	0%	56%	44%
Insurance companies	9%	91%	0%
Fund management companies	20%	73%	7%

Source: collected research data

A high percentage of respondents agreed that the ordinary shares they hold are of medium risk. No insurance companies consider ordinary shares to be of low risk. Only twenty (20) percent of fund management companies indicated that they are of high risk. Seventy-three (73) percent of fund management companies indicated that the ordinary shares are of medium risk. From different finance literature, shares have been found to be of very high risk. From the results of this study, the institutional investors largely consider the risk to be

medium, which they consider important. A large proportion of retirement benefit schemes, which is (44) percent, considers the risk to be low risk.

h) **Other Investments**

The institutional investors have diversified portfolios in both capital and money market as indicated from their responses in the questionnaires.

The following is a table of the percentage of institutional investors (respondents) who hold shares in other investment assets.

Table 4. 10: **Other investments**

	Preferred Shares	Treasury Bonds	Treasury Bills	Corporate Bonds	Commercial Paper
Retirement benefit schemes	14%	93%	79%	71%	57%
Insurance companies	27%	94	91%	73%	82%
Fund management companies	11%	56%	78%	11%	32%

Source: collected research data

Retirement benefit schemes had a response rate of 14 percent with fund management firms with a response rate of 11 percent.

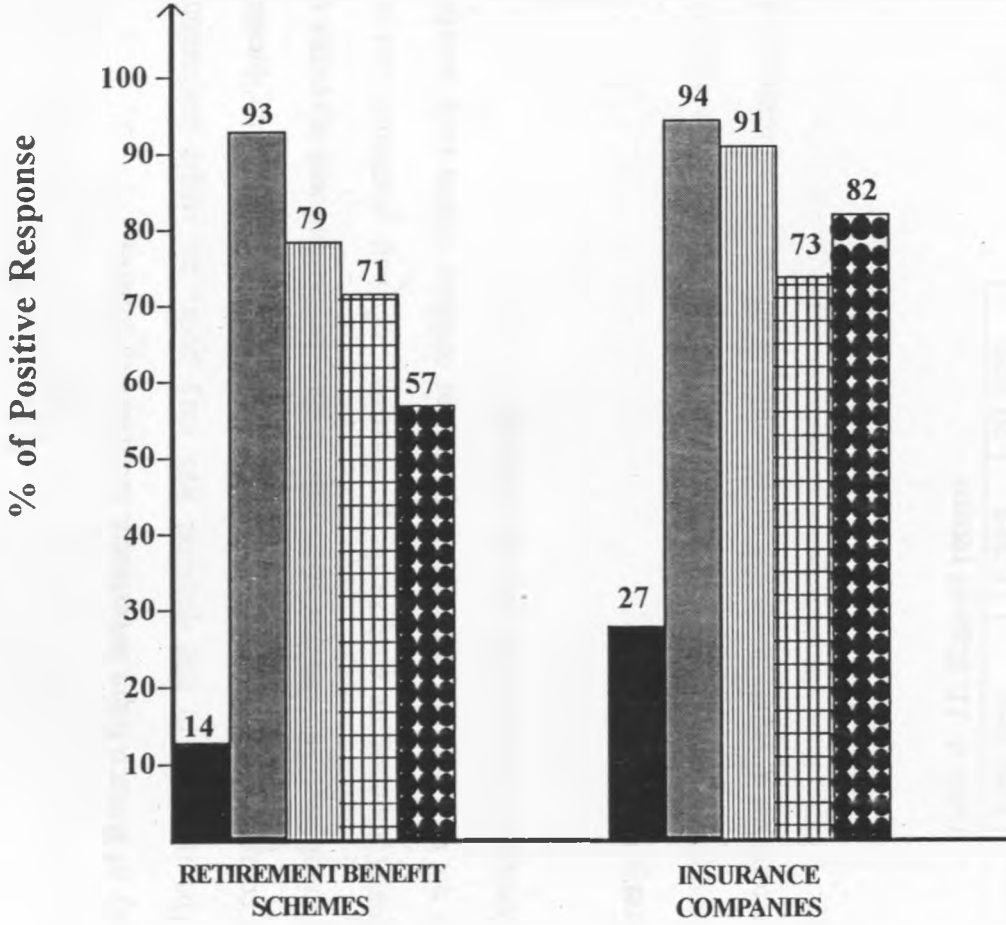
A large percentage of insurance companies have invested in preferred shares, treasury bonds, treasury bills, corporate bonds and commercial paper with (27), (91),(91), (73) and (82) percent respectively. They have diversified in both the money market and the capital market. We can interpret this as trying to hedge against the uncertainties of the future especially now that the capital market is performing poorly while the returns in the money market are improving. There is a significant investment in the short-term assets that is treasury bills. This can be interpreted to mean that the investors are satisfied with the returns from the treasury bills yields. It is worth to note that only (32) percent of fund management companies have invested in commercial paper. This can be interpreted to mean that they are not satisfied with their returns. Further it can also be interpreted to mean that they are weary of the fact that it is only two of the commercial papers that were guaranteed as at the time of the study.

More Fund management companies have invested more in treasury bills than in treasury bonds. While Insurance companies have invested almost at the same level in treasury bonds and treasury bills but more Retirement benefit schemes have invested in treasury bonds and than in treasury bills.

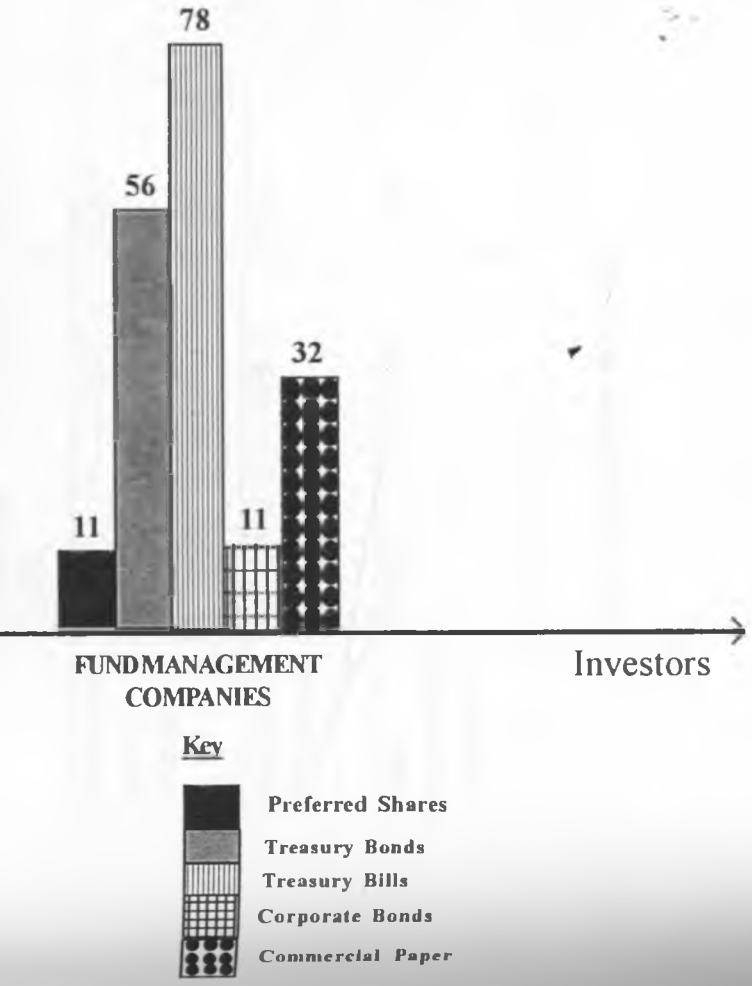
All the institutional investors have invested in commercial paper and corporate bonds. More insurance companies have invested in commercial paper at (82) percent, retirement benefit schemes at (57) percent, while fund management companies have invested in commercial at (32) percent.

The following is a graphical representation of investment diversification.

GRAPH THREE



Source: collected data


78
56
32
11
11
FUND MANAGEMENT COMPANIES
Investors
Key
Preferred Shares
Treasury Bonds
Treasury Bills
Corporate Bonds
Commercial Paper

i) **Adequacy of Return from Investment in Ordinary Shares.**

The response to this question was very poor; no single institutional investor completed the questionnaire often giving the reason that the question was too involving. The interpretation here is that the institutional investors do not evaluate, monitor or analyze the performance of their portfolios and are therefore not in a position to say which particular ordinary shares have satisfied which objectives. The question was not analyzed.

j) **Rate of return**

Some respondents were not in a position to give an indication of the expected rate of return on a yearly basis. The response to the expected return is as follows: -

Table 4. 11: **Rate of return**

	Less than 10%	11-20%	20-50%
Retirement benefit schemes	78%	8%	11%
Insurance companies	27%	9%	9%
Fund management companies	20%	40%	13%

Source: collected research data

Most fund management companies expected returns of between 11 percent and 20 percent with a majority of retirement benefit schemes expecting returns of less than 10 percent, majority of insurance companies also expected returns of less than 10 percent. We can interpret this to mean that the retirement benefit schemes are very conservative and are accepting very low rate of returns.

Rate of positive response to this question	
Retirement benefit schemes	89%
Insurance companies	45%
Fund management companies	73%

A high percentage of insurance companies are not in a position to quote their expected rate of returns after taxation. This can only mean that they do not know what it is and have therefore not been monitoring their returns, and they do not know the availability of alternative investments that can yield higher returns. The investors should be able to seek a premium above the treasury bills rate.

k) **Risk Measurement Models**

The risk measurement models given were beta, standard deviation, and variance. The following was the response that shows the percentage of respondents who use risk-measuring models.

Table 4. 12: **Risk measuring models**

	Beta	Standard deviation	Variance	Other	None
Retirement benefit schemes	33%	11%	0%	11%	45%
Insurance companies	27%	18%	27%	18%	10%
Fund management companies	33%	13%	13%	20%	21%

Source: collected research data

From the response, the beta and the standard deviation are the most common used risk-measuring models by institutional investors. Another risk measuring models mentioned was *Barra* in use by one investor. Other methods listed as risk measuring models are company financial appraisal, market information, and treasury bills rate and stockbrokers company analysis. These are not risk measuring models but risk indicators. From the above responses, the interpretation is that several of the institutional investors do not know what risk measuring models are.

A large percentage of investors are not using any model to quantify risk. The reasons given were that the models were developed in the developed countries and are therefore not applicable in the Kenyan capital markets. This is

despite the fact that the business of ordinary shares is the same anywhere in the world. The risk measuring models help the company to measure the uncertainty of future returns. The investors must be rational; must seek a premium for risky investment of which ordinary shares are

1. **Future investments**

The last question was on whether the respondents would invest in a new ordinary share issue and the following is a table that shows the willingness of investment in a new issue.

Table 4. 13: **Future investments**

	Yes	No	Undecided
Retirement benefit schemes	22%	56%	22%
Insurance companies	36%	45%	19%
Fund management companies	47%	0%	53%

Source: collected research data

A small percentage of retirement benefit schemes indicated that they will invest in a new issue of ordinary shares while the fund management companies had the highest positive response at (47) percent.

In addition, (45) percent of insurance companies will not invest in a new issue while fund management company will also not invest in a new issue. The interpretation here is that it is less than half of the institutional investors who are willing to invest in a new issue although they are still buying shares in the local market. This means that the institutional investors are not satisfied with the returns from the investment or the risk involved. Any company intending to float shares can target the undecided investors to sway their decision positively. The message from the response here is that there is low investment mood in the market. This is further evidenced by the slump in the NSE 20 -share index.

4.2 Investment Factors - Summary of Investors Responses Group wise and overall.

Average score

3.5 - 4.00	-	Very important
2.5 - 3.49	-	Important
1.5 - 2.49	-	Slightly important
1.0 - 1.49	-	Irrelevant

The following is a comparison of percent factor importance as considered by the institutional investors. The following table shows the percentage of institutional investors and how they consider their importance.

Table 4.14: **Investors-All factor relevance**

Factor Relevance	Whole group %	RBS %	IC %	FMC %
Very important	38	42	29	38
Important	55	36	64	57
Slightly important	7	16	7	5
Irrelevant	0	0	0	0

Source: collected research data

key

RBS	-	Retirement Benefit Schemes
IC	-	Insurance Companies
FMC	-	Fund Management Companies

From the above table, the whole group on average considers (38) percent of the factors very important. This is compared to (42) percent by the retirement benefit scheme, (29) percent by insurance company and (38) percent by the fund management companies. The whole group of investors considers (55) percent of the factors important on average. This is compared to (36) percent of the factors considered by retirement benefit scheme, (64) percent by insurance companies and (57) percent of the factors by fund management companies. Seven percent of the factors are considered slightly important by the whole group on average compared to (16) percent of the factors by the retirement benefit schemes, (7) percent by insurance companies and (5) percent by fund management companies. No factor was however considered irrelevant by the institutional investors on average.

The nine most important factors considered by all the institutional investors, as a group in investment decisions are the factors that had the highest mean scores. These were: quality of management, safety of principal capital, return on equity, company growth in sales, amount of debt, amount of capital, changes in investment trends, technological advancement and changes in share prices.

However, individually, the institutional investors consider the factors differently. The ten most important investment factors to retirement benefit schemes in investment decisions have their mean scores ranging from 3.667 to 3.889. These are the following factors: quality of management, change in

investment trends, safety of the principal capital, net profit margin, company growth in sales, stability in company sales, return on equity, earnings per share, long term changes in share prices and changes in share prices

The eleven most important factors considered by insurance companies in their investment decisions have their mean scores ranging from 3.545 to 3.909. These are the following: changes in share prices, safety of the principal capital, amount of capital, return on equity, amount of debt, changes in investment trends, operating efficiency, earnings per share, earnings ratio, company sales stability and company growth in sales.

The eleven most important factors considered by the fund management companies in their investment decision making on ordinary shares investments at the Nairobi stock exchange had their means ranging from 3.73 to 4.00. These are the following: quality of management, amount of debt, company growth in sales, gross profit margin, safety of principal capital. In addition to provision for bad debts, amount of capital return on equity, net profit margin, market share and competition in the industry

There was agreement on the importance of some factors to investment decisions among all the institutional investors.

The eleven factors that the institutional investors agreed on their importance as indicated by the levels of their standard deviation are as follows. Starting with the factor that had the least standard deviation presenting the strongest level agreement of agreement amongst the institutional investors. These are quality of

management, safety principal capital, technological advancement, change in investment trends, stage in industry growth, return on equity, company stability in sales, gross profit margin, company growth in sales, amount of capital, and innovation in the industry.

From the above analysis, it is apparent that several factors are considered important by all the three institutional investors while some of the factors are only considered important by particular investor groups.

4.3 Relationship among the various factors

The following is brief summary of the correlation table generated from the results of the institutional investors' responses (appendix 10). This shows the relationship between the factors considered by the institutional investors in their decision making on ordinary shares. Correlation's of 0.4 and above are considered strong and are the only ones considered below. The expected highest correlation is +ve one. Analysis was done to show the relationship between the various variables in investment decision making by the institutional investors. High correlation shows that there is common variation between the dependent and independent variables. That is, certain values of the dependent variable will tend to be associated with certain values of the independent variable.

NSE 20- share index is correlated with inflation, inventory pricing and non-operating income. While inflation is only strongly correlated with the NSE

20-share index, capital gains tax. Personal income tax is insignificantly related to the other factors with the highest relation being with gross profit margin, amount of capital and technological advancement. While capital gains tax is related with corporation tax rates, and dividend cash amount paid.

Competition in the industry is strongly related to quality of management, amount of debt, collection period, provision for bad debts, growth in sales, market share, innovation in the industry, tax carryover, depreciation charges and stability in sales. While stage in industry growth is strongly correlated with stability of sales, dividend cash amount paid, technological advancement, innovation in the industry, market share, profit margin and inventory turnover.

Stability in sales in the industry is highly correlated to stage in industry growth, stability of sales in industry, inventory turnover, earnings per share, competition in the industry, market share, net profit margin, dividend cash amount paid and technological advancement.

Innovation in the industry is strongly related to competition in the industry, the profit margin, inventory turnover, quality of management, working capital turnover. It is also related to stage in industry growth, dividend cash amount paid, provision for bad debts, growth in sales and stability in company sales, current ratio. In addition, to overall changes in share prices, technological advancement, growth in sales and stability in sales, current ratio, and changes in share prices.

Market share is strongly correlated with the competition in the industry, growth in sales, return on equity, earnings per share. In addition to safety of the principal capital, quality of management, technological advancement, provision for bad debts, stage in industry growth and dividend cash amount paid.

Growth in sales is strongly correlated with competition in the industry and market share, stability in company sales, return on equity, safety of the principal capital, quality of management. While company stability in sales has a strong relationship with stability of sales in the industry and company growth in sales and return on equity.

Gross profit margin is poorly related with all the other factors with the strongest relationship with net profit margin, long-term price changes in shares and provision for bad debts.

Net profit margin is strongly related with innovation in the industry, industry stability of sales and dividend cash amount paid. This is in addition to stable dividend rates, stage in industry growth, growth in sales, intermediate changes in price of shares, tax carryover and inventory turnover. While earnings ratio is strongly correlated with dividends stable rates, bonus dividend, collection period and inventory turnover, return on equity, earnings per shares, intermediate changes in prices, industry stability of sales.

Return on equity is correlated to market share, growth in company sales, company stability in sales, earnings ratio, quality of management, safety of principal capital, earnings ratio, stability in industry and dividend amount paid.

Earnings per share is strongly correlated with market share, return on equity, innovation in the industry, earnings ratio and stability of sales. Dividend cash amount paid is strongly correlated with stage of industry growth, net profit margin, stable dividend rates, corporate gains tax, innovation in the industry, market share, the current ratio and collection period.

Dividend stable rates are strongly related to earnings ratio, cash amount paid, and bonus dividend and net profit margin. Bonus dividend is strongly correlated to earnings ratio, stable dividend rates, current ratio, and intermediate changes in prices, collection period and changes in share prices

Quick changes in prices are strongly correlated to intermediate changes in prices and working capital turnover. Intermediate changes in prices are strongly related to quick changes in prices, tax carryover, changes margin, earnings ratio, bonus dividend, inventory pricing, collection period and inventory turnover. Long term changes in prices are poorly correlated with other factors with the highest positive correlation with growth profit margin.

Safety of the principal capital is strongly correlated with market share, company growth in sales, company stability in sales, return on equity and overall changes in prices.

Inventory pricing is strongly correlated to depreciation charges, non-operating income, tax carry over, and collection period. It is also correlated to NSE 20 -share index, company growth in sales, long term changes in prices, amount of capital and amount of debt.

Depreciation charges are strongly related to net operating income tax carryover, amount of debt and amount of capital and competition in the industry. Non operating income is strongly correlated with tax carryover, NSE 20- share index

Tax carryover is strongly correlated with inventory pricing, amount of debt, provision for bad debt, competition in the industry and net profit margin. Provision for bad debts are strongly correlated with competition in the industry, amount of debt, and the stage in industry growth.
Amount of debt is strongly related to the competition in the industry, the amount of capital and the quality of management.

Current ratio has a strong relationship with bonus dividend, quick ratio and collection period, and innovation in the industry and dividend cash amount paid. While quick ratio is strongly correlated with current ratio. Collection period is strongly correlated with competition in the industry, innovation in the industry, earnings ratio and inventory pricing and inventory turnover, bonus dividend and inventory pricing, working capital turnover and quality of management.

Inventory turnover is strongly correlated with innovation in the industry, earnings ratio, collection period and working capital turnover, industry stability of sales, company stability of sales, net profit margin, earnings ratio and inventory pricing.

Working capital turnover is strongly correlated to quick changes in prices, inventory turnover and collection period. Changes in share prices is correlated with intermediate changes in prices and changes in investment trends, innovation in the industry, bonus dividend and safety of principal capital. Changes in investment trends are correlated with operating efficiency.

Quality of management is correlated with competition in industry, market share, industry growth in sales, return on equity, safety of the principal capital, amount of debt, amount of capital and technological advancement.

Technology advancement is expedient with stage in industry growth, market share, innovation in the industry growth, market share and quality of management, innovation in the industry and growth in sales.

From the above analysis, it is apparent that the strongest relationship is of 0.76 correlation between quality of management and competition in the industry. While the weakest correlation is -0.46 between long term changes in prices and quick changes in prices.

The interpretation and discussion of the correlation factors was only centered on the seven factors identified by their mean scores and standard deviation to be most relevant to institutional investors' decision making.

Quality of management

Quality of management was found to be strongly correlated with competition in the industry, market share, industry growth in sales, return or equity. Safety of the principal capital, amounts of debt, amounts of capital, technological advancement and inventory turnover.

The more competitive an industry is the higher the quality of management required. Quality management is management that is able to organize, direct, control, plan and coordinate staff to compete effectively. When a company has a large market share, it requires high quality management in terms of provision for services and goods and proper customer care. A large market share should guarantee increased sales, hence profitability leading to increased dividends and capital gain.

Quality of management will lead to industry growth in sales. The management will reduce operation costs and put in place marketing mechanisms that will lead to growth in industry sales; quality management will also lead to increased sales and reduced costs resulting in higher returns on equity. A quality management will guarantee safety of the principal capital and will be able to take more debt because the lenders are keen on the quality of management in a company. The management is also in a position to negotiate for better terms of interest and servicing of debt. They will also ensure business profitability.

The amount of capital was found to be correlated to quality of management. Quality management determines the success of a new issue at the stock market because the investors are looking for quality management in a company. This will result in increased capital and hence hiring of qualified personnel to manage the company. High quality management will also ensure that the company is technologically advanced to reduce costs and be competitive.

Inventory turnover increases with quality management that will use the most recent cost savings inventory control methods (for example *Just in time* (J.I.T)) to reduce inventory costs in both storage and obsolescence.

Technological advancement

It was found to be correlated with quality of management as mentioned above and industry growth. The faster the industry grows the higher the requirement for advanced technology. This is because there is substantial cost savings and increased speed in production and delivery of services. With increased market share, a company needs advanced technology to serve the market effectively by producing in time high-quality goods and services that will compete in the industry.

Technological advancement will also lead to increased innovation in the industry both in products and in provision of services. This will lead to cost savings and high quality goods. Technological advancement also correlates strongly with growth in sales because of reduced operating costs which results in more money being available to market the products, technological

advancement will also result in quality competitive goods that result in growth in sales.

Changes in investment trends

Changes in investment trends were correlated with operating efficiency. With the need to improve efficiency, the investment trends have to change.

Amount of capital

This moves with the amount of debt. Capital is a mixture of equity and debt, the more debt there is the more capital for investment, and day to day's operations is available. The higher the amount of capital available the higher the amount of inventory pricing. A large amount of capital will lead to investment in more assets and every year there are increased depreciation charges.

Safety of principal capital

This is strongly correlated with the market share in that the larger the market share the higher the probability of increased sales which is expected to result in increased earnings. This results in increased share prices leading to safety of principal capital invested.

Increased sales also means that the company is able to service its debts and therefore the possibility of financial distress leading to bankruptcy does not arise and this guarantees safety of the principal capital invested. It is also correlated with growth in sales which results in increased return on equity and a rise in share prices resulting from increased profitability and hence safety in principal capital.

Company stability in sales also leads to safety of principal capital because the stability in sales will ensure stable or increasing share prices and the probability of loss of the principal capital is minimized.

High return on equity leads to overall-change in price consequently safety of principal capital is guaranteed.

Return on equity

Return on equity is strongly correlated with a number of factors. The higher the market share, the higher the expected return on equity. This is because with increased market share more sales will be realized which will result in increased production. This will lower production and delivery costs because of economies of scale thus reducing the production costs. This means that there will be increased earnings, which will translate into higher return on equity.

Growth in company sales will also result in higher earnings leading to increased return on equity. Company stability in sales will guarantee stable return on equity. Earnings ratio is related to return on equity. The higher the earnings ratio the higher the return on equity. High quality of management will also guarantee high return on equity.

Safety of principal capital is also correlated with return on equity. Stability of industry sales ensures that there is stability in company sales, which will result in stable return on equity. The higher the dividend cash amount paid the higher the return on equity which can either be in dividend income or capital gain.

Company growth in sales

This is correlated to competition in the industry because with increased competition, companies are forced to increase the quality of their products and reduce operational costs. The savings will be used in marketing of the products to discover market niches that will result in increased sales increased market share. Company growth in sales is also correlated with stability of sales in a company because it is only in a situation where there are stable sales that there can be growth in sales. Growth in company sales will also guarantee the safety of the principal capital, as there will be more profits made payable to the shareholders as dividends or retained to be used for expansion. This will lead to increased share prices. Debts will be serviced thus increasing the safety of the principal capital.

Quality of management is also correlated with company growth in sales. This is because high quality of management ensures growth of sales by producing quality products, reducing costs and embarking on marketing campaigns, which results in growth in sales.

High competition in the industry means that the company has to improve its products and reduce costs, improve quality of management and use advanced technology thus resulting in growth in sales. It is also correlated strongly with inventory pricing and collection period, which leads to improved cash flow, working capital turnover, and growth in sales and innovation in the industry. This will lead to increased sales especially if there is production of quality products. It is also correlated with net profit margin.

CHAPTER FIVE

5.0 Summary, Conclusions, Limitations and Recommendations for Further Research

5.1 Summary and conclusions

It is evident that the three categories of investors look at investment decisions on ordinary shares from a different perspective. They consider different investment factors with differing relevance.

The level of response to questionnaires varies. The fund management companies and the insurance companies are more responsive to questions unlike the retirement benefit schemes. It is not easy to collect information from retirement benefit them.

Various factors however are considered in decision making and have different relevance to the investors depending on the funds available for investment, the person making the decision and the shares available in the market.

Size of company

The conclusion that we can draw from the response to this question is that the insurance companies are the most transparent of the three institutional investors as far as this information is concerned. They are followed by retirement benefit schemes while the fund management schemes are the last. The scarce information availed in the question on turnover, asset size and number of employees' means that the second objective cannot be meet. This also

means that there is information, which is very important, not available to the public.

Share purchase

Investors purchased ordinary shares within the first five years. They consider the ordinary share investment as profitable assets; they are still investing in ordinary shares because they are satisfied with their portfolio performance. However, a number of investors are not investing in shares. Their absence can be interpreted to one of the factors that have contributed to the slump of the NSE 20 -share index.

Shares in non- quoted companies

None of the retirement benefit schemes indicated that they hold shares in non-quoted companies. This may be because of restrictions on investment by the boards controlling them. A higher percentage of insurance companies indicated that they hold shares in non -quoted companies, probably because of the nature of their business.

NSE 20- share index

It is clear that the respondents do not give much weight to the NSE 20-share index in their investment decisions on ordinary factors. Fund management companies rely more on the NSE 20-share index than the insurance companies or the retirement benefit schemes.

The NSE 20-share index is one of the measures of market performance, which gives an indication of the returns to expect from various investments considering the returns in the overall market. Lack of use for it can only mean that the investors have other means of measuring market performance. It can also mean that they do not use it at all. Investors are not keen on the market performance as indicated by the NSE 20-share index vis-a-vis their investment share performance. The other conclusion is that they are not monitoring, analyzing or evaluating their portfolios.

Investment factors

The retirement benefit schemes are particular on factors at play in the industry than in the particular company or in the economic environment. Particular company factors and economic environmental factors are to an extent considered by them.

Retirement benefit schemes consider quality of management, change in investment trends, safety of the principal capital, net profit margin, and company growth in sales. This is in addition to stability in company sales, return on equity, earnings per share, long term changes in prices and changes in share prices as very important.

The insurance companies consider company factors more important than any other factors. They consider changes in share prices, safety of the principal capital, amount of capital, return on equity, amount of debt, changes in investment trends and operating efficiency. This is in addition to earnings per

share, earnings ratio, company sales stability and company growth in sales as very important.

The fund management companies consider industry factors more important to them in their investment decision making. This is because specific industry factors enhance a company's performance. Ideal investment is in a growing industry because demand of firm products is anticipated to grow and profitability will be maintained in the face of increased competition in the other industries. Industry factors are also important because firms' own capabilities determine its performance over a short period. They consider quality of management, amount of debt, company growth in sales, gross profit margin and safety of principal capital. This in addition to provision for bad debts, amount of capital, return on equity, net profit margin, market share and competition in the industry as the most important.

From the results of the mean and standard deviation analysis, we can conclude that Insurance companies seem to agree on the importance of factors more with the fund management companies than with the retirement benefit schemes. Further from the analysis of the means and standard deviation, seven factors were considered very important by the three institutional investors. They had means ranging from 3.4 to 4 and the level of standard deviation ranged from 0.02 to 0.34. They were quality of management, technological advancement, changes in investment trends, amount of capital, safety of principal capital, return on equity, and growth in individual company sales. These are the most

important factors considered overall by the institutional investors in their decision making on ordinary shares.

The institutional investors recognize that high quality management that can staff, organize, direct, control and coordinate will prefer to use modern technology that will reduce operation costs and change investment trends. This will match the most current economic trends where investment will result in increased returns at minimal risk. This is however dependent on the amount of capital at the management disposal to enable them finance ongoing projects and start up projects which will result in company growth both in sales and size. There will be increased and stable returns on equity and the institutional investors will be guaranteed safety of their principal capital. Overall, micro economic factors were found more relevant than macro economic factors.

Risk and return

The retirement benefit schemes and fund management companies look at the risk and return factors from the same perspective. Return factors were more relevant to them than the risk factors, though at a varying degree. This is an old approach to portfolio management. The insurance companies consider both risk and return factors with equal relevance.

Perceived risk

Insurance companies, fund management companies and retirement benefit schemes largely perceive risk on ordinary shares that they hold to be medium. However, in finance literature, ordinary shares are rated as of high risk and high returns are to compensate for the additional risk.

Rate of return

A large percentage of institutional investors are not in a position to give expected rates of return. The ordinary shares are risky and the investors should not take returns less than the treasury bills risk free rate. However, the evidence presented here is that the investors are taking rates of return below the risk free rate and this does not make any business sense. Moreover, this is probably why they have been investing in low return shares thus driving the market prices down. They should therefore give more attention to this area.

Diversification

On diversification, retirement benefit schemes have stayed away from investments in corporate bonds and commercial paper (short and intermediate investments). A large percentage of insurance companies and fund management companies have invested here. Over (70) percent of the insurance companies have invested in both commercial paper and corporate bonds.

Expected rate of returns

Some of the institutional investors are not realistic in their expected rates of return. A rate of return of zero percent is not objective considering that the investor has invested in shares to make a profit and there is a risk free investment alternative in Treasury bills with higher returns. In addition, the returns of very high magnitude such as (50) percent are not realistic. Nevertheless, generally retirement benefit schemes are more knowledgeable on the returns to expect than the other group of investors. A large percentage of insurance companies are not able to quote the expected rates of return, may be they have not calculated their expected rates of returns and do not know the returns to expect on their own investment.

A large percentage of retirement benefit schemes quoted rates below (10) percent. This is a very conservative figure considering that the risk free rate of Treasury bill is currently standing at above (17) percent. Fund management companies indicated rates of between (11) percent and (20) percent, which were more realistic considering the (1999) treasury bills rates standing at (17) percent. Investors are expected to know their expected rates to enable them evaluate alternative investment.

Risk models

A good number of the institutional investors are not in a position to quantify the amount of risk inherent in their investment on ordinary shares. Knowing there is risk is one thing and being able to quantify it is another thing altogether. Failure to use these models means that the investors are not able to

quantify the risk inherent in their investments to compare it with the expected returns. They have therefore been working with 'unknown' expected return figures. In as much as the investors know that there is risk they should be able to quantify it. The investors can use the traditional models or develop their own as some have done. Market 'rumors' as indicated by some respondents should not be used as a basis for investment decisions.

Future investments

Retirement benefit schemes are unwilling to invest more in ordinary shares. They are not satisfied with the performance of the ordinary shares. The proportion for those who would invest and those who have not decided is equal. Insurance companies are unwilling to invest in a new issue. Nearly half of the fund management companies are willing to invest in a new issue. They are not satisfied with the performance of their portfolios and that they consider future investments too risky.

Fund management firms are more satisfied with the ordinary shares they already hold and are therefore willing to invest in a new issue. This tells us that ordinary share issuer(s) should target the fund management companies and the undecided proportion of retirement benefit schemes and insurance companies because they have potential for investment.

5.2 LIMITATIONS OF THE STUDY

There were several difficulties experienced in the study.

1. The biggest limitation was the time available to do the study and limited literature review material available.

2. There was reluctant to fill the questionnaires by some respondents especially the fund management companies who considered crucial information such as turnover and asset size as confidential information.

3. There was the inability of some respondents to complete the questionnaires on their own and this resulted in the researcher doing the interview and explaining each and every factor and this lead to a lot of time wasting.

4. Most of the respondents did not keep their promise on the time to collect the questionnaires and this led to time wastage.

5.3 RECOMMENDATIONS FOR FURTHER RESEARCH

The study focused on ordinary-shares investment decisions by institutional investors namely insurance companies, retirement benefit schemes and fund management companies.

- An area for further research that is recommended is on the same topic but with a sample of other institutional investors e.g. "anchor" investors.

- A study can also be undertaken on the same population but on investment decisions on other investment assets.

- A study can be done on the same topic but with the population being individual investors.

- In future, same study can be repeated to check if the importance of the factors will have changed amongst the institutional investors considered above.

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Appendix 1

Letter to the respondents

To .....

.....

.....

Dear Sir/Madam,

I am a postgraduate student at the Faculty of Commerce University of Nairobi. In fulfillment of the requirement of the Masters in Business Administration Degree, I am currently undertaking **A STUDY OF FACTORS THAT INSTITUTIONAL INVESTORS CONSIDER IN MAKING DECISIONS ON INVESTMENTS IN SHARES TRADED AT THE NAIROBI STOCK EXCHANGE.** I, therefore, request for your assistance by filling the attached questionnaire to the best of you ability. The information provided will be used solely for academic purpose and at no instance will your name or that of your organization be named in the report.

Your assistance in this regard will be highly appreciated.

Yours faithfully,

ELIZABETH WAKAGUYU MUGO

MBA STUDENT

Signed:

Date:

Appendix 2 Questionnaire

Date of company's incorporation _____

What is the legal status of your firm

Retirement benefit scheme ( )

Insurance company ( )

Fund management company ( )

How big is your company in terms of

Total assets Kshs. _____

Turnover Kshs. _____

Number of employees _____

When did you buy ordinary shares in a company listed at the NSE?

For the first time _____

Most recent buy _____

Do you hold shares in another company not quoted in Nairobi Stock Exchange.

Yes ( ) No ( )

The following are some factors that institutional investors may consider when making investment decisions on ordinary shares of listed companies at the Nairobi Stock Exchange. Please rate each of these factors in order of the importance to you in your investment decisions on ordinary shares using the following scale - (Tick the correct one)

	Very important	Important	Slightly Important	Irrelevant
	VI = 4	IM = 3	SI = 2	I = 1
Changes in economic environment				
NSE 20 share index	( )	( )	( )	( )
Monetary and fiscal policies				
Interest rate	( )	( )	( )	( )
Inflation	( )	( )	( )	( )
Corporation tax rates	( )	( )	( )	( )
Personal income tax	( )	( )	( )	( )
Capital gains tax	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )

	Very important	Important	Slightly Important	Irrelevant
	VI = 4	IM = 3	SI = 2	I = 1
Changes in industrial factors				
Competition in the industry	( )	( )	( )	( )
Stage of industry growth	( )	( )	( )	( )
Stability of sale	( )	( )	( )	( )
Innovation in the industry	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
Changes in company factors				
Part A				
Marketing changes				
Market share	( )	( )	( )	( )
Growth in sales	( )	( )	( )	( )
Stability in sales	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
Profitability changes				
Gross profit margin	( )	( )	( )	( )
Net profit marginal	( )	( )	( )	( )
Earnings ratio	( )	( )	( )	( )
Return on equity	( )	( )	( )	( )
Earnings per share	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
Dividend practice changes				
Cash amount paid	( )	( )	( )	( )
Stable rates	( )	( )	( )	( )
Bonus dividend	( )	( )	( )	( )

	Very important	Important	Slightly Important	Irrelevant
	VI = 4	IM = 3	SI = 2	I = 1
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
Capital gains from				
Quick changes in prices	( )	( )	( )	( )
Intermediate changes in prices	( )	( )	( )	( )
long term changes in prices	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
Part B				
Safety of principal capital	( )	( )	( )	( )
Accounting policies changes				
Inventory pricing	( )	( )	( )	( )
Depreciation charges	( )	( )	( )	( )
Non operating income	( )	( )	( )	( )
Tax carry-over	( )	( )	( )	( )
Provision for bad debts	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
Capital structure changes				
Amount of Debt	( )	( )	( )	( )
Amount of capital	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )

		Very important	Important	Slightly Important	Irrelevant
		VI = 4	IM = 3	SI = 2	I = 1
4.	**Financial analysis changes**				
	Current ratio	( )	( )	( )	( )
	Quick ratio	( )	( )	( )	( )
	Collection period	( )	( )	( )	( )
	Inventory turnover	( )	( )	( )	( )
	Working capital turnover	( )	( )	( )	( )
	Others				
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
5.	**Changes in share prices**	( )	( )	( )	( )
6	**Changes in investment trends in the company they are investing in.**	( )	( )	( )	( )
7.	**Operating efficiency**	( )	( )	( )	( )
8.	**Quality of management**	( )	( )	( )	( )
9.	**Technological advancement**	( )	( )	( )	( )
10.	**Other factors**				
	-	( )	( )	( )	( )
	-	( )	( )	( )	( )
	-	( )	( )	( )	( )
	-	( )	( )	( )	( )
	-	( )	( )	( )	( )

g. **In terms of riskiness of the ordinary shares you hold, how would you describe them?**

High risk ( ) medium risk ( ) Low risk( )

h. Since 1993 have you invested in the following

	Yes	No	Size of investments (Kshs.)
Preferred shares	( )	( )	_____
Treasury bonds	( )	( )	_____
Treasury bills	( )	( )	_____
Corporate bonds	( )	( )	_____
Commercial paper	( )	( )	_____

i. **Out of the 56 quoted companies which three (3) have satisfied you during 1993 to 1998 in**

	1st	2nd	3rd
Short term capital gains	_____	_____	_____
Intermediate capital gains	_____	_____	_____
Long term capital gains	_____	_____	_____
Dividend income	_____	_____	_____
Minimize taxation	_____	_____	_____
Safety of principal capital	_____	_____	_____
Growth in income	_____	_____	_____
Capital structure	_____	_____	_____
Others			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

j. What annual percentage rate of return before taxes do you think is attainable on a regular basis from investing in ordinary shares on Nairobi Stock Exchange _____

k. **What methods do you use to measure risk?**

Beta ( )
Standard deviation ( )
Variance ( )
Other
_____ ( )
_____ ( )
_____ ( )

l. **If there was a new issue in the market today would you invest in the ordinary shares**

Yes ( ) No ( ) Depends ( )

THANK YOU FOR YOUR COOPERATION

Appendix 3 Coded Questionnaire

A. Date of company's incorporation **(year)**

B. What is the legal status of your firm

Retirement benefit scheme **(1)**

Insurance company **(2)**

Fund management company **(3)**

C. How big is your company in terms of

Total assets Kshs. **(Size A)**

Turnover Kshs. **(Size T)**

Number of employees **(Size E)**

D. When did you buy ordinary shares in a company listed at the NSE?

For the first time **(BFT)**

Most recent buy **(BRMR)**

E. Do you hold shares in another company not quoted in Nairobi Stock Exchange **(AC)**.

Yes **(0)** No **(1)**

F. The following are some factors that institutional investors may consider when making investment decisions on ordinary shares of listed companies at the Nairobi Stock Exchange. Please rate each of these factors in order of the importance to you in your investment decisions on ordinary shares using the following scale - (Tick the correct one)

	Very Important	Important	Slightly Important	Irrelevant
	VI = 4	IM = 3	SI = 2	I = 1
I. **Changes in economic environment**				
1. NSE 20 share index **(CENSE)**	( )	( )	( )	( )
2. Monetary and fiscal policies				
Interest rate **(CEIR)**	( )	( )	( )	( )
Inflation **(CEINF)**	( )	( )	( )	( )
Corporation tax rates **(CECT)**	( )	( )	( )	( )
Personal income tax **(CEPT)**	( )	( )	( )	( )
Capital gains tax **(CEGT)**	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )

		Very important	Important	Slightly Important	Irrelevant
		VI = 4	IM = 3	SI = 2	I = 1
II	**Changes in industrial factors**				
	Competition in the industry (**CIC**)	( )	( )	( )	( )
	Stage of industry growth (**CIIG**)	( )	( )	( )	( )
	Stability of sale (**CISS**) ( )		( )	( )	( )
	Innovation in the industry (**CII**)	( )	( )	( )	( )
	Others				
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
III	**Changes in company factors**				
	Part A				
1.	**Marketing changes**				
	Market share (**CCMS**)	( )	( )	( )	( )
	Growth in sales (**CCGS**)	( )	( )	( )	( )
	Stability in sales (**CCSS**)	( )	( )	( )	( )
	Others				
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
2.	**Profitability changes**				
	Gross profit margin (**CCGP**)	( )	( )	( )	( )
	Net profit margin (**CCNP**)	( )	( )	( )	( )
	Earnings ratio (**CCER**)	( )	( )	( )	( )
	Return on equity (**CCRE**)	( )	( )	( )	( )
	Earnings per share (**CCES**)	( )	( )	( )	( )
	Others				
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
3.	**Dividend practice changes**				
	Cash amount paid (**CCCP**)	( )	( )	( )	( )
	Stable rates (**CCSR**)	( )	( )	( )	( )
	Bonus dividend (**CCBD**)	( )	( )	( )	( )

	Very important	Important	Slightly Important	Irrelevant
	VI = 4	IM = 3	SI = 2	I = 1
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
4. **Capital gains from**				
Quick changes in prices (CCQT)	( )	( )	( )	( )
Intermediate changes in prices (CCICP)	( )	( )	( )	( )
long term changes in prices (CCLP)	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )

Part B

1. **Safety of principal capital** (CCPC)	( )	( )	( )	( )
2. **Accounting policies changes**				
Inventory pricing (CCIP)	( )	( )	( )	( )
Depreciation charges (CCDC)	( )	( )	( )	( )
Non operating income (CCOI)	( )	( )	( )	( )
Tax carry-over (CCTC)	( )	( )	( )	( )
Provision for bad debts (CCPBD)	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
3. **Capital structure changes**				
Amount of Debt (CCAD)	( )	( )	( )	( )
Amount of capital (CCAC)	( )	( )	( )	( )
Others				
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )
_____	( )	( )	( )	( )

		Very important	Important	Slightly Important	Irrelevant
		VI = 4	IM = 3	SI = 2	I = 1
4.	**Financial analysis changes**				
	Current ratio **(CCCR)**	( )	( )	( )	( )
	Quick ratio **(CCQR)**	( )	( )	( )	( )
	Collection period **(CCCPO)**	( )	( )	( )	( )
	Inventory turnover **(CCITU)**	( )	( )	( )	( )
	Working capital turnover **(CCWCT)**	( )	( )	( )	( )
	Others				
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
	_____	( )	( )	( )	( )
5.	**Changes in share prices (CCSP)**	( )	( )	( )	( )
6	**Changes in investment trends in the company they are investing in. (CCITC)**	( )	( )	( )	( )
7.	**Operating efficiency (CCOE)**	( )	( )	( )	( )
8.	**Quality of management (CCQM)**	( )	( )	( )	( )
9.	**Technological advancement (CCTA)**	( )	( )	( )	( )
10.	**Other factors**				
	-	( )	( )	( )	( )
	-	( )	( )	( )	( )
	-	( )	( )	( )	( )
	-	( )	( )	( )	( )
	-	( )	( )	( )	( )

g. **In terms of riskiness of the ordinary shares you hold, how would you describe them? (R)**

High risk **(2)** medium risk **(1)** Low risk **(0)**

h. Since 1993 have you invested in the following

	Yes (1)	No (2)	Size of investments (Kshs.)
Preferred shares **(PS)**	( )	( )	_____
Treasury bonds **(TB)**	( )	( )	_____
Treasury bills **(TBI)**	( )	( )	_____
Corporate bonds **(CB)**	( )	( )	_____
Commercial paper **(CP)**	( )	( )	_____

i. **Out of the 56 quoted companies which three (3) have satisfied you during 1993 to 1998 in**

	1st	2nd	3rd
Short term capital gains (**STC**)	_____	_____	_____
Intermediate capital gains (**ICG**)	_____	_____	_____
Long term capital gains (**LCG**)	_____	_____	_____
Dividend income (**DI**)	_____	_____	_____
Minimize taxation (**MT**)	_____	_____	_____
Safety of principal capital (**SPC**)	_____	_____	_____
Growth in income (**GI**)	_____	_____	_____
Capital structure (**CS**)	_____	_____	_____
Others			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

j. What annual percentage rate of return before taxes do you think is attainable on a regular basis from investing in ordinary shares on Nairobi Stock Exchange (**RR**)

k. **What methods do you use to measure risk?**

Beta (**BE**)	**(1)**
Standard deviation (**SD**)	**(2)**
Variance (**V**)	**(3)**
Other	**(4)**
_____	( )
_____	( )
_____	( )

l. **If there was a new issue in the market today would you invest in the ordinary shares (NI)**

Yes (**0**) No (**1**) Depends (**2**)

THANK YOU FOR YOUR COOPERATION

Appendix 4

LIST OF INSURANCE COMPANIES

1. American Life Ins. Co. (K) Ltd.
2. Apollo Insurance Co. Ltd.
3. Blue Shield Ins. Co. Ltd.
4. British American Ins. Co. Ltd.
5. Cannon Ass. (K) Ltd.
6. Concord Ins. Co. Ltd.
7. Corporate Ins. Co. Ltd.
8. Co-operative Ins. Services
9. Fidelity Shields Ins. Co. Ltd.
10. First Assurance Co. Ltd.
11. Gateway Ins. Co. Ltd.
12. Geminia Ins. Co. Ltd.
13. General Accident Ins. Co.
14. Heritage A.I.I Ins. Co. Ltd.
15. Insurance Co. of East Africa Ltd.
16. Invesco Assurance Co. Ltd.
17. Intra-Africa Ass. Co. Ltd.

18. Jubilee Ins. Co. Ltd.
19. Kenindia Ass. Co. Ltd.
20. Kenya Orient Ins. Co. Ltd.
21. Kenyan Alliance Ins. Co. Ltd.
22. Lakestar Ins. Co. Ltd.
23. Lion of Kenya Ins. Co. Ltd.
24. Madison Ins. Co. (K) Ltd.
25. Mercantile Life & General Ass. Co. Ltd.
26. Monarch Ins. Co. Ltd.
27. Occidental Life and Ass. Co. Ltd.
28. Old Mutual Life Ass. Co. Ltd.
29. Pan African Ins. Co. Ltd.
30. Phoenix of E.A. Ass. Co. Ltd.
31. Pioneer General Ass. Co. Ltd.
32. Royal Ins. Co. of E.A. Ltd.
33. Stallion Ins. Co. Ltd.
34. Standard Ass. (K) Ltd.
35. Tausi Ass. Co. Ltd.
36. Trident Ins. Co. Ltd.
37. UAP Provincial Ins. Co. Ltd.
38. United Ins. Co. Ltd.

Appendix 5

AVAILABLE LIST OF RETIREMENT BENEFIT SCHEMES

1. Alico Pension Scheme
2. Insurance Company of East Africa Pension Scheme
3. National Social Security Fund
4. Central Bank of Kenya Pension Fund
5. Kenya Breweries Staff Provident Fund
6. Kenya Commercial Bank Staff Pension Fund
7. National Bank Pension Fund
8. UAP Provincial Ins. Co. of East Africa (1988) Staff Pension Fund
9. Shell Kenya Provident Trust Ltd.
10. Trustees of PDC Ltd. Employee Share Purchase Fund
11. Trustees of Kenya Airways ESOP
12. University of Nairobi Pension Fund
13. UN Joint Staff Pension Fund
14. Moi University Pension Scheme
15. Maseno University Pension Fund
16. Kenya Cargo Handling Services Staff Pension Fund
17. BAT Kenya Provident Fund
18. Cannon Assurance Pension Fund

19. Chloride Pension Scheme

20. Kenya Wild Society Pension Fund

21. Brokebond Fund

22. ICEA Pension Scheme

23. UAP Provincial Insurance Co of East Africa Ltd. Pension Scheme

Appendix 6

AVAILABLE LIST OF FUND MANAGEMENT COMPANIES

1. Zimele Asset Managers
2. Alico Asset Management Ltd.
3. Barclaystrust Investments Services Ltd.
4. Amicable Investments Ltd.
5. Bridges Capital Ltd.
6. CBA Capital Ltd.
7. Citibank, NA
8. Genesis (K) Inv. Management Ltd.
9. Loita Assets Management Ltd.
10. Natbank Investment Services
11. Co-operative Merchant Bank Ltd.
12. AIG Global Investment Co. (East Africa Ltd)
13. Old Mutual Assets Managers
14. Venture Capital Investment Management Ltd.
15. Dry Associates Ltd.
16. Merchant Bank of Kenya
17. Meghraj Investment
18. Endeavour Securities Ltd.

19. Stanbic Investment Management Services (E.A) Ltd.

20. Kenya Capital Partners

21. ABN Amro Inv. Services Ltd.

22. Employee Benefit Trustees Ltd.

23. Co-op Trust Investment Services Ltd.

NAIROBI STOCK EXCHANGE

MARKET STATISTICS 1990 - 1998

		TOTALS 1990	TOTALS 1991	TOTALS 1992	TOTALS 1993	TOTALS 1994	TOTALS 1995	TOTALS 1996	TOTALS 1997	TOTALS 1998
A.	N.S.E. Index (End of)	915.34	958.29	1167.29	2513.74	4559.40	3468.88	3114.11	3115.14	2962.06
B.	Market Capitalization (End of)	10,902,194,000	12,705,968,480	23,062,793,020	72,394,794,200	136,831,155,354	112,879,987,315	99,945,924,917	114,310,801,101	129,021,423,589
C.	No. of Shares Traded	11,047,472	16,648,404	14,810,890	27,292,007	42,758,072	59,385,414	113,559,922	143,583,761	111,511,214
D.	Total Shares Outstanding	531,830,846	668,429,849	745,083,539	890,833,931	1,585,142,413	1,800,606,660	2,530,917,261	2,965,435,428	3,303,614,139
E.	Turnover C/D%	2.08%	2.49%	1.99%	3.06%	2.70%	3.30%	4.49%	4.84%	3.38%
F.	Value of Shares Traded (Sales Only)	234,742,623	301,519,180	384,572,445	824,305,921	3,076,155,718	3,345,301,398	3,962,290,548	6,148,455,681	4,583,868,081
G.	Turnover (Value) F/B%	2.15%	2.37%	1.67%	1.14%	2.25%	2.96%	3.96%	5.38%	3.55%
H.	No. of Transactions (Sales Only)	8,422	8,742	12,020	17,885	39,581	54,280	63,304	80,546	54,925
I.	Average Value Per Transaction F/H (KShs)	27,872.55	34,490.87	31,994.38	46,089.23	77,717.99	61,630.46	62,591.47	76,334.71	83,456.86

CODED RESULTS OF THE QUESTIONNARES

APPENDIX 8

Respoden	Year	Status	Size A (	Size T (	Size E	BFT	BRMR	AC	CENSE	CEIR	CEINF	CECT	CEPT	CEGT	CIC	CIIG	CISS	CII	CCMS	CCGS	CCSS
1	1994	3	3750		20	1994	1998	1	2	3	2	3	2	3	4	4	4	4	4	4	4
2	1998	3	60	1500	15	1998	1998	1	4	4	3	3	2	2	3	3	3	3	4	4	3
3	1997	3				1997	1998	1	2	3	3	3	2	2	4	3	3	3	3	4	3
4	1984	3	1	10	7	1984	1998	0	3	4	4	2	2	1	4	3	3	4	3	4	4
5	1964	2	10000	1000	150	1964	1998	0	3	4	4	2	2	1	4	3	3	4	3	4	4
6	1946	2	1500	500	200	1960	1998	0	2	3	3	1	3	3	1	3	3	1	2	2	2
7	1983	1	5		3	1998	1998	1	3	4	4	3	2	1	4	3	4	4	3	3	4
8	1974	2	800	200	90	1974	1996	0	4	3	3	3	1	4	3	3	3	3	3	3	3
9	1986	2	700	600	200	1987	1998	0	2	4	2	4	1	4	4	3	4	2	4	4	4
10	1994	3		1100	15	1994	1998	0	3	4	4	3	4	4	4	4	4	4	4	4	4
11	1964	3	5			1964	1998	1	2	4	3	2	2	2	3	3	3	3	4	4	3
12	1987	1	5		6	1987	1998	1	3	3	4	2	1	1	4	4	3	3	4	4	3
13	1996	3			15	1996	1998	1	3	3	3	2	2	2	4	3	2	2	4	4	3
14	1930	3		1600	30	1988	1998	1	3	4	3	4	1	4	4	3	3	2	3	3	3
15	1995	3				1996	1998	1	2	4	4	3	3	3	4	4	3	3	4	4	3
16	1992	1	0 30		4	1992	1996	1	3	4	4	2	2	1	3	3	3	3	2	2	3
18	1975	2	1800	800	140	1975	1998	0	2	3	3	2	2	2	3	3	2	4	3	3	3
19	1982	2	1921	674	118	1986	1998	1	3	4	2	2	1	1	4	3	3	4	3	4	4
20	1978	3	21000		30	1979	1998	1	3	4	4	2	1	1	4	4	4	4	4	4	4
21	1978	2	1409	600	88	1978	1998	1	4	1	3	3	4	1	4	3	3	3	4	4	4
22	1989	1	70		20	1989	1998	1	3	4	4	4	1	1	3	4	3	3	4	4	4
23	1968	1				1990	1998	1	1	4	1	3	3	4	4	4	4	4	4	4	4
24	1979	2	1500	531	70	1980	1998	0	2	3	3	3	2	4	3	3	3	4	4	4	4
25	1980	1	1000	500	100	1980	1998	1	4	4	4	4	3	4	3	4	4	4	3	4	4
26	1987	2	1616	738	190	1993	1998	0	4	4	3	2	1	1	2	3	4	1	3	4	4
27	1974	1	150		15	1974	1998	1	3	4	4	1	2	1	4	3	3	4	3	4	4
28	1931	2	2500	300	70	1966	1998	0	2	3	2	3	1	3	1	3	3	1	2	3	3
29	1996	3			17	1996	1996	1	3	3	4	3	3	3	4	4	4	4	4	4	4
30	1976	1	5		5	1976	1998	1	2	3	2	1	1	1	3	3	3	3	4	4	3
31	1997	3			7	1998	1998	1	2	3	3	2	2	2	4	4	4	4	3	4	4
32	1974	3				1998		1	2	4	4	2	1	1	3	3	3	1	4	3	4
33	1954	3	58	24	26		1997	1	4	4	4	1	1	3	4	4	4	4	4	4	3
34	1965	1	50000	1600	1800	1971	1998	1	2	4	2	1	1	1	4	4	4	4	4	4	4
35	1984	2	600	385	101	1984	1998	1	3	3	3	4	1	4	4	4	4	3	4	4	4
36	1994	3	5	300	8	1993	1998	1	4	4	4	4	4	3	3	3	3	3	4	4	4
17	1963	2	5000																		

CCGP	CCNP	CCER	CCRE	CCES	CCCP	CCSR	CCBD	CCQT	CCICP	CCLP	CCPC	CCIP	CCDC	CCOI	CCTC	CCPBD	CCAD	CCAC	CCCR	CCQR	CCCP_0	CCITU
4	4	4	4	4	4	4	4	4	2	4	4	1	1	2	1	3	3	3	4	3	3	3
4	4	1	3	4	4	3	2	2	2	4	4	4	4	3	2	4	4	4	3	3	2	2
4	4	3	4	3	3	3	2	2	3	4	3	3	3	3	4	4	4	3	3	3	3	3
4	4	3	4	3	2	3	3	4	3	3	4	3	2	3	3	4	4	4	3	2	3	3
4	4	3	4	3	2	4	4	4	3	3	4	3	2	3	3	4	4	4	3	2	3	3
3	3	4	3	4	3	4	3	2	3	4	3	2	2	2	2	2	4	4	4	4	2	2
3	3	4	4	4	3	3	3	4	3	3	4	2	2	3	3	4	4	4	3	3	3	3
3	3	4	4	4	4	4	4	4	3	3	4	3	2	4	4	4	4	4	4	4	4	2
4	4	4	4	4	3	4	4	3	4	4	4	2	2	3	3	4	4	3	3	3	3	3
3	4	3	4	4	4	3	3	4	3	2	4	4	4	4	4	4	4	4	3	2	3	4
4	4	4	4	4	3	3	3	3	3	4	4	2	2	2	4	4	4	4	3	3	2	3
3	4	3	4	4	3	2	2	4	3	3	4	3	2	3	3	4	4	3	2	2	2	3
3	3	3	3	3	3	4	2	2	2	4	4	3	2	3	2	4	4	4	3	3	3	2
4	4	3	3	1	3	3	2	3	2	3	4	1	2	2	2	4	4	3	2	2	2	2
4	4	3	4	3	4	4	2	2	2	3	3	3	3	3	3	3	4	4	3	3	3	3
4	4	3	2	3	3	4	4	4	4	3	2	2	3	3	4	3	3	4	4	3	3	4
3	3	3	3	3	4	4	3	3	3	4	4	1	1	1	1	4	4	4	4	4	3	3
2	3	4	4	3	2	2	3	4	3	2	4	3	3	4	2	3	4	4	4	4	3	3
4	4	4	4	4	4	4	4	1	3	4	4	4	4	4	4	4	4	4	4	4	4	4
4	3	4	4	4	3	3	3	4	3	4	4	4	4	3	3	3	4	4	3	3	4	4
3	4	4	4	4	4	4	4	2	2	4	4	1	1	1	1	1	2	2	4	4	4	4
4	4	4	4	4	4	4	3	1	2	4	4	1	1	1	1	4	4	4	3	3	3	4
	4	4	4	4	3	3	3	4	3	3	4	4	2	3	3	4	4	4	4	3	4	4
4	4	4	4	4	3	3	3	2	3	4	4	2	2	3	1	4	3	4	4	4	3	3
3	3	4	4	4	1	4	3	2	2	4	4	2	1	3	1	1	3	4	2	3	2	3
4	4	3	4	3	2	3	3	1	3	4	4	3	2	3	3	4	4	4	3	2	3	3
3	3	1	3	2	2	2	2	2	2	2	3	1	1	2	1	1	1	2	3	3	1	2
4	4	4	4	4	4	4	3	2	2	3	3	3	3	3	3	4	4	4	4	3	3	3
3	3	3	3	3	3	4	4	1	2	4	4	1	1	1	1	4	3	3	4	4	2	2
4	4	3	3	3	3	3	3	4	3	3	4	3	3	3	3	3	4	4	4	3	3	3
4	1	1	4	4	1	1	1	1	1	4	4	1	3	2	1	4	4	4	3	3	2	2
4	4	4	4	4	4	4	3	4	4	4	4	4	4	2	3	4	4	4	4	4	4	4
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3	4	4	4	4	4	3	4	2	3	3	4	4	4	3	4	4	4	4	4	3	3	3
4	4	4	4	4	4	4	4	3	3	3	4	3	2	3	2	4	3	3	3	3	3	3

CCWCT	CCSP	CCITC	CCOE	CCQM	CCTA	R	PS	TB	TBI	CB	CP
4	3	3	3	4	4	1	1	1	1	1	1
2	4	4	4	4	4	1	2	1	1	1	1
3	2	3	4	4	3	2	2	1	1	1	1
4	4	4	3	4	4	1	2	1	1	2	1
4	4	4	43	4	4	1	1	1	1	1	1
3	4	4	4	3	3	1	2	1	1	1	1
4	4	4	3	4	4	1	2	2	1	2	2
2	4	3	3	4	3	1	1	1	1	1	1
3	4	4	4	4	3	1	2	1	1	2	2
4	4	4	4	4	4	1	1	1	1	2	2
2	4	4	4	4	3	1	2	1	2	1	2
4	4	4	3	4	4	2	2	1	1	2	1
2	3	3	3	4	4	1					
2	3	3	3	4	3	1	2	1	1	1	2
3	2	3	4	4	4	1	2	1	1	1	1
4	3	3	3	3	3	1	2	2	1	2	1
3	4	4	4	4	4	0	1	1	1	1	1
4	4	4	3	4	3	1	2	1	2	1	1
4	4	4	4	4	4	0	2	1	1	1	1
4	4	3	4	4	4	1	2	1	1	2	2
4	3	3	4	4	4	1	2	1	2	1	2
2	4	4	4	4	4	2	2	1	1	1	1
3	4	4	4	4	3	1	2	1	1	2	2
1	4	4	3	4	4	1	2	1	1	1	1
3	4	4	4	3	3	1	2	2	1	2	1
2	4	4	3	4	4	1	1	1	1	2	2
2	3	3	3	3	3	1	2	1	1	2	2
4	4	4	4	4	4	1	2	1	2	2	2
2	3	4	4	4	4	1	2	2	2	1	1
3	4	4	4	4	4	0	2	1	1	1	1
2	2	4	3	4	4	0	2	1	1	1	2
4	4	4	4	4	4	1	2	2	1	2	2
4	4	4	4	4	4	1	2	1	1	2	1
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3	4	4	4	4	4	1	2	1	2	2	2
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RR	BE	NI
17	1	2
19	1	2
	4	2
17	1	0
17	1	0
	4	1
17	2	0
9	2	2
		0
50		0
30	2	2
19	1	0
	3	2
18	1	1
	4	2
20	3	1
15	1	2
46	1	1
10		1
8		2
10	3	2
5	1	1
	1	0
5	1	0
8	3	0
5	3	0
7		1
8	4	2
0	4	0
15	2	2
10	4	1
7	2	1
		0

MEANS AND STANDARD DEVIATION

APPENDIX 9

Respoden	Year	Status	Size A (	Size T (	Size E	BFT	BRMR	AC	CENSE	CEIR	CEINF	CECT	CEPT	CEGT	CIC	CIIG	CISS	CII	CCMS	CCGS	CCSS
1	1994	3	3750		20	1994	1998	1	2	3	2	3	2	3	4	4	4	4	4	4	4
2	1998	3	60	1500	15	1998	1998	1	4	4	3	3	2	2	3	3	3	3	4	4	3
3	1997	3				1997	1998	1	2	3	3	3	2	2	4	3	3	3	3	4	3
4	1984	3	1	10	7	1984	1998	0	3	4	4	2	2	1	4	3	3	4	3	4	4
5	1964	2	10000	1000	150	1964	1998	0	3	4	4	2	2	1	4	3	3	4	3	4	4
6	1946	2	1500	500	200	1960	1998	0	2	3	3	1	3	3	1	3	3	1	2	2	2
7	1983	1	5		3	1998	1998	1	3	4	4	3	2	1	4	3	4	4	3	3	4
8	1974	2	800	200	90	1974	1996	0	4	3	3	3	1	4	3	3	3	3	3	3	3
9	1986	2	700	600	200	1987	1998	0	2	4	2	4	1	4	4	3	4	2	4	4	4
10	1994	3		1100	15	1994	1998	0	3	4	4	3	4	4	4	4	4	4	4	4	4
11	1964	3	5			1964	1998	1	2	4	3	2	2	2	3	3	3	3	4	4	3
12	1987	1	5		6	1987	1998	1	3	3	4	2	1	1	4	4	3	3	4	4	3
13	1996	3			15	1996	1998	1	3	3	3	2	2	2	4	3	2	2	4	4	3
14	1930	3		1600	30	1988	1998	1	3	4	3	4	1	4	4	3	3	2	3	3	3
15	1995	3				1996	1998	1	2	4	4	3	3	3	4	4	3	3	4	4	3
16	1992	1	0.30		4	1992	1996	1	3	4	4	2	2	1	3	3	3	3	2	2	3
18	1975	2	1800	800	140	1975	1998	0	2	3	3	2	2	2	3	3	2	4	3	3	3
19	1982	2	1921	674	118	1986	1998	1	3	4	2	2	1	1	4	3	3	4	3	4	4
20	1978	3	21000		30	1979	1998	1	3	4	4	2	1	1	4	4	4	4	4	4	4
21	1978	2	1409	600	88	1978	1998	1	4	1	3	3	4	1	4	3	3	3	4	4	4
22	1989	1	70		20	1989	1998	1	3	4	4	4	1	1	3	4	3	3	4	4	4
23	1968	1				1990	1998	1	1	4	1	3	3	4	4	4	4	4	4	4	4
24	1979	2	1500	531	70	1980	1998	0	2	3	3	3	2	4	3	3	3	4	4	4	4
25	1980	1	1000	500	100	1980	1998	1	4	4	4	4	3	4	3	4	4	4	3	4	4
26	1987	2	1616	738	190	1993	1998	0	4	4	3	2	1	1	2	3	4	1	3	4	4
27	1974	1	150		15	1974	1998	1	3	4	4	1	2	1	4	3	3	4	3	4	4
28	1931	2	2500	300	70	1966	1998	0	2	3	2	3	1	3	1	3	3	1	2	3	3
29	1996	3			17	1996	1996	1	3	3	4	3	3	3	4	4	4	4	4	4	4
30	1976	1	5		5	1976	1998	1	2	3	2	1	1	1	3	3	3	3	4	4	3
31	1997	3			7	1998	1998	1	2	3	3	2	2	2	4	4	4	4	3	4	4
32	1974	3				1998		1	2	4	4	2	1	1	3	3	3	1	4	3	4
33	1954	3	58	24	26		1997	1	4	4	4	1	1	3	4	4	4	4	4	4	3
34	1965	1	50000	1600	1800	1971	1998	1	2	4	2	1	1	1	4	4	4	4	4	4	4
35	1984	2	600	385	101	1984	1998	1	3	3	3	4	1	4	4	4	4	3	4	4	4
36	1994	3	5	300	8	1993	1998	1	4	4	4	4	4	3	3	3	3	3	4	4	4
17	1963	2	5000	1030	160	1989	1998	0													
								Totals	97	124	112	89	67	79	121	118	116	110	122	130	125
								Mean	2 8	3.5	3.2	2.5	1.9	2.3	3.5	3.4	3 3	3.1	3.5	3.7	3.6
								Std Deviation	0.81	0.66	0 83	0.95	0.95	1.22	0.82	0.49	0.58	1.00	0 66	0.57	0.56

CCGP	CCNP	CCER	CCRE	CCES	CCCP	CCSR	CCBD	CCQT	CCICP	CCLP
4	4	4	4	4	4	4	4	4	2	4
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4	4	3	4	3	3	3	2	2	3	4
4	4	3	4	3	2	3	3	4	3	3
4	4	3	4	3	2	4	4	4	3	3
3	3	4	3	4	3	4	3	2	3	4
3	3	4	4	4	3	3	3	4	3	3
3	3	4	4	4	4	4	4	4	3	3
4	4	4	4	4	3	4	4	3	4	4
3	4	3	4	4	4	3	3	4	3	2
4	4	4	4	4	3	3	3	3	3	4
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4	4	3	4	3	4	4	2	2	2	3
4	4	3	2	3	3	4	4	4	4	3
3	3	3	3	3	4	4	3	3	3	4
2	3	4	4	3	2	2	3	4	3	2
4	4	4	4	4	4	4	4	1	3	4
4	3	4	4	4	3	3	3	4	3	4
3	4	4	4	4	4	4	4	2	2	4
4	4	4	4	4	4	4	3	1	2	4
	4	4	4	4	3	3	3	4	3	3
4	4	4	4	4	3	3	3	2	3	4
3	3	4	4	4	1	4	3	2	2	4
4	4	3	4	3	2	3	3	1	3	4
3	3	1	3	2	2	2	2	2	2	2
4	4	4	4	4	4	4	3	2	2	3
3	3	3	3	3	3	4	4	1	2	4
4	4	3	3	3	3	3	3	4	3	3
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4	4	4	4	4	4	4	3	3	3	4
3	4	4	4	4	4	3	4	2	3	3
4	4	4	4	4	4	4	4	3	3	3
122	127	118	130	124	110	118	106	97	95	121
3.6	3.6	3 4	3.7	3.5	3.1	3 4	3.0	2.8	2 7	3.5
0.56	0.65	0.88	0.52	0 70	0.88	0.77	0 79	1.11	0.67	0.66

CCPC	CCIP	CCDC	CCOI	CCTC	CCPBD	CCAD	CCAC	CCCR	CCQR	CCCP_0	CCITU
4	1	1	2	1	3	3	3	4	3	3	3
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3	3	3	3	4	4	4	3	3	3	3	3
4	3	2	3	3	4	4	4	3	2	3	3
4	3	2	3	3	4	4	4	3	2	3	3
3	2	2	2	2	2	4	4	4	4	2	2
4	2	2	3	3	4	4	4	3	3	3	3
4	3	2	4	4	4	4	4	4	4	4	2
4	2	2	3	3	4	4	3	3	3	3	3
4	4	4	4	4	4	4	4	3	2	3	4
4	2	2	2	4	4	4	4	3	3	2	3
4	3	2	3	3	4	4	3	2	2	2	3
4	3	2	3	2	4	4	4	3	3	3	2
4	1	2	2	2	4	4	3	2	2	2	2
3	3	3	3	3	3	4	4	3	3	3	3
2	2	3	3	4	3	3	4	4	3	3	4
4	1	1	1	1	4	4	4	4	4	3	3
4	3	3	4	2	3	4	4	4	4	3	3
4	4	4	4	4	4	4	4	4	4	4	4
4	4	4	3	3	3	4	4	3	3	4	4
4	1	1	1	1	1	2	2	4	4	4	4
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4	4	2	3	3	4	4	4	4	3	4	4
4	2	2	3	1	4	3	4	4	4	3	3
4	2	1	3	1	1	3	4	2	3	2	3
4	3	2	3	3	4	4	4	3	2	3	3
3	1	1	2	1	1	1	2	3	3	1	2
3	3	3	3	3	4	4	4	4	3	3	3
4	1	1	1	1	4	3	3	4	4	2	2
4	3	3	3	3	3	4	4	4	3	3	3
4	1	3	2	1	4	4	4	3	3	2	2
4	4	4	2	3	4	4	4	4	4	4	4
4	4	4	2	3	4	4	4	4	4	4	4
4	4	4	3	4	4	4	4	4	3	3	3
4	3	2	3	2	4	3	3	3	3	3	3
133	90	84	93	88	123	129	129	118	109	102	106
3 8	2.6	2.4	2.7	2.5	3.5	3.7	3.7	3.4	3.1	2.9	3.0
0.47	1.09	1.03	0 84	1.09	0.92	0 68	0 58	0.65	0.68	0.74	0.71

CCWCT	CCSP	CCITC	CCOE	CCOM	CCTA	R	PS	TB	TBI	CB	CP	RR	BE
4	3	3	3	4	4	1	1	1	1	1	1	17	1
2	4	4	4	4	4	1	2	1	1	1	1	19	1
3	2	3	4	4	3	2	2	1	1	1	1		4
4	4	4	3	4	4	1	2	1	1	2	1	17	1
4	4	4	43	4	4	1	1	1	1	1	1	17	1
3	4	4	4	3	3	1	2	1	1	1	1		4
4	4	4	3	4	4	1	2	2	1	2	2	17	2
2	4	3	3	4	3	1	1	1	1	1	1	9	2
3	4	4	4	4	3	1	2	1	1	2	2		
4	4	4	4	4	4	1	1	1	1	2	2	50	
2	4	4	4	4	3	1	2	1	2	1	2	30	2
4	4	4	3	4	4	2	2	1	1	2	1		
2	3	3	3	4	4	1							
2	3	3	3	4	3	1	2	1	1	1	2	19	1
3	2	3	4	4	4	1	2	1	1	1	1		3
4	3	3	3	3	3	1	2	2	1	2	1	18	1
3	4	4	4	4	4	0	1	1	1	1	1		4
4	4	4	3	4	3	1	2	1	2	1	1	20	3
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2	4	4	4	4	4	2	2	1	1	1	1	8	
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1	4	4	3	4	4	1	2	1	1	1	1	5	1
3	4	4	4	3	3	1	2	2	1	2	1		1
2	4	4	3	4	4	1	1	1	1	2	2	5	1
2	3	3	3	3	3	1	2	1	1	2	2	8	3
4	4	4	4	4	4	1	2	1	2	2	2	5	3
2	3	4	4	4	4	1	2	2	2	1	1	7	
3	4	4	4	4	4	0	2	1	1	1	1	8	4
2	2	4	3	4	4	0	2	1	1	1	2	0	4
4	4	4	4	4	4	1	2	2	1	2	2	15	2
4	4	4	4	4	4	1	2	1	1	2	1	10	4
4	4	3	4	4	4	1	2	1	2	2	2	7	2
3	4	4	4	4	4	1	2	1	2	2	2		
											1		
108	127	129	166	136	129	34	62	39	41	50	50	392	60
3.1	3.6	3.7	4.7	3.9	3.7	1.0	1.8	1.1	1.2	1.5	1.4	15.1	2.2
0.92	0.65	0 47	6.67	0 32	0 47	0.45	0.39	0.36	0.41	0.51	0.50	11.67	1.22

NI
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MEANS AND STANDARD DEVIATION GROUP- WISE

lespoden	Year	Status	Size A (	Size T (	Size E	BFT	BRMR	AC	CENSE	CEIR	CEINF	CECT	CEPT	CEGT
7	1983	1	5		3	1998	1998	1	3	4	4	3	2	1
12	1987	1	5		6	1987	1998	1	3	3	4	2	1	1
16	1992	1	0 300000012		4	1992	1996	1	3	4	4	2	2	1
22	1989	1	70		20	1989	1998	1	3	4	4	4	1	1
23	1968	1				1990	1998	1	1	4	1	3	3	4
25	1980	1	1000	500	100	1980	1998	1	4	4	4	4	3	4
27	1974	1	150		15	1974	1998	1	3	4	4	1	2	1
30	1976	1	5		5	1976	1998	1	2	3	2	1	1	1
34	1965	1	50000	1600	1800	1971	1998	1	2	4	2	1	1	1
							Total	9	24	34	29	21	16	15
							Mean	1	2.6667	3.78	3 222	2.333	1.778	1 667
							STD DE	0	0.866	0 44	1 202	1 225	0 833	1 323
5	1964	2	10000	1000	150	1964	1998	0	3	4	4	2	2	1
6	1946	2	1500	500	200	1960	1998	0	2	3	3	1	3	3
8	1974	2	800	200	90	1974	1996	0	4	3	3	3	1	4
9	1986	2	700	600	200	1987	1998	0	2	4	2	4	1	4
17	1963	2	5000	1030	160	1989	1998	0						
18	1975	2	1800	800	140	1975	1998	0	2	3	3	2	2	2
19	1982	2	1921	674	118	1986	1998	1	3	4	2	2	1	1
21	1978	2	1409	600	88	1978	1998	1	4	1	3	3	4	1
24	1979	2	1500	531	70	1980	1998	0	2	3	3	3	2	4
26	1987	2	1616	738	190	1993	1998	0	4	4	3	2	1	1
28	1931	2	2500	300	70	1966	1998	0	2	3	2	3	1	3
35	1984	2	600	385	101	1984	1998	1	3	3	3	4	1	4
							Total	3	31	35	31	29	19	28
							Mean	0.25	2.8182	3 18	2 818	2.636	1.727	2.545
							STD De	0.452267017	0.8739	0.87	0.603	0.924	1.009	1.368
1	1994	3	3750		20	1994	1998	1	2	3	2	3	2	3
2	1998	3	60	1500	15	1998	1998	1	4	4	3	3	2	2
3	1997	3				1997	1998	1	2	3	3	3	2	2
4	1984	3	1	10	7	1984	1998	0	3	4	4	2	2	1
10	1994	3		1100	15	1994	1998	0	3	4	4	3	4	4
11	1964	3	5			1964	1998	1	2	4	3	2	2	2
13	1996	3			15	1996	1998	1	3	3	3	2	2	2
14	1930	3		1600	30	1988	1998	1	3	4	3	4	1	4
15	1995	3				1996	1998	1	2	4	4	3	3	3
20	1978	3	21000		30	1979	1998	1	3	4	4	2	1	1
29	1996	3			17	1996	1996	1	3	3	4	3	3	3
31	1997	3			7	1998	1998	1	2	3	3	2	2	2
32	1974	3				1998		1	2	4	4	2	1	1
33	1954	3	58	24	26		1997	1	4	4	4	1	1	3
36	1994	3	5	300	8	1993	1998	1	4	4	4	4	4	3
							Totals	13	42	55	52	39	32	36
							Mean	0 866666667	2.8	3.67	3.467	2.6	2.133	2.4
							STDEV	0.351865775	0.7746	0 49	0.64	0.828	0.99	0.986

IC	CIIG	CISS	CII	CCMS	CCGS	CCSS	CCGP	CCNP	CCER	CCRE	CCES	CCCP	CCSR	CCBD	CCQT	CCICP	CCLP
4	3	4	4	3	3	4	3	3	4	4	4	3	3	3	4	3	3
4	4	3	3	4	4	3	3	4	3	4	4	3	2	2	4	3	3
3	3	3	3	2	2	3	4	4	3	2	3	3	4	4	4	4	3
3	4	3	3	4	4	4	3	4	4	4	4	4	4	4	2	2	4
4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	1	2	4
3	4	4	4	3	4	4	4	4	4	4	4	3	3	3	2	3	4
4	3	3	4	3	4	4	4	4	3	4	3	2	3	3	1	3	4
3	3	3	3	4	4	3	3	3	3	3	3	3	4	4	1	2	4
4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	4
2	32	31	32	31	33	33	32	34	32	33	33	29	31	29	22	25	33
6	3.56	3.44	3.56	3.444	3.667	3.667	3.556	3.778	3.556	3.667	3.667	3.222	3.444	3.222	2.444	2.7778	3.667
3	0 53	0.53	0.53	0.726	0.707	0.5	0.527	0.441	0.527	0.707	0.5	0.667	0.726	0.667	1.333	0.6667	0.5
4	3	3	4	3	4	4	4	4	3	4	3	2	4	4	4	3	3
1	3	3	1	2	2	2	3	3	4	3	4	3	4	3	2	3	4
3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	3	3
4	3	4	2	4	4	4	4	4	4	4	4	3	4	4	3	4	4
1	3	2	4	3	3	3	3	3	3	3	3	4	4	3	3	3	4
	3	3	4	3	4	4	2	3	4	4	3	2	2	3	4	3	2
	3	3	3	4	4	4	4	3	4	4	4	3	3	3	4	3	4
	3	3	4	4	4	4		4	4	4	4	3	3	3	4	3	3
	3	4	1	3	4	4	3	3	4	4	4	1	4	3	2	2	4
	3	3	1	2	3	3	3	3	1	3	2	2	2	2	2	2	2
	4	4	3	4	4	4	3	4	4	4	4	4	3	4	2	3	3
	34	35	30	35	39	39	32	37	39	41	39	31	37	36	34	32	36
	3.09	3.18	2.73	3.182	3.545	3.545	3.2	3.364	3.545	3.727	3.545	2.818	3.364	3.273	3.091	2.9091	3.273
	0.3	0.6	1.27	0.751	0.688	0.688	0.632	0.505	0.934	0.467	0.688	0.982	0.809	0.647	0.944	0.5394	0.786
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	4
	3	3	3	4	4	3	4	4	1	3	4	4	3	2	2	2	4
	3	3	3	3	4	3	4	4	3	4	3	3	3	2	2	3	4
	3	3	4	3	4	4	4	4	3	4	3	2	3	3	4	3	3
	4	4	4	4	4	4	3	4	3	4	4	4	3	3	4	3	2
	3	3	3	4	4	3	4	4	4	4	4	3	3	3	3	3	4
	3	2	2	4	4	3	3	3	3	3	3	3	4	2	2	2	4
	3	3	2	3	3	3	4	4	3	3	1	3	3	2	3	2	3
	4	3	3	4	4	3	4	4	3	4	3	4	4	2	2	2	3
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1	3	4
	4	4	4	4	4	4	4	4	4	4	4	4	4	3	2	2	3
	4	4	4	3	4	4	4	4	3	3	3	3	3	3	4	3	3
	3	3	1	4	3	4	4	1	1	4	4	1	1	1	1	1	4
	4	4	4	4	4	3	4	4	4	4	4	4	4	3	4	4	4
	3	3	3	4	4	4	4	4	4	4	4	4	4	4	3	3	3
	52	50	48	56	58	53	58	56	47	56	52	50	50	41	41	38	52
	3.47	3.33	3.2	3.733	3.867	3.533	3.867	3.733	3.133	3.733	3.467	3.333	3.333	2.733	2.733	2.5333	3.467
	0.52	0.62	0.94	0.458	0.352	0.516	0.352	0.799	0.99	0.458	0.834	0.9	0.816	0.884	1.1	0.7432	0.64

PC	CCIP	CCDC	CCOI	CCTC	CCPBD	CCAD	CCAC	CCCR	CCQR	CCCP_0	CCITU	CCWCT	CCSP	CCITC	CCOE	CCQM
4	2	2	3	3	4	4	4	3	3	3	3	4	4	4	3	4
4	3	2	3	3	4	4	3	2	2	2	3	4	4	4	3	4
2	2	3	3	4	3	3	4	4	3	3	4	4	3	3	3	3
4	1	1	1	1	1	2	2	4	4	4	4	4	3	3	4	4
4	1	1	1	1	4	4	4	3	3	3	4	2	4	4	4	4
4	2	2	3	1	4	3	4	4	4	3	3	1	4	4	3	4
4	3	2	3	3	4	4	4	3	2	3	3	2	4	4	3	4
4	1	1	1	1	4	3	3	4	4	2	2	2	3	4	4	4
4	4	4	2	3	4	4	4	4	4	4	4	4	4	4	4	4
34	19	18	20	20	32	31	32	31	29	27	30	27	33	34	31	35
78	2.11	2	2.22	2.222	3.5556	3.444	3.556	3.444	3.222	3	3.333	3	3.667	3.778	3.444	3.8889
47	1.05	1	0.97	1.202	1.0138	0.726	0.726	0.726	0.833	0.70711	0.707	1.22474	0 5	0.441	0.527	0.3333
4	3	2	3	3	4	4	4	3	2	3	3	4	4	4	43	4
3	2	2	2	2	2	4	4	4	4	2	2	3	4	4	4	3
4	3	2	4	4	4	4	4	4	4	4	2	2	4	3	3	4
4	2	2	3	3	4	4	3	3	3	3	3	3	4	4	4	4
4	1	1	1	1	4	4	4	4	4	3	3	3	4	4	4	4
4	3	3	4	2	3	4	4	4	4	3	3	4	4	4	3	4
4	4	4	3	3	3	4	4	3	3	4	4	4	4	3	4	4
4	4	2	3	3	4	4	4	4	3	4	4	3	4	4	4	4
4	2	1	3	1	1	3	4	2	3	2	3	3	4	4	4	3
3	1	1	2	1	1	1	2	3	3	1	2	2	3	3	3	3
4	4	4	3	4	4	4	4	4	3	3	3	4	4	3	4	4
-	29	24	31	27	34	40	41	38	36	32	32	35	43	40	80	41
5	2.64	2.182	2.82	2.455	3.0909	3.636	3.727	3.455	3.273	2.90909	2.909	3.18182	3 909	3.636	7.273	3.7273
1	1.12	1.079	0.87	1.128	1.221	0.924	0.647	0.688	0.647	0.94388	0.701	0.75076	0.302	0.505	11.86	0.4671
	1	1	2	1	3	3	3	4	3	3	3	4	3	3	3	4
	4	4	3	2	4	4	4	3	3	2	2	2	4	4	4	4
4	3	3	3	4	4	4	3	3	3	3	3	3	2	3	4	4
1	3	2	3	3	4	4	4	3	2	3	3	4	4	4	3	4
1	4	4	4	4	4	4	4	3	2	3	4	4	4	4	4	4
	2	2	2	4	4	4	4	3	3	2	3	2	4	4	4	4
0	3	2	3	2	4	4	4	3	3	3	2	2	3	3	3	4
1	1	2	2	2	4	4	3	2	2	2	2	2	3	3	3	4
	3	3	3	3	3	4	4	3	3	3	3	3	2	3	4	4
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	3	3	3	3	4	4	4	4	3	3	3	4	4	4	4	4
	3	3	3	3	3	4	4	4	3	3	3	3	4	4	4	4
	1	3	2	1	4	4	4	3	3	2	2	2	2	4	3	4
	4	4	2	3	4	4	4	4	4	4	4	4	4	4	4	4
	3	2	3	2	4	3	3	3	3	3	3	3	4	4	4	4
	42	42	42	41	57	58	56	49	44	43	44	46	51	55	55	60
	2.8	2 8	2.8	2.733	3.8	3.867	3.733	3.267	2.933	2.86667	2.933	3.06667	3.4	3.667	3.667	4
	1.08	0.941	0.68	1.033	0.414	0.352	0.458	0.594	0.594	0.63994	0.704	0.88372	0.828	0.488	0.488	0

TA	R	PS	TB	TBI	CB	CP	RR	BE	NI
4	1	2	2	1	2	2	17	2	0
4	2	2	1	1	2	1			
3	1	2	2	1	2	1	18	1	1
4	1	2	1	2	1	2	10		1
4	2	2	1	1	1	1	8		2
4	1	2	1	1	1	1	5	1	1
4	1	1	1	1	2	2	5	1	0
4	1	2	2	2	1	1	7		1
4	1	2	1	1	2	1	10	4	1
35	11	17	12	11	14	12	80	9	7
89	1 22	1.89	1.33	1 22	1.56	1.33	10	1.8	0.88
33	0.44	0.33	0.5	0 44	0.53	0.5	5.014	1.3	0.64
4	1	1	1	1	1	1	17	1	0
3	1	2	1	1	1	1		4	1
3	1	1	1	1	1	1	9	2	2
3	1	2	1	1	2	2			0
						1			
4	0	1	1	1	1	1		4	2
3	1	2	1	2	1	1	20	3	1
4	1	2	1	1	2	2	46	1	1
3	1	2	1	1	2	2	10	3	2
3	1	2	2	1	2	1		1	0
3	1	2	1	1	2	2	8	3	0
4	1	2	1	2	2	2	7	2	1
37	10	19	12	13	17	17	117	24	10
34	0.91	1.73	1.09	1.18	1.55	1.42	16.71	2.4	0.91
05	0.3	0.47	0.3	0.4	0.52	0.51	13 8	1.17	0.83
4	1	1	1	1	1	1	17	1	2
4	1	2	1	1	1	1	19	1	2
3	2	2	1	1	1	1		4	2
4	1	2	1	1	2	1	17	1	0
4	1	1	1	1	2	2	50		0
3	1	2	1	2	1	2	30	2	2
4	1								
3	1	2	1	1	1	2	19	1	0
4	1	2	1	1	1	1		3	2
4	0	2	1	1	1	1	15	1	2
4	1	2	1	2	2	2	5	3	0
4	0	2	1	1	1	1	8	4	2
4	0	2	1	1	1	2	0	4	0
4	1	2	2	1	2	2	15	2	2
4	1	2	1	2	2	2			0
7	13	26	15	17	19	21	195	27	16
8	0.87	1.86	1.07	1.21	1.36	1.5	17.73	2.25	1.14
4	0.52	0.36	0.27	0.43	0.5	0.52	13.35	1.29	1.03

CORRELATION TABLE

APPENDIX 10

	CENSE	CEIR	CEINF	CECT	CEPT	CEGT	CIC	CIIG	CISS	CII	CCMS	CCGS	CCSS	CCGP	CCNP	CCER	CCRE	CCES	CCCP	CCSR	CCBD	CCQT	CCICP	CCLP	CCPC	CCIP	CCDC	CCOI	CCTC	CCPBD	CCAD	CCAC	CCCR
CENSE	1 00																																
CEIR	0 02	1 00																															
CEINF	0 51	0 23	1 00																														
CECT	0 17	-0 01	0 01	1 00																													
CEPT	0 09	-0 21	0 21	0 22	1 00																												
CEGT	-0 09	-0 03	-0 23	0 56	0 25	1 00																											
CIC	0 03	0 07	0 12	0 09	0 05	-0 06	1 00																										
CIIG	-0 08	0 09	0 10	0 12	0 07	0 23	0 37	1 00																									
CISS	0 03	0 23	-0 07	0 16	0 00	0 26	0 25	0 61	1 00																								
CII	0 04	0 10	0 14	-0 05	0 23	-0 03	0 64	0 43	0 27	1 00																							
CCMS	-0 01	-0 02	-0 02	0 18	0 07	0 10	0 50	0 43	0 20	0 25	1 00																						
CCGS	0 11	0 03	-0 06	0 13	0 06	-0 02	0 54	0 39	0 28	0 43	0 69	1 00																					
CCSS	0 10	0 17	0 06	0 29	0 10	-0 09	0 44	0 28	0 52	0 43	0 34	0 53	1 00																				
CCGP	-0 06	0 15	0 19	0 08	0 27	0 09	0 30	0 15	0 23	0 20	0 21	0 18	0 18	1 00																			
CCNP	0 06	0 21	0 09	0 24	0 19	0 27	0 39	0 45	0 32	0 54	0 16	0 42	0 12	0 39	1 00																		
CCER	0 12	-0 05	-0 06	0 10	0 15	0 18	0 25	0 29	0 40	0 37	0 19	0 22	0 27	-0 07	0 35	1 00																	
CCRE	0 12	0 12	0 14	0 20	0 07	0 07	0 39	0 31	0 40	0 31	0 50	0 61	0 58	0 09	0 11	0 43	1 00																
CCES	0 17	-0 02	0 11	0 03	0 20	0 04	0 02	0 34	0 43	0 18	0 50	0 25	0 31	0 03	0 00	0 43	0 52	1 00															
CCCP	0 01	-0 03	-0 04	0 29	0 26	0 43	0 27	0 56	0 20	0 44	0 44	0 14	-0 11	0 13	0 51	0 35	0 03	0 30	1 00														
CCSR	0 05	0 05	-0 07	-0 04	0 17	0 15	0 05	0 17	0 13	0 20	0 10	0 05	-0 10	0 16	0 40	0 53	-0 09	0 16	0 53	1 00													
CCBD	0 15	0 03	-0 05	0 10	0 00	0 05	0 07	0 12	0 30	0 37	0 03	0 08	0 30	-0 04	0 37	0 62	0 09	0 29	0 33	0 61	1 00												
CCQT	0 23	-0 15	0 11	0 04	0 09	0 02	0 25	-0 06	0 02	0 35	-0 12	-0 06	0 07	-0 08	0 21	0 24	0 04	0 01	0 06	-0 04	0 21	1 00											
CCICP	0 20	0 03	0 16	-0 12	0 05	0 06	0 19	-0 03	0 16	0 37	-0 21	-0 07	-0 02	0 07	0 43	0 44	0 01	0 15	0 17	0 21	0 46	0 54	1 00										
CCLP	-0 07	-0 05	-0 12	-0 22	-0 08	-0 19	-0 02	0 01	0 00	-0 10	0 29	0 12	-0 09	0 38	-0 07	0 16	0 05	0 34	0 09	0 35	0 03	-0 46	-0 10	1 00									
CCPC	0 18	0 08	-0 12	0 05	-0 17	-0 01	0 32	0 08	0 13	0 25	0 51	0 54	0 45	-0 10	-0 06	0 18	0 48	0 25	0 00	-0 11	0 10	0 08	-0 09	0 21	1 00								
CCIP	0 42	-0 12	0 29	-0 11	0 19	0 00	0 39	0 20	0 17	0 38	0 30	0 41	0 17	0 12	0 35	0 17	0 30	0 31	0 25	0 02	0 05	0 28	0 43	-0 17	0 11	1 00							
CCDC	0 29	-0 03	0 28	-0 08	0 13	-0 04	0 40	0 28	0 27	0 23	0 27	0 15	0 10	0 25	0 14	-0 04	0 11	0 22	0 26	-0 15	-0 12	0 13	0 30	-0 10	-0 07	0 78	1 00						
CCOI	0 49	0 03	0 35	0 13	0 15	0 03	0 28	-0 04	0 17	0 16	-0 06	0 16	0 24	-0 06	0 14	0 10	0 24	0 13	-0 09	-0 16	0 06	0 32	0 35	-0 45	-0 03	0 67	0 50	1 00					
CCTC	0 14	-0 03	0 34	-0 05	0 07	0 03	0 42	0 07	0 15	0 31	0 05	0 05	-0 01	0 20	0 40	0 22	0 16	0 12	0 23	0 05	0 19	0 36	0 61	-0 25	-0 19	0 68	0 62	0 61	1 00				
CCPBD	0 00	0 11	0 13	-0 03	0 12	0 17	0 62	0 02	0 02	0 49	0 40	0 23	0 10	0 35	0 18	0 05	0 19	0 10	0 27	-0 03	-0 02	0 09	0 25	0 09	0 31	0 34	0 33	0 20	0 40	1 00			
CCAD	-0 03	0 00	0 11	-0 23	0 14	0 03	0 59	0 01	0 03	0 33	0 29	0 14	0 02	0 20	0 06	0 20	0 24	0 18	0 13	0 00	-0 15	0 18	0 25	0 13	0 26	0 49	0 48	0 32	0 50	0 69	1 00		
CCAC	0 16	0 07	0 19	-0 37	0 27	-0 05	0 25	0 01	0 13	0 33	0 03	-0 01	0 12	0 14	-0 08	0 18	0 08	0 29	-0 02	0 07	-0 04	0 11	0 22	0 08	0 09	0 48	0 46	0 38	0 35	0 42	0 71	1 00	
CCCR	-0 11	-0 14	-0 09	-0 15	-0 04	0 10	-0 05	0 29	0 15	0 41	-0 02	-0 10	0 05	-0 09	0 06	0 32	-0 11	0 26	0 42	0 31	0 50	0 04	0 25	0 07	-0 13	0 11	0 17	-0 08	0 05	0 02	-0 06	0 16	1 00
CCQR	0 00	-0 08	-0 25	-0 15	-0 21	0 00	-0 31	0 13	0 06	0 02	0 00	-0 14	-0 18	-0 27	-0 24	0 32	-0 07	0 30	0 32	0 31	0 27	-0 20	0 07	0 34	-0 02	-0 09	0 02	-0 24	-0 24	-0 19	-0 18	0 02	0 71
CCCP_0	0 21	-0 08	0 17	0 07	0 11	0 03	0 50	0 33	0 20	0 61	0 33	0 29	0 41	0 18	0 30	0 59	0 39	0 37	0 47	0 42	0 46	0 30	0 42	0 14	0 20	0 50	0 35	0 23	0 38	0 24	0 30	0 28	0 50
CCITU	0 01	0 09	0 14	0 02	0 22	-0 08	0 38	0 48	0 41	0 57	0 29	0 31	0 48	0 23	0 48	0 50	0 34	0 38	0 32	0 25	0 37	0 27	0 45	0 03	0 02	0 36	0 31	0 07	0 32	0 02	0 08	0 17	0 23
CCWCT	0 11	-0 08	0 25	-0 09	0 01	-0 31	0 38	0 32	0 28	0 37	0 12	0 10	0 30	-0 10	0 25	0 36	0 24	0 25	0 20	0 16	0 36	0 51	0 38	-0 26	-0 09	0 39	0 36	0 23	0 39	-0 09	0 14	0 05	0 19
CCSP	0 34	0 00	-0 02	-0 09	0 14	0 09	0 05	0 08	0 32	0 40	0 02	0 18	0 28	-0 11	0 29	0 46	0 20	0 39	0 15	0 17	0 43	0 33	0 50	-0 07	0 42	0 39	0 10	0 25	0 20	0 18	0 26	0 38	0 13
CCITC	-0 04	0 38	0 09	-0 40	0 07	-0 16	0 00	0 01	0 26	0 28	0 13	0 20	0 26	0 05	-0 01	0 08	0 22	0 35	-0 17	-0 07	0 02	-0 03	0 17	0 10	0 37	0 13	0 02	0 02	-0 08	0 32	0 33	0 38	0 01
CCOE	0 04	0 11	0 16	-0 10	0 03	-0 17	0 11	-0 11	-0 08	0 15	-0 10	0 11	0 14	0 14	0 12	-0 05	0 11	-0 11	-0 19	0 17	0 23	0 18	0 08	-0 10	0 08	0 09	-0 05	0 06	0 09	0 09	0 09	0 10	-0 09
CCQM	0 01	0 02	0 09	0 21	0 06	0 08	0 76	0 28	0 04	0 60	0 68	0 61	0 37	0 23	0 21	0 15	0 50	0 15	0 37	-0 06	0 01	0 09	-0 02	0 11	0 62	0 27	0 23	0 07	0 17	0 70	0 50	0 12	0 07
CCTA	0 11	0 00	0 31	-0 07	0 27	-0 21	0 46	0 52	0 16	0 47	0 51	0 42	0 37	0 22	0 09	-0 07	0 22	0 26	0 32	0 09	0 02	-0 14	-0 20	0 19	0 37	0 19	0 21	-0 13	-0 13	0 32	0 14	0 17	0 11

CCQR	CCCP	0CCITU	CCWCT	CCSP	CCITC	CCOE	CCQM	CCTA	R	PS	TB	TBI	CB	CP
1 00														
0 31	1 00													
0 05	0 68	1 00												
-0 06	0 44	0 58	1 00											
0 03	0 24	0 28	0 20	1 00										
0 02	-0 08	0 12	0 00	0 57	1 00									
-0 27	0 04	0 02	0 19	0 11	0 13	1 00								
-0 07	0 45	0 14	0 03	0 07	0 14	0 07	1 00							
-0 07	0 26	0 20	0 20	0 09	0 20	0 12	0 53	1 00						