

**FACTORS INFLUENCING THE CHOICE OF INVESTMENT OPTIONS BY
REGISTERED FUND MANAGERS IN KENYA.**

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DECLARATION

By Candidate

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

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DEDICATION

This work is dedicated first and foremost to my parents for instilling the value of education in my early life. I also dedicate the work to my wife, Jane and daughters Emily and Joan for their unwavering support during all the time of my studies. May God bless them.

ABSTRACT

Data compiled by the University of Nairobi (2012) in partnership with twelve other universities worldwide showed that the life expectancy of a Kenyan has increased to 64 years up from 55 years in 2010. The life of Kenyans has improved substantially and they can expect to live longer. Therefore there is need to protect individuals and groups against the risks associated with life after retirement when one finds himself without a source of income. An important intervention tool to cater for retirees, at least financially, is the establishment of retirement benefit schemes through which workers can save part of their earnings collectively so that they can benefit from the savings in future when they get out of gainful employment. The retirement benefit schemes operate on the premise that the saved amounts will be available to the beneficiaries when they retire and that the amounts will have increased to cushion them from the adverse effects of inflation and other risks. This can be achieved by properly managing investments of the funds. A big proportion of these pooled funds are managed by registered fund managers. The study focused on investigating the factors influencing the choice of investment options by registered fund managers in Kenya. The fund managers were selected for the study because they have the expertise on investments, that being their core business. The study was guided by three objectives, namely: to find out the influence on choice of investment options, of the expected returns from an investment, the risks associated with an investment and the need to maintain liquidity. The population of study comprised the sixteen registered fund managers in Kenya in 2013 and the descriptive research design was employed. Primary data was used and was collected from the respondents using questionnaires. Analysis of the data was by use of descriptive statistics and inferential statistics, in particular correlation analysis in case of the latter. Results were presented in the form of charts and narrative explanations. The study found out that both the expected return from investments and the liquidity of the investments influence the manager's choice of investment. The risk of investments do not influence the choice of the investment.

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DEFINITION OF KEY TERMS

Asset: anything tangible or intangible that is capable of being owned or controlled to produce value and that is held to have positive economic value.

Diversification: dividing investment funds among a variety of securities with different risk, reward, and correlation statistics so as to minimize unsystematic risk.

Efficient frontier/portfolio: a portfolio, with the best possible expected level of return for its level of risk.

Expected return: The yield that an investor predicts he will earn on average, considering the magnitude and likelihood of exogenous events.

Investment: Commitment of money or capital to purchase financial instruments or other assets to gain profitable returns in form such as interest, income, or appreciation of the value of the instrument.

Liquidity risk: risk that a given security or asset cannot be traded quickly enough in the market to prevent a loss or make the required profit.

Market portfolio: a portfolio consisting of a weighted sum of every asset in the market, with weights in the proportions that they exist in the market, with the necessary assumption that these assets are infinitely divisible.

Portfolio: any collection of financial assets such as stocks, bonds, and cash.

Risk: The standard deviation of the return on total investment.

Systematic risk (market risk): vulnerability to events which affect aggregate outcomes such as broad market returns, total economy-wide resource holdings, or aggregate income.

Unsystematic Risk: Risk that is unique to a certain asset or company for example the possibility of poor earnings or a strike amongst a company's employees. One may mitigate nonsystematic risk by buying different securities in the same industry and/or by buying in different industries.

LIST OF ABBREVIATIONS

APT	Arbitrage Pricing Theory
CAPM	Capital Asset Pricing Model
MPT	Modern Portfolio Theory
NSSF	National Social Security Fund
RBA	Retirement Benefit Authority
RBS	Retirement Benefits Scheme
SPSS	Statistical Package for Social Sciences

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The main reason for the existence of pension systems is the provision of basic income security and poverty alleviation especially to the elderly (Holzman and Hinz 2001). Pension schemes contribute significantly to the reduction in old-age poverty since a large proportion of the incomes of retirees is derived from their previous pension arrangements (Kakwani, Sun and Hinz 2006). According to the Alliance Global Investors (2007), 75 percent of the elderly population in South Africa and 82 percent of the retirees in the United States of America depend on pension income. Kakwani, et al (2006) report that retirement income accounts for 68 percent of the total income of retirees in Kenya. In the Sub-Saharan Africa, 85 percent of the aged population lives in abject poverty because less than 5 percent of the labor force is covered under the formal pensions system (Palacios and Pallares-Millare 2000). Moreover, pensions increase older people's access to services such as health care and reduce their dependency on the younger generation (Help Age International 2006). Pensions can therefore play an important role in breaking inter-generational poverty cycles and thus increase the life expectancy of the elderly generation (Help Age International 2006; Keizi, 2007). Every human being is vulnerable to risks and uncertainties with respect to income as a means of life sustenance. To contain these risks, everyone needs some form of social security guaranteed by the family, community and the society as a whole. Such social economic risks and uncertainties in human life form the basis for the need of social security. Social security is rooted in the

need for solidarity and risk pooling by the society given that no individual can guarantee his or her own security (National Social Security Policy Report of Tanzania, 2003). It can therefore be said that pensions and proper management of pension funds are crucial for the well being of retirees.

The Organization for Economic Cooperation and Development (OECD) Guidelines on Pension Fund Asset Management (2006) indicates that a fund's investment policy should establish clear investment objectives taking into account the need for proper diversification and risk management, the maturity of the obligations and the liquidity needs of the pension fund, and any specific legal limitations on portfolio allocation. Furthermore, the investment policy should at a minimum identify the strategic asset allocation strategy for the pension fund and establish a sound risk management process that measures and seeks to appropriately control portfolio risk and to manage the assets and liabilities in a coherent and integrated manner. According to a report by the International Monetary Fund on 'Risk Management and the Pension Fund Industry', policy makers should introduce measures to encourage better risk management practices and to reduce the risk of another cycle of over and underfunding (IMF 2004). Public pension fund managers have the responsibility to select an investment strategy that balances risks and returns appropriately for plan members. The investment policy composes three main components: setting long term targets, defining an acceptable level of risk tolerance and setting parameters for short term asset allocation (World Bank 2006).

From the foregoing, it is apparent that the pension fund management should be based on clear policy matters that include risk and return considerations, among others. Indeed the investment policy should identify all relevant risks and the fund manager's approach to measuring, monitoring and managing each risk. The primary focus of investment policies for private investment funds is to balance market risks and returns (World Bank 2006)

1.2 Statement of the Problem

The pensions industry in Kenya plays an important role to the development of the economy as well as alleviating old age poverty. According to the Retirement Benefits Authority (RBA), the role of pensions in economic development cannot be overemphasized. Pensions help in increasing the generation of long term savings as well as stimulating financial innovation and new products such as infrastructural bonds. They also intensify financial market competition by acting as a countervailing force to the banking sector.

A report on the retirement benefits performance for the year 2012 indicated that the total industry assets stood at Ksh. 548.8 billion. This amount was composed of Ksh. 436.7 billion held by fund managers, Ksh. 82.1 billion by the National Social Security Fund (NSSF) and Ksh. 30 billion of property investments held by the schemes but not under the control of the fund managers (RBA website). Because of the huge amount of funds held and the importance of the RBS to the economy, it would be expected that these funds are prudently managed in order to ensure that they grow and play their role in the economy. Nyakundi (2006) found out that one of the main concerns of the pension

system in Kenya relate to imprudent asset management. Centralized management of NSSF assets exposes participants to a high political risk and imprudent asset allocation by trustees. Indeed, the industry regulator the RBA reported that as a measure to improve management of retirement benefit funds, managers of all pension schemes were to enroll and pass a new insurance course by end of the year 2012 as a precondition for renewal of their practicing licenses in order to equip them with investment skills necessary to competently manage contributor's funds (RBA newsletter 2012).

Despite enormous information on retirement benefits fund management, studies carried out on the same have not covered in depth the factors that influence the choice of investment options by the fund managers. This study sought to find out the factors considered by the registered fund managers in making investment decisions.

1.3 Objectives of the Study

1.3.1 General objective

The main objective of this study was to investigate the factors that influence the choice of investment options by registered fund managers operating in Kenya.

1.3.2 Specific objectives

- i To find out the influence of financial risk in determining the choice of investment option by registered fund managers in Kenya.

- ii To determine the influence of the expected returns from an investment on the choice of

investment option by registered fund managers in Kenya.

iii To establish the effect of liquidity preference in determining the choice of investment

option by registered fund managers in Kenya.

1.4 Research questions

i To what extent does the financial risk of assets influence the choice of investment

option by registered fund managers in Kenya?

ii What is the influence of the expected return from investments on the choice of

investment option by registered fund managers in Kenya?

iii To what extent does the liquidity of investment assets affect the choice of investment

option by registered fund managers in Kenya?

1.5 Significance of the study

The Government is keen to have a robust and developing retirement benefits industry as this helps to spur economic growth. With information about the factors that influence the choice of investment options, the government can formulate policies and make regulations geared towards ensuring that the management of RBS funds meet the aspirations of members.

Contributors to the RBS and their dependents are the major stakeholders in the RBS.

They will get an idea about the safety of their contributions because the factors

influencing the choice of investments have a bearing on the future performance of the RBS. The RBA is the industry regulator. The body advises the government on policy matters as well as acting as a watchdog on the activities of the RBSs on behalf of the contributors. Therefore the findings of the study would be of interest to the regulator as this knowledge will inform on the best policies to be considered. The sponsors of the RBSs would benefit from the research findings because it is their employees who are expected to benefit when they retire. Organizations expect that their staff continue to live decently even when they leave employment. As such the findings of the study would interest the sponsors in that they would be able to gauge whether the RBS that they sponsor will continue in existence and discharge their duties. This is so because the factors that the managers consider when investing the RBS funds have a bearing on the performance of the schemes.

1.6 Assumptions of the study

This study was based on several assumptions which are important to the consumers of its findings. It is necessary to highlight these assumptions so that readers understand the challenges that the researcher could have encountered in his work. To begin with the study assumes that the researcher obtained sufficient responses to provide answers to the study questions. It is also assumed that the respondents gave correct answers to the best of their abilities. Finally, it is assumed that no other factors beyond the understanding of the researcher would have significant influence on the study result.

1.7 Scope of the study

Eleven registered fund managers were covered by the study. Only the factors influencing the choice of investment by the fund managers were investigated. The study was confined in the county of Nairobi where all the firms studied are situated.

1.8 Limitations of the study

The respondents are involved in a competitive industry, and like in all such industries, confidentiality of information is important. Therefore the researcher encountered some resistance from some respondents in parting with information for fear that this may be disclosed to competitors. However on being assured that the study was for academic purposes only and the information would remain confidential, cooperation was obtained.

There late submission of the responses because the respondents are busy people in their organizations. To overcome this limitation, use of ICT was employed with the questionnaire being sent by electronic mail. This enabled the respondents to provide the answers from computers and email back the responses thus saving them time.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section of the study reviews literature on the subject of financial investments. The specific areas covered are theoretical review, empirical review and conceptualization of the study.

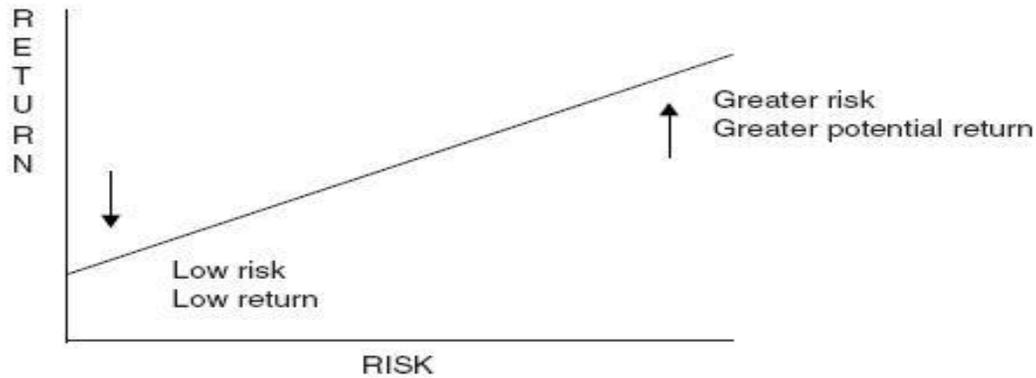
2.2 Theoretical Review

2.2.1 Risk-return trade-off theory

The standard asset pricing theory postulates a direct relationship between expected excess stock returns and risk. This risk-return tradeoff is a long standing phenomenon in investment analysis and is the foundation of financial economics (Leon, Nave and Rubio 2005). The rate of return on an investment is weighted by the perceived risk of undertaking such an investment. This implies a direct relationship between market risk and return for the reason that risk averse investors require additional compensation for assuming extra risk. Markets which are perceived by investors to be high risk are associated with high returns in order to compensate the risk involved in investing in such markets. Conversely, lower risk markets are characterized by relatively lower returns. Thus it is unambiguous that the risk-return relationship is a fundamental concept in investment decision making and that it is accepted as the cornerstone of rational expectations of asset pricing models (Leroi 2009).

A direct correlation exists between risk and return and is illustrated in Figure 2.1.

Figure 2.1 Risk and Return relationship



Source: author

Campbell, Lo and MacKinlay (1997) define risk as the expectation that the actual returns of an asset will be lower than the expected return. The matter of interest is to identify the tradeoff between risk and expected return. Generally, an investment in a risky asset should yield a higher return, than for example a risk-free investment.

The relationship has been expressed in a variety of ways. Sharpe (1964) and Lintner (1965) developed a model to show the relationship between expected return and the risk associated with an investment—the capital asset pricing model. The model attempts to show how an asset can be valued taking into account the risk associated with the asset. According to Bernstein (2007), an individual asset would be priced so that its expected return is equal to the expected return of the market as a whole less the return on a riskless asset like a treasury bill multiplied by the asset beta. The entire risk in owning the assets is in their beta, which is a measure of the covariance with the market, reflecting how the

fluctuations in the return earned on an asset compares with the volatility of the market as a whole . Stocks with a greater volatility than the market have betas of more than 1.0, while less volatile stocks have betas of less than 1.0. Stocks fluctuating precisely with the market would have betas of 1.0 (Bernstein 2007).

Elton, Gruber and Brown (2011) argue that three concepts apply for CAPM. Firstly, the higher the risk associated with the asset, the higher the level of return should be associated with the asset. Secondly, return is positively linearly connected to risk, i.e. every time risk increases, return will equally increase. And thirdly, unsystematic risk is not rewarded since it can be diversified away.

2.2.2 Portfolio Theory

An important element in the finance theory relating to risk is that the total risk associated with an investment in shares can be split into two components. The first component is the unique risk associated with the particular company called unsystematic risk. The other component is systematic risk which refers to the intrinsic risk associated with investing in the stock market because companies are subject to greater volatility than many other financial assets such as government bonds (Howard 1998).

Mokkelbost (1971) defining risk as variation in portfolio return says such risk comprises two elements: systematic risk or variation, which is the co variation of portfolio rate of return with market rate of return and unsystematic risk or variation, which is the difference between total portfolio variation and systematic variation. Unsystematic variation is therefore variation due to attributes of individual securities. The CAPM is based on the idea not all risk should affect asset prices. In particular, a risk that can be

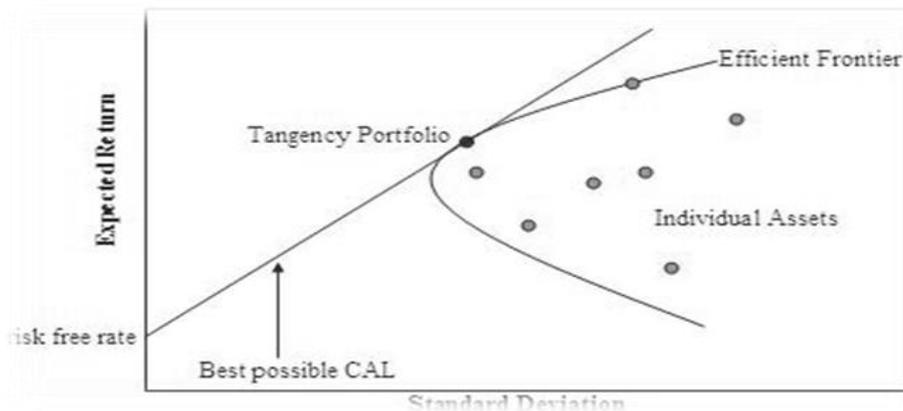
diversified away when held along with other investments in a portfolio is, in a very real way, not a risk at all (Bernstein 2007). The possibility of reducing the total unsystematic risk in investments is the basis of diversification.

Edwin and Martin (2011) suggest that asset allocation is today a topic of real importance as all investors want to invest in the winning combination of assets. This combination should give them the maximum level of return for the level of risk they are able to take. The idea of portfolio optimization is to develop a decision tool to help investors to rationalize their choice. Markowitz (1952) created the modern portfolio theory based on historical distributions of returns considered to be Gaussian. According to the theory, every rational investor, at a given level of risk, will accept only the largest expected return. More specifically, it attempts to account for risk and expected return mathematically to help the investor find a portfolio with the maximum return for the minimum amount of risk. A Markowitz efficient portfolio represents just that: the most expected return at a given amount of risk. MPT assumes that investors are risk-averse, meaning that given two portfolios that offer the same expected return, investors will prefer the less risky one. Thus, an investor will take on increased risk only if compensated by higher expected returns. Conversely, an investor who wants higher expected returns must accept more risk. The exact trade-off will be the same for all investors, but different investors will evaluate the trade-off differently based on individual risk aversion characteristics.

Markowitz (1959) found that the most optimal portfolio for investors to hold is the mean-variance efficient portfolio, meaning the portfolio with highest expected return for a

given level of variance or the portfolio with the lowest variance for a given expected return (Campbell et al, 1997). Sharpe (1964) and Lintner (1965) applied Markowitz' finding and combined it with the assumptions that: investors make informed decisions and have homogenous expectations regarding mean and return of variance, markets are perfect and frictionless, and unlimited borrowing and lending are available at a risk-free rate (Elton et al., 2011). If all of these assumptions are satisfied, Sharpe and Lintner find that the market portfolio itself will be a mean-variance efficient portfolio (Verbeek, 2008). This point of efficient portfolio is illustrated in figure 2.2.

Figure 2.2 Tangency portfolio-the efficient portfolio



Source: author

2.2.3 Liquidity and Asset Pricing

The market liquidity of assets affects their prices and expected returns. Theory and empirical evidence suggests that investors require higher return on assets with lower market liquidity to compensate them for the higher cost of trading these assets (Amihud and Mendelson 1988). That is, for an asset with given cash flow, the higher its market

liquidity, the higher its price and the lower is its expected return. Acharya and Pedersen (2005) observed that risk-averse investors require higher expected return if the asset's market-liquidity risk is greater. This risk involves the exposure of the asset return to shocks in overall market liquidity, the exposure of the asset own liquidity to shocks in market liquidity and the effect of market return on the asset's own liquidity. Here too, the higher the liquidity risk, the higher the expected return on the asset or the lower is its price.

As observed by Amihud and Mendelson (1988), when valuing assets, financial analysts should take into account not only the asset's expected return and risk, but also its liquidity. Among the events that induce changes in securities values, analysts should consider events that trigger changes in liquidity. When a financial adviser "tailors" a portfolio for a client, he should consider not only the client's risk preferences, but also its liquidity needs. The investment portfolio can then be determined using the return-liquidity trade off, taking into account the client's planning horizon and risk aversion.

The costs of illiquidity, while constituting a small fraction of asset prices, have relatively large effects on their values. According to Amihud and Mendelson (1988) a one per cent transaction cost affects stock prices by more than one per cent, because it is incurred repeatedly through the life of the stock. It is the present value of illiquidity costs that constitutes the effect of illiquidity on asset prices. Vayanos and Wang (2009) argue that liquidity and asset prices are affected by the following market imperfections: asymmetric information, participation costs, transaction costs, leverage constraints, non-competitive behavior and search. This is in agreement with Amihud et al. (2005) who provide a useful overview of some of the main factors that affect the liquidity of assets. They identify:

exogenous transaction costs, inventory risk, private information and search friction. They argue that in equilibrium, investors price assets so as to maximize the expected value of the cash flow stream the assets generate, accounting for the negative cash flows due to transaction costs. The result is that the lower the liquidity of an asset, the lower its price. Furthermore, the effects of illiquidity costs are stronger, the more liquid the asset.

According to Akerlof (1970) certain investors or corporate insiders can have superior information or information processing ability about the fundamental value of a security. This creates an adverse selection problem: informed traders with bad news are likely to sell, and informed traders with good news have an incentive to buy. Grossman and Stiglitz (1980) show that information asymmetries are fundamental to market equilibrium for, if all information were contained in prices, no one has an incentive to gather information in the first place. Bagehot (1971) proposes that the market maker gains from trading with uninformed liquidity traders and loses money to informed traders. This gives rise to the bid–ask spread, which is necessary to compensate the market maker for his losses to the informed traders.

From the investor’s viewpoint, illiquidity due to inventory-related costs can be treated as exogenous illiquidity cost, which has effect on asset prices. The smaller the inventory position that the market maker is willing to assume due to reasons such as the risk of his position or limits on his capital (Amihud and Mendelson, 1980; Brunnermeier and Pedersen, 2005a), or the greater the price volatility of the security traded (Ho and Stoll, 1981), the greater is the bid–ask spread that the market maker sets.

In over the counter markets, illiquidity arises because of search and bargaining problems. For instance, when a trader needs to sell her position, she must search for a counter party

willing to buy, and, once a potential counterparty is located, the trader must negotiate the price – a negotiation that reflects each trader’s outside option to find other counterparties. Duffie, Graleanu and Pedersen (2005) found that under certain conditions, search frictions increase the liquidity premium (i.e., lower prices) and increase bid–ask spreads. Further, higher bar-gaining power to buyers leads to lower prices.

2.3 Empirical Review

2.3.1 Risk-return relationship

Baker, Bradley and Wurgler (2011) explains that there is empirical evidence that runs counter to the fundamental principle in finance that risk is compensated with higher expected return. This violation is best illustrated by the prospect theory which posits that when facing prior loss relative to a reference point, individuals tend to be risk seeking, rather than risk averse. Consequently, among stocks where average investors face prior losses, there should be a negative risk-return relation (Wang, Yan and Yu 2012). Banz (1981) finds that companies with a low market capitalization tend to have a higher mean return compared to what would be expected from a mean-variance efficient market portfolio. Fama and French (1993) found that companies with high market-to-book value also tend to have higher average returns than predicted by CAPM.

Even though CAPM is challenged empirically, limited theoretical evidence is provided to support the findings. This may suggest that the empirical evidence against CAPM is overstated e.g. due to sample selection bias (Campbell et al, 1997). The problems inherent in CAPM invalidate the model’s use in some applications. Its power has turned out to be astonishing where its use is appropriate. In recent years, CAPM has inspired

widespread and radical changes in the way institutional investors allocate assets and the order in which they sequence their allocation decisions. CAPM also influences the way investors arrive at judgments between active and passive investments, and confront the risks embedded in their portfolio decisions (Bernstein 2007).

One of the shortcomings of CAPM is that it makes no mention of the unique characteristics of any individual asset, as the entire risk in owning the assets is in their beta, which is a measure of the covariance with the market, reflecting how the fluctuations in the return earned on an asset compares with the volatility of the market as a whole (Bernstein 2007). During the years, various alternative models have been created to overcome the shortcomings of CAPM. Stephen Ross (1976) developed arbitrage pricing theory (APT), a general theory of asset pricing that holds that the expected return of a financial asset can be modeled as a linear function of various macro-economic factors or theoretical market indices, where sensitivity to changes in each factor is represented by a factor-specific beta coefficient. The model-derived rate of return is then used to price the asset correctly - the asset price should equal the expected end of period price discounted at the rate implied by the model. If the price diverges, arbitrage should bring it back into line. Chen, Roll and Ross (1986) identified the following macro-economic factors as significant in explaining security returns: surprises in inflation; surprises in GNP as indicated by an industrial production index; surprises in investor confidence due to changes in default premium in corporate bonds; surprise shifts in the yield curve.

2.3.2 Portfolio diversification

The relationship between the number of stocks included in a portfolio and unsystematic risk has been explored by a number of studies. Evans and Archer (1968) report that by holding a portfolio with more than eight random stocks, unsystematic variation can be significantly reduced. Elton et al, (2011) demonstrated that a portfolio containing more than 15 stocks provided sufficient diversification. Later, Statman (1987) revealed that a well-diversified portfolio should include a minimum of 30-40 stocks. The study by Campbell, Lettau, Malkiel and Xu (2001) argued that to achieve a full diversification, the number of randomly selected stocks should be increased to 50 as the prices of individual stocks have in general become more interlinked over time. It is also likely that some of the portfolios with smaller numbers of stocks are not sectorally well stratified. Fama and French (1993) shows that up to 16 stocks are needed for the premium for bearing idiosyncratic risk to become insignificant at the 5% level.

According to Jennings (1971) some empirical studies have concluded that the common stock investor can virtually eliminate diversifiable risk with a portfolio that contains a “small” number of separate common stock issues [5, 6, 10, 11, 13]. The conclusion has several important implications. One of the inherent limitations of a portfolio manager is his inability to evaluate an infinite number of securities. The seriousness of this problem is directly related to the risks associated with a “small” portfolio. The economic function of a mutual fund industry is to provide diversification and professional management. If it is assured that a “small” portfolio can virtually eliminate diversifiable risk, the necessity of these functions may be questioned. In addition, the strategy of concentration may be less “risky” than is commonly supposed. Finally, the modern portfolio models generally assume that portfolio additions are costless.

2.3.3 Asset Liquidity

The effect of information asymmetry on the required return is studied by Wang (1993, 1994) and by Garleanu and Pedersen (2004). Wang (1993) considers a dynamic infinite-horizon model in which all investors observe a dividend process and the corresponding stock price, but only a fraction of the investors observe the dividend process's stochastic growth rate. Wang shows that if there is a larger fraction of less-informed investors, then the required return is higher. One reason for this is that when dividends increase, less-informed investors increase their expectations of dividend.

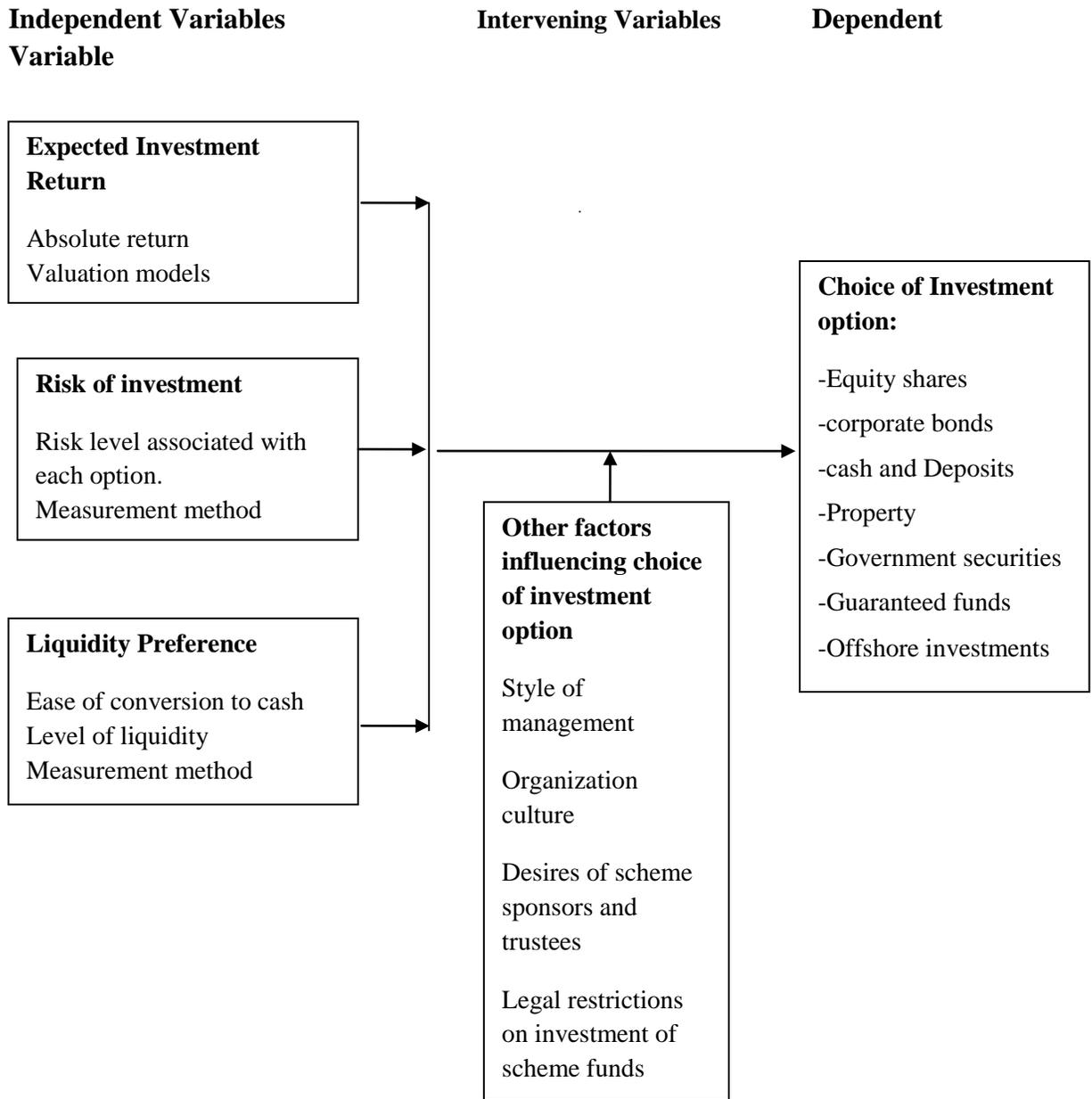
Garleanu and Pedersen (2004) consider a model in which a finite number of agents trade repeatedly by submitting market or limit orders. Each period, one agent may receive a signal about the next dividend, and potentially a "liquidity shock." Garleanu and Pedersen show that, if agents are symmetric ex ante, then future bid–ask spreads due to private information are not a direct trading cost. That is, their present value does not directly reduce the price, unlike the case of exogenous trading costs.

2.4 Summary of the literature review

The review of literature covers several topics. It starts with an explanation of the theory of risk-return relationship which is the cornerstone in formulation of asset pricing models. This is followed by a description of the portfolio theory of asset diversification to manage risk in security investments. The theory of liquidity and asset pricing is explored followed by a discussion on the empirical studies on the theories.

2.5 Conceptual Framework

Figure 2.3 conceptual framework



Source: Author

The Conceptual framework is based on three independent variables that are directly influencing the dependent variable. The independent variables are the expected return from the investment, the risk of the investment and liquidity preference. The dependent variable is investment option chosen. There are other variables that can influence the choice of investment by the managers. These are indicated as intervening variables and include the culture of the organization, actions of competing firms, legal constraints and others. The researcher did not intend to find out the influence of these intervening variables because he did not consider them to be of much significance, as well as due to time constraints. It is therefore clear from the framework that the investment option chosen is a function of these three independent variables.

CHAPTER THREE:

METHODOLOGY

3.1 Research design

Kerlinger (1986) defines research design as: “The plan and structure of investigation so conceived as to obtain answers to research questions. The plan is overall scheme or program of the research. It includes an outline of what the investigator will do from writing hypotheses and their operational implications to the final analysis of data ... a research design expresses both the structure of the research problem and the plan of investigation used to obtain empirical evidence in relation to the problem”. According to Kothari (2003), a research design is the arrangement of conditions for collection and analysis in a manner that combines relevance to the research purpose with economy in procedure. It refers to the organization of data collection and analysis to provide the required information.

This study adopted a descriptive research design. Mugenda & Mugenda (2003) describes descriptive survey as collecting data in order to test hypothesis or to answer questions concerning the current status of the subject study. In this study descriptive survey was used whereby data was collected to answer the study questions concerning the factors that influence the choice of investment options by registered fund managers in Kenya. This can further be justified by the fact that it provides more insights into the research problem by describing the variables of interest and examining associative relationship.

3.2 The target population of study

Target population refers to the individuals or elements that the researcher intends to use in the study so as to obtain primary data (Mugenda & Mugenda, 1999). The target population in this study was all the sixteen registered fund managers in Kenya. A list of the fund managers comprising the population appears in appendix 1.

The researcher undertook a census study. This can be justified by the fact that the population is small and all the subjects are situated in the Nairobi County. Therefore it would be possible to reach them all and the researcher would not be constrained in monetary terms and time.

3.3 Type of data

Primary data is that which is collected from original sources for a specified purpose; while the secondary data is that which was originally collected for a different purpose at a given time. For this study primary data was collected, both quantitative and qualitative. Quantitative data include the amounts of funds invested in each investment option for the year 2012, representing the value of dependent variable as well as the actual rates of returns from the various investments, representing the expected return independent variable. For the other independent variables, qualitative data was collected on the respondents' perception of risk and liquidity of investments for the year 2012.

3.4 Data collection procedures

Data collection procedures or research instruments refer to the techniques employed by the researcher in collecting data. The most utilized instruments for data collection are the questionnaires, direct interviews and observation. In this study, the primary data was

collected by use of the questionnaires. A questionnaire is a list of questions in a set form that is developed to address specific objectives, research questions or hypothesis of the study (Mugenda & Mugenda, 1999). Structured questions were included in the questionnaire (appendix 2). This is because the responses required to the questions required guiding the respondent by providing a list of possible alternatives from which to select the answer. This instrument was used because it has many advantages. It is widely used in research and therefore has been found to be reliable. The questionnaire helps in obtaining standardized answers since similar questions are asked the respondents. Furthermore, by using questionnaires, the researcher will guarantee anonymity to the respondents and hence encouraging them to give honest responses.

3.5 Data analysis

Once data was received from the field, the instruments were edited for errors and omissions before being entered into SPSS computer program for analysis.

The methods of data analysis used were visual display of data and inferential statistics using correlation analysis technique. Visual display of data involved the use of charts while inferential statistics involved the use of multiple correlation analysis. Multiple correlation was used to measure the strength of the association between the dependent variable and all the independent variables.

In order to analyze qualitative data on risk perception, the respondents were to select from a list of five risk levels, their perception of the risk level for each type of investment in which they invested during the year. Each of this level of perceived risk was assigned a numerical value so that 0 represented risk free, 10 represented low risk, 20 for neutral, 30

for high risk and 40 for very risky. The average for each type of investment was then calculated to get what is referred to as the risk factor. Likewise in the case of liquidity analysis, the respondents were to select from a list of liquidity levels, their perception of the liquidity level for each type of investment in which they invested during the year. The liquidity levels ranged from highly liquid with an assigned value of 40 to illiquid with a value of zero. From the responses obtained from the registered fund managers for each investment option, an average value called liquidity factor was calculated

The relevant model for the correlation analysis is as given.

$$Y = b_1 + b_2X_1 + b_3X_2 + b_4X_3 + \epsilon$$

Where: Y is the amount of funds invested in an asset, representing the dependent variable

b_1 is the mean value of the probability distribution of Y.

x_1 , x_2 and x_3 represents the expected return on investment asset, the risk associated with the investment asset and the liquidity preference, respectively.

and b_2 , b_3 , and b_4 measures the changes in Y per unit change in the independent variables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 Introduction

This chapter discusses the analysis of the data collected and the results of the analysis. The purpose of the study was to investigate the factors that influence the choice of investments by the registered fund managers in Kenya. The chapter is organized according to the research questions to which answers were sought. The discussion includes the response rate, the relationship between the amounts invested in the options and the returns from the options, the relationship between the amounts invested in the options and the risks of the options and the relationship between the amounts invested in the options and the liquidity of the options. Finally, the results of the correlation analysis showing the extent of the relationship between the dependent variable and the independent variables is discussed.

4.1 Response rate

The target population of the study was all the sixteen registered fund managers in Kenya. Fourteen questionnaires were distributed to the respondents, out of which eleven were answered, representing 78.5 percent response rate. Two potential respondents had policies that do not allow staff to fill in questionnaires. Three potential respondents did not answer the questionnaires despite efforts to encourage them to do so.

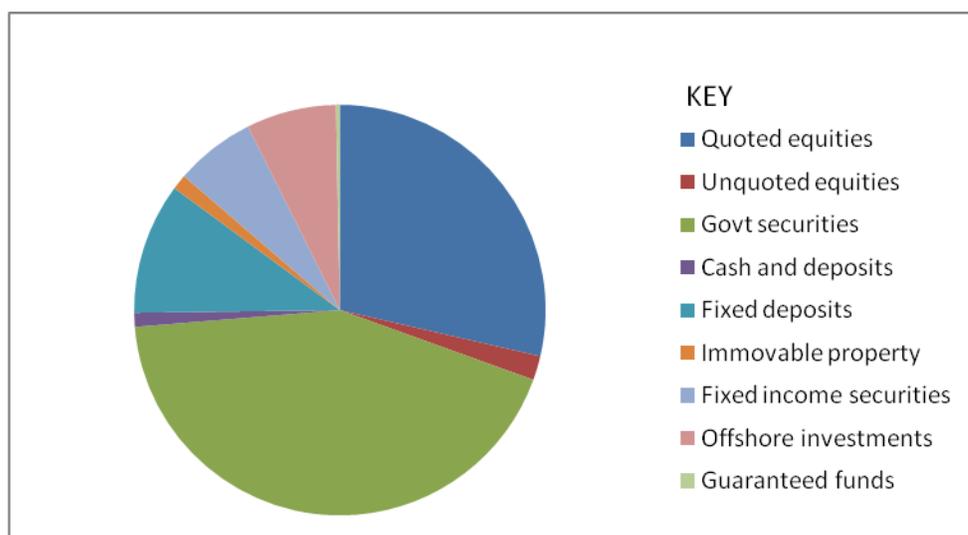
4.2 Levels of investments in various investment alternatives

The study sought to find out the investment levels under each investment option, this being the average amount of funds invested in the option for the year 2012. The results are illustrated in table 4.1 and figure 4.1

Table: 4.1 Investments in different options in year 2012

Investment	Amount (ksh Million)	%
Quoted equities	125,875	28.6
Unquoted equities	8,222	1.9
Government securities	190,214	43.2
Cash and deposits	4,736	1.1
Fixed deposits	45,116	10.3
Immovable properties	5,307	1.2
Fixed income securities	27,753	6.3
Offshore investments	31,385	7.1
Guaranteed funds	1,453	0.3
Total	440,061	100

Figure 4.1 Proportion of the investments in different options in 2012



4.3 Relationship between return on investment and amount invested

Expected return is what is judged to be the yield during a stated future period. Different investments promise different levels of return. The research sought to find out the actual returns from the various investments that the registered fund managers held during the year 2012. From the different rates of return provided by the respondents, the average return from each investment was computed. The results are as shown in Table 4.2

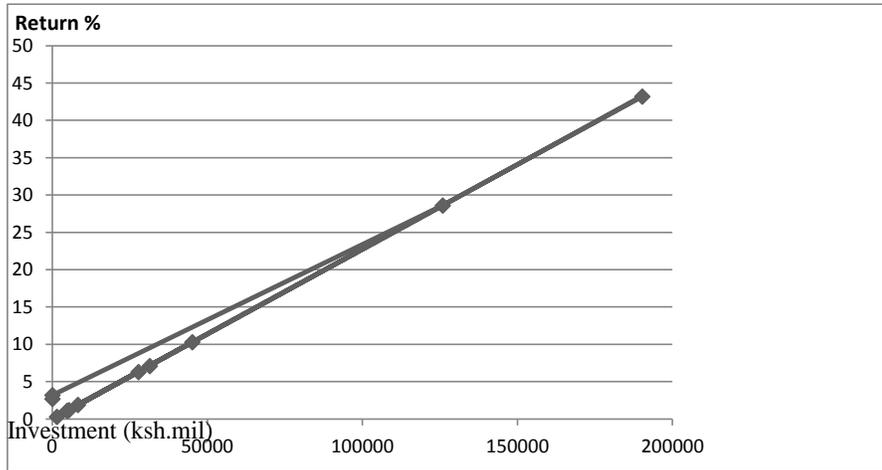
Table 4.2 Average Returns from investments year 2012.

Investment	Amount invested(ksh million)	Average percent return
Quoted equities	125,875	28.6
Unquoted equities	8,222	19.0
Government securities	190,214	15.0
Cash and deposits	4,736	11.0
Fixed deposits	45,116	10.3
Immovable properties	5,307	9.0
Fixed income securities	27,753	9.0
Offshore investments	31,385	8.7
Guaranteed funds	1,453	12.0
Total	440,061	

The results show that returns from quoted equities were highest averaging 28.6 percent, while offshore investments had the lowest average return at 8.7 percent. A general relationship between these returns and the amounts invested in the options show that the

more an investment yields, the more the funds are invested in it. This is illustrated in figure 4.2.

Figure 4.2 relationship between asset return and amount invested in the asset in 2012



Investment (ksh.mil)

4.4 Relationship between risk of investment and amount invested

One of the objectives of the study was to find out the extent of the influence on the choice of investment by the fund managers, of the risk associated with the investment options.

Therefore the study sought to find out what the various registered fund managers perceived to be the risk of each type of investment during the year 2012. The respondents were to select from a list of five risk levels, their perception of the risk level for each type of investment in which they invested during the year. Each of this level of perceived risk was assigned a numerical value so that 0 represented risk free, 10 represented low risk,

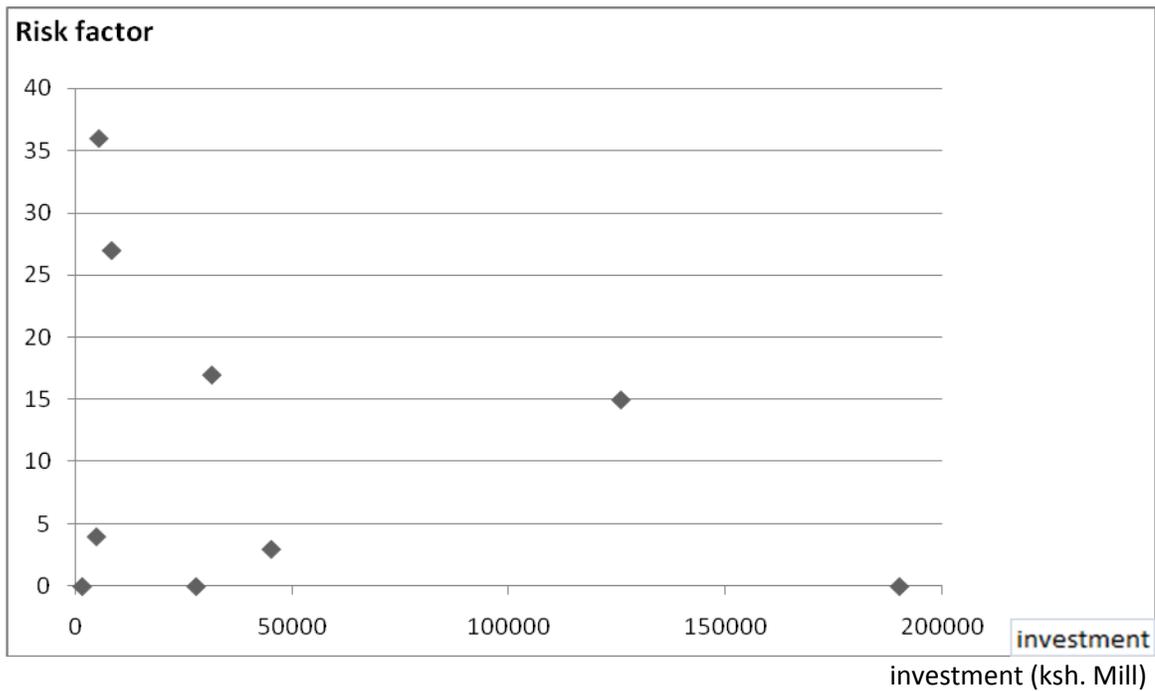
20 for neutral, 30 for high risk and 40 for very risky. The average for each type of investment was then calculated to get what is referred to as the risk factor as shown in table 4.3.

Table 4.3 risk of different assets in 2012

Investment	Amount invested (ksh million)	Risk factor
Quoted equities	125,875	15
Unquoted equities	8,222	27
Government securities	190,214	0
Cash and deposits	4,736	4
Fixed deposits	45,116	3
Immovable properties	5,307	36
Fixed income securities	27,753	0
Offshore investments	31,385	17
Guaranteed funds	1,453	0
Total	440,061	

The results show that immovable property carried the highest risk at a risk factor of 36 while guaranteed funds and government securities had least risk at a factor of zero. A general relationship between the risk and the amounts invested in the options show lack of any discernible trend. The level of investment seems to neither increase with lower risk nor fall with increased risk. This is illustrated in figure 4.3.

Figure 4.3 relationship between asset risk and amount invested



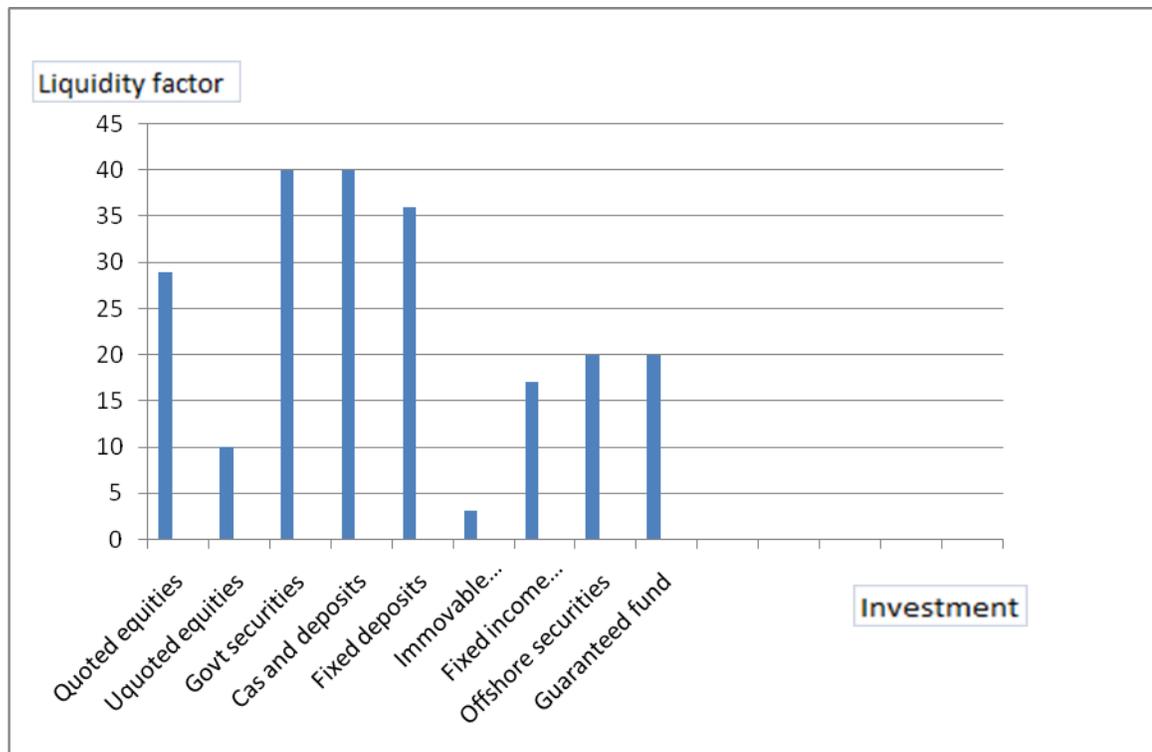
4.5 Relationship between liquidity of investment and amount invested

To investigate the extent to which liquidity of investments influence the decision to invest in a given asset, the study sought to find out the perceived liquidity of each investment by the registered fund managers during the year 2012. The respondents were to select from a list of liquidity levels, their perception of the liquidity level for each type of investment in which they invested during the year. The liquidity levels ranged from highly liquid with an assigned value of 40 to illiquid with a value of zero. From the responses obtained from the registered fund managers for each investment option, an average value called liquidity factor was calculated. The results are presented in table 4.4. and figure 4.4 below

Table 4.4 Liquidity of different investments in 2012

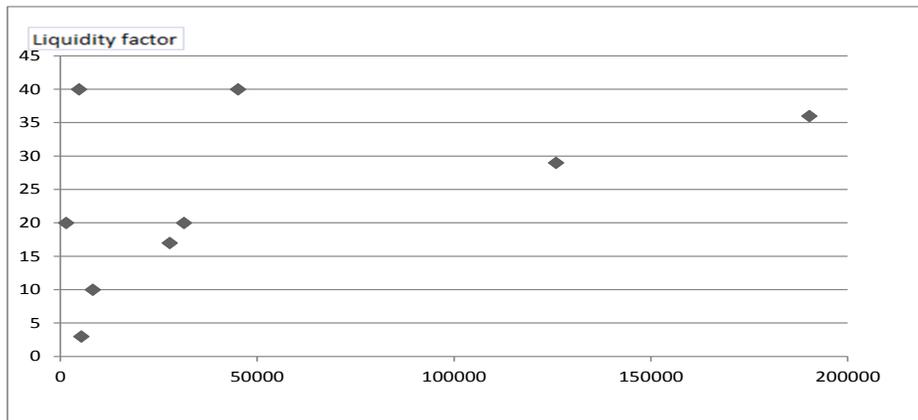
Investment	Amount invested(ksh mil)	Liquidity factor
Quoted equities	125,875	29
Unquoted equities	8,222	10
Government securities	190,214	40
Cash and deposits	4,736	40
Fixed deposits	45,116	36
Immovable properties	5,307	3
Fixed income securities	27,753	17
Offshore investments	31,385	20
Guaranteed funds	1,453	20
Total	440,061	

Figure 4.4 Liquidity of different investments in 2012



The results show that both government securities and cash and deposits were the most liquid investments at the maximum liquidity factor of 40. Immovable properties and unquoted equities had the lowest liquidity at 3 and 10 liquidity factors respectively. A general relationship between the liquidity and the amounts invested in the options shows that there is a positive trend such that with more liquidity, there is more investment in assets. Figure 4.5 below illustrates the relationship.

Figure 4.5 Relationship between liquidity of investment and amount of investments.



investment (ksh. Mil)

4.6 Statistical Analysis

Statistical analysis of the data consisting of both descriptive and inferential analysis were carried out. This was to enable conclusions to be reached on the objectives of the study.

The relevant data for the analysis is as shown in table 4.5

Table 4.5 Investment levels, average return, risk factor and liquidity factor of various investments in 2012.

Investment	Invested (ksh million)	Average percent return	Risk factor	Liquidity factor
Quoted equities	125,875	28.6	15	29
Unquoted equities	8,222	19.0	27	10
Government securities	190,214	15.0	0	40
Cash and deposits	4,736	11.0	4	40
Fixed deposits	45,116	10.3	3	36
Immovable properties	5,307	9.0	36	3
Fixed income securities	27,753	9.0	0	17
Offshore investments	31,385	8.7	17	20
Guaranteed funds	1,453	12.0	0	20

4.6.1 Descriptive analysis

The results of the descriptive analysis are shown in table 4.6

Table 4.6: Descriptive statistics

	Mean	Std deviation	N
Investment	48895.67	65593.27	9
Ave Return	13.62	6.54	9
Risk Factor	11.33	13.27	9
Liquidity Factor	23.89	13.22	9

The mean investment in all the nine options was Ksh. 48.9 billion, with a standard deviation from the mean of Ksh. 65.6 billion. For the return on investment, there was a

mean value of 13.62 percent and a standard deviation of 6.54. It can be concluded that this was a good year for the investors as this average is high and the standard deviation is low. The average risk was 11.33 risk factor and its standard deviation was 13.27. Again the conclusion that can be reached is that on average the investments did not carry very high risk, when this average is compared with the highest risk of 27 risk factor for unquoted equities. Finally the mean liquidity factor was 23.89 with a standard deviation of 13.22.

4.6.2 Pearson correlation analysis

In order to find out the extent of the influence of the three independent variables on the dependent variable, correlation analysis was done using the above data.

The results of the Pearson correlation analysis are as presented in table 4.7

Table 4.7 Pearson correlation coefficients

		Investment	Average return	Risk	Liquidity
Investment	Pearson Correlation	1	0.501	-.0287	0.569
	Significance(2 tailed)		0.17	0.454	0.110
Ave. return	Pearson Correlation	0.501	1	0.143	0.134
	Significance(2 tailed)	0.17		0.714	0.731
Risk	Pearson Correlation	-0.287	0.143	1	-0.727
	Significance(2 tailed)	0.454	0.714		0.027
Liquidity	Pearson Correlation	0.569	0.134	-0.727	1
	Significance(2 tailed)	0.110	0.731	0.027	
	N	9	9	9	9

From the analysis the correlation coefficient between average return and level of investment is 0.50. The correlation coefficient between risk of investment and investment level is -0.03 while the correlation coefficient between liquidity and investment level is 0.56.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter highlights the summary of the findings of the study in relation to the objectives outlined in chapter one. The conclusions drawn from the analysis are then presented followed by the recommendations of the researcher.

5.1 Summary of the findings

The study centered on three objectives with the aim of establishing the extent of the influence by three variables on the choice of investment option by registered fund managers in Kenya. The findings of the study are as summarized in the following subsections.

5.1.1 The relationship between expected return from investment and the level of investments in the various options.

The findings of the study revealed that there is a positive relationship between the expected return from an asset and the amount of funds invested in the asset. Further analysis showed that this relationship is neither strong nor weak at a coefficient of correlation of 0.5.

5.1.2 The relationship between risk of an investment and level of investment in the various options

From the study results, it is apparent that there is reverse relationship between the risk of an asset and the amount invested in the asset. However this relationship is very weak as the correlation coefficient is only -0.03

5.1.3 The relationship between liquidity of an investment and the level of investment in the various options.

The study revealed that there is a positive relationship between the liquidity of an investment asset and the amount of funds devoted to the asset. The correlation coefficient is moderate at 0.56

5.2 Conclusions

This study aimed at investigating the factors influencing the choice of investment options by registered fund managers in Kenya. It was guided by three objectives namely: to find out the influence of financial risk in determining the choice of investment option by registered fund managers in Kenya; to determine the influence of the expected returns from an investment on the choice of investment option by registered fund managers in Kenya and to establish the effect of liquidity preference in determining the choice of investment option by registered fund managers in Kenya.

From the study, the following conclusions can be stated:

The expected returns from investment influences the choice of investment option by registered fund managers in Kenya. The higher the expected return from an investment, the higher the amount of money invested in the option.

The risk associated with an investment option do not influence the choice of investment option by registered fund managers in Kenya.

The liquidity preference by the registered fund managers in Kenya influences their choice of investment option in Kenya. Assets with higher liquidity are preferred to those of lesser liquidity.

5.3 Recommendations

From the results of the study, the researcher makes the following recommendations:

The issue of asset risk should be given more attention when investing funds. Literature has shown that there are costs associated with high risk of assets.

According to the responses given by the respondents concerning legal restrictions on investment of funds, a majority of them (80%) indicated that they are not satisfied with the legal ceilings on certain investments imposed on the fund managers. Therefore it is recommended that this be reviewed and the concerns of the fund managers be considered.

All the respondents indicated that the spectrum of investment options available in Kenya is not satisfactory. Therefore the researcher would recommend that additional investment instruments not currently available in Kenya such as derivatives be introduced in the capital and money markets.

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Appendix 1: Population of study Registered Fund Managers 2013

No.	Name	Physical Location
1.	African Alliance Kenya Investment Bank Limited	Kenya Re Towers, Upper Hill
2.	Amana Capital Limited	Saachi Plaza, Argwings Kodh Rd
3.	Apollo Asset Management Company Limited	Apollo Centre, Westlands
4.	British-American Asset Managers Limited	British American Centre, Upper Hill
5.	CO-OP Trust Investment Services Limited	Co-operative Bank House
6.	Dry Associates Limited	Dry Associates House, Waiyaki Way
7.	Genesis Kenya Investment Management Limited	14 Riverside Drive, Westlands
8.	ICEA Asset Management Limited	ICEA Building
10.	Madison Asset Management Services Limited	Madison Insurance House, Upper Hill Road
11.	Old Mutual Asset Managers (Kenya) Limited	Old Mutual Building, Mara/Hospital Road
12.	Pinebridge Investment East Africa Company Limited	Africa Re Centre, Hospital Road, Upper Hill
13.	Sanlam Investment Management Kenya Limited	Citadel Building, Muthithi Road, Westlands
14.	Stanbic Investment Management Services (EA) Limited	CFC House, Mamlaka Road
15.	Zimele Asset Management Company Limited	Fedha Towers, Muindi Mbingi Street
16.	CIC Asset Management Limited	CIC Plaza, Mara Road

Source: Retirement Benefits Authority.

Appendix 2: QUESTIONNAIRE

FACTORS INFLUENCING THE CHOICE OF INVESTMENT OPTIONS BY REGISTERED FUND MANAGERS IN KENYA

Dear Sir/Madam,

Thank you for participating in this research study.

Instructions

Please answer the questions in the spaces provided to the best of your ability.

If you do not understand any part feel free to ask for clarification.

Once you finish answering all the questions, post/email the questionnaires back using the self addressed and stamped envelope provided.

Section A: General information

1. What is the name of your organization?

2. What is your title ?

3. Number of years of service as the investment decision maker (tick where appropriate)

(a) less than 1 year (b) 1-3 years (c) over 3 years

4. Your academic qualification:

(a) Certificate (b) Diploma (c) Bachelor degree (d) Masters degree

5. What is the number of Retirement Benefit Schemes that your firm works for?

(a) 1 - 100 (b) 101 - 500 (c) 501 – 100 (d) over 1000

Section B: Investment Options

6. Please, indicate the types of assets in which funds are invested by your firm:

- | | | | |
|-----------------------------|--------------------------|------------------------------|--------------------------|
| (a) Quoted equities | <input type="checkbox"/> | (b) Unquoted equities | <input type="checkbox"/> |
| (c) Government Securities | <input type="checkbox"/> | (d) Cash and demand deposits | <input type="checkbox"/> |
| (e) Fixed deposits | <input type="checkbox"/> | (f) Immovable Property | <input type="checkbox"/> |
| (g) Fixed income securities | <input type="checkbox"/> | (f) Offshore investments | <input type="checkbox"/> |
| (h) Guaranteed funds | <input type="checkbox"/> | (i) Other (specify) | <input type="checkbox"/> |
-

7. At the close of the year 2012, indicate the amount of funds invested in the following options:

Investment	Amount invested in Kenya shillings
Quoted equities	
Unquoted equities	
Government Securities	
Cash and demand deposits	
Fixed deposits	
Immovable Property	
Fixed income securities	
Offshore investments	
Guaranteed funds	
Other investments	

Section C: Return on investment

8. For the year 2012, state the valuation method used and the average return earned from the various assets

Asset	Method of computing return	Average % return Year 2012
Quoted equities		
Unquoted equities		
Government Securities		
Cash and demand deposits		
Fixed deposits		
Immovable Property		
Fixed income securities		
Offshore investments		
Guaranteed funds		
Other investments		

Section D: Risk of an investment

9. For the year 2012, indicate what you consider to have been the level of risk of the following assets which you invested in. The abbreviations mean:

RF : Risk Free

LR : Low Risk

N : Neutral, risk neither high nor low

HR : High Risk

VHR : Very High Risk

Asset	RF	LR	N	HR	VHR
Quoted equities					
Unquoted equities					

Government Securities					
Cash and demand deposits					
Fixed deposits					
Immovable Property					
Fixed income securities					
Offshore investments					
Guaranteed funds					
Other investments					

Section E: Liquidity Preference

10. For the year 2012, indicate what you consider to have been the level of liquidity of the assets which you invested in. The abbreviations mean:

HL : Highly Liquid

L : Liquid

N : Neutral, neither liquid nor illiquid

LL : Low Liquidity

IL : Illiquid

Asset	HL	L	N	LL	IL
Quoted equities					
Unquoted equities					
Government Securities					
Cash and demand deposits					
Fixed deposits					
Immovable Property					
Fixed income securities					
Offshore investments					
Guaranteed funds					
Other investments					

Section F: Additional information

11. For the following questions indicate your level of agreement or disagreement by ticking in the appropriate box.

SA means strongly agree.

A mean Agree

N mean neutral

D means disagree

SD mean strongly disagree

	1 SA	2 A	3 N	4 D	5 SD
The restrictions on the levels that should be invested in different instruments by retirement benefits law is satisfactory					
The available range of investment instruments in the market is satisfactory					
The choice of investment options should be done by financial and investment experts only.					

Appendix 3: Research Budget

<u>Item</u>	<u>No of Units</u>	<u>Cost per unit</u>	<u>Total</u>
Preparation of introduction			
Letters and questionnaires	90	30	2,700
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Postage	45	60	2,700
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Travelling Cost	2	9,000	18,000
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Allowance to research assistant	1	20,000	20,000
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Binding of research report	6	250	1,500
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Subtotal			45,400
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Contingency (10% of 45,400)			4,540
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Total Cost			49,440

