PROSPECTS FOR A STOCK OPTIONS MARKET IN KENYA

BY

WARUIRU DANIEL MUKUI

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

Signed: .... Date: ...18/4/2002...

DANIEL M. WARUIRU

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

Signed .... Date: ...20/04/20

ANGELA KITHINJI

Lecturer, Department of Accounting

DEDICATION

This project is dedicated to my parents, brothers and sisters for their willingness to undertake the risky investment of educating me. I highly appreciate their willingness to undertake the risk of Educating me while holding constant the prospects of deriving benefits in future from my education.

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ABSTRACT

The research constitutes a study on the possibility of a stock options market within the Kenyan economy. The research is based on the response obtained from the Nairobi Stock Exchange, Capital Market Authority, Stockbrokers, Investment Advisors, Corporate shareholders and a general analysis of the conditions underlying the development of a stock options market in Kenya.

According to the research carried, out there exists a need for stock options trading and the investors are willing to use stock options to minimise stock price risk. However there lacks conditions necessary for the development of stock options market such as low volume of share transactions, market capitalisation and number of listed companies. These factors my impende development of stock options market.

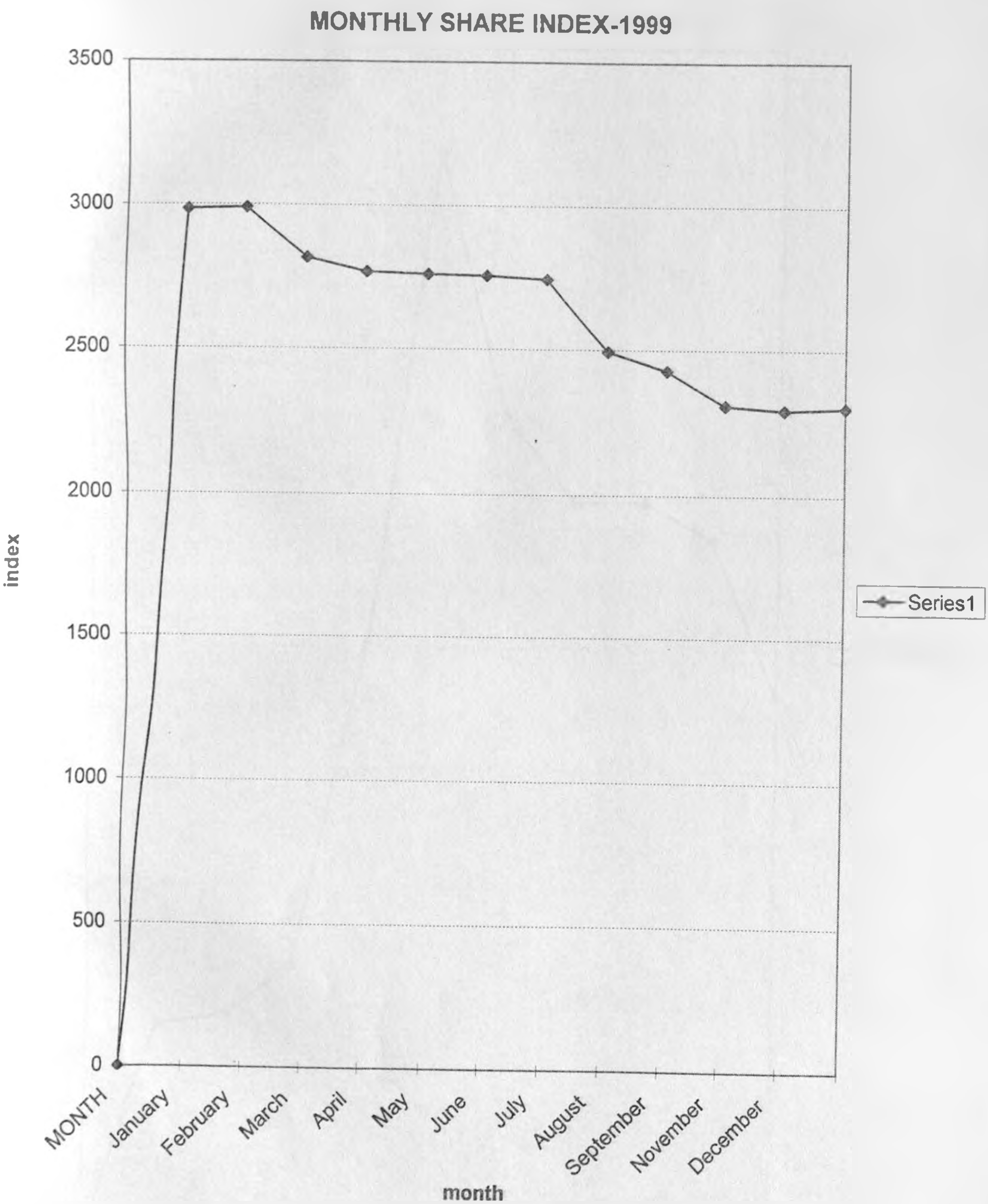
CHAPTER 1

1.0 INTRODUCTION

1.1 BACKGROUND

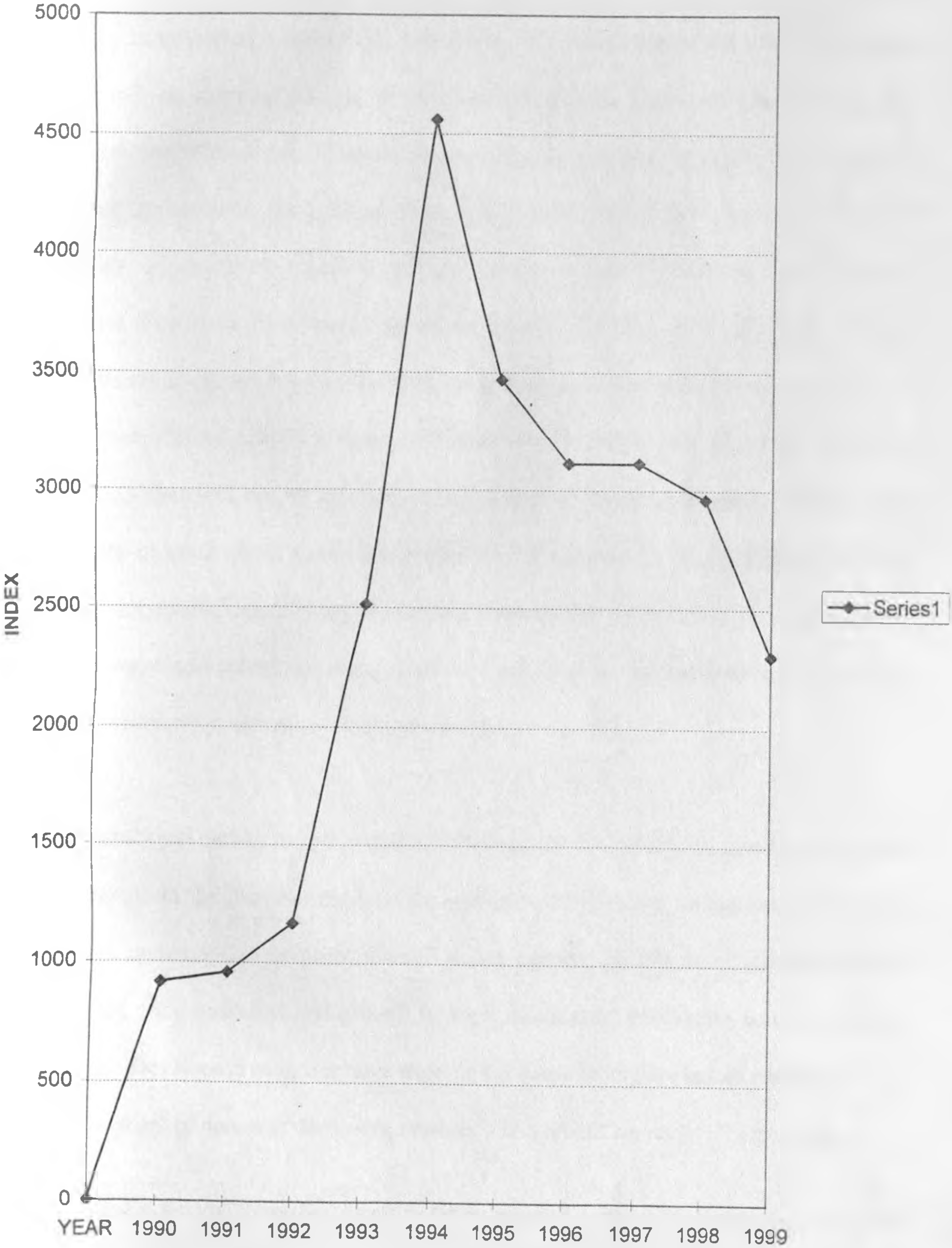
The performance in the financial market depends on the existing economical, political and social cultural environment. Frequent changes in the macro-economic variables which include; interest rates, exchange rates and inflation rates would lead to wide share price fluctuations. The macro-economic variables affect the interaction of the financial market forces of demand and supply and this will lead to price fluctuations if the variables are random in nature.

According to Pekinson (1945), unlike other forms of securities where fluctuations may be within a narrow range, general prices of ordinary shares can move widely in the course of a short duration. Horne (1997) notes that in an efficient market share prices will be a random walk in nature. As new information is disseminated into the stock market share prices will change to reflect new information. This normally makes it difficult to predict future returns which is necessary for decision making. The financial market has become exceedingly complex in almost all economies due to wide change in economic, political and social cultural factors. In Kenya the Nairobi Stock Exchange has been faced with wide fluctuations in share prices as shown by the share index below:



MONTHLY SHARE INDEX-1999
3500
3000
2500
2000
1500
1000
500
0
index
MONTH
January
February
March
April
May
June
July
August
September
November
December
month
Series1

YEARLY SHARE INDEX 1990-1999



According to Shiller (1989), investing in securities is a form of social activity. The investors spend a substantial time discussing investments and analyzing the securities market. In evaluating a form of investment the investor is concerned with the expected return and risk of the investment. If there existed certainty, the return would be expected and there would be no risk. The investor would only compare the returns accruing from different investments and choose those which offer the highest returns. However existence of uncertainty implies that the returns on investments are not always as expected. Risk in an investment implies variability in return. This variability in return hampers ability to better plan ahead by projecting the future cashflows. According to Jorion and Cheery (1991), hedging will assist one to better plan ahead, by projecting cashflows that will not be affected by the whims of financial markets. There exists volatility in stock prices due to the general market movement. According to Walmsley (1988), increasing volatility in the financial markets has led to rise in the importance of risk management techniques using derivative instruments such as stock options trading which would allow parties to hedge against risk.

Individuals and entities have increasingly focused efforts on hedging against unfavorable movements in the financial markets through use of derivative instruments. There has been an increased use of derivatives to hedge against the effects of international and domestic price volatility, and growth in sophistication of developing country financial markets. Developing countries have expressed a desire to explore issues relating to establishment of domestic derivative markets[1]. In a recent survey of 32 emerging

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1 International financial corporation, Emerging futures and options market Washingto D.C. IFC. March 1994

markets in Africa carried out by the International Organization of Securities Commissions (IOSCO) Development Committee's working Group on Derivatives, 12 countries already had introduced the derivative instruments and 13 showed interest in establishing the derivative markets.

IMPLICATIONS OF SHARE PRICE FLUCTUATIONS TO SHAREHOLDERS

The stock price fluctuations affects the shareholders in three main ways:

Return on Investment

The return in a stock is a combination of dividend payable and capital gain. This is given as follows:

$$R = \frac{DIV_i}{P_o} + \frac{P_i - P_o}{P_o}$$

Where R represents return on investment

DIV_i – dividend per share receivable

P_i - expected price

P_o – current price which is equivalent to the purchase price of the shares held.

Emery (1998), observes that a fall in the market price of the share will have an adverse effect in form of expected capital gain. This will also lead to reduction in the aggregate return. The fluctuations will lead to risk in form of variability in the future return.

Investment Required for Stock Purchase.

For individuals intending to purchase shares in future and where a bullish market is expected, a rise in shares price will lead to an increase in cost of purchase and a raise in amount required for the investment. According to Khourly and Jorion (1996), the share prices fluctuations also hampers effective projection of cash outflows necessary for investment. This not only affects the investor adversely but retand general investment in the economy.

Value of Equity Wealth in the Firm.

Emery (1998) notes that investors wealth in a firm through share purchase is a product of the number of shares held and the market price per each share. Holding the number of shares constant, a fall in price of the shares would lead to a fall in investor's wealth in a firm. The problem is aggravated by the fact that the investor will not dispose shares in a depressed market as he would lose more. The investor would incur a current loss of depressed value in an attempt to avoid disposing shares at a low price.

According to research by International Finance Corporation (1994), there was found to exists a high risk in the financial market. This has accelerated the pace towards derivative trading. The move towards liberalization and global technological advances has required entities and individuals to use new financial techniques and instruments in securities trading. The Kenyan financial market is becoming more developed with the formation of the East Africa Community and the existing global changes. Horne (1997), indicates that hedging tools are necessary for development and expansion of a stock exchange.

According to Zweigh (1973), as individuals survey the price signals in the relevant markets they make production, consumption and financing decisions. These decisions may lead to commitments to buy, sell or to produce. There however, exists a time lag between the implementation date and the time the decision is made. Some period of time will normally elapse before a decision is implemented where within this duration market dynamics will occur which will lead to a change in the price structure, which will in turn affect the optimal decision previously made. This uncertainty complicates the process of decision making and will not only affect the utility of an individual but also the welfare level of the society as a whole.

1.2 STATEMENT OF THE PROBLEM

The underlying factors in investment constitute the degree of risk and return in the investment. However, though an investment may have high returns, the receipts will depend on the degree of risk. This risk hinders investment in the related assets or projects as it adversely affects future cashflows.

The stock price for the companies listed in the Nairobi Stock Exchange have had a wide price fluctuation. The share index has in addition had wide fluctuations indicating high price volatility. For example, the difference between the opening and closing index in 1999 was 674.15 which represents 22.6% change. After a public issue of ordinary shares, the shares have tended to have a bearish trend stagnating at a price far below the original public issue price. This has had adverse effects on the ordinary shareholders in form of capital loss. This fluctuations have also made it difficult to undertake forecasting as a basis for decision making. Emery (1998), states that there is need to forecast future cashflows to determine if they justify the current cost.

The wide existence of capital loss and inability to forecast cashflows due to market volatility has had adverse effects on the society and economy as a whole. The public have had to withstand enormous losses inform of capital loss after share purchase. This has lowered the demand for shares both for local and foreign investors. Among other problems, this has hampered growth in the Nairobi Stock Exchange, rise in investment and inflow of foreign capital.

The economic justification of a stock option market would be its use in shifting risk. Brigham (1988) notes that existence of an options market could allow individuals exposed to stock price risk shed that risk at a low cost which is the premium. By use of an option the investor can be able to shift the risk by buying a call option if he anticipates the market to be bullish. If the individual anticipates the market to be bearish he will buy a put option and shift the risk to the option writer. This would reduce the adverse effects resulting from price fluctuations and promote stock investments. However Dubofysky (1992), observes that for an options market to develop, certain conditions are necessary in the stock market. Further, willingness of the relevant shareholders to participate in the trade is necessary which to a larger extent will depend on the attitude towards option trading.

Puts and calls have been traded since the 19th century in England and United States. In United States trading in options became more pronounced when the Chicago Board Options Exchange opened on April 26, 1973. Among the exchanges that have trading of stocks options include the following;

- Paris Stock Exchange in France

- Lisbon Stock Exchange in Portugal
- Kuala Lumpur Stock Exchange in Malaysia
- Australian Stock Exchange in Australia

In Kenya investors continue to suffer from stock price risk as the lack of means to hedge against risk persists. It is with this regard that the researcher aims at studying the prospects of a stock option market in Kenya.

1.3 OBJECTIVES OF THE STUDY

General objective

To investigate the prospects of a stock option market in Kenya.

Specific objectives.

- To investigate whether there exists conditions that would favour or hinder development of an option market in Kenya.
- To analyze the individuals attitudes towards development of an options market in Kenya.

1.4 IMPORTANCE OF THE STUDY

THE ACADEMIC COMMUNITY

This study will provide a body of knowledge regarding option trading. The research is also expected to provide a basis for further research in the related field.

REGULATING BODIES

The study will provide information regarding existence of conditions necessary for stock option trading. The study will provide information regarding the general attitude on the introduction of stock options trading in Kenya. This will provide a basis for planning and evaluations for the body.

INVESTMENT ADVISORS/STOCK BROKERS

This will provide a basis for investing by investors. The research will provide an insight into the problems inherent in stock purchase and investors attitude which is necessary for investment advice.

INVESTORS

The research will provide information useful for investment decision making. The investors will be able to get information regarding the effects of share price fluctuations and a means of hedging against risk.

CHAPTER II

2.0 LITERATURE REVIEW

2.1 SHARE PRICE VOLATILITY

The modern investor is always involved in attempts aimed at discovering at any given moment, what stock exchange prices will be at some other moment. The price of ordinary shares can have wide fluctuations within a short period of time. Some investors have engaged technical analysts so as to assist in projection of future prices. The technical analysts base their analysis on the trends formed by the stock prices in an effort to project a bearish or bullish market in future. Johnson, (1978) observes that though the share prices form a trend over a given period of time it may not be possible to precisely determine the time the change in trend will occur. In the shortrun the investors reactions to market signals will cause the market to move in unpredictable manner. Goldmen and Beja (1980) notes that institutional factors such as the brokers handling of investors orders, or the existence of designated specialists who are entrusted with the affirmative obligation to maintain price continuity affect the rate at which prices adjust to changing conditions.

According to Shiller (1991), the prices of shares provide a guide to economic activities in the society. The existence of wide fluctuations in share prices is not only of concern to those managing financial portfolios, but also to legislators, regulators, lawyers, corporate managers and others. According to Murray (1964), the trend of stock prices significantly influences investment decisions.

Dubofsky (1992) observes that the changes in stock prices is random and may not be precisely determined. According to efficient market hypothesis new events occur randomly and are discounted immediately to the extent that forecasting of prices is impaired. The market participants according to Shiller (1991), can be categorized into two groups based on their decision making regarding stock market and its effect to stock prices. There exists a large group of non-professionals whose marginal research costs are very high that they choose among stocks on the basis of information about future prospects which may be wrong. This information flows to them in unsystematic manner and thus their market activities work towards creating random price fluctuation around an average value. The second category constitutes the professionals who may have a fair idea of future ideas. They gain by the non-professionals until the price moves sufficiently far from the expected to warrant the prospect of an adequate return where they will act accordingly. If the non-professionals bid stock significantly higher than the intrinsic value of the shares an event characteristic of a full market arises. The prices will deteriorate as the professionals add substantially to supply in their attempt to profit on the large gap between prices and values. This will lead to wide fluctuations in the stock markets. This has had adverse effects both to the local and foreign investors.

2.2 RISK MANAGEMENT

Risk constitutes variability in return. Stock price risk implies the variability in return due to stock price fluctuation. Shiller (1991), notes that the prices of shares are random due to diverse factors affecting the price whose changes are random. This factors include interest rates, political environment, exchange rates, aggregate demand in the economy and prices of goods and services.

Dubofsky (1992), notes that the underlying factor in the use of derivative instruments is their use in risk management. Brown and Reilly (1997) observe that stability in the financial sector is a prerequisite for economic growth. Option trading provides a means of risk management through the process of shifting risk from the option purchase to the seller. According to Jorion (1996) investors face tremendous challenges through price fluctuation, which require tightly controlled risk management measures.

The effort to manage prices by taking offsetting positions in stock options is regarded as hedging. According to Walmsley (1988), hedgers motivating element in their participation in futures or option markets is their desire to control or manage risk exposure arising through price fluctuations. The hedgers view options and other derivative instruments as risk management tools. According to Marshall (1989), risk management will reduce the uncertainties that exist with production, investing and financing decisions. This would enhance efficiency and effectiveness in resource allocation and utilization. According to the Brigham (1988), option trading would provide a means of not only protecting investors against adverse price movements in stock they are buying or selling but would also protect them from declines in the value of financial assets they hold.

2.3 HISTORY OF STOCK OPTION TRADING

The three main modes of trade; spot based transactions, future and options transactions have existed over a long period but high degree of sophistication was reached in the twentieth century. According to Dubofsky (1992), the concept of stock options existed in ancient Greece and Rome as far back as 400 BC. Speculators in the tulip craze of seventeenth – century Holland used options. However the options trade ended with the collapse of the tulip craze. Stock options mostly on agricultural commodities existed in England and United States in the nineteenth century.

Stock options were traded in United States on the Over The Counter Market only until April 1973. Negotiations were by the buyer and seller who where a member of put and call brokers and dealers. The main problem was lack of guarantee regarding honoring of the obligations created through options traded.

In 1973 stock options were developed and Chicago Board Options Exchange opened. This eliminated the problems of Over The Counter Market through standardization of prices, standardization of underlying assets and delivery arrangements. Initially, 16 standardized call option contracts on individual stocks were listed. Put options did not start immediately until 1977. Stock option contracts currently exist in the United States, Europe and the United Kingdom.

2.4 FORMS OF OPTION TRADING

An option is used to take a position in the market so as to capitalize on an upward or downward market movements. According to Brown and Reilly (1997), options main advantage is risk minimization which is shifted to the option writer. A stock option will constitute a right but not an obligation to buy or sell stocks for a specified price on or before a specified date. Labuszewki (1988), notes that a call option will give the right to buy the stock while a put gives the right to sell the stock. The seller of an option is obligated to perform according to the options contract. The writer in return for the premium received from the option buyer assumes the risk of being assigned if the contract is exercised. The loss of the option purchase is limited to the premium paid. There are two main types of option, call stock options and put options.

2.41 CALL OPTION

An investor who intends to purchase shares in future will be concerned about price appreciation of shares at the date of purchase. The fluctuations in price will lead to an element of risk since the future prices may appreciate affecting his investment decision adversely. Dubofsky (1992) notes that the investor will purchase a call option if he anticipates the market to be bullish. This option will give the purchaser the right but not the obligation to acquire shares at a specified price on or before a specified date.

According to Laboszewski (1988), the fact that the call owner does not have the obligation to exercise the option means he has limited liability. Should the price of the underlying asset fall, he can just walk away from the call contract and never have to acquire the underlying asset.

Gitmen (1997), notes that a call option contract comes to existent when a buyer and a seller agree on a price. The price of a call option represents the premium paid and the buyer hopes that the price of the stock will rise in value.

Van Horne (1997), notes that on the day of the option the owner may take three actions regarding their positions.

- Do nothing, which implies that the call buyer ignores the option and does not exercise the same.
- Close out the position in the market. This implies that the owner of an option can sell it in the market. Someone who had previously written an option can buy it back.
- Exercise the option. In this case the call owner exercises the option thereby buying the underlying asset the call writer must deliver it. This means the call writer has an obligation to deliver the stock in case the buyer of the call option decides to exercise it.

The action of the call option holder will depend on the movement in share price within the exercise period which will determine the value of the option.

According to Brown and Reilly (1997), the value of the option is equal to maximum of the difference between the stock market price and exercise price and zero, that is maximum (market price – exercise price, 0). This implies that the call option holder will exercise the option only if the market price exceeds the exercise price. If the price exceeds the strike price, then the call owner would be irrational not to exercise it holding market imperfection constant. This is from the fact that the call owner is receiving a stock with a higher market value. Alternatively it would be better to purchase the share in the stock market.

Brown and Reilly (1997), also indicates that the profit or loss from a call purchase would depend on stock price movements. The profit will be the value of an option over and above the premium paid. The right in a call option for the holder will arise in case the investors does not exercise the loss in which case he will lose the premium paid. The loss is limited to premium paid but the profit is unlimited.

2.42 PUT OPTION

According to Emery (1998), the investor who purchases the put option will be concerned about future price depreciation. The investor may have purchased the same with intention of reselling the same in future in an effort to make a capital gain. The investor would lose in case the price of the stock falls in future since the stock will have less value both in form of expected cash inflow and economic value. This leads to an element of risk, which is in form of variation in return of the stock.

Emery (1998), also indicates that a put option will give the holder the right but not the obligation, to sell the stock at a specified exercise price on or before a specified expiration date. Put buyers are bearish which implies that they believe the share price will fall.

At the option date the buyers of a put option can take three actions regarding their positions.

- Fail to exercise the option. The option holder in this case will ignore the right held.
- Cross out the option which implies that the holder would sell the option in the market.

- Exercise the option which implies that the shares will be disposed as agreed. If the put option holder exercises the option the seller of a put has the obligation to take delivery of the shares.

Labuszewski (1988) indicates that the action of the option holder will depend on the movement of the share price within the exercise price and its relationship with the strike price. This will determine the value of option held.

According to Brown and Reilly (1997), the value of the option is equal to maximum of the difference between the exercise price and the stock market price and zero; that is maximum (exercise price – stock market price, 0). This implies that the option holder will exercise the option only if the exercise price exceeds the market price. If the market prices is less than the exercise price, the investor will prefer to exercise the option since he will gain more. In this case the put is said to be in the money. Alternatively, if market price is higher than the exercise price, it would be better to sell the share in the stock market. In this case the put option is said to be out of the money.

Emery (1988), notes that the profit from the purchase of stock options will also depend on movements in share market prices. The profit will be the value of the option over and above the premium paid. The profit is unlimited but the stock option holder loss is limited to premium paid incase he fails to exercise the stock option.

2.5 TRADING MECHANICS

According to Kaen (1995), option can trade in a formal organized market where there will exist well-defined rules and trading procedures or over the counter with no defined rules or procedures.

In an Over The Counter Market trading is by dealers through private arrangements. The delears will make a profit by offering to buy or sell the option.

In an organized market trading is through an auction system. Only listed stocks options would trade in the organized exchange market. The listed options are standardized and the organized exchanges are responsible for standardizing the contract terms and overseeing the trading procedures in the options.

In an organized option exchange market contracts are processed through specialized clearing associations. The clearing corporation helps trading through keeping track of the payments and receipts made on each option contract [Dubofsky (1992)], The corporation will also guarantee delivery of stock if the seller defaults which provide a link between the buyer and the seller. It will break the link on realization that there are matching orders between the buyer and the sellers and that premium has been paid. If the holder of the option intends to exercise the same the corporation will manage the delivery process by assigning a writer an obligation to fulfil the option contract.

Labuszewski (1988), notes that parties to options can terminate their obligation by taking offsetting positions if the options are trading in an organized exchange market. An individual who had purchased a contract can liquidate his position in the contract by selling his contract while an individual who had added a contract can liquidate his position by buying identical contract.

2.6 CONDITIONS NECESSARY FOR THE DEVELOPMENT OF STOCK OPTIONS MARKET

2.61 Market volatility

According to International Finance Corporation (1994) the following conditions are necessary for the development of stock options market.

The main objective of option trading is risk shifting. Stock option purchase assists in minimizing loss through price fluctuations. Emery (1988), notes that there is need to have price variations to stimulate demand for options as a means of hedging against price risk. This will depend on the industrial and economic environment. Fluctuations in exchange rate, commodity prices and interest rates cause a variety of market vagaries. The volatility of economic conditions and prices have a strong correlation with demand for derivative instruments, as the demand is mainly to hedge the resulting risk. The success of the commodity exchanges in Russia can be particularly attributed to the collapse of the old centrally-planned system making the financial market prone to market vagaries.

The success of Brazil's derivative instruments market can be attributed partially to high inflationary effects and existence of policy uncertainty on price volatility.

2.62 Stock market

There is in need for a well-established market for shares within the stock market. This is in form of the existing procedures and ability of the existing traders to stimulate option trade development. For the investors to participate in the option trade there is need for profitability of the options trade. This will depend on the option prices (option premium) and the number of shares traded and the breadth of the market in form of the turnover ratio, market capitalization, the average number of shares traded and the value of the shares traded. These factors will determine the demand for options and thus the options volume in the market.

Market liquidity is an important necessity of the stock market which is determined by total capitalization, turnover and volume of trading in the market. There is need for a high turnover ratio to enhance the market liquidity. These factors affect the number of transactions in the market and thus the market liquidity; [International Finance Corporation, (1994)].

2.63 Communication network

Effective and efficient channels of communication are necessary for stock option trading [International Finance Corporation; (1994)]. This is to enhance information dissemination regarding market performance and link the various traders in the market. This calls for existence of telecommunication facilities able to link both local and foreign participation.

2.64 Legal and regulatory framework

The legal framework provides a basis for the smooth operation fulfillment of the economic functions of the stock option trading. The regulatory framework is necessary to assist in the transaction of favorable market and economic conditions into an efficient functioning market place by ensuring a level playing field for all participants. There is need for the exchanges to be subject to regulation to ensure financial safety of the market participants and investor protection [International Finance Corporation; (1994)].

2.65 General awareness

There is need for the general public to be aware of the use of stock options. as a means of hedging against risk. This awareness can be enhanced through the academic process, media and dealings in the financial market. (Emery 1988).

2.7 OPTION STRATEGIES

Dubofsky (1992), observes that one of the interesting aspects of stock option trading is that there exists a number of strategies available for the investor. The investor should consider the following so as make an appropriate strategy.

Factors affecting the options value. This include market opinion, volatility and time before expiration. According to Laboszewski (1988), different strategies will have different options value due to the inherent characteristics and should be evaluated for optimal selection.

Stock market movement. This refers to the share price movements expected in future. Before selection of the strategy, one should consider whether the stock market will be bearish or bullish. According to Smith (1987), the most critical factor in option trading is the ability to predict the future price movements of the share. The investors should then consider whether the type of option is consonant with their risk objectives and time horizons of the shares to be acquired.

According to Pozen (1978), the prudence of the strategy selected will depend on whether the amount of premium is justified by the reduced exposure of the stock to price risk as compared to the costs and benefits of alternative strategies for reducing this same risk. The following strategies can be used for hedging against stock price risk.

2.71 Purchase of a call option.

This is regarded as a bullish strategy. The purchaser intends to hedge against a rise in price in future for the stock intended for acquisition. The purchaser will lose incase the stock price falls within the exercise period below the exercise price. According to Smith (1987), the loss is limited to the premium paid but his gain is unlimited incase there is a raise in price. This is refereed to as a naked strategy.

2.72 Purchase of a put option

This is a strategy when the investor expects the market to be bearish. The purchaser intends to hedge against a fall in price of the asset held. He will incur a loss if the price falls but this loss would be minimized by use of a put option. According to Marshal, (1989), with a put option the loss is limited to the premium paid but would have unlimited gain depending on price movements. This is also refered to as a naked strategy.

2.73 Covered call writing

In this strategy the investor sells a call option for the asset held. If the price of the asset falls the compensation would be in form of premium received through writing a call. The net result would depend on the magnitude of the price fall. If the price fall matches the premium received then there would be no net loss. However if the price falls by a value greater than the premium, the premium already paid may not be able to fully compensate the investor. The loss will have to be minimized by the premium received. If there is a rise in price the seller of the call option would not gain as the option purchaser would exercise the right acquired. According to Smith (1987), covered call writing leads to sacrificing gain that would have accrued through rise in prices for the guaranteed premium income.

2.74 Straddle

This involves combination of a put and call option. In this strategy the purchaser buys a call option and put option on the share with the same strike price and expiration. This strategy is appropriate when the investor predicts a rise or a fall in price but can not precisely predict the direction of change. According to Marshall (1989), a straddle involves hedging against price volatility but not on price direction, bearish or bullish market. At expiration the put will be worthless if the call has some intrinsic value or the call will be worthless if a put has some intrinsic value. The options holder will breakeven if one of the options intrinsic value is equal to the combined premium paid. The options holder will gain only if one of the options intrinsic value is greater than combined premium paid. The options holder will gain only if one of the options intrinsic value is greater than combined premium paid. The loss is limited to combined premium paid, [Dubofsky; (1992)].

2.75 Strangle

This involves purchase of a put and a call but at different strike prices. The two options have the same expiration dates. The gain or loss will depend on the magnitude of share price volatility in either direction. The investment cost will be the combined premium for the two options. Like the straddle the investor will gain if the intrinsic value of the options held is above the combined premium [Smith, (1987)].

2.76 Spread

This involve taking simultaneously two option positions on the same underlying asset. The investor will simultanously purchase and sell different options on the same stock. The payoff for the two options will change as the price spread of the two premium widens or narrows with change in the price of the share. According to Labuszewski (1988), this strategy would allow speculation on relative price changes. Spreads can take 3 main forms. Vertical spread; this is where the two options have the same expiration date but different strike price. Horizontal spread; this is where the two options have different expirations but the same strike price.

Diagonal spread; this is where the two options have different strike prices and expiration dates. Horne (1997), indicates that the decision on either of the three alternatives should be contingent on the individual risk objective and stock market expectations.

2.8 SURVEY OF STOCK EXCHANGES

2.81 NAIROBI STOCK EXCHANGE MARKET

In Kenya, dealing in shares and stocks started in the 1920s under the colonial government. At this time there was no formal market, no rules and defined regulations for share trading. Exchange was based on gentlemans agreement in which standard commissions were charged with the clients being obligated to honor their contractual commitments of making good delivery and setting relevant costs. The stock broking was at this time conducted by accountants, auctioneers, estate agents and lawyers who were engaged in other areas of specialization[1].

In 1951, an Estate Agent (Francis Drummond) established the first stockbroking firm. He then approached the then finance minister for Kenya with an idea of setting up a stock exchange in East Africa. In 1953 the two approached the London Stock Exchange officials and the London officials accepted to recognise the setting up of the Nairobi Stock Exchange as an overseas stock exchange. Major reorganisation emerged in 1954 when the stock brokers emerged and registered the Nairobi Stock Exchange as a voluntary association under society acts. It was registered as a limited liability company in 1990. Currently there are 54 listed and active companies in the stock exchange 20 licensed brokers and 22 investment advisers[2].

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1. Nairobi Stock Exchange yearly report (1999)
2. Ibid

2.82 KUALA LUMPUR STOCK EXCHANGE

This is the stock exchange of Malaysia. The origin of this exchange can be traced to the late 19th century. After the economic recession of 1929 the Singapore stockbrokers association was formed. The association was registered under the name Malaysia Sharebrokers Association. However operations ceased during the Japanese occupation in world war II but the dealings resumed in 1949. After the split in the Stock Exchange the Kuala Lumpur Stock Exchange was incorporated in 1973 under the Companies Act 1965. The trading based on volume for the year 1993 to 1998 is as shown below:

Year	Volume (shares)
1993	107,756m
1994	60,143m
1995	33,979m
1996	66,461m
1997	72,799m
1998	58,287m

Source: MSCI Handbook of World Stock, Derivative and Commodity Exchanges, (1999)

2.83 AUSTRALIAN STOCK EXCHANGE

The Australia Stock Exchange is the stock exchange in Australia. The exchange was established in 1987 following the merging of the six capital stock exchanges. The six exchanges had been operational since late 1800's. The Australian Stock Exchange has derivatives market besides the trading of equities. The Australian Stock Exchange derivatives market has been in operation since 1976. The volume of put and call options traded between 1993 and 1998 is as shown below:

	Call options	Put options
1993	7,276,145	2,233,746
1994	7,201,318	10,205,004
1995	6,258,000	9,146,000
1996	7,296,00	10,778,000
1997	5,659,526	8,870,000
1998	5,264,284	8,074,514

Source: Ibid

All equity securities are traded on the automated trading system. Brokerage rates on shares vary with the nature of the transaction for private – client business the rates vary between 2 and 2.5% but for large transactions the rates average 1%. The stamp duty on share transactions is 0.3% of the transaction value. Dividends paid by Australian resident companies are subject to an imputation system. However a rebate is provident for the resident companies which have paid sufficient Australian tax.

2.84 BUENOS AIRES STOCK EXCHANGE

This is the stock exchange of Argentina. The exchange was established in 1854. It is a non profit making civil association which groups together companies from all the sectors of the economy as participants in the exchange. It constitutes an association of brokers who set the exchanging rules. The securities traded include, ordinary shares, preferred shares, Government bonds, Corporate bonds, forwards on stocks, options and index futures. The stock transaction commission for the brokers is not standardised but negotiable between the relevant parties. However there is 0.08% and 0.0351% of fee as stock market fee and stock exchange fee, [International Finance Corporation; (1994)].

The summary of option trading is as follows:

Year	Volume of Equity options
1996	57.1 million
1997	83.9 million
1998	94.3 million

Source: MSCI Handbook of World Stock, Derivative and Commodity Exchanges, (1999)

2.85 AMERICAN STOCK EXCHANGE

The American stock exchange was established in the late 1700s. In 1975 the stock exchange began listing of call options. The put options started trading in 1977. Other than options the securities traded include, common stocks, preferred stocks, rights, warrants on stocks, foreign currencies and foreign indices and bonds. The American Stock Exchange is a non-profit making corporation owned by its members. The following was the volume of shares traded between 1993 and 1998.

Year	Volume of shares
1993	4,582m
1994	4,522m
1995	5,072m
1996	5,628m
1997	6,170m
1998	7,280m

Source: Ibid.

The securities traded include, ordinary shares, preference shares, options, loan socks, Loan notes debentures, warrants, bonds, transferable subscription rights and all warrants, [American Stock Exchange www:htp://www.sba.com.ar].

The stock options trading volume for the years 1993 to 1998 is as shown below:

Year	Calls	Puts	Total
1993	97,559	62,54	160,104
1994	48,411	32,271	80,682
1995	24,745	12,297	37,042
1996	13,448	9,375	22.823
1997	9,267	5,245	14,512
1998	2,161	1,621	3,782

2.87 NEW ZEALAND STOCK EXCHANGE

This is the stock exchange for New Zealand. The exchange was developed from the New Zealand Stock Exchange Association formed in 1915[1]. The exchange came in effect in 1983 after being registered under the Authority of the Sharebrokers Amendment Act. Trading on the exchange is done via a national automated screen-based trading system. The system provides a centralised accounting and reporting system for all transactions between members[2]. The commission rates are negotiable. The rates are within a range of 0.5 – 2.5%. There is no stamp duty payable on transfer of securities. The volume of options traded between 1996 to 1998 is as shown below:

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1. New Zealand Stock Exchange, www:http://www.xze.se
2. Ibid

Year	Options volume
1996	144,207
1997	117,670
1998	71,847

The trading volume between 1993 and 1998 is as shown below:

Year	Volume of shares
1993	6,362.2m
1994	5,862.7m
1995	6,911.1m
1996	5,470,7m
1997	6,946.8m
1998	9,789.2m

Source: Ibid

2.88 STOCK HOLM STOCK EXCHANGE

This is the stock exchange of Sweden. The exchange was established in 1778. However it was not until 1901 when the stock market started to operate as an international stock market. Before 1907 only non-bank stockbrokers were admitted as members but this was changed with amendment of the law to allow commercial banks to become members. An electronic market place for fixed interest bonds was opened in 1991 regarded as stockholm bond of exchange. The exchange trading is based on an automated system[1]. Parties meet electronically and place bids and offers for single or block orders, spreads or combinations through their own terminals connected to the system. Commissions for brokerage are paid both by buyers and sellers and are negotiable. For shares listed on the list of the largest and mostly heavily traded companies, they are on average 0.45% of the transaction value.

Commission for shares on the over the counter is 0.65% of the transaction value. Dividends are paid less withholding tax of 30%.

2.90 ATTITUDE MEASUREMENT

According to Remmers (1954), attitude is an effectively toned idea or group of ideas predisposing the organism to action with reference to specific attitude objects. Attitude directs an individual response to stimuli. The attitude normally comes before individuals avert behaviour and effects the way the person will act towards the object of the attitude. Attitudes develop over time through a learning process which is affected by groups influence, information obtained experience and individual personality.

According to Alreck and Settle (1985) the following is necessary in the determination of individual attitude.

- There is need to measure the individuals awareness. This is based on a Yes/No questions about the topic. An index can be constructed to asses the level of awareness.
- In measuring the feeling component of attitude for the respondent it is necessary to establish whether the respondents like or dislike an object and the extent to which they like or dislike it.

- In order to establish the action component of attitude the present and intended behaviour of the respondent should be measured. This will provide a basis of getting information about the action tendency.

Assaer (1981) notes that attitude performs various functions. These are, utilitarian function, the value expression function, the ego-organization function and the knowledge organization function. Within the utilization function attitude guide individuals in the achievement of a desired need. The value expression of self concept and value system. For the ego – defensive function, attitudes protect peoples theatre. The knowledge organization function constitute organization of the mass of information consumes are exposed to and provide a basis of judging the standards.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 POPULATION OF STUDY

The research was based on a survey. The population constituted corporate shareholders in the 20 most active listed companies stock Capital Market Authority brokers, Nairobi Stock Exchange, stock brokers, investment advisors and stock exchanges in countries where there is option trading.

3.2 RESEARCH SAMPLE

The selection of stock exchange in countries where there is stock options trading was based on convenient sampling. This is because only internet could be used to access the data. Stock exchange in 10 countries were included in the sample. The shareholders constituted the top ten corporate shareholders based on the proportionate shareholding. Out of the 200 respondents expected the researcher obtained data from 128 respondents. This constitutes 64% of the sample. Out of the 22 investment advisors the researcher was able to obtain data from 18 respondents representing of the sample 82%. Out of the 20 stockbrokers the researchers was able to obtain data from 16 stockbrokers constituting 80% response.

3.3 DATA COLLECTION

The study was facilitated by the use of both secondary and primary data. Data regarding the shares trading was obtained from the Nairobi Stock Exchange reports. A questionnaire was provided through drop and pick method given to various personalities, the shareholders and the selected financial institutions. The researcher also conducted interviews on the stock brokers, investment advisors, representatives of the Nairobi Stock Exchange and Capital Market Authority, and shareholders who had at least a degree or professional qualifications. The researcher selected the interviewees through judgmental sampling based on the respondents qualifications obtained.

CHAPTER FOUR

4.0 DATA ANALYSIS

4.1 Educational Background of the Sample Respondents

Table 1: The table below shows the Education background of the respondents.

NUMBER			PERCENTAGE	
Level of education	Financial facilitators	Shareholders	Financial facilitators	Shareholders
Postgraduate level	5	2	13.8	1.6
Graduate level	27	45	75	35.1
Diploma level	2	27	5.6	21.1
Holding professional Qualifications only	2	24	5.6	18.8
O level	0	12	0	9.4
A level	0	18	0	14

Table 1 above shows the educational background of the respondents. The respondents class is based on the highest level of education attained. Distinction is made between the respondents within financial facilitators (Capital Markets Authority, Nairobi Stock Exchange, investment advisors and stock brokers) and shareholders regarding respective education background.

The respondents seem to be well informed regarding the financial market. At least 88.8% of the respondents constituting financial facilitators had at least a first degree. At least 56.2% of the respondents constituting shareholders had a first degree. All the respondents within the financial facilitators category had O level education and above. At least all the shareholders had achieved O level education.

4.2 Extent of Awareness

Table 2

The table below shows the extent of awareness of stock options by the respondents.

	Percentage heard	Percentage not heard	Ranking
Forward contracts	89.9	10.2	2
Futures	76.9	13.1	4
Options	88.4	12.6	3
Treasury bills/bonds	100.0	%	1
Mutual funds	44.8	56.2	5

Treasury bills/bonds were ranked as the financial instruments with the highest degree of awareness. None of the respondent was unaware of the Treasury bills. Futures were the instruments with the lowest degree of awareness.

As shown in table 2, 88.4% of respondents indicated awareness of stock options and of only 12.6% of the respondents were unaware of the stock options. This constituted only shareholders as all the respondents within the financial facilitators category (Capital Markets, Nairobi Stock Exchange, Investment Advisors and Stock brokers) indicated awareness of the options.

The table below shows the degree of awareness regarding the means of hedging against risk. Treasury bills/bonds was included as a bait in measurement of extent of awareness. This was to assist in gauging the response of the respondents against the security where the researcher expected awareness.

Table 3: The table below shows the degree familiarity by the respondents

	Average	Rank
Forward contracts	3.2	2
Futures	2.6	4
Options	2.8	3
Mutual funds	2.4	5
Treasury bonds	4.1	1

High ranking of treasury bonds/bills is attributed to the fact that they are frequently traded in the financial market. As a listed security within the stock exchange all the respondents within the financial facilitators category are involved in its trading. A majority of the shareholders indicated being bond/bills holders. This would explain the high average score. Futures had a low rank though traded in financial and commodities market. There was found to exist low rank for options. This was attributed to lack of adequate information and lack of dealing in options.

4.3 Source of Information

Table 4: The table bellow shows the various source of information regarding stock options.

	Forward contracts	Futures	Options	Mutual funds	Treasury bills/bonds
Classroom teaching	35.2	38	42.2	17.8	28.1
Textbooks	36.2	41.2	21.8	16.8	37
Radio	1.4	21	0.9	0.9	39
Television	0.4	0.3	0.4	0.8	61.3
Consultant	1.4	21.7	1.4	1.72	61.8
Friends	17.9	11.7	8.7	12.1	71.1
Daily Newspaper	11.7	48	12.8	4.8	78.7
Magazine	4.1	3.7	11.7	0.8	59.4
Seminar	1.7	4.8	1.9	0.4	48.4

The table above shows the various sources of information of the respondents form.

The highest source of information for options is textbooks and classroom teaching constituting 42.2% and 21.8% respectively. This indicates that the majority of the individuals who are aware of stock options are those who have some level of educational background, presumably at University level.

There seems to be little information from the media on options; only 2.8% and 1.7% had obtained information from Daily Newspaper and Magazine respectively. Only 0.9% had obtained the information from the radio and 0.4% from television. This is unlike the case of other financial instruments like futures and treasury bills/bonds where 48% and 78.7% respectively indicated daily newspaper to constitute source of the information. The existing financial consultants do not seem to be a source of information for stock options. Only 1.4% of the respondents indicated having obtained the information from the consultants regarding stock options.

4.4 Expected Time Frame for Introduction of Option Trade

Table 5:The table below shows the respondents expected time frame for introduction of an options market.

Range	Number	Percent
0 – 3 years	74	45.1
4 – 7 years	55	33.5
8 – 11 years	17	9.4
12 – 17 years	11	6.7
18 years and Above	7	3.3

45.1% of the respondents were optimistic that an options market would develop within the next three yeas. Only 10% had the opinion that an option market would take beyond 11 years to develop. According to the Capital Market Authority a policy paper has already been prepared to foresee the development of a market regarded as "Futures and Options Market". A market survey is to be undertaken by the end of the year 2001 to establish the prospects. In a seminar held on 16th June 2000 on "Financial Markets in Kenya", the then Chief Executive Officer of the Nairobi Stock Exchange stated that plans are underway to establish a derivative market in Kenya.

4.5 Hedging Behaviour

The table shows the investors currently hedging against risk and means used.

Table 6

SHAREHOLDERS	NUMBER	PERCENT
CURRENTLY HEDGING	53	41.4
SHAREHOLDERS CURRENTLY NOT HEDGING	75	58.6

The respondents indicated willingness to hedge against stock price risk. 41.4% of the respondents had a means of hedging against risk. They stated that they buy shares in different companies or get advice from investment advisors as a means of hedging against risk. However the proportion hedging currently is below 65%.

The means used for hedging against risk by the current investors is as shown by the table below:

Table 7: Means Used for Hedging Against Risk by Current Investors:

MEANS OF HEDGING	NUMBER	PERCENT
SHARE HOLDING DIVERSIFICATION	22	41.5
INVESTMENT ADVISOR	31	58.5

A high proportion of the investors relied on the advice of investment advisors as a means of risk minimisation. Only 41.5% relied on portfolio based investment. The preference for the use of investment advisors was attributed to the following:

- The investment advisor has access to data for various companies.
- An investment advisor is a specialist in the area of financial analysis
- The investment advisor will ensure continuous monitoring of performance of the stock market.

Table 8: The table below shows the preferred alternatives for hedging by shareholders who are currently not hedging against risk.

	NUMBER	PERCENT
Options	12	16
Future contracts	4	5.3
Investment advisors	26	34.7
Share diversification	8	10.7
Use of mutual funds	25	33.3

Among the shareholders 16% indicated willingness to use stock options as a means of hedging against share price fluctuations. The shareholders who preferred options gave the following reasons.

- Options trading minimises risk for the option purchaser and offers an opportunity for profits.
- Options trading constitutes a low cost. The only cost is the premium paid as compared to the unlimited profit. However any loss is limited to the premium paid.
- Options are more liquid.

However a high proportion of the shareholders had preference for investment advisors and investment in mutual funds. The preference for mutual funds was attributed to the following:

- It allows use of pooled resources leading to gains through economics of scale.
- The funds are professionally managed
- Provides a means of risk pooling.
- Creation of a perfect market due to competition among the mutual funds.

Table 9: The table below shows the extent to which the respondents consider important the various means of hedging against risk.

	1	2	3	Total	4	5	6	Total	Index	Mean	Std	Mode
Forward contracts	7%	8%	16%	31%	22%	21%	26%	69%	-38%	4.2	1.5	6
Use of futures	13%	14%	18%	45%	22%	18%	15%	55%	-10%	3.6	1.6	4
Use of options	13%	14%	15%	42%	22%	32%	4%	58%	-16%	3	1	3
Use of investment advisor	23%	27%	19%	69%	17%	8%	6%	31%	38%	2.7	1.4	2
Purchase of shares in different companies	15%	16%	26%	57%	12%	16%	15%	43%	14%	3.4	1.6	3
Investment in mutual funds	28%	20%	64%	64%	18%	9%	9%	36%	28%	2.9	1.6	1

Key:

1. Very Important
2. Important
3. Somewhat important
4. Unimportant
5. Totally unimportant
6. Irrelevant

According to the respondents, the means of hedging considered very important are investment in mutual funds and use of an investment advisor. Both had a high positive index of 28% and 38% respectively. However the index options use was negative (-16%). This represents disagreement on the important tools of hedging. Though negative this indicates an element of options importance considering the absolute value (16%) and mode of (3).

The table below shows preferred means of hedging by the financial facilitators.

Table 10: Preferred Means of Hedging by Financial Facilitators.

	Number	Percent
Options	6	16.7
Futures	1	2.8
Investment advisors	14	38.9
Share diversification	3	8.3
Use of mutual funds	12	33.3

The majority of the respondents stated that they would recommend use of mutual funds and investment advisors as a means of hedging. However 16.7% of these recommend the use of options. Among all the respondents, options ranks third after use of investment advisors and mutual funds.

The mutual funds were preferred due to enhancement of risk pooling. The preference of investment advisors was due to technical expertise of the investment advisors according to the respondents.

4.6 Stock market Conditions

4.61 Transaction costs

The table below shows the brokerage commission and fees for purchase and acquisition of shares in the Nairobi Stock Exchange as a percentage of share value.

Table 11: Brokerage Commission and Fees

CONSIDERATION	BROKERAGE COMMISSION	TRANSACTION FEE		COMPENSATION FUND FEE		TOTAL COST TO INVESTOR
On the first Kshs. 10,000,000	1.70	0.14	0.14	0.01	0.01	2.00
On the next Kshs. 40,000,000	1.50	0.14	0.14	0.01	0.01	1.80
On any sum above Kshs.50,000,000	0.80	0.14	0.14	0.01	0.01	1.10

The maximum cost is 2% of the transaction value. This cost is not high as compared to other countries which have introduced stocks options trading. For the Australian Stock Exchange the Transaction average between 1.3% and 2.8% including stamp duty. For the

American Stock Exchange the transaction fee is on average 1.5% of transaction value including clearing fee and stamp duty. The average transaction cost for five countries surveyed where there is option trading is 1.4%.. The withholding tax for dividends of 15% in Kenya was found to be within the range of other countries where there is option trading. Except for co-operative societies other than saving and credit co-operative societies withholding tax on dividends currently constitutes the final tax for individuals. Dividends receivable in the American Stock Exchange are taxable at a corporate rate of 28%. In Stockholm Exchange the withholding tax on dividends is 30%. This is above the withholding tax rate of Kenyan dividends, which is currently 5% for residents and 10% for non-residents.

4.62 Market Capitalization and Number of Listed Companies

The following table shows the number of listed companies and market capitalisation for selected stock exchanges.

Table 13: Market Capitalization Number of Listed Companies Market Capitalization for Selected Stock Exchanges:

COUNTRY	STOCK EXCHANGE	NUMBER OF LISTED ACTIVE COMPANIES AS AT 31ST DEC 1998	MARKET CAPITALIZATION YEAR- 1998
NEWZEALAND 1	New Zealand Stock Exchange	269	5269 Billion
SINGAPORE 2	Stock Exchange of Singapore	307	11737 billion
KENYA	Nairobi Stock Exchange	54	129 billion
PORTUGAL 3	Lisbon Stock Exchange	135	128976 billion
JAPAN 4	NagoyaStock Exchange	580	
FINLAND 5	Helsinki Exchange	156	3009.6 billion
FRANCE 6	Paris Stock Exchange	962	57884.1 billion
MALAYSIA 7	Kuala Lumpur Stock Exchange	736	5992.32 billion
ARGENTINA 8	Bueones Aires Stock Exchange	131	3442.8 billion
NETHELAND 9	Amsterdam Exchange	800	42432 billion
SWEDEN 10	Stockholm Stock Exchange	276	19231.2 billion
UNITED KINGDOM 11	London Stock Exchange	2,92	482368.2 billion

Source:

10. Sweden -www.http//www.xs se.se
1 New Zealand -www.http//www.nze.co.nz
4. Japan -www.http//www.ns.e.or.J.P

8 Argentina -www.http//www.569.com.ar
11. United Kingdom -www.http//www.londonstockec.Co.UK
9 Amsterdam -www.http//www.aex.nl
7 Malasia -www.http//www.Klse.co.my
6 France -www.http//www.bourse.de.paris.fr
5 England -www.http//www.hex.fi.
3 Portugal -www.http//www.bui.pt
2 Singapore -www.http//www.ses, com.sg
6. Nairobi Stock Exchange Annual Report (1999)
MSCI Handbook of World Stock, (1998)
Derivative and Commodity Exchanges, (1991)

As compared to other stock exchanges the number of listed companies in Nairobi Stock Exchange seems to be significantly low as compared to stock exchanges where there is stock options trading. In all the exchanges considered and with option trading there exists at least 100 listed companies.

Also the Market Capitalisation in Kenya seems to be quite low as compared to the countries where there is option trading. In all the exchanges considered and with option trading the Market Capitalization is at least 3000 billion. This is far above the Nairobi Stock Exchange whose market capitalization is 129 billion for the same year 1998.

The table below shows the nature of trading in the Nairobi Stock Exchange between 1990-1999.

4.63: Performance in the Nairobi Stock Exchange 1993 - 1999

Table 14

	TOTALS 1990	TOTALS 1991	TOTALS 1992	TOTALS 1993	TOTALS 1994
Market Capitalization (Kshs)	10,902,194,000	12,705,968.480	23,062,793,020	72,394,794,200	136,931,155,354
Shares Traded	11,047,472	16,648,404	14,810.890	27,292,007	42,758.072
Turnover ratio (shares)	2.08%	2.49%	1.99^^%	3.06%	2.70%
Value Traded (Sales Only)	234,742,623	301,519,180	384,572,445	824,305,921	3,076,155,718
No. of Transactions (Sales only)	8,422	8,742	12,020	17.885	39,581
Av.Value per transaction	27,872.55	34,490.87	31,994,38	46,098.23	77,717.99

	TOTALS 1995	TOTALS 1996	TOTALS 1997	TOTALS 1998	
Market Capitalization (Kshs)	112,879,987,315	99,945,924,917	114,310,801,101	129,021,423,589	106,737,960,112
Shares Traded	59,385,414	113,559,992	143,583,761	111,511,214	157,487,473
Turnover ratio (shares)	3.30%	4.49%	4.84%	3.38%	4,69%
Value Traded (Sales Only)	3,345,301,398	3,962,290,548	6,148,455,681	4,583,868,081	5,158,126,121
No. of Transactions (Sales only)	54.280	63,304	80,546	54,925	45,887
Av. Value per transaction	61,630.46	62,591.47	76,334.71	83,456.86	112,409.31

The average market capitalization of the Nairobi Stock Exchange is low as compared to the stock exchanges considered where there is option stock trading. The average market capitalisation (1990 – 1999) was 81 billion. This is far below the market capitalization of the other Stock Exchanges considered. The average number of shares traded between 1990 and 1999 was 69 million. The average value of shares traded between 1990 and 1991 was 2.8 billion. There seems to exists low level of share trading based on market capitalization, number of shares traded and the value of shares traded. The respondents cited this as a limiting factor to the option market (Table 18). There may be reluctancy for the investors to trade in options as the low market capitalization, shares traded and value will affect the volume of options trading. This would hinder profitability of stock options trade and thus curtail the development of stock option trading.

4.7 General conditions

The table below represents the respondents perception regarding existence of conditions relevant for option trade.

Table 18

	1	2	3	T0TAL	4	5	6	TOTAL	INDEX
ıere is ·ased ıtisation	24%	22%	18%	63%	24%	9%	4%	37%	26
ıe share ;action cost w	27%	18%	23%	67%	20%	12%	1%	33%	34
here exists quate ıns of rmation	9%	9%	20%	38%	25%	23%	14%	62%	-24

cess								
The current chnology is equate for e stock rket	12%	17%	24%	54%	21%	16%	9%	46%	8
The stock estors are ll educated	19%	13%	19%	51%	18%	20%	12%	49%	2
There exists de price ctuations	37%	30%	16%	84%	12%	4%	1%	16%	68
There exists equate mmunication twork	19%	11%	19%	49%	20%	18%	13%	51%	-2
There exists ge number of are traders	18%	16%	23%	57%	18%	12%	13%	43%	14
There exists well tablished al mework	14%	19%	14%	47%	18%	17%	18%	53%	-6
. The credit cilities in nya are equate	13%	15%	18%	46%	18%	16%	21%	54%	-8
. The current areholders e well ormed of are trading	15%	11%	13%	39%	15%	22%	24%	61%	-48
2. There ists high owth rate in e Nairobi	19%	15%	18%	52%	15%	16%	17%	48%	4

ock exchange									
There sists adequate ancial gulations	17%	17%	20%	54%	15%	15%	16%	46%	8
There exists mmercially ented citizes	22%	11%	19%	52%	15%	16%	17%	48%	4
The country s high level credit orthness	15%	13%	13%	41%	19%	20%	20%	59%	-8

KEY

1. Strongly Agree
2. Agree
3. Somewhat agree
4. Somewhat disagree
5. Disagree
6. Strongly agree.

Increased privatization was found to exist in the Kenyan economy as a means to enhance share volume in the stock market. This is based on positive index of 26 from the respondents. The respondents indicated that the transaction costs for share in Kenya is low. This had a positive index and the value is high indicating high level of intensity. Based on a survey of other stock exchanges the Kenyan transaction cost was found to be within the range of other stock exchanges. There was found to exist inadequate means of information access. The index is negative and the absolute value of 24 shows significant level of disagreement.

The respondents indicated problems of stock price fluctuations as highly existent. The index is positive and value is high (68) indicating significant level of agreement. This is in concurrence with the found desire to hedge against stock price risk in the attitude analysis. The existing financial regulations were found not to be fully adequate. The index of –6 indicates an element of disagreement as regards existence of financial regulations. A majority of the respondents indicated lack of compliance by companies to existing regulations. A majority of the respondents indicated lack of compliance by companies to existing regulations.

Table 19: The table below represents the respondents attitude towards options trading.

Respondents attitude

	1	2	3	TOTAL	4	5	6	TOTAL	ATTITUDE INDEX
1.Option trading is complex	5%	31%	23%	58%	24%	15%	3%	42%	17
2. Option trading cannot eliminate risk	2%	7%	18%	28%	26%	26%	20%	72%	-44
3 Kenyan market is not ready for an option market	12%	14%	23%	49%	20%	22%	10%	51%	-2
4 Use of options minimises profit making	5%	13%	20%	38%	25%	23%	14%	62%	-24
5 Only academicians would use options	7%	9%	21%	37%	23%	23%	17%	63%	-26
6.Option trading is risky	5%	4%	14%	23%	21%	28%	29%	77%	-54
7.Options is useful only for large investors	5%	8%	17%	30%	26%	24%	20%	70%	-40
8.Cash market would be better than options based market	7%	15%	16%	38%	20%	24%	18%	62%	-24
9 There is no need for hedging against price changes	7%	1%	5%	13%	15%	46%	26%	87%	-74
10 There already exists adequate means to minimise stock price list	2%	1%	9%	12%	26%	34%	28%	88%	-76
11 Option trading may not be profitable for investors	13%	24%	19%	56%	21%	12%	12%	44%	12
12 Options trading would lead to default risk	7%	7%	16%	31%	26%	24%	20%	69%	38
13 Use of option is expensive	6%	9%	16%	30%	24%	25%	20%	70%	40
14 Stock price fluctuations has very low risk	3%	4%	7%	14%	24%	38%	24%	86%	-72

Key
1. strongly Agree
2. Agree
3. Somewhat agree
4. Somewhat disagree
5. Disagree
6. Strongly agree.

According to the respondents there exists perception of option as complex. This is based on a positive index of 17%. The investors cited the problem of option value determination as a basis of determining option price and forecasting future prices so as to determine whether to buy a call or a put option. The investors generally were of the view that option trading could be used as a basis of eliminating risk. The index is –44 indicating disagreement with the statement. The investors indicated the need of the stock market to have option trading. However, the absolute value (2) is very low indicating low intensity. This would indicate that the market is not considered fully ready for stock option market.

The investors showed a need for an option market by expressing a need to hedge against share price risk. The investors indicated that there is lack of a means to hedge against stock price risk. This is based on a negative index of 72. The absolute value is also very high indicating high intensity

The options may not be profitable based on a positive index of 12. This was attributed to low share volume which would affect the number of shareholders trading in options. Associated to lack of profitability is the problem of default risk. The respondents were pessimistic that the option market may lead to another form of risk in form of default risk. This is based on a positive index of 38. The option trade was also found to be expensive. The respondents cited costs in form of option premium and cost of evaluation as a basis of option purchase.

4.9 Economic conditions

4.91 Interest rates

The table below shows the interest rates in the economy

Table 15 Average interest/month

MONTH	1999	1998
JAN	10.7	26.3
FEB	8.9	26.3
MAR	8.8	26.7
APRIL	9	27
MAY	9.6	26.4
JUN	11.4	25.5
JUL	14.5	24.7
AUG	14.8	23.9
SEP	15.8	22.5
OCT	17.6	20.6
NOV	18.1	17.7
DEC	20	12.5
Mean	13.2	23.3
Standard Dev.	3.8	4.24

Average Interest per annum

YEAR	INTEREST (%)
1993	33.5
1994	18.7
1995	21.7
1996	21.6
1997	26.4
1998	12.6
1999	20
Mean	22
Standard Dev	6

The interest rate in Kenya has had wide fluctuations (Appendix 3 and 4). The mean interest per month was 13.26% and 23.34% for 1999 and 1998 respectively. The standard deviation is quite high being 3.85 and 4.24 in 1994 and 1998 respectively. The average interest rate between 1993 and 1999 was 22.07 with a significant standard deviation of 6.04. This wide fluctuations lead to instability in the stock market due to the effect in form of expected return and investors opportunity cost. The would lead to fluctuations in share prices and also would enhance the need for a means of hedging against share price risk.

4.92 Inflation

The table below shows the inflation rate in the economy.

Table 16 Inflation rate per month (%)

MONTH	1999	1998
JAN	5.8	7
FEB	2.5	8.4
MAR	2.3	12.3
APR	2.5	12.3
MAY	4.5	10.8
JUN	5	11.3
JUL	4.9	11.4
AUG	5.9	9.8
SEP	6.6	8.4
OCT	6.6	8.3
NOV	7.3	7.9
DEC	7.6	7.6
Mean	5.1	9.6
Standard Dev	1.7	1.8

Inflation per annum (%)

YEAR	VALUE
1993'	48.4
1994'	28.8
1995'	1.6
1996'	8.4
1997'	6.6
1998'	9.8
1999'	7.6
Mean	15.8885714
Standard Dev.	16.71

There seems to be a high rate of inflation in the country and wide fluctuations (Appendix 1 and 2). The mean inflation rate in 1999 was 5.125% and 9.625% in 1998. The standard deviation was 1.79 and 1.83 implying existence of variability in the inflation rate. Between 1993 and 1999 average rate was 15.88% with a standard deviation of 16.71. Inflation rates lead to wide changes in the money and capital market due to changes in purchasing power, cost of transactions and required rate of return by the investors.

4.93 Exchange rate

The table below shows the exchange rates in the economy for the year 1999.

Table 17: Exchange rate per month

MONTH	(KSH/USD)	(KSHS/$)
JAN	61.8	102
FEB	68	104
MAR	65.4	103.8
APR	64	105.3
MAY	68.8	111.2
JUN	73.6	117.5
JUL	73.1	115.1
AUG	74.4	119.6
SEP	75.7	122.8
OCT	75.6	125.3
NOV	74.3	123
DEC	73.9	119.3
Standard dev	4.8	8.4
Mean	65.6	105.9

Exchange rate per annum

YEAR	(KSH/USD)	(KSHS/$)
1993'	68.41	101.9
1994'	45.18	70.49
1995'	55.18	87.97
1996'	55.2	91.8
1997'	63.1	104.8
1998'	61.8	103.2
1999'	61.8	103.2
Mean	58.6	94.4
Standard Dev.	6.97	11.7

There seems to exist wide fluctuations in the exchange rate (Appendix 5 and 6). The standard deviation was 4.891 and 8.47 for exchange rate between Kenya shilling, US dollars and sterling pound respectively. Between 1993 and 1999 the standard deviation was 6.97 and 11.76 for the exchange rate between Kenya shilling, US dollars and sterling pound respectively. This shows high level of variability. This variability has a wide effect in prices in the stability of prices in the stock exchange. Exchange rate affect flow of capital among various exchanges based on its effect on the value of investment made and value of receipts in case of sale of the investments held.

There exists a wide fluctuation in economic variables (interest rates, inflation and exchange rates) that would affect stock prices at the Nairobi Stock Exchange. This fluctuations would lead to wide variability in share prices. This stimulates hedging as the shareholder try to minimize the associated risk. This is would promote options trade as risk resulting from market changes can not be hedged against through diversification. All securities would be affected by the market risk and thus diversification would not be useful.

CHAPTER 5:

5.1 CONCLUSIONS, SUMMARY AND LIMITATIONS

There exists awareness regarding stock options trading. All the individuals constituting financial facilitators are fully aware about stock options trading. However information seems to be limited regarding stock options. A high proportion of the individuals familiar with stock options seem to obtain information from the normal learning process. There exists little contribution from the media on the stock options trading Only 12.8% had obtained information regarding option from the Newspapers. This may curtail the development as the media contribution is necessary in the dissemination of information.

The stock investors have already recognized the extent of loss through share price fluctuations. There seems to be preference to hedge against the stock price fluctuations. At least 41.4% of the shareholders are currently making an effort to minimize the risk resulting from share price fluctuations. This indicates a positive hedging behaviour. There, exists positive attitude towards development of an options market. However the proportion of the investors willing to trade in options is low though they expect its introduction to be in the near future. There seems to exist a high preference for reliance on mutual funds or investment advisors as compared to use of options. The investors perceive the two to constitute low risk and low cost. The option trade is considered as complex. This is because of the complexity involved in determining the fair value of an option and making a forecast of the future stock prices. There exists a problem of determining the possible outcome from writing or selling an option contract as these still depend on the share prices. This is compounded by the fact that the loss is unlimited for an option writer. This may lead to reluctance to trade in options.

There exists a general view that the Kenyan stock market may not be ready for the introduction of a stock options market. Though the investors would be willing to use options as a means of hedging against stock price risk, underlying conditions may hamper the progressive development of stock options trade.

The existing communication network and means of information are not adequate for the development of stock options trading. The stock market has few number of shareholders and low number of listed companies. This has adversely affected the turnover, trading volume and market capitalization. Investors in stock options would be reluctant to invest in such a market as this would also affect their profitability. Low aggregate performance level has also affected liquidity level which is a pertinent in the introduction of stock option trading. As compared to other countries the main setback is the number and aggregate value of the share transactions. The low volume of share trading, low turnover and low market capitalization may affect the volume of stock options trade after introduction. There may be reluctance by the investors to venture in stock option trading as the profitability may be low.

5.1 RECOMMENDATIONS

There is need to create a means of enhancing awareness for stock options trading. Means should be devised to provide information to the current and potential investors. This should also aim at enhancing understanding to minimize the existing perception that stock options trading is complex.

The Nairobi Stock Exchange needs to enhance listing of companies in the Exchange. This is necessary so as to enhance market liquidity and increase the volume of transactions in the Nairobi Stock Exchange.

5.2 LIMITATIONS OF THE STUDY

The study was constrained by the following factors:

Data access: Access to data regarding performance of other stock exchanges was limited. The only source which could provide current information regarding these exchanges was through internet. This was not only demanding in terms of browsing the entire section of the internet but also the high cost associated with browsing of the internet. Based on this the researcher had to use convenient sampling.

The shareholders were sparsely distributed. The researcher's time and expense was constrained on this basis. Also it was quite difficult tracing their location as the main source (Nairobi Stock Exchange) only quoted the organization and Box Number. It proved demanding to locate the same through use of the telephone directory and later by telephone.

Resources: The researcher did not have adequate funds. Due to the high cost incurred in data access, especially use of internet the aggregate expenditure increased beyond the budgeted level. This affected the process of data acquisition.

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APPENDICES

APPENDIX 1

QUESTIONNAIRE FOR THE FINANCIAL FACILITATORS

Name of the firm..

Position held in the firm of respondent..

Academic qualification...

Professional qualification...

1. Have you heard of the following?

   (Tick as appropriate)

	Yes	No
Forward contracts	[ ]	[ ]
Futures	[ ]	[ ]
Options	[ ]	[ ]
Treasury bills/bonds	[ ]	[ ]
Mutual funds	[ ]	[ ]

2. Rate the above mentioned items in accordance to your degree of familiarity.

   KEY

   1. Highly familiar
   2. Familiar
   3. Somewhat familiar
   4. Least familiar
   5. Not familiar
   6. Not aware

	RANK					
	1	2	3	4	5	6
Forward contracts	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Futures	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Options	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Mutual funds	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Treasury bills/bonds	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

3. Indicate below the source(s) of the information mentioned in 2 above.

Key

1. Forward contracts
2. Futures
3. Options
4. Mutual funds
5. Treasury bills.

	1	2	3	4	5
Classroom teaching	[ ]	[ ]	[ ]	[ ]	[ ]
Textbooks	[ ]	[ ]	[ ]	[ ]	[ ]
Radio	[ ]	[ ]	[ ]	[ ]	[ ]
Television	[ ]	[ ]	[ ]	[ ]	[ ]
Consultant	[ ]	[ ]	[ ]	[ ]	[ ]
Friends	[ ]	[ ]	[ ]	[ ]	[ ]

Daily Newspaper	[ ]	[ ]	[ ]	[ ]	[ ]
Magazine	[ ]	[ ]	[ ]	[ ]	[ ]
Seminar	[ ]	[ ]	[ ]	[ ]	[ ]

Others,

specify……………………………………………………………………………………

4. Below is a list of the means that would assist in minimizing loss arising through share price fluctuation. Please indicate how important each of the techniques would be based on your rating.

KEY:

1. Very important
2. Important
3. Fairly important
4. Unimportant
5. Totally unimportant.
6. Irrelevant

	1	2	3	4	5	6
Use of forward contracts	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Use of futures	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Investment in mutual funds	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Use of investment advisor	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Purchase of shares in different companies	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Use of options	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Others specify……………………………………………………………………………

5. If you were to select for use or recommendation for use which alternative would you give preference.

…………………………………………………………………………………………..

6. Based on the answer in number 5 specify the reason(s) for your preference of the means selected.

…………………………………………………………………………………………..

…………………………………………………………………………………………..

7. Do you find it possible for Kenya to have an options market in the near future. (Tick appropriately).

Yes [ ] No [ ]

8. If answer to question 7 is No state the reason(s) why

……………………………………………………………………………………………

……………………………………………………………………………………………

……………………………………………………………………………………………

9. If answer to question 7 is Yes state the time frame you would expect this to take place.

0 - 3 years

4 – 7 years

8 – 11 years

12 – 17 years

18 years and above

10. .For the development of an options market certain conditions are necessary state the extent to which you agree on the existence of the undermentioned conditions.

KEY

1. Strongly Agree
2. Agree
3. Somewhat agree
4. Somewhat disagree
5. Disagree
6. Strongly agree.

	1	2	3	4	5	6
1. There is increased privatisation	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2. The share transaction cost is low	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3. There exists adequate means of information access	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4. The current technology is adequate for the stock market	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5.The stock investors are well educated	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6. There exists wide price fluctuations	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7. There exists adequate communication network	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
8.There exists large number of share traders	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
9.There exists a well established legal framework	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

10 The credit facilities in Kenya are Adequate	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11.The current shareholders are well informed of share trading	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12 There exists high growth rate in the Nairobi stock exchange	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13.There exists adequate financial regulations	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14.There exists commercially oriented citizes	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15. The country has high level of credit worthiness	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

11. For each of the following items, indicate the extent to which you agree or disagree as follows:

Key
1 Strongly Agree
2. Agree
3. Somewhat agree
4. Somewhat disagree
5. Disagree
6. Strongly agree.

	1	2	3	4	5	6
1. Option trading is complex	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2. Option trading cannot eliminate risk	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3. Kenyan market is not ready for an option market	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4. Use of options minimises profit making	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5. Only academicians would use options	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6. Option trading is risky	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7. Options is useful only for large investors	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
8. Cash market would be better than options based market	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
9. There is not need for hedging						

against price changes	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10. There already exists adequate means to minimise stock price list.	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11.Option trading may not be profitable for investors	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12. Options trading would lead to default risk	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13. Use of option is expensive	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14. Stock price fluctuations has very low risk	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

QUESTIONNAIRE FOR THE SHAREHOLDERS

Name of the firm/shareholder..

Position held in the firm of respondent...

Academic qualification...

Professional qualification..

1. Have you heard of the following?

   (Tick as appropriate)

	Yes	No
Forward contracts	[ ]	[ ]
Futures	[ ]	[ ]
Options	[ ]	[ ]
Treasury bills/bonds	[ ]	[ ]
Mutual funds	[ ]	[ ]

2. Rate the above mentioned items in accordance to your degree of familiarity.

   KEY

   1. Highly familiar
   2. Familiar
   3. Somewhat familiar
   4. Least familiar
   5. Not familiar
   6. Not aware

	RANK				
	1	2	3	4	5
Forward contracts	[ ]	[ ]	[ ]	[ ]	[ ]
Futures	[ ]	[ ]	[ ]	[ ]	[ ]
Options	[ ]	[ ]	[ ]	[ ]	[ ]
Mutual funds	[ ]	[ ]	[ ]	[ ]	[ ]
Treasury bills/bonds	[ ]	[ ]	[ ]	[ ]	[ ]

Key:

1. For ward contracts
2. Futures
3. Options
4. Mutual funds
5 Treasury bills/bonds

3.Indicate below the source(s) of the information mentioned in 2 above.

	1	2	3	4	5
Classroom teaching	[ ]	[ ]	[ ]	[ ]	[ ]
Textbooks	[ ]	[ ]	[ ]	[ ]	[ ]
Radio	[ ]	[ ]	[ ]	[ ]	[ ]
Television	[ ]	[ ]	[ ]	[ ]	[ ]
Consultant	[ ]	[ ]	[ ]	[ ]	[ ]
Friends	[ ]	[ ]	[ ]	[ ]	[ ]
Daily Newspaper	[ ]	[ ]	[ ]	[ ]	[ ]
Magazine	[ ]	[ ]	[ ]	[ ]	[ ]

Seminar [ ] [ ] [ ] [ ] [ ]

Others,

specify...

4. Below is a list of the means that would assist in minimizing loss arising through share price fluctuation. Please indicate how important each of the techniques would be based on your rating.

KEY:

1. Very important
2. Important
3. Fairly important
4. Unimportant
5. Totally unimportant.
6. Irrelevant

	1	2	3	4	5	6
Use of forward contracts	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Use of futures	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Investment mutual funds	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Use of investment advisor	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Purchase of shares in different companies	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Use of options	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Others specify...

5. Do you have a means of hedging against share price risk currently?

(Tick appropriately)

Yes [ ] No [ ]

6. If answer to question 5 is Yes specify the means being used

1 ....

2. ....

3. ....

7. If your answer to question 5 is No, which alternative if you were to select would you consider as a means of hedging against share price risk?

1 ....

2 ....

3 ....

8. List the reasons for the alternative(s) selected in number 7 above.

1 ....

2 ....

3 ....

9. Do you find it possible for Kenya to have an options market in the near future.

(Tick appropriately).

Yes [ ] No [ ]

10 If answer to question 9 is No state the reason(s) why

....

....

....

11.If answer to question 9 is Yes state the time frame you would expect this to take place.

0- 3 years

4 – 7 years

8 – 11 years

12 – 17 years

18 years and above

12.For the development of an options market certain conditions are necessary state the extent to which you agree on the existence of the undermentioned conditions.

KEY

1. Strongly Agree
2. Agree
3. Somewhat agree
4. Somewhat disagree
5. Disagree
6. Strongly agree.

	1	2	3	4	5	6
1. There is increased privatisation	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2.The share transaction cost is low	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3. There exists adequate means of information access	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4. The current technology is adequate for the stock market	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5.The stock investors are well educated	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

6. There exists wide price fluctuations	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7. There exists adequate communication network	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
8.There exists large number of share traders	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
9.There exists a well established legal framework	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6 The credit facilities in Kenya are Adequate	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11.The current shareholders are well informed of share trading	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12 There exists high growth rate in the Nairobi stock exchange	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13.There exists adequate financial regulations	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14.There exists commercially oriented citizes	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15. The country has high level of credit worthiness	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Key
1 Strongly Agree
2 Agree
3 Somewhat agree
4 Somewhat disagree
5 Disagree
6 Strongly agree.

	1	2	3	4	5	6
1. Option trading is complex	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2 Option trading cannot eliminate risk	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3. Kenyan market is not ready for an option market	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4. Use of options minimises profit making	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5. Only academicians would use options	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6. Option trading is risky	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7. Options is useful only for large investors	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
8. Cash market would be better than options based market	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
9. There is not need for hedging against price changes	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10. There already exists adequate means to minimise stock price						

list. [ ] [ ] [ ] [ ] [ ] [ ]

11.Option trading may not be profitable for investors [ ] [ ] [ ] [ ] [ ] [ ]

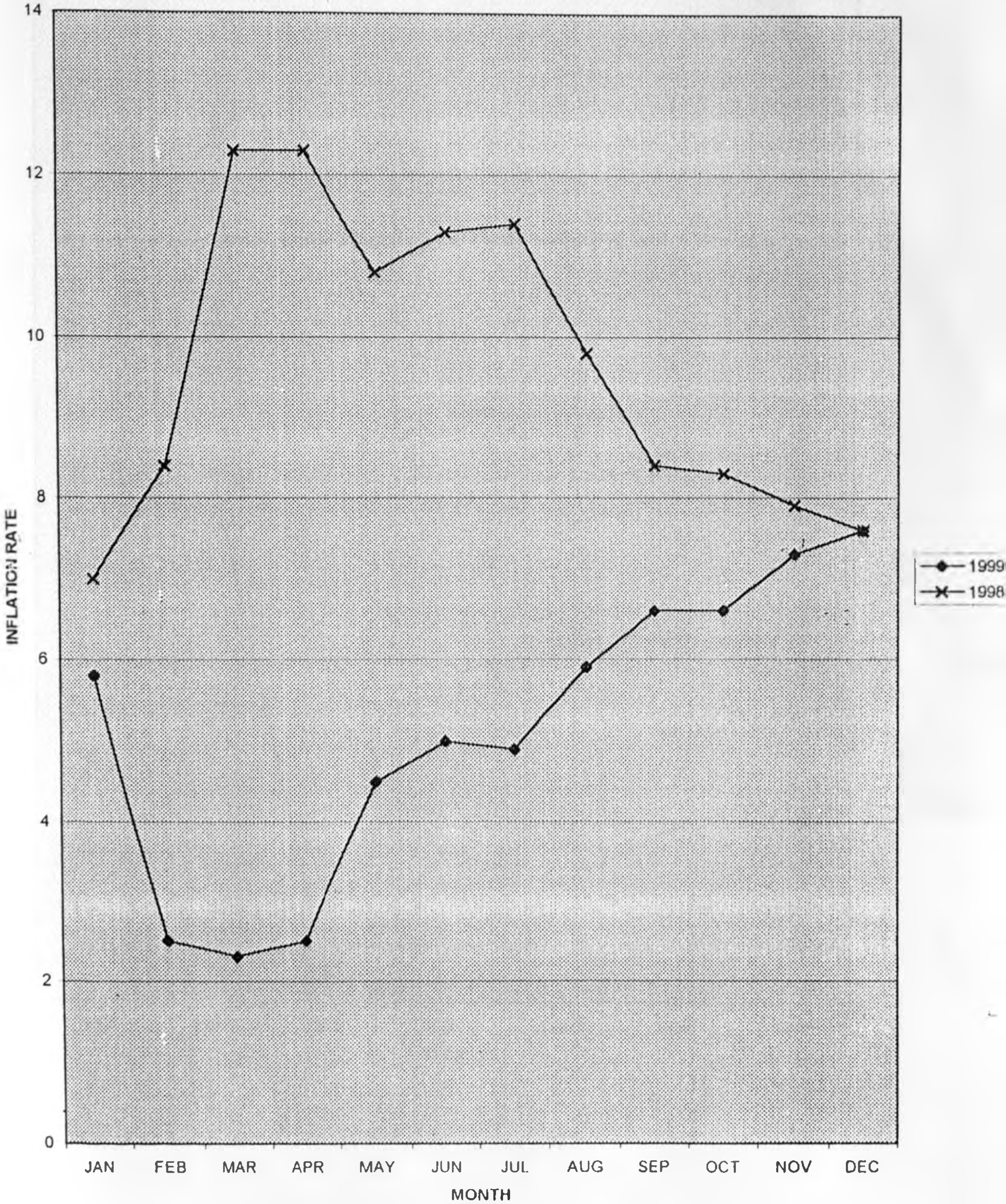
12. Options trading would lead to default risk [ ] [ ] [ ] [ ] [ ] [ ]

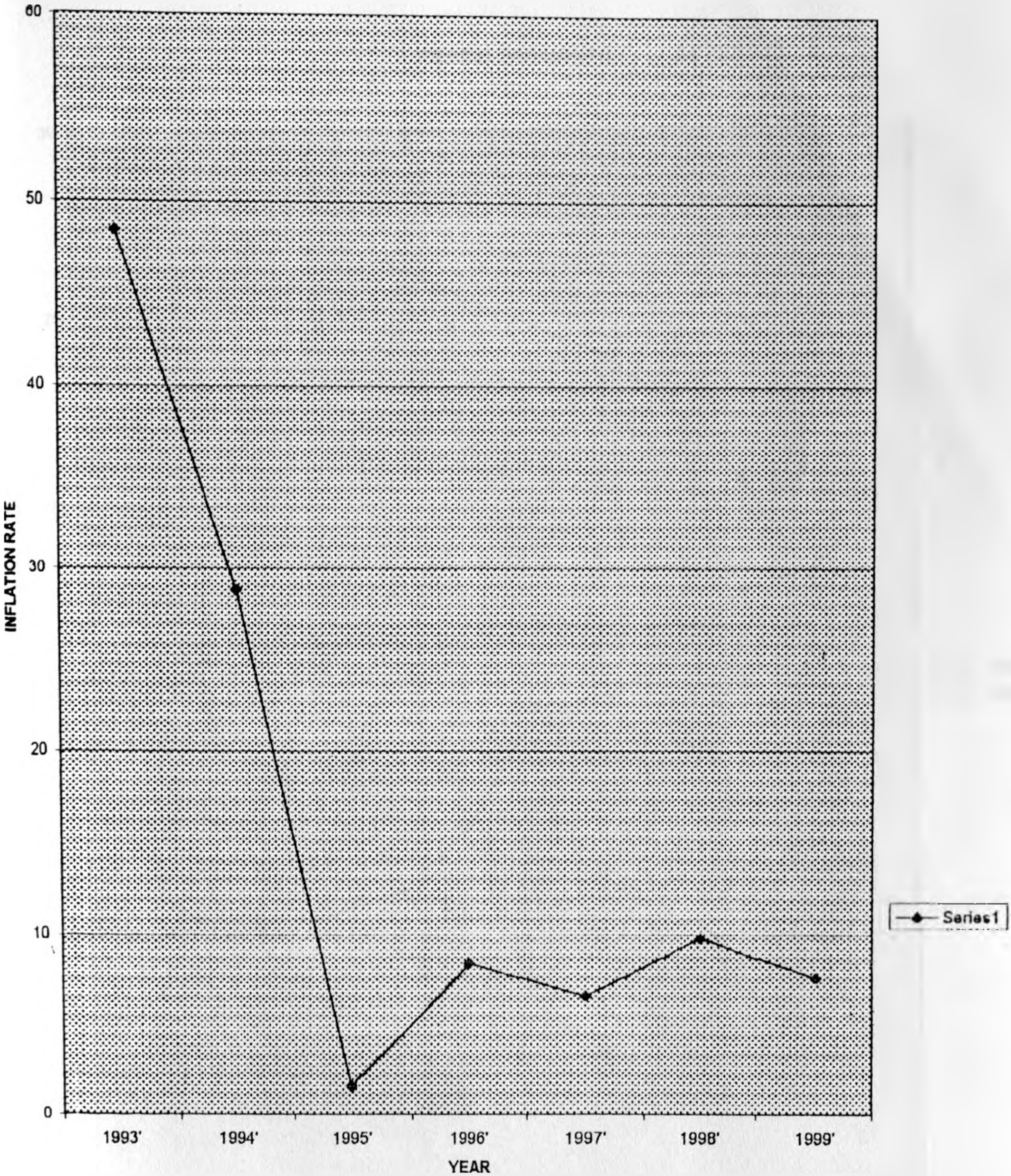
13. Use of option is expensive [ ] [ ] [ ] [ ] [ ] [ ]

14. Stock price fluctuations has very low risk [ ] [ ] [ ] [ ] [ ] [ ]

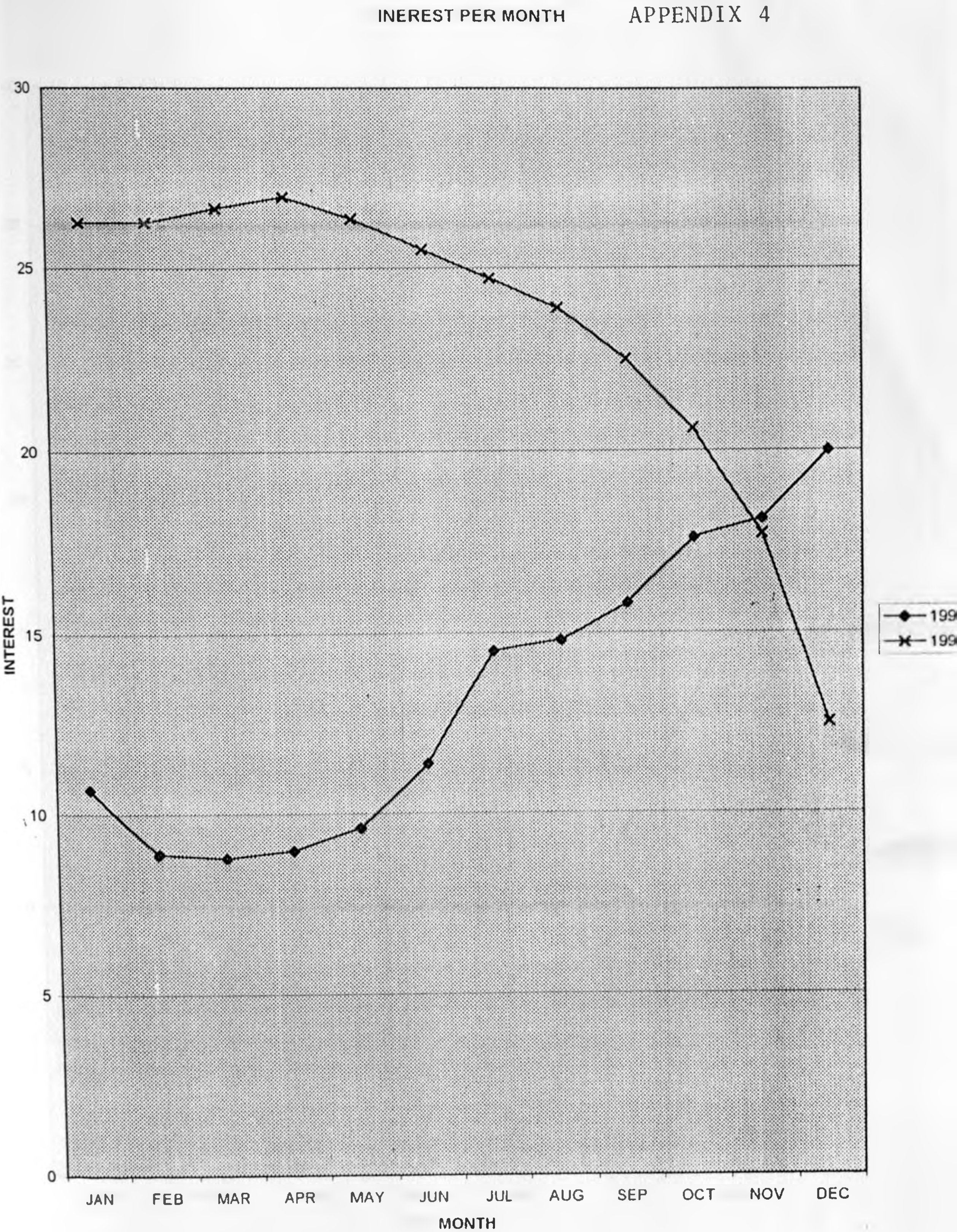
APPENDIX 2

INLATION PER MONTH



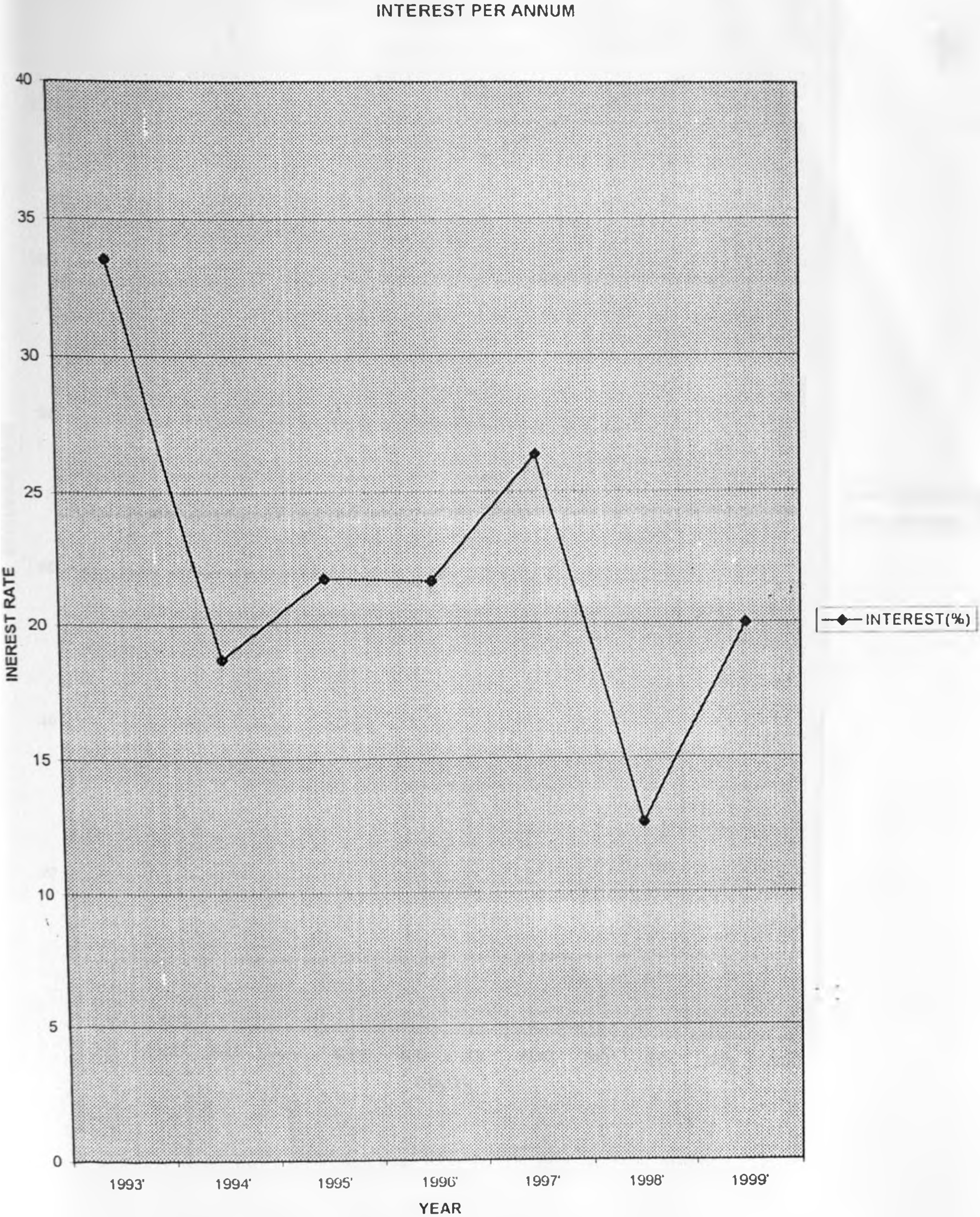

60
50
40
30
20
10
0
INFLATION RATE
1993'
1994'
1995'
1996'
1997'
1998'
1999'
YEAR
Series1

APPENDIX 4



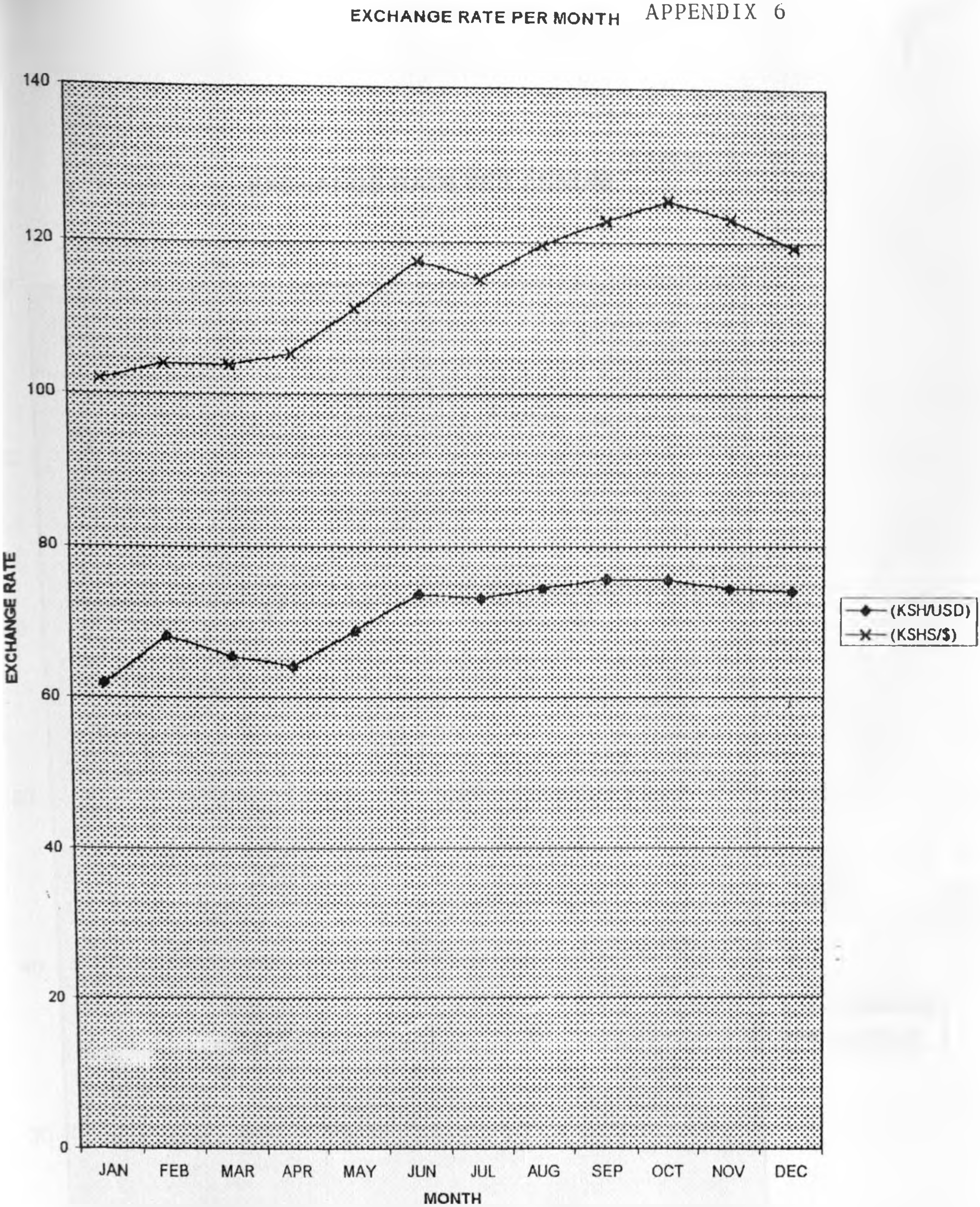
INEREST PER MONTH
30
25
20
15
10
5
0
INTEREST
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
MONTH

APPENDIX 5

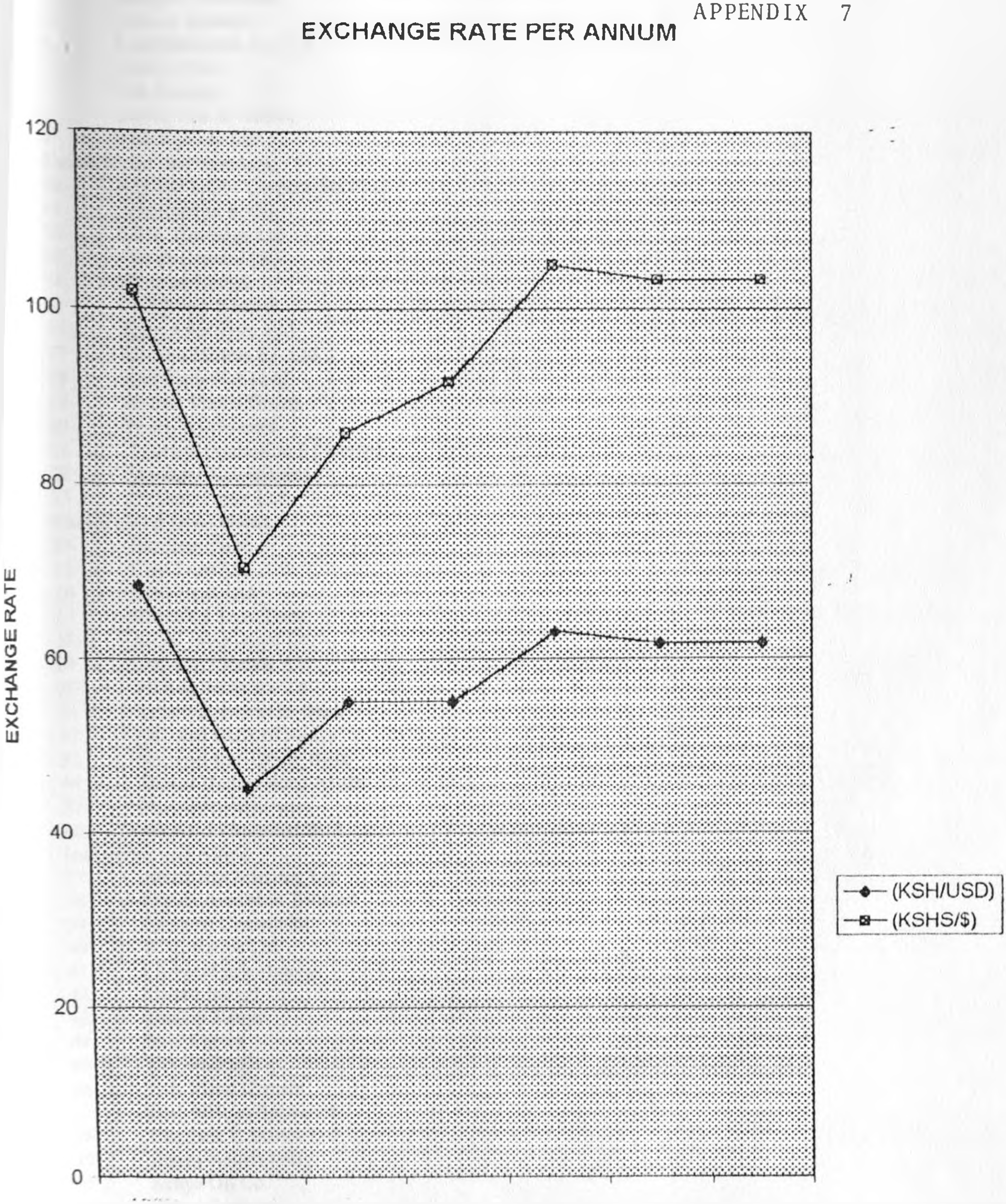


INTEREST PER ANNUM
40
35
30
25
20
15
10
5
0
INEREST RATE
1993
1994
1995
1996
1997
1998
1999
YEAR
INTEREST(%)

APPENDIX 6


EXCHANGE RATE PER MONTH
140
120
100
80
60
40
20
0
EXCHANGE RATE
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
MONTH
(KSH/USD)
(KSHS/$)

APPENDIX 7


EXCHANGE RATE PER ANNUM
120
100
80
60
40
20
0
EXCHANGE RATE
(KSH/USD)
(KSHS/$)

APPENDIX 8

NUMBER OF LISTED AND ACTIVE COMPANIES (SEPTEMBER 2000)

Agricultural

1. Brooke Bond
2 Eaagds
3 George Williamson
4 Kakuzi Limited.
5 Kapchorua Tea Co. Ltd.
6 Limuru Tea
7 Rea Vipingo
8 Sasini Tea & Coffee
9 Theta Group Ltd.

Commercial and Services

10 African Lakes Corporation PLC
11 A Baumann & Co.
12 CMC Holdings Ltd
13 Car & General (K)
14 Express Kenya
15 Hutchings Biemer
16 Kenya Airways Ltd.
17 Lonrho Motors EA Ltd.
18 Marshalls (EA) Ltd
19 Nation Media Group
20 Pearl Drycleaners
21 Tourism Promotion S (Serena)
22 Standard Newspapers
23 Uchumi Super Ltd.

Finance and Investment

24 Barclays Bank
25 City Trust Ltd
26 CFC Bank Ltd.
27 Diamond Trust Bank
28 ICDC Investment Co.
29 Housing Finance Co.
30 Jubilee Insurance Co.
31 Kenya Commercial Bank
32 National Bank of Kenya
33 National Ind. Credit Bank
34 Regent Undervalued Assets
35 Pan Africa Insurance
36 Standard Chartered Bank

Industrial and Allied

37 Athi River Minning Ltd
38 British American Tobacco
39 Bamburi Cement ltd
40 BOC Kenya Ltd
41 Carbacid Investments
42 Crown Berger
43 Dunlop Kenya
44 E.A/ Cables
45 E.A. Packaging
46 E.A. Pland Cement
47 East African Breweries
48 Firestone E. Africa Ltd
49 Kenya Nation Mills
50 Kenya Oil Co.
51 Kenya Orchards
52 Kenya P & L
53 Total Kenya
54 Unga Group

HEDGING ALTERNATIVES

JMBER	1	2	3	4	5	6
1	2	2	4	4	3	1
2	6	3	2	1	4	1
3	1	5	5	1	2	2
4	4	4	3	3	1	5
5	6	3	6	2	5	1
6	5	5	1	1	3	4
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9	4	5	3	1	5	3
10	6	3	2	2	3	1
11	4	6	3	4	1	4
12	5	4	3	3	6	1
13	1	6	4	1	3	6
14	5	4	1	1	5	1
15	3	2	3	2	3	3
16	4	1	2	1	2	4
17	5	5	4	4	6	2
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21	4	3	3	1	1	1
22	5	5	5	7	4	3
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24	4	4	4	2	5	5
25	4	5	3	5	3	1
26	1	2	2	2	2	6
27	6	3	1	1	4	3
28	2	5	4	4	1	2
29	6	1	5	5	5	4
30	1	6	2	2	3	1
31	6	4	6	1	2	1
32	2	3	3	4	6	1
33	4	2	5	2	3	4
34	6	5	4	5	5	2
35	6	2	1	4	2	1
36	5	4	2	3	4	1
37	2	1	2	2	3	4
38	4	6	3	1	2	4
39	3	4	1	4	1	5
40	1	5	4	2	5	1
41	5	3	3	2	4	1

42	4	3	5	3	2	4
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44	2	4	4	2	4	2
45	4	1	2	4	3	1
46	5	6	3	1	2	3
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60	6	2	1	5	6	2
61	6	1	5	3	3	3
62	4	5	3	4	2	2
63	5	6	4	2	5	5
64	3	1	2	2	1	2
65	3	3	3	2	5	6
66	4	2	3	5	3	4
67	5	4	1	3	2	3
68	4	5	3	1	6	1
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70	4	4	3	3	5	2
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75	6	2	4	3	1	2
76	6	3	5	2	3	5
77	3	4	3	2	5	1
78	4	3	4	3	3	6
79	5	4	5	5	6	3
80	6	2	3	4	4	1
81	3	5	2	2	1	4
82	4	3	4	1	5	2
83	5	4	5	3	3	5
84	2	3	3	2	3	1

85	6	5	2	3	3	6
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87	1	1	5	3	1	2
88	6	3	1	2	5	4
89	4	4	2	4	3	1
90	5	5	4	5	6	5
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101	3	3	4	5	2	1
102	5	1	5	6	1	6
103	5	4	3	1	6	3
104	3	5	1	2	5	5
105	4	6	3	3	3	1
106	1	1	2	3	4	6
107	5	3	5	4	2	4
108	2	2	3	3	5	2
109	3	4	6	2	1	5
110	6	5	3	4	6	3
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112	6	4	4	6	2	1
113	6	6	4	2	5	3
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115	1	4	6	1	5	4
116	4	6	2	1	3	5
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120	3	5	1	1	4	3
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125	3	5	5	2	1	3
126	6	4	1	3	4	1
127	3	2	4	2	3	2

128	6	6	2	2	6	4
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130	5	3	4	4	3	2
131	4	6	2	1	2	3
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133	5	6	4	3	2	1
134	5	5	1	2	6	2
135	4	4	3	4	1	6
136	6	3	3	2	6	3
137	4	4	4	4	3	1
138	5	5	2	3	3	2
139	6	6	2	2	3	1
140	3	5	4	5	1	3
141	4	3	1	1	4	5
142	6	6	5	4	6	3
143	3	2	2	2	3	1
144	6	6	1	1	1	2
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153	5	1	1	4	2	3
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155	3	1	4	3	6	2
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159	6	2	1	1	2	3
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161	3	2	3	3	1	3
162	6	1	2	1	4	4
163	5	6	2	2	6	2
164	6	4	1	1	3	1
MEAN	4.2	3.6	3	2.7	3.4	2.9
MODE	6	4	3	2	3	1
STDEV	1.5	1.6	1	1.4	1.6	1.6

APPENDIX 10

RESPONDENTS NUMBER	CONDITIONS 1	2	3	4	5	6	7	8	9	10	11	12	13	14
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3	4	4	6	5	2	1	2	1	6	7	6	6	6	5
4	1	5	4	4	5	2	1	2	5	2	6	2	2	5
5	5	3	4	6	4	4	1	2	2	8	2	4	4	4
6	4	1	2	5	3	3	4	3	1	1	4	6	1	4
7	3	5	4	1	1	2	4	3	4	3	3	4	3	1
8	4	4	6	3	6	1	1	1	2	5	5	2	4	1
9	2	1	5	4	3	1	1	2	6	2	4	5	5	2
10	3	5	2	3	4	1	2	2	6	8	6	4	1	6
11	4	2	4	2	2	2	5	4	3	1	1	6	6	6
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15	4	5	5	3	6	1	4	3	2	4	6	2	2	4
16	5	5	4	2	4	1	3	3	6	1	6	4	4	1
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18	1	1	5	2	3	4	2	2	3	3	4	4	6	2
19	6	4	3	3	2	2	1	2	4	2	2	3	1	3
20	4	5	3	1	6	1	4	6	5	6	5	6	3	1
21	3	6	4	3	1	1	2	3	2	1	1	4	2	3
22	5	2	5	2	5	3	4	5	1	4	1	3	4	4
23	3	1	6	4	4	1	3	5	5	2	5	6	6	1
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25	1	1	4	5	6	4	1	3	3	4	4	3	4	1
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73	3	2	5	4	2	4	4	2	2	4	3	5	4	6
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151	1	2	3	3	1	1	4	1	5	4	4	1	4	1
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156	1	1	3	3	5	4	3	3	4	4	1	2	4	1
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161	1	3	4	2	4	1	6	4	6	3	1	6	5	6
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163	3	1	5	4	5	1	4	5	1	4	3	5	2	1
164	1	1	1	1	3	3	3	2	4	5	2	2	6	5
MEAN	2.8	3	3.9	3.4	3.412	2.2	3.473	3.32	3.7	3.84	4	3.5	3.48	3.6
MODE	1	1	4	3	5	1	3	3	2	6	6	1	3	1
STAD	1.4	1	1.5	1.5	1.651	1.22	1.671	1.65	1.8	1.83	1.8	1.9	1.84	2

ATTITUDE APPENDIX 11

:SPONDENTS

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MEAN		4	4	3	4	4	5	4	4	5	5	4	2	4	5	4
MODE		5	5	3	4	4	6	4	5	5	5	5	4	5	5	5
STDEV		1	1	2	1	1	2	1	1	1	1	2	2	1	1	1

APPENDIX 12

LICENCED STOCK BROKERS

1. Ashbhu Securities Ltd.
2. Crossfields Securities Ltd
3. Discount Securities Ltd
4. Dyer & Blair Ltd.
5. Equity Stockbrokers Ltd.
6. Faida Securities Ltd.
7. Francis Drummond & Co. Ltd
8. Francis Thou & Partners Ltd.
9. Hark Securities Ltd
10. Kenya Wide Securities Ltd
11. Kestrel Capital (EA) Ltd
12. Ngenye Kariuki & Co. Ltd.
13. Nyaga Stockbrokers Ltd.
14. Reliable Securities Ltd
15. Shah Munge & Partners Ltd.
16. Solid Investment Securities Ltd.
17. Standard Stocks Ltd.
18. Suntra Stocks Ltd.
19. Sterling Securities Ltd.
20. Town & Country Securities Ltd.

APPENDIX 13

LICENCED INVESTMENT ADVISERS

1. ABN AMRO Investment
2. AIG Global Investment Co.
3. Alico Asset Management Ltd.
4. Amicable Investment Ltd.
5. Barclaytrust Investment
6. Bridges Capital Ltd.
7. CBA Capital Limited
8. Citibank, N.A.
9. Co-optrust Investment
10. Co-optrust Merchant Bank Ltd.
11. Dry Associate Limited
12. Endeavour Securities Ltd.
13. Genesis (K) Inv. Mngt. Ltd.
14. Kenya Capital Partners Ltd.
15. Loita Asset Management Ltd
16. Merchant Bank of kenya Ltd.
17. Natbank Inv. Services Ltd.
18. Old Mutual Asset Managers (K) Ltd.
19. Stanbic Investment Management Services Ltd
20. Tradition Security (K) Ltd.
21. Venture Capital Investment Management Ltd.
22. Zimele Asset Management Co. Ltd.

APPENDIX 14

Waruiru Daniel M
University of Nairobi
Faculty of Commerce
P.o. Box 30197.
NAIROBI.

Dear Sir/Madam

I am a master's student in the Faculty of Commerce, University of Nairobi. In partial fulfilment of the Masters in Business and Administration (MBA) degree, I am conducting a study on the ***"PROSPECTS OF STOCK OPTIONS MARKET IN KENYA".***

Options trading provides a means of minimising shareholders risk that may arise through share price functions. A stock option once acquired gives the holder the right to buy or sell a share in future at specified price.

You have been selected to form part of this study. To this end I kindly request for your assistance in completing the questionnaire. Any additional information is welcome. The information and data required is needed for academic purposes and will be treated in strict confidence.

A copy of the research project will be made available to your organization/firm upon request.

Thank you.

Yours sincerely.

WARUIRU DANIEL M.