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**THE RELATIONSHIP BETWEEN LIQUIDITY AND STOCK
OWNERSHIP PATTERNS AT THE NAIROBI STOCK EXCHANGE**

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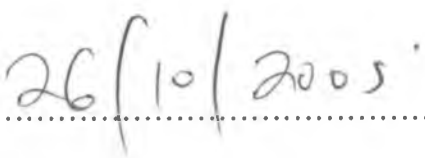
(i) **DECLARATION**

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

Sign.....

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Date.....

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

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Date.....

(ii) DEDICATION

To My Parents-Mr. & Mrs. James Sitienei; For Their emphasis on Education.

You inspired me

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I am deeply indebted to many individuals who in their own ways contributed to the successful completion of this project.

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(iv) ABSTRACT

The relationship between liquidity and stock ownership patterns is a subject that has taken center stage in most advanced capital markets like the New York Stock exchange. This concern heightened the need to determine how ownership patterns impacts on a stock's liquidity at the Nairobi Stock Exchange (NSE) regardless of the differences in market microstructure between the advanced capital markets and an emerging capital market like the NSE.

Specifically, this research sought to achieve two objectives; firstly, to document the ownership patterns and liquidity of stocks listed at the NSE. Secondly, to determine the relationship between stock liquidity and stock ownership patterns traded at the NSE. To achieve the results, simple regression analysis was used to test the various parameters that helped in evaluating the relationship between liquidity and stock ownership patterns.

The results of this study support the fact that there is a positive relationship between liquidity and shares outstanding, number of shareholders, public ownership as well as liquidity and foreign ownership. These results conform to theory as regards the nature of liquidity and shares outstanding, number of shareholders, public ownership as well as foreign ownership.

Contrary to theory, this study finds a positive relationship between liquidity and insider ownership as well as a negative linkage between liquidity and financial/government ownership. The differences in results is an indication of the differences in market microstructure and imperfections at the NSE

However, the conclusions in this research should be understood in light of its limitations relating to limited availability of data at the NSE, the drawbacks of the least square methodology used as well as the time frame chosen for the study.

In spite of the lack of theoretical framework that allowed the study to assemble all plausible arguments into a coherent theory in Kenya, thorough investigation of the relation between the ownership patterns and stocks liquidity showed that stock liquidity cannot be isolated with the aggregate impact of stock ownership patterns at the NSE.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

1.1.1 THE CONCEPT OF LIQUIDITY

Liquidity is the degree to which an asset or a security can be bought or sold without causing any significant movement in price. This is in line with Hippman and Micall (1996) definition who have defined liquidity in terms of the time it takes to transact a stock. Hasbrouck and Schartz (1988) characterized a liquid stock by its depth, breadth, and resiliency. Depth refers to the existence of buy and sell orders near the current market price. Breadth is the existence of orders in substantial volume while resilience is the responsiveness of new orders to price changes caused by short-term order flow imbalances. Other authors such as Amihud and Mandelson (1986) define liquidity as the observable bid-Ask spread.

Therefore, liquidity as measured by the presence of continuous trading implies that there is no extreme mismatch between the available buyers and sellers at a given point in time. As early as 1968, Demsetz noted the possibility that the available pool of liquidity-motivated traders (who demand immediacy) may not arrive at the same time.

This consequence of order imbalance can be cleared only if there exist traders who are willing to absorb the excess demand or supply at a price concession. In other words, the traders who want to buy immediately can do so at higher price and similarly, traders desiring immediate sale have to accept a lower price.

In Kenya, the liquidity traders do not have this facility at this time since there are neither any pre-arranged dealers for the stocks nor a mechanism for aggregating limit orders. Therefore, at a given time, if there were no liquidity-motivated traders on one side of the transaction, then one would expect no trade to occur.

For the New York Stock Exchange (NYSE), Demsetz (1968) showed that the probability of the arrival of a trader-the transaction rate-depends on the number of shareholders. Since then other authors such as Benston and Hagerman (1974) and Glosten and Harris (1988) have used it as a proxy for the extent of liquidity traders for a particular stock.

Bhide (1993) argues that liquidity of a stock can be enhanced by having a more diffused ownership but at the cost of good internal monitoring. Also, Holmstron and Tirole (1993) make a distinction between different groups of stockowners, especially long-term investors and short-term traders in relation to liquidity. Their findings stipulate that different ownership patterns affect the level of liquidity.

1.1.2 OWNERSHIP STRUCTURE AND LIQUIDITY

Ownership structure covers both the ownership mix and ownership concentration. Ownership mix refers to the composition of shareholders of the firm, Schwartz (1998). Broad spectrum of ownership includes foreigners, institutions, individuals, state and the general public.

Ownership concentration on the other hand refers to the degree to which ownership of the firm is concentrated among the various categories of owners, Schwartz (1998). Firms are different both in terms of ownership mix and also in terms of ownership concentration. The resultant distribution of ownership among different groups can impact on managerial opportunism, which subsequently has implications for stock market liquidity. This study provides a detailed analysis of determining the relationship between stock liquidity and stock ownership patterns traded at the Nairobi Stock Exchange (NSE).

Demsetz (1968) states that one of the important determinants of stock exchange liquidity is the number of shareholders. As the number of persons currently holding a particular share increases, the number of market participants interested in trading the asset increases in direct proportion. Therefore the number of transactions per unit time also increases. The number of transactions and the volume traded are observed to be highly correlated in

Demsetz study. Another consequence of an increase in the number of shareholders is the reduction in Bid-Ask spreads.

For example, in the study of insider ownership as a type of ownership pattern, Benston and Hagerman (1974) observe a direct relation between the proxy for insider holdings and Bid-Ask spread. Insiders' possess shares for the purpose of controlling the firm and have privileged access to price-sensitive information not available to the public. A market maker in order to reduce their potential losses on account of trading with insiders and/or other informed trades widen their Bid-Ask spreads.

Holmstrom and Tirole (1993) study the role of the stock market as a monitor of liquidity in an economy. The information content of stock prices improves with the liquidity of the secondary market. In a Liquid market, speculators will devote more resources on monitoring since they will realize more of the potential gains.

Therefore, concentrated ownership reduces liquidity and hence the benefits of the market monitoring will accrue only to shareholders found in a particular category of stock ownership. Thus stock market liquidity is shown to play a significant role as an indicator of the level of participation of different entities in a stock exchange.

1.2 STATEMENT OF THE PROBLEM

In Kenya, the relationship between liquidity and stock ownership patterns has not been tested at the NSE. But studies on liquidity include Thuku (2002) who carried out a research to examine the ownership structure of banking institutions in Kenya. Also, Ndungu (2003) carried out a research to identify the determinants of liquidity of equity stocks traded at the Nairobi Stock Exchange. Ndungus' paper made no attempt to link liquidity to ownership structure. Instead, various determinants of liquidity were confirmed through a series of regression analysis to explain the variability in stocks liquidity.

Ndungus study identified volatility, market capitalization, stock ownership patterns and the number of listed companies as the main determinants of liquidity of stocks at the NSE. His recommendations advocated for detailed research on how each of the determinants affects liquidity. It is for this reason that this study chooses to center on the question of ownership structure and its impact on liquidity.

Stock ownership structure is identified as one of the major factors that influence liquidity. But how exactly does ownership patterns impact on a stocks liquidity? This is a knowledge gap that the current study intends to bridge.

The studies by Thuku and Ndungu did not empirically test the relationship between market liquidity and stock ownership structure at the NSE. Prior studies elsewhere have largely focused on more advanced capital markets (Bhide (1993)). Similarly, the association of liquidity with stock returns has not been tested especially in most emerging markets in Africa.

There are very important differences between the trading practices of the NSE and an advanced stock market such as the NYSE. First, the NYSE is a continuous market with specialists providing liquidity. Trades are consummated at the quoted prices of the specialist with negligible time delay. Secondly, in NSE, there are no mandatory market makers. Investors seeking liquidity are subject to uncertainty regarding the transaction price as well as the time of completion of trade. Thirdly, NSE is a market that is plagued by severe illiquidity problems.

In view of the above, this study determines whether in spite of differences in market microstructure, there exists a relationship between liquidity and stock ownership patterns on stocks listed at the NSE.

1.3 OBJECTIVES OF THE STUDY

1. To document the ownership patterns and liquidity of stocks listed at the NSE
2. To determine the relationship between stock liquidity and stock ownership patterns traded at the Nairobi Stock Exchange.

1.4 IMPORTANCE OF THE STUDY

Given the growing attention on Kenya and its stock markets, the findings of this paper is of interest to various parties in the following ways:

1. Investors
Empirical evidence on the liquidity in the NSE informs investors who would like to know the potential compensation for investing in the liquid stocks.
2. Government
The study provides information that enables the government plan well on microeconomic issues i.e. illiquidity on the market for funds
3. Tax Authorities
The study helps the authorities in formulating taxation policies aimed at enhancing liquidity and development of stock exchange.
4. Stock Brokers
The study helps stockbrokers in making investment decisions and advising their clients on sound investment portfolios.
5. Management
The study of ownership structure in the NSE is useful to the management of investing companies on the need to either increase or decrease the number of shares e.g. through stock splits
6. Academicsians
The study forms a basis for academicsians that wish to study liquidity, and stock ownership pattern in the Kenyan context.

CHAPTER TWO: LITERATURE REVIEW

2.1 LIQUIDITY AND STOCK OWNERSHIP PATTERNS

Liquidity has been defined in various ways according to the context in which it has been used. In retrospect, Keynes (1930) and Hicks (1962) chose 'liquidity' as a subject in economics, but the terminology they used consisted of phrases such as the "future volatility of market price" or the "possibility of immediate execution of a transaction". When discussing whether or not a stock is liquid, Bagehot (1971) focused on factors such as the existence of adverse selection effects due to information asymmetry, the price impact of a trade, and the portion of trading cost, which is set according to the pricing policy of the market maker.

When a stock liquidity is discussed in market microstructure theory, it is often the case that more practical concepts are introduced such as the "cost of changing positions (tightness)", the "trade size or thickness of the order book-profile (order book refers to a panel which provides traders with bid-ask spread prices and volume offered per price) required for changing prices (market depth)" and the "required period of time to recover from price fluctuation caused by a sudden shock or to reach a new equilibrium (market resilience)", Grinblatt et al (1995).

In defining a "liquid market" of finance theory, which is a premise for the option equation to hold, Black (1971) noted that this is a market in which a "bid-ask price is always quoted, its spread is small enough and trades can be immediately executed with minimal effect on price". Miller (1988) pointed out that we can measure liquidity of a stock by looking at "the ability of executing trades under the current price quotes price and time-wise".

Therefore, a liquid stock is defined as a stock where a large volume of trades can be immediately executed with minimum effect on price (Hippman and Micall (1996)). It is

characterized by high level of trading activity, small spreads, low volatility and availability of willing buyers and sellers for the stock at all times.

On the other hand, ownership structure is defined along two dimensions: Ownership mix and ownership concentration. Ownership mix is related to the presence of certain institutions or groups such as the government or foreign partners among the shareholders while ownership concentration refers to the distribution of the shares owned by a certain number of institutions, insiders', foreigners, individuals or the public Schwartz (1998). These two categories incorporate both the influence power of shareholders as well as identity of owners with their unique incentive mechanisms and preference. In the following paragraphs, the study briefly defines each of the above classes of ownership structure.

An insider owner is an entity, which has power to make an investment decision based on information that is not available to the general public, Venkatesh and Chiag (1988). In some cases, the information allows them to profit, in others, avoid a loss. An insider owner is different from a public owner in that a public owner is an individual who trade on His or Her own based on the release of information to the public.

Institutional owners include private organizations like banks, insurance firms, pension funds and investment trusts (mutual funds), Jennings and Schnatterly (1995). This category that is often termed financial investors represent a small but a growing number of shareholders. A government owner represents either the central or the local government including their pension funds. In some cases, there is an overlap in the definition of institutional owner and governmental ownership.

A foreign owner is any individual who is a non-resident but has ownership of stocks listed at an exchange, Black (1992). Hence this category represent international investors who have subscribed to stock ownership of securities listed at a local Stock Exchange.

Bhide (1993) and Maug (1998) deal explicitly with the relationship between liquidity and ownership structure. Bhide (1993) argues that a liquid stock market is hindrance to effective monitoring because it reduces the cost of 'exit' by unhappy shareholders. Maug (1998) derives a theoretical model for investigating this negative liquidity effect against an opposite effect from reducing the problem of free-riding by small shareholders (better liquidity makes it less costly to hold large stakes). The model suggests that a more liquid market makes corporate governance more effective.

A central variable behind the assumed ability to monitor firm management is informational advantages: insiders, large owners and direct owners have an informational advantage relative to small owners and indirect owners and domestic owners have an information advantage relative to international owners. A theoretical implication of informational asymmetries for financial market equilibrium is the essential topic in the market microstructure literature.

For example, empirical studies from the US markets find mixed evidence on the hypothesis of reduced liquidity caused by informational asymmetries among company owners. Using a sample of 75 NYSE stocks for 251 trading days from January through December 1973, Chiang and Venkatesh (1988) study how the market views corporate insiders and institutional holdings through their effects on liquidity. Insider holdings are found to be positively related to the dealers' information costs after controlling for other holding costs and firm size while institutional holdings are not found to have any impact on the spread.

As long as company insiders have the same incentives as the outside owners to maximize the value of the firm, theory predicts that insider holdings and liquidity are positively related ('the consequence of interest' hypothesis). On the other hand, an insider may also have incentives to expropriate wealth from the outside owners, Chiag (1988). Typically, it is assumed that an increase in insider holdings has a negative effect on liquidity.

Also, Glosten and Harris (1988) find an insignificant relation between spreads and insider holdings for a sample of 250 NYSE stocks in the period 1981-1983. Using a sample of 786 listed US stocks for the period from April to December 1985, Sarin et al (2000) find that higher insider and institutional ownership are both associated with wide spreads and smaller quoted depth. Based on a sample of 260 listed US stocks with their transactions data for the period 1988, Heflin and Shaw (2000) find that firms with greater block holder ownership have larger quoted and effective spreads, a larger adverse selection spread component and smaller quoted depths.

Market microstructure models derive how the fear of trading with someone with someone with privileged access to information is reflected in the liquidity of stocks through higher implicit costs of trading. Keim and Madhavan (1998) document that the implicit costs of trading, including spread costs, price impact costs, and timing costs are economically significant. This detecting factors that affect market liquidity is important on its own ground.

2.2 THE PRINCIPAL-AGENT PARADIGM

The standard theoretical predictions about the relative efficiency of different ownership structures are based on the principal-Agent Model, Fama (1992). This section reviews the theory and its empirical relevance on the relationship between Ownership structure and market liquidity.

Both the economic theory and public policy in most countries suggest that the structure of stock ownership is important for economic performance, Fama (1992). However, according to the principal-Agent model, a monitoring problem arises because the owners of a firm (the principal) delegate control over business decisions to the management of the firm (the Agent). Thus the main role of management is monitoring.

The incentives and capabilities to monitor a firms business decisions are thought to depend on the owners' concentration and the owner type. A third relevant characteristic

of the ownership structure is the division between outside owners and the insiders, Chiag (1988).

Insiders are owners or parties who for some reason have access to privileged information about the firm, and who typically have the power to make changes inside the firm. In addition to the monitoring problem vis-à-vis the firm management, there are potential similar conflicts of interests among sub-group of owners. These conflicts typically go along the dimensions; small versus large owners, direct versus indirect owners and outside owners' versus insiders, Venkatesh and Chiag (1988).

Large owners are assumed to have more resources and stronger incentives to monitor the managers than small owners, while small owners have incentives to free ride on the monitoring of large owners. Direct owners, represented by personal investors who monitor the agent directly, are predicted to perform more efficient monitoring than indirect owners, Maug (1998). Typical examples of indirect ownership are widely held private firms, or private or public institutional investors who make investment decisions on behalf of others.

On the other hand, large indirect investors may potentially be more professional and have better access to information than small direct investors Maug (1988). For example, the holdings of institutional investors tend to be larger than the holdings of the typical shareholders. If so, the information acquisition costs are spread over a larger investment, and this creates an incentive for the institutions to acquire information. Domestic versus international ownership is another owner type dimension.

In general, Agency theory cannot answer whether the expected net impact on liquidity from a certain constellation of ownership is positive or negative. Hence the net effect must be determined empirically. Empirical studies on the subject are surveyed in Bohren and Odegaard (2003). Liquidity is typically measured by Bid-Ask spread or Trading Frequency. Papers done by Lakonishok and Vishny (1992) as well as Denis and Denis (1994) analyze owner concentration while Chiag (1988) deal explicitly with insider

holdings. The results are inconclusive but their studies find no link or a positive link between outside concentration and liquidity, and an initially increasing but non-monotone relationship between insider holdings and liquidity. The studies assume that ownership structure is exogenously determined. This assumption is questioned in Choi (1998) who find empirical evidence suggesting that corporate values affects ownership structure and not vice-versa. Other theorists, Bhide (1993), Bernstein (1987) and Jennings et al (1997) deal with the effects of public, foreign and government/financial institutions holdings respectively on liquidity.

2.3 THE NAIROBI STOCK EXCHANGE (NSE)

This section describes the Nairobi stock exchange. General information on the exchange and the main characteristics of the trading system are presented.

The Nairobi Stock Exchange (NSE) was constituted in 1954 as a voluntary association of stockbrokers registered under the Societies Act. This was made possible after clearance was obtained from the London Stock Exchange, which recognized the NSE as an Overseas Stock Exchange. This was important because an exchange not recognized by the leading stock exchange was of little value and credibility. The business of dealing in shares was then confined to the resident European community since Africans and Asians were not permitted to trade in securities until after the attainment of independence in 1963. This partly explains why it was difficult to convince the local people, who had hitherto been barred from holding Quoted Shares purely on racial grounds. Thus this institution was a vital vehicle for handing over economic power from foreign dominance to local control.

At the dawn of independence, stock market activity slumped due to uncertainty about the future of independent Kenya. However, after three years of calm and economic growth, confidence in the market was rekindled and the exchange handled a number of highly over-subscribed public issues. The growth was, however, halted when the oil crisis of 1972 introduced inflationary pressures on the economy that depressed share prices. A

35% capital gains tax introduced in 1975 (suspended since 1985) inflicted further losses to the exchange. At the same time it lost its regional character following the nationalizations, exchange controls and other inter-territorial restrictions introduced in neighboring Tanzania and Uganda. For instance, in 1976 Uganda compulsorily acquired a number of companies, which were either quoted, or were subsidiaries of companies quoted on the Nairobi Stock Exchange.

In the 1980s the Kenyan Government realized the need to design and implement policy reforms to foster sustainable economic development with an efficient and stable financial system. In particular, it set out to enhance the role of the private sector in the economy, reduce the demands of public enterprises on the exchequer, rationalize the operations of the public enterprise sector to broaden the base of ownership and enhance capital market development. In 1984 an IFC/CBK study, *Development of Money and Capital Markets in Kenya*, became a blueprint for structural reforms in the financial markets, culminating in the formation of a regulatory body "The Capital Markets Authority (CMA) in 1989, to assist in the creation of an environment conducive to the growth and development of the country's capital markets.

In 1991, the NSE was registered under the Companies Act and phased out the "Call Over" trading system in favor of the floor-based "Open Outcry System". Subsequently, the stock exchange embarked on an extensive modernization exercise, including a move to more spacious premises at the Nation Center in July 1994. The facilities include a modern Information Center. Computerization has also been enhanced, and with increasing trading volumes electronic trading has become feasible.

The Kenyan government has made several reforms aimed at attracting foreign investment via the Nairobi Stock Exchange. The Exchange was opened to foreign investors for the first time in January 1995, but with a maximum limit of 20% shareholding for institutions and 2.5% for individuals. The ceiling on foreign investment has recently been increased to 40% for institutions and 5% for individuals, but fewer than 20 of the 58 listed companies are available to foreigners.

Since 1995 the Kenyan government has opened trade in the NSE and gilts to foreign portfolio investors; removed exchange controls; and introduced a favorable tax regime with non residents paying a 10% withholding tax on dividends (locals 5%) but no capital gains, stamp duty or value added tax and the introduction of a central depository system is expected to speed up clearing and settlement.

In 1995 the Kenyan Government also relaxed exchange control for locally controlled companies subject to an aggregate limit of 20% and an individual limit of 2.5%. These were doubled to 40% and 5% respectively in the June 1995 budget to help encourage foreign portfolio investments. A series of incentives are in place to encourage investments in the Nairobi Stock Exchange. A favorable tax regime exempts listed securities from stamp duty, capital gains tax and value added tax on sales, purchases or transfer of ownership of shares. Withholding tax on dividends is low at 5% for residents and 10% for non-residents. The entire Exchange Control Act was repealed in December 1995.

However, the NSE in Kenya is small and somewhat speculative. Like many other emerging markets, the NSE suffers from the lack of liquidity in the market (averaging 4% in 1996). Foreign investment on the Nairobi Stock Exchange and foreign ownership of companies is by application. Foreign investment in the local subsidiaries of foreign-controlled companies is banned so as to encourage input into Kenyan companies.

Trading takes place on Mondays through Fridays between 10.00 am and 12.00 noon. The 20 member brokerages commissions have dropped from a fixed 2.5% to a sliding scale between 1.1% and 2%.

The number of stockbrokers has grown steadily to 20 from the original six at its inception in 1954 and there are over 50 companies listed at the exchange. The NSE's market capitalization jumped from ksh.136 billion at the end of 1996 to ksh 192 billion at end of May 1997. Total NSE turnover in 1996 was Shs. 6 billion through trade of 114 million shares. Commission rates, which were once among the highest, have also come down

considerably from 2.5% to between 2% and 1% on a sliding scale for equities and 0.05% for all fixed interest securities for every Shilling.

The Nairobi Stock Exchange is poised to play an increasingly important role in the Kenyan economy, especially in the privatization of state-owned enterprises. In the last 10 years, 9 public enterprises have been successfully privatized through the NSE where the government has raised about Kshs 5-billion. The privatization process started in 1988 when the government floated 7.5-million shares (20% equity) of the Kenya Commercial Bank. The issue was over-subscribed 2.3 times. Subsequent issues have also proved highly popular, with subscription rates as high as 400%. In the privatization of Kenya Airways, for example, the stock exchange enabled more than 110,000 shareholders to acquire a stake in the airline. The NSE has enabled Kenya to receive more than US\$ 50-million every year in the form of foreign portfolio investments.

The biggest challenge facing the NSE is to increase its turnover ratio, currently standing at only 3%. For the foreseeable future, the exchange will have to be driven by local investors who are now being targeted by a public education programme conducted by the NSE through brochures, radio and television programmes, seminars and group presentations.

2.4 LIQUIDITY EFFECTS OF OWNERSHIP STRUCTURE: THEORY AND EVIDENCE

In this section, the research takes a closer look and examines potential causes that lead to either positive, negative or inconclusive linkage between various stock ownership patterns and the stocks liquidity.

2.4.1 INSIDER HOLDINGS

Theory predicts a negative relation between stock market liquidity and insider ownership. Demsetz and Lehn (1985) and Denis and Denis (1994) argue that the benefit of higher

ownership is greater in firms where the profit potential of managers' actions is less observable and they show that firms facing a more uncertain environment have a larger insider ownership. Since the level of information asymmetry concerning the value of a firm is an increasing function of this uncertainty, this suggests a positive cross-sectional relation between information asymmetry and insider ownership. The higher the level of information asymmetry should in turn lead to wider bid-ask spread. Also, higher level of insider ownership may be associated with higher probabilities of insider trading. Since the insiders are expected to be informed, the market maker would incorporate a large adverse selection component into the quoted Bid-Ask spread and depth leading to wider spreads and smaller depth.

The extant empirical evidence on the relation between spreads and insider ownership is inconclusive. Chiang and Venkatesh (1998) examined this relation in 1973 for a limited sample of 56 NYSE stocks and found the predicted positive relation. In contrast, Glosten and Harris (1988) reported an insignificant relation between spreads and insider holdings for a sample of 250 NYSE stocks over the period 1981 and 1983. This study improves on previous work by a) examining the relations between quoted depth and insider ownership b) analyzing the impact of insider ownership and adverse selection costs and c) controlling for potential joint determinants of spread depth and insider ownership in the analysis.

2.4.2 PUBLIC HOLDINGS

Theory predicts a positive relationship between individual or public trading and stocks liquidity (Bhide (1993)). By taking into account individual speculative participation, the stock is able to reach a short-term equilibrium price in a quicker and more efficient fashion and hence enhance liquidity. However, according to Bhide (1993) the individual investor has several disadvantages of trading in the stock exchange relative to an institutional or insider trader.

First, the individual investor lacks economies of scale to trade. This is due to poor financial position, lack of timely information and restriction that He or She must undergo before trading. These limitations on the individual investor do not stabilize the market nor make it more efficient. It is more likely that such limitations will restrict participation and hence liquidity. It also creates imbalances that only larger financial institutions will be able to take advantage of; further marginalizing the role of the individual investor.

Secondly, it is evident that liquidity is not always at the inside market. In less liquid stocks often the sizable bid is a couple of pennies away from the inside market. By restricting any sale of stock to a penny above the best bid, the individual investor may not be able to access the larger size below this level. Hence other market makers especially block holders will have access to this liquidity but individual investors will be disadvantaged. This does not only make the market less liquid but also it is absolutely disadvantageous to the individual investor.

Thirdly, Most individual investors who buy stocks are competing to hit bids with market makers that are clearing levels of stock deep through the bids in order to fill orders for their "clients". So not only is the individual investor not able to trade profitably during the down move, but the long-positioned individual investor is disadvantaged as other market makers sell aggressively through their informational or financial advantage hitting through the bids.

Bhide (1993) argues that it is controversial that an individual investor is unhindered to profit from an upwards-stock move whereas the same individual investor has to navigate a series of regulations and rules to benefit from a downwards-stock move. Where large financial institutions are able to protect themselves and profit from negative moves in stocks via sophisticated financial hedging products, most individual investors do not have the financial resources or the understanding of these products' nuances to take advantage of such strategies. Instead, the individual investor depends on his/her participation in the equities markets through rather vanilla "long" and "short" positions. However this does not diminish the importance and vital contribution of liquidity individual investor adds to today's equity markets.

2.4.3 FOREIGN HOLDINGS

International owners invest in the stock exchange mainly to capture gains from diversification. This is evident in the fact that foreign investors generally buy securities to support their foreign exchange policies and a change in such policies from a foreign holder with large portion of securities could be detrimental to the liquidity of the stock exchange. Also, there is support that foreign investors concentrate their holdings in liquid stocks. For example, Bernstein (1987) states that foreign owners are 'buy and hold' investors who are much less apt to sell or lend securities in repo market. Therefore, foreign ownership is short lived since they would rapidly dump securities to the market.

However, Holmstrom and Tirole (1993) state that foreign holdings are long-term and upward and that any change in foreign exchange policies would have a transient effect on liquidity. This is in line with contemporary evidence whereby foreign investments is gaining popularity and growth due to globalization and increase in wealth in foreign countries.

Another argument by Huther (2000) points to poor legislation especially in underdeveloped countries like Kenya. Hence, some foreign participants are subject to the same reporting requirements as domestic participants. The desperate reporting requirements makes it hard for dealers to estimate the level of foreign account participation in auctions, which in turn affects dealers estimates of the floating supply ahead of an auctions which ultimately has liquidity impacts at auction in form of an uncertainty premium.

This lack of transparency could have a negative impact on liquidity if a foreign entity that has been participating heavily unexpectedly changes its participation level because it has adopted a change in the foreign exchange policy. Hence, foreign ownership has a positive effect on liquidity as long as foreign policies remain favorable to the foreign investor in the short-term (Holmstrom and Tirole (1993))

2.4.4 FINANCIAL AND GOVERNMENT INSTITUTIONS HOLDINGS

This study groups government holdings with financial institutions such as unit trusts, life insurance and social security funds together. This is because the government, either directly or indirectly through shareholdings or indirectly through directives, exercise a certain degree of control on the financial institutions. Also, the government nominees serve on the board of directors of the financial institutions.

Financial and governmental institutions exist to provide services to individual investors such as portfolio diversification, investment expertise and liquidity Merton (1995). Thereby a greater institutional presence in the equity market suggests easier access to liquidity services hence a better liquidity situation.

2.4.4.1 A positive linkage perspective

The main reason that institutions improve stocks liquidity is that they trade more actively than individual investors, Jennings et al (1997). In the NYSE, institutions hold about 50% of all outstanding equities but account for over 80% of the trading volume in recent years. As documented in the NYSE, Jennings et al (1997) established that only 205 of the individuals with brokerage accounts reported six or more trades and 22% did not trade at all during the previous year. Although individuals with on-line trading accounts transact more frequently than those with the traditional brokerage accounts, such traders comprise only less than a quarter of an individual investors. Thus on average, institutions will trade more frequently than individuals.

The frequent trading of institutions is part a product of their extensive portfolio rebalancing needs, Merton (1995). Institutional investors often engage in passive indexing or follow a constant portfolio allocation rate, which generate frequent portfolio rebalancing concerns.

Agency issues and regulatory concerns are two main driving forces for their portfolio strategies. Agency issues arise when the compensation contract fails to align the fund manager's incentives with interest of the principal fund management compensation.

Thus managers seek protection by making themselves as indistinguishable as possible, which has contributed to a desire to minimize tracking errors by passive indexing. Regulatory restrictions also lead fund managers towards passive indexing and constant portfolio allocation strategies. For example, the prudent-man rule is employed to give the beneficiaries legal rights to pursue losses from fiduciary should he/she fail to invest prudently. However, in court a stable history of portfolio allocation surely looks more "prudent" to the jury. Overall, the fore mentioned factors incentivize fund managers to adopt trading strategies involving extensive portfolio rebalancing. This leads to a more active and liquid stock.

The second force that leads to a positive link between institutional participation and a stock liquidity lies in the trading motives of institutional investors, Demsetz (1993). As mentioned above, institutions often trade to rebalance portfolios. Such trades are informationless since they do not depend on information not already reflected in the stock prices. Such Liquidity-Driven orders will not lead market makers to demand significant price concessions to compensate for the risk of trading against informed traders. Thereby the "be nign" motive of institutional traders suggest that the more institutional trading the better the market liquidity situation.

Thirdly, due to the economies of scale in information acquisition and aggregation, institutional trades speed up the information revelation process, hence reduce illiquidity associated with information asymmetry. This insight is captured by Pfleiderer (1988). Based on His theory, active participation by institutional investors increases competition among informed traders hence preventing them from exploiting the informational advantage to the fullest extent. Overall, it leads to the reduction in information asymmetry and an increase in the welfare of uninformed investors due to illiquidity enhancement.

Fourthly, given that institutions are required to stand ready to accommodate individual's redemption and purchase orders liquidity ranks as a top concern for their stock-picks. At the aggregate level, improvement of stock liquidity tends to attract more institutional investors into the equity market, Pflleiderer (1988). Thus the last mechanism, albeit a passive one, still argues for a passive correlation between institutional equity acquisition and stock selection.

Besides the fore mentioned arguments, there also exist supporting empirical evidence for a positive correlation between institutional ownership and liquidity at the individual stock level. Jennings, Schnatterly and Seguin (1997) conduct an empirical investigation using a sample of NASDAQ stocks from 1983 to 1991 and find that higher institutional ownership leads to narrow spreads and a smaller component in the spreads due to adverse selection effect.

2.4.4.2 A negative linkage perspective

Despite the above evidence, there are still some skepticism about a positive linkage between institutional equity acquisition and a stocks liquidity, which are mainly based on three premises. In the following paragraphs, the study addresses such premises on their theoretical grounds and/or empirical evidence.

On the theoretical front, in one opposing view that associates institutional ownership with decreasing liquidity situation, the price impact of trades is critical. Institutional investors tremendous liquidity positions lead to the general perception that they will trade frequently and in order sizes, Tinic (1972). The likely increase in insider risk due to large order sizes result in a higher price concession which lower liquidity.

However, the validity of this view relies on its shaky assumption of large trade sizes from institutions. In fact aware of the potential price concessions due to large order sizes, institutions typically divide one big trade into multiple smaller ones. The eventual trade size may be larger than that from typical individual investor, but whether the difference is

sizable enough to induce any significant price pressure is then an empirical issue. The evidence from Chan and Lakonishok (1993) indicate only a smaller price impact from institutional trading on average.

In a second opposing view, the foundation is the possible herding and positive feedback trading strategies from institutions and their potential to destabilize stock prices and reduce liquidity. Herding refers to the pattern that investors buy and sell the same stock at the same time, which in turn increases order imbalance and tighten the liquidity position, Denis (1994). Positive feedback trading also referred to as return-chasing of behavior, captures the investment style that buys stocks when the previous returns are high. The purchasing demand for the past winners possibly pushes prices even higher, eventually destabilizing stock prices and reduces liquidity.

However, recent studies have shown that the extent of such herding and feedback trading activities by institutions is quite limited. For example, Lakonishok, Shleifer and Vishy (1992) do not find definite evidence that pension funds actively pursue herding and positive feedback trading. Grinblatt, Titman and Wermers (1995) find significant return-chasing at the buy side only. In addition to their weak evidence in herding, Wermers (1998) focus on the herding behavior alone and find that herding is more likely in growth funds and involving small stocks only. The herding behavior is further shown to help the release of information and speed up the convergence of stock prices to their fundamentals. Thus the documented institutional herding does not hurt and in fact may help the liquidity situation.

The third opposing view is based on the potential diminishing impact on liquidity when large shareholders take an active role in corporate monitoring. To maximize the payoffs to their significant stakes in companies, large shareholders tend to be actively involved in internal corporate control, Krishnamurti et al (1990). The active monitoring activities unavoidably create information asymmetry, thus impairing liquidity. However, Bhide (1993) have only observed those patterns in foreign markets such as Japan and Germany where the crossholdings and active involvement of blockholders are encouraged for more

active corporate monitoring, although at the expense of market liquidity. Yet such scenario is less applicable for the US equity market. Ever since the great crash in the US many regulations have been implemented to protect small investors, which curtail the roles of institutions play in corporate governance, (Bhide, 1993).

For example, the investment company act excludes mutual funds from holding more than 10% of a firms stock. Similar restrictions can be found in pension funds and banks. Moreover, the superior liquidity of the US equity market gives institutions an easy exit, which allows the US institutions to exert their monitoring role in a “wall street” way, i.e. dumping the stocks whose management they are unhappy with. Overall, the US institutions are considered large, yet we have passive shareholders who considerably benefit from and contribute to stock liquidity.

To the best available knowledge, this paper constitutes the first systematic exploration that considers the influence of ownership patterns on stock liquidity at the NSE. In spite of the lack of theoretical framework that allowed the study to assemble all plausible arguments into a coherent theory in Kenya, thorough investigation of the relation between the ownership patterns and stocks liquidity shows that stock liquidity cannot be isolated with the aggregate impact of stock ownership patterns. It is evident that this reasearch has contributed to a better understanding of a hitherto relatively unresearched phenomenon at the NSE.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

3.1.1 POPULATION

The population of this study comprised of all stocks listed on the NSE between 1997-2003. All stocks, which were deregistered or delisted, were excluded from the study.

3.1.2 DATA COLLECTION

This research made use of secondary data, which was obtained from the database of the NSE library. The list of firms listed during the period 1997-2003 was obtained from the NSE website.

3.1.3 DATA SAMPLE AND DATA ISSUES

From the NSE library, yearly ownership data for the period 1997-2003 is available. The ownership data include a complete breakdown of firm ownership into 4 ownership types: the percentage of shares held by insiders, the public, Governmental/Financial institutions and foreigners. Data on the number of shareholders and the total number of shares outstanding on different stocks is also available.

The study applied the following filter criteria on the sample:

- Data of the “open outcry” sessions from 10:00am until 12:00pm for the period 1996-2002 was only undertaken. This was important because it secluded secondary market trading for securities distinct from an organized exchange. Hence any trading that went beyond 12:00pm was not included e.g. third and fourth tier trading.
- Companies that lacked vital parameters for the study during the period were infrequently traded stocks especially of small companies. Therefore, the study systematically excluded the most illiquid stocks. For example, if a company does not trade in a year, then its trading frequency was 0. Hence it was difficult to carry out a regression computation on such a stock. Most studies in the west have also suffered from the same bias

3.2 DATA ANALYSIS

Simple regression Analysis was used in carrying out computations. This model was appropriate since the primary concern of the research was in separate assessment of the effects of the independent variables (shares outstanding and the number of shareholders for different ownership patterns) on the dependent variable (Trading Frequency, hence liquidity). The basic model is given by the equation:

$$Y = a \pm \beta x \quad \text{Hence, } Y (\text{TRA_FREQ}) = a \pm \beta (\text{SHAREHOLDING PATTERN VARIABLES})$$

Where:

$$\beta = \frac{\sum x y - n \bar{x} \bar{y}}{\sum x^2 - n \bar{x}^2} \quad a = \bar{y} - \beta \bar{x}$$

TRA_FREQ=Trading Frequency

In this model, the study concentrated on the relationship between trading frequency (TRA_FREQ) and shareholding trading variables. Hence Y, TRA-FREQ (Liquidity) is the research dependent variable while X, SHAREHOLDING VARIABLES e.g. Number of shareholders, Number of shares outstanding, percentage of shares held by insiders, the public, foreigners and financial institutions/government represent the independent variables.

A positive β coefficient suggests that as the shareholding variable under test increases so is the trading frequency. Conversely a negative β coefficient suggest that as the shareholding variable increases, there is a corresponding decrease in trading frequency. The coefficient a reveals the value of Y when the independent variable X is zero.

3.2.1 VARIABLE SPECIFICATION

3.2.1.1 THE DEPENDENT VARIABLE

The variable trading frequency, TRA_FREQ is the dependent variable in this study and is defined as the degree of trading activity, volatility and the availability of buyers and sellers of the stock at all times.

Prior studies e.g. Demsetz (1968) used trading frequency as a proxy for liquidity. He argued that the probability of the arrival of a trader-transaction rate depends on the number of shareholders who will influence the trading frequency of a particular stock in a year. Since then, other authors such as Benston and Hegerman (1974) and Gloster and Harris (1988) have used trading frequency as a measure for the extent of liquidity for a particular stock.

It was computed dividing the number of deals a particular stock achieved in a particular year by the highest number of deals achieved by the leading stock for that year for the period 1997-2003 for all stocks included in the sample for the period 1997-2003 i.e.

$$\text{Trading Frequency} = \frac{\text{The number of deals a particular stock achieved in a year}}{\text{The highest number of deals achieved by the leading stock in the year}}$$

If stock ABC has a trading frequency of say 0.40, then this implies that the stock does not trade for approximately 60% of the days.

3.2.1.2 THE INDEPENDENT VARIABLES

Ownership patterns comprised the independent variables in this study and was categorized as the number of shares outstanding, number of shareholders, percentage of shares held by insiders, percentage of shares held by the public, percentage of shares held by foreigners and the percentage of shares held by financial/government institutions. The elaboration on the ownership pattern variable measures is illustrated below.

3.2.1.2.1 Number of shareholders

The variable of the number of shareholders, NUMSH is defined as the number of owners who hold shares of a given stock that are authorized by the registrar of companies for every company included in this study for the period 1997-2003 at the NSE.

Generally, the greater the number of shareholders a stock has, the more liquid it is considered to be. This is because it is deemed to enlarge the number of buyers and sellers of that security and hence improve transaction rate, Demsetz (1968) and Bhide (1993).

3.2.1.2.2 Shares outstanding

The variable of outstanding shares, **OUTSH** is defined as the number of shares a security has in the market place at the end of its accounting period for the period 1997-2003. In terms of stocks, the number of outstanding shares can help to determine its liquidity.

A stock with a greater number of outstanding shares may be deemed to be highly liquid, whereas a stock with a relatively few outstanding shares may be viewed as being illiquid, Bhide (1993).

3.2.1.2.3 Percentage of shares held by insiders

The variable of insider ownership, **INSOWN** is defined as the percentage of shares bought or sold by the company's management or Board of Directors and individuals that own more than 12¹/₂% of the company's shares for the period 1997-2003.

The percentage of shares held by insiders is derived as a fraction of the number of shares held by insiders to the number of shares outstanding for a particular stock.

Theory predicts a negative relationship between stock market liquidity and insider ownership, Demsetz and Lehn (1985) and Denis and Denis (1994). This is because a high level of insider ownership is associated with higher probabilities of insider trading. Hence the market maker will incorporate a larger adverse selection component and this is deemed to lead to illiquidity in the stock exchange.

3.2.1.2.4 Percentage of Shares held by the public

The variable of public ownership, **PUBOWN** is defined as the percentage of shares bought or sold by individuals who trade on their own and/or own less than 12¹/₂% of the company's shares for the period 1997-2003.

The percentage of shares held by the public is derived as a fraction of the number of shares held by individual investors to the number of shares outstanding for a particular stock for the period 1997-2003.

Theory predicts a positive relationship between public trading and stocks liquidity (Bhide (1993)). By taking into account individual speculative participation, the stock is able to reach a short-term equilibrium price in a quicker and more efficient fashion and hence enhance liquidity.

3.2.1.2.5 Percentage of Shares held by foreigners

The variable of foreign ownership, **FOROWN** is defined as the percentage of shares bought or sold by international investors who have subscribed to stock ownership of securities listed at the NSE for the period 1997-20023

The percentage of shares held by foreign shareholders is derived as a fraction of the number of shares held by foreign shareholders to the number of shares outstanding for a particular stock for the period 1997-2003.

Studies do not find any fundamental effects on liquidity from the ownership of international investors. This is because most foreign investors concentrate their holdings in liquid stocks. However, (Holmstrom and Tirole (1993)) finds that due to their concentrations on liquid stocks, foreign ownership has a positive effect on liquidity as long as foreign policies remain favorable to the foreign investor in the shot-term

3.2.1.2.6 Percentage of shares held by financial and governmental institutions

The variable of institutional ownership, **FIGVOWN** is defined as the percentage of shares bought or sold by pension funds, mutual funds, insurance companies as well as agencies and companies that are state owned.

The percentage of shares held by financial and governmental shareholders is derived as a fraction of the number of shares held by financial and governmental shareholders to the number of shares outstanding for a particular stock for the period 1997-2003.

Theorists concur with positive relationship between liquidity and institutional ownership, Pflleiderer (1998) and Jennings et al (1997). For example, Pflleiderer (1998) argue that frequent trading by institutions is a part a product of their extensive portfolio rebalancing needs.

However, Dey and Radhakrisna (2001) and Weston (2002) find a negative relationship between liquidity and institutional ownership. Their main argument is on the potential diminishing impact on liquidity when large shareholders take an active role in corporate monitoring.

3.2.2 ANALYSIS

To achieve the two objectives of the study, the following steps were followed:

Step one: Computing and recording descriptive statistics of liquidity (based on trading frequency) and shareholding variables into five portfolios.

The purpose of this step was to achieve the first objective of the study; to document the ownership patterns and liquidity of stocks listed at the NSE.

Average values of the variables are shown for each of the liquidity portfolios- LQ1 through LQ5. The liquidity portfolios are formed on the basis of the average trading frequency for each year and are rebalanced annually. LQ1 contains the lowest quintile of stocks based on trading frequency whereas LQ5 contains the most liquid stocks. Average trading frequency was allocated to each quintile as follows: LQ1; 1-20%, LQ2; 21-40%, LQ3; 41-60%, LQ4; 61-80% and LQ5; 81-100% of the trading frequency.

The computations on the average trading frequency and shareholding pattern statistics for each portfolio was summarized in the table below:

Portfolio Number	Average Trading Frequency	Number of Shares outstanding (Millions)	Number of Shareholders	% of Shares held by insiders	% of shares held by public	% of shares held by foreigners	% of shares held by FI/Govt
LQ1							
LQ2							
LQ3							
LQ4							
LQ5							

The study used the descriptive statistics in the table above to evaluate the effect of ownership patterns on observed liquidity.

Step two: Estimating the relationship between Trading Frequency (Stock liquidity) and Stock ownership variables

The purpose of this step was to achieve the second objective of the study; to determine the relationship between stock liquidity and stock ownership patterns traded at the NSE.

To achieve this objective, 6 regression computations were carried to determine the nature of the relationship between trading frequency and the ownership variable being tested.

The regression equation were of the nature given below:

$$TRA_FREQ = a \pm \beta OUSTSH \dots\dots\dots REG 1$$

$$TRA_FREQ = a \pm \beta NUMSH \dots\dots\dots REG 2$$

$$TRA_FREQ = a \pm \beta INOWN \dots\dots\dots REG 3$$

$$TRA_FREQ = a \pm \beta FIGVOWN \dots\dots\dots REG 4$$

$$TRA_FREQ = a \pm \beta PUBOWN \dots\dots\dots REG 5$$

$$\text{TRA_REQ} = a \pm \beta \text{FOROWN} \dots \text{REG 6}$$

The importance of each regression was to determine the effect of the variable under test e.g. OUSTSH (share outstanding), NUMSH (number of shareholders), INOWN (insider ownership), FIGVOWN (financial and Governmental institution ownership), PUBOWN (public ownership), or FOROWN (foreign ownership) on trading frequency.

Alternatively, a multiple regression computation was carried to check for the robustness of the regression results. The regression equation carried out were of the following nature:

$$\text{TRA_REQ} = a \pm \beta_1 \text{INOWN} \pm \beta_2 \text{PUBOWN} \pm \beta_3 \text{FOROWN} \pm \beta_4 \text{FIGVOWN}$$

3.2.2 TEST OF STATISTICAL SIGNIFICANCE OF THE RELATIONSHIPS

The coefficient of determination R^2 was used to test for the statistical significance of the results obtained. It is given by:

$$R^2 = \frac{a \sum Y + b \sum XY - n\bar{y}^2}{\sum Y^2 - n\bar{y}^2}$$

For example, if $R^2 = 0.64$, the 64% explains the variation in Y that is caused by the changes in x

3.2.3 DATA PRESENTATION

Data is presented by use of Tables.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 INTRODUCTION

This chapter presents the results from analyzing the relationship between liquidity and ownership patterns at the Nairobi Stock Exchange. Specifically, it sought to achieve two objectives: Firstly, to document the ownership patterns and liquidity of stocks listed at the NSE. Secondly, to determine the relationship between stock liquidity and stock ownership patterns traded at the NSE.

4.2 COVERAGE

Out of the average 40 companies that have been actively involved in trading for the period 1997-2003, it was not possible to get the relevant data on each of them. The study focused on 24 companies each year. This represents about 60% of the most actively traded stocks at the NSE for the period 1997-2003.

Most of the studies not included in the research were left out due to non-availability of data for the entire study period. This is due to the fact that some of these companies went public sometime between the study period while others ceased being quoted during the same time period.

This research considers 60% coverage reasonable enough to enable meaningful research conclusions about the stock market to be drawn.

4.2.1 OBJECTIVE 1

The first objective of this research was to document the ownership patterns and Liquidity of stocks listed at the NSE. Data collected is shown in Table 1. It presents values of six variables: NUMSH, OUTSH, INSOWN, PUBOWN, FOROWN and FIGVOWN for the period 1997-2003. In order to document ownership patterns and liquidity of stocks listed at the NSE, Trad_Freq was first computed by dividing the number of deals a stock achieved in a particular year by the

highest number of deals achieved by the leading stock for that year for the period 1997-2003. The results are presented in table 2

The results were then sorted using excel from the highest trading portfolio LQ5 to the least trading portfolio LQ1. The liquidity portfolios are formed on the basis of the average Trad_Freq for each year and are rebalanced annually. Average Tra_Freq were allocated to each quintile as follows: LQ1; (1-20%), LQ2;(21-40%), LQ3;(41-60%), LQ4;(61-80%) and LQ5;(81-100%) of the Tra_Freq. The results are presented in table 3. Also, Table 4 presents a summary of the average values of the variables for each liquidity portfolios LQ1 through LQ5. The descriptive statistics in this table was used to evaluate the effect of ownership patterns on observed liquidity in the second objective.

4.2.2 OBJECTIVE 2

This formed the core of this study. In order to draw conclusions to determine the nature of the relationship between trading frequency and ownership variables, average trading frequencies for each of the years under study for the period 1997-2003 were computed. Also, respective averages of the OUTSH, NUMSH, INSOWN, FIGVOWN, PUBOWN and FOROWN for the period 1997-2003 were computed. As a result, six regression data sets were generated from the data. The regression sets are shown in Table 5.

The study regresses Tra_Freq on OUTSH and shows the outcome in REG. 1. It is evident that the number of shares outstanding has a positive effect on trading frequency and the relationship is statistically significant as shown by R^2 . The results conform with those of Bhide (1993).

$$\text{REG 1: } \quad \text{TRAD_FREQ} = 8.6*10^{-2} + 1.0*10^{-9} \text{ OUTSH}$$

$$R^2 = 8.375 \text{ or } 837.5\%$$

Next, the study regresses trading frequency on number of shareholders and reports the results in REG 2. A strong statistically significant positive relation exists between trading frequency and number of shareholders. The results conform with those of Demsetz (1968) and Bhide (1993).

$$\text{REG 2: } \quad \text{TRAD_FREQ} = 1.05*10^{-1} + 7.64*10^{-7} \text{ NUMSH}$$

$$R^2 = 27.50 \text{ or } 2750\%$$

REG 3 test the effects of insider holdings, INSOWN on trading frequency. As per the discussion in section 3.2.1.3, the study expects an inverse relation between the holdings of insiders and liquidity. Contrary, this study reveals a positive relationship between trading frequency and insider holdings. This result does not conform to the findings done by Demsetz and Lehn (1985) and Denis and Denis (1994). However it is evident that R^2 is below 10%.

$$\text{REG 3: } \quad \text{TRAD_FREQ} = 1.93*10^{-1} + 5.13*10^{-5} \text{ INSOWN}$$

$$R^2 = 0.0466 \text{ OR } 4.6\%$$

In regression 4, the study uses holdings by Government and Financial Institutions to explain trading frequency. It is evident that the number of shares held by government/financial Institutions has a negative effect on trading frequency. These findings do not conform to the conjecture of Pleiderer (1998) and Jennings et al (1997) but it supports the arguments by Dey and Radhakrishna (2001) and Weston (2002).

$$\text{REG 4: } \quad \text{TRAD_FREQ} = 2.4*10^{-1} - 1.5*10^{-3} \text{ FIGVOWN}$$

$$R^2 = 0.719 \text{ OR } 72\%$$

Next, the study regresses trading frequency on PUBOWN. PUBOWN is shown to be positively related with trading frequency. The findings conform to those of Bhide (1993).

$$\text{REG 5: } \quad \text{TRAD_FREQ} = 1.61*10^{-1} + 1.85*10^{-3} \text{ PUBOWN}$$

$$R^2 = 0.2614 \text{ OR } 26.14\%$$

Finally, regression 6 tests the effects of foreign holdings on trading frequency. It is evident that foreign holdings have a negative relationship on trading frequency. However, the reliability of the results is less than 10%. The results do not conform to the findings of Holmstrom and Tirole (1993).

$$\text{REG 6: } \quad \text{TRAD_FREQ} = 1.96*10^{-1} - 4.8*10^{-5} \text{ FOROWN}$$

$$R^2 = 0.0634 \text{ OR } 6.34\%$$

Alternatively, multiple regression was carried out to check for the robustness of the regression results. The regression equation is given below:

$$\text{TRAD_FREQ} = 0.26 + 4.76 \times 10^{-4} \text{INSOWN} + 1.7 \times 10^{-3} \text{PUBOWN} \\ + 1.74 \times 10^{-3} \text{FOROWN} - 5.6 \times 10^{-3} \text{FIGVOWN}$$

It is evident that the only variable that has changed the sign is foreign holdings. Hence, foreign ownership has a positive effect when it is not taken in isolation.

4.3 DISCUSSION OF RESULTS

This section analysis the results obtained in this study with regard to the hypothesized theories presented in section 3.2.1.2.

First, the positive relationship between trading frequency (Liquidity) and number of shareholders is evident in table 4. The portfolio with the highest trading frequency has the highest number of shareholders. Also, the portfolio with the least trading frequency has the least number of shareholders. These results are further supported by the regression results, which shows a strong relationship between trading frequency and number of shareholders. The same positive results are evident between liquidity (Tra_Freq) and the number of shares outstanding.

Contrary to the discussion in section 3.2.1.2.3, this study finds a positive relationship between trading frequency and insider holdings. This is because large numbers of shares are in the hands of insiders. It is evident in Table 4 that insiders poses at least 25% of shares in all sets of portfolios. Therefore, if these insiders withhold shares, then liquidity at the NSE is adversely affected. This explains imperfections at the NSE as opposed to the trading practices in an advanced stock market such as NYSE. This shows that insider trading is rampant at the NSE.

The negative results on the relationship between trading frequency and financial/Government institutions tally with the findings of Dey and Radhakrisna (2001) and Weston (2002). To maximize the payoffs to their significant stakes in companies, large shareholders at NSE tend to be actively involved in internal corporate control. The active monitoring activities unavoidably

create information asymmetry, thus impairing liquidity. These results are further strengthened by the multiple regression results. Section 3.2.1.6 hypothesized a positive relationship between trading frequency and financial/Government institutions. The negative results obtained is an indication of imperfection in the NSE as opposed to the positive relationship that would be evident in an advanced capital market e.g. NYSE.

The positive relationship between liquidity and public trading, PUBOWN, indicates that the individual speculative participation enable stocks at the NSE reach a short-term equilibrium price in a quicker and more efficient fashion and hence enhance liquidity.

The relationship between trading frequency and foreign ownership yields a positive relationship under the linear regression model but a positive relationship under the positive relationship model. Hence it is evident that if taken in isolation, foreign ownership would impact negatively on liquidity since foreign owners would rapidly dump the securities in the NSE when a foreign policy does not favor them. However the more realistic results of the multiple regression indicate that an increase in foreign ownership would have a positive impact on liquidity at the NSE. This is because any increase in foreign ownership is an indication of favorable foreign policy on international investors.

CHAPTER 5: SUMMARY, CONCLUSIONS, LIMITATIONS AND SUGGESTIONS FOR FURTHER STUDY

5.1 SUMMARY

Liquidity and stock ownership patterns are the two important portfolio selection inputs. Various studies carried out to ascertain the nature of the relationship between liquidity and shares outstanding, number of shareholders, public ownership, Financial/Government ownership and foreign ownership respectively have established positive links. Also, a negative relationship between liquidity and insider ownership is what most finance scholars concur with. This study was meant to ascertain the relationship between liquidity and ownership patterns.

The results of this study support the fact that there is a positive relationship between liquidity and shares outstanding, number of shareholders, public ownership as well as liquidity and foreign ownership. These results conform to theory and they provide additional evidence in support of finance theory as regards the nature of liquidity and shares outstanding, number of shareholders, public ownership as well as foreign ownership.

Contrary to theory, this study finds a positive relationship between liquidity and insider ownership as well as negative linkage between liquidity and financial/Government ownership. The difference in results is an indication of the differences in market microstructure and imperfections at the NSE.

5.2 CONCLUSIONS

From the above results, it is apparent that the findings between liquidity and number of shares outstanding as well as number of shareholders has several implications; Liquidity enhancing measures are valuable in themselves e.g. increasing the number of public ownership, foreign ownership as well as removing imperfections in NSE aggregate the increase in the number of shares as well as shareholders and this enhances liquidity. Stock splits are a good example of such measures to enhance liquidity.

Also, it is evident that diffused ownership has a beneficial effect on liquidity measure. However, the above conclusions should be understood in the light of research limitations underscored in the next section.

5.3 LIMITATIONS OF THE STUDY

This study is limited with respect to the following:

1. The time frame chosen for the study may not be sufficiently long to enable the research to generalize conclusions. With a longer time frame, it would have been possible to improve on the statistical significance of the results. For this study however, time and data availability constraints inhibited the choice of a longer time frame.
2. It utilizes the ordinary least square method in regression computation to estimate the relationship between liquidity and stock ownership patterns. This method has been found to have weaknesses. More elaborate models have been advanced. However, these approaches are not easily testable.
3. The study utilizes the mean to obtain variables of ownership patterns under different portfolios. Several studies have also indicated that the mean is inadequate in explaining liquidity. Such other frameworks as stochastic dominance have been developed but these are more difficult to empirically test than the mean framework.
4. This study was unable to collect all data from the selected list of quoted companies at NSE due to imperfections of non-disclosure and non-submission of ownership data to the Capital Markets Authority as well as NSE.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

This study serves as a 'ground breaker' for other researchers to carry on related studies in the future. In particular, the following three areas would be very useful as research areas if the conclusions made in this study are to be validated and generalized in the Kenyan context.

It would be important to establish the dynamics of costs and benefits of liquidity-enhancing measures at the NSE

Secondly, it would be helpful if (given time and other resources) a similar study was carried out but covering a longer time frame (about 25 years or more). The results of such a study would be helpful in validating the findings of this study.

Last but not least, measurement of the benefit of improved, monitoring verses the cost of reduced liquidity is another fruitful area for further research.

6.0: APPENDICES

6.1 TABLES

TABLE 1: DATA COLLECTED SHOWING PERCENTAGE OF DIFFERENT OWNERSHIP MIX AND NUMBER OF DEALS TRADED FOR THE PERIOD 1997-2003

1997							
COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS
NIC Bank	18668	82,414,551	18.9	22.32	1.72	57.06	318
KAKUZI	958	19,599,999	24.99	14.02	22.24	38.75	12
FIRESTONE	7328	278,342,393	50.58	3.31	29.63	83.52	76
E.A. CABLES	754	20,250,000	18.91	9.53	56.72	14.84	12
DUNLOP	687	10,000,000	9.5	17.54	22.79	50.17	1
EXPRESS (K)	1390	4,800,000	37.52	24.61	1.33	36.17	7
BARCLAYS	34309	185,166,000	17.13	15.85	51.38	15.64	509
STANDARD C	34111	15,009,679	18.45	12.66	55.36	13.53	334
BAT	4699	100,000,000	30	7.35	45	17.65	45
KENYA AIRWA	93311	74,800,455	23.75	23.27	19.5	33.48	653
E.A. BREWERI	2141	109,030,504	31.32	13.25	5.83	49.6	168
REA VIPINGO	5124	60,000,000	14.25	16.44	47.48	21.83	132
DIAMOND TRU	8413	79,500,000	5.68	29.86	27.11	37.35	63
ICDC	13165	18,837,201	17.48	30.3	2.35	49.87	117
KPLC	3856	8,792,000	24.26	12.41	40.44	77.11	4
EAAGARDS	60	6,431,400	46.31	25.55	22.4	5.74	9
BAMBURI	1480	80,634,200	22.27	15.96	54.96	6.81	77
STANDARD N	800	8,541,239	43	41.69	2.4	12.91	49
LIMURU TEA	67	200,000	50.1	43.05	1.4	5.45	2
KENYA HOTEL	43	58,473	25	37.14	1.89	38.97	4
CARBACID INV	635	3,009,873	51.71	27.71	7.2	13.38	15
A. BAUMANM	319	2,560,044	13.12	10.84	40.91	35.13	3
KENYA OIL	634	7,199,800	63.48	3.65	8.22	24.65	13
JUBILEE INSU	5716	25,000,000	8.8	18.35	27.97	44.88	33

1998							
COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS
NIC Bank	18705	82,414,551	21	22.33	1.72	54.95	101
KAKUZI	958	19,599,999	25	12.72	21.45	40.83	16
FIRESTONE	7338	278,342,393	16.41	3.31	65.71	14.57	61
E.A. CABLES	750	20,250,000	18.91	9.53	56.4	15.16	15
DUNLOP	692	10,000,000	36.65	17.81	6.38	39.16	18
EXPRESS (K)	1388	4,800,000	37.52	24.76	1.3	36.42	5
BARCLAYS	34439	8,726,610	17.17	14.73	51.52	16.58	594
STANDARD C	34162	247,243,464	18.45	12.23	55.84	13.48	279
BAT	4722	100,000,000	30	7.34	45	17.66	30
KENYA AIRWA	94152	461,615,483	23.75	22.37	20.19	33.69	493

E.A. BREWERI	24794	97,402,198	31.32	13.44	4.8	50.44	73
REA VIPINGO	5117	60,000,000	14.25	16.34	48.33	21.08	111
DIAMOND TRU	7822	63,600,000	17.04	21.24	29.87	31.85	28
ATHI-RIVER MI	24774	93,602,252	32.02	16.98	11.55	39.45	79
KCB	125489	112,200,000	12.58	23.37	12	52.05	635
PEARL DRY C	263	1,597,962	43.4	20.07	6.43	30.1	5
BAMBURI	1512	80,644,400	14.88	4.74	73.28	7.1	22
CMC HOLDING	2050	10,011,508	10.31	43.09	8.72	37.88	6
GEORGE WILL	1141	8,756,320	12.87	18.98	38.94	29.21	13
CROWN BERG	2461	21,570,000	41.51	23.87	12.27	32.35	3
CARBACID INV	720	9,438,963	34.82	25.04	5.65	34.49	6
UNGA GROUP	3644	46,858,758	44.71	18.49	1.26	35.54	65
BROOKBOND	4694	48,875,000	22.06	4.7	66.18	7.06	28
NATIONAL BA	66757	200,000,000	50.28	18.13	1.5	30.09	295

1999

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS
NIC Bank	18623	82,414,551	4.11	22.34	8.61	64.94	228
KAKUZI	954	19,599,999	6.52	12.96	22.24	58.28	21
FIRESTONE	7322	278,342,393	54.3	3.34	12.77	70.41	105
E.A. CABLES	757	20,250,000	18.91	9.96	56.72	14.41	16
DUNLOP	689	10,000,000	42.35	17.96	0.68	39.01	1
EXPRESS (K)	1389	1,271,846	37.52	24.76	1.32	36.4	28
BARCLAYS	34531	185,166,000	17.13	15.86	51.38	15.63	519
STANDARD C	34241	43,533,645	18.45	12.7	55.48	13.37	89
BAT	4746	100,000,000	30	7.32	45	17.68	38
KENYA AIRWA	93311	461,615,483	6.5	25.06	20.02	48.42	303
E.A. BREWERI	25027	93,602,252	31.76	13.64	13.92	40.68	100
REA VIPINGO	5052	60,000,000	27.35	16.92	46.94	8.79	17
TOURISM PRO	11151	38,679,000	57.5	4.4	0.1	38	84
CAR & GENER	5117	60,000,000	14.25	16.34	46.94	22.47	16
CMC HOLDING	2114	10,011,508	10.11	38.77	9.64	41.48	16
BROOKBOND	4994	48,875,000	22.06	4.7	66.18	7.06	35
BOC	622	19,525,446	16.35	11.53	49.04	23.08	28
LONRHO MOT	764	63,761,073	59.78	3.37	0.57	36.28	1
KENYA NATIO	2142	67,235,665	58.04	10.82	0.7	30.44	29
KAPCHORUA	62	3,912,000	40.18	5.67	26.97	27.18	1
CARBACID INV	720	9,438,963	34.82	25.04	4.42	35.72	23
GEORGE WILL	1127	8,756,320	12.87	18.48	39.73	28.92	9
KENYA OIL	604	7,199,800	63.48	9.88	0.77	25.87	13
UNGA GROUP	3644	46,858,758	44.71	18.5	1.26	35.53	8

2000

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS
NIC Bank	18589	82,414,551	21.04	22.34	10.34	46.28	233
KAKUZI	1011	19,599,999	6.51	4.5	20.78	68.21	9

FIRESTONE	7204	287,342,400	50.58	4.4	16.49	28.53	99
E.A. CABLES	757	20,250,000	56.72	9.41	3.78	30.09	23
DUNLOP	681	10,000,000	28.5	15.33	9	47.17	2
EXPRESS (K)	1297	4,800,000	37.51	18.44	12.5	31.55	10
BARCLAYS	34551	185,166,000	17.13	15.9	51.38	15.56	471
STANDARD C	34207	247,243,464	18.45	12.57	55.34	13.58	290
BAT	4776	100,000,000	15	7.5	45	32.5	35
KENYA AIRWA	94520	461,615,483	23.75	2.8	20	53.45	640
E.A. BREWERI	24721	97,402,198	31.32	13.17	5.1	50.41	125
REA VIPINGO	5064	60,000,000	14.25	16.45	46.94	22.36	138
PEARL DRYCL	221	1,597,715	51.95	15.47	3.73	28.85	5
CROWN BERG	1778	21,570,000	37.6	17.48	13.63	31.29	12
BAMBURI	2055	362,950,925	18.3	4.86	54.9	21.94	26
STANDARD N	5670	9,621,298	12.58	10.1	37.73	39.59	9
KCB	1740	10,229,770	39.8	31	6.7	22.5	610
E.A.PACKAGIN	1185	7,679,980	18.75	7.23	56.25	17.77	1
KENYA NATIO	2139	59,235,665	28.09	65.96	1.55	4.4	23
KAPCHORUA	62	3,912,000	16.53	49.87	17.47	16.13	1
CARBACID INV	736	9,438,963	34.81	37.31	4.42	23.46	11
GEORGE WILL	1127	8,756,320	22.44	32.71	4.57	5.7	9
KENYA OIL	644	10,079,612	63.48	3.32	21.16	12.04	2
UNGA GROUP	3710	52,954,468	21	65.52	8.73	4.75	4

2001

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS
NIC Bank	18441	82,414,551	21.01	21.98	0.44	56.57	91
KAKUZI	960	19,599,999	24.99	13.21	21.4	40.4	6
FIRESTONE	7234	278,342,393	54.3	3.49	12.77	29.44	52
E.A. CABLES	751	20,250,000	18.91	9.12	56.72	15.25	9
DUNLOP	692	10,000,000	23.35	17.81	22.79	36.05	5
EXPRESS (K)	1391	4,800,000	37.52	24.61	1.33	36.54	3
BARCLAYS	34717	185,165,874	17.94	16.82	51.38	13.86	297
STANDARD C	34013	247,243,464	18.57	12.38	55.72	13.33	298
BAT	4699	100,000,000	30	7.35	45	17.65	34
KENYA AIRWA	91855	461,615,483	6.5	26.37	20.07	47.06	303
E.A. BREWERI	24952	97,402,198	31.32	13.29	4.8	50.59	126
REA VIPINGO	5219	60,000,000	14.25	16.38	48.35	21.02	14
EAAGARDS	52	8,039,250	46.31	6.77	22.16	24.76	3
CROWN BERG	1749	21,570,000	41.01	24.53	11.12	23.34	12
BAMBURI	1480	80,634,200	30.17	5.95	54.96	8.92	38
ICDC	13165	38,363,958	47.23	8.45	1.9	42.42	73
KCB	1740	149,600,000	19.43	29	6.56	45.01	230
E.A.PACKAGIN	1131	7,679,980	18.75	10.84	56.25	15.16	3
KENYA NATIO	2143	67,235,665	10.96	13.85	0.19	75	9
KAPCHORUA	62	3,912,000	52.27	3.11	26.97	17.65	3
DIAMOND TRU	8413	79,500,000	8.2	32.41	24.5	65.11	61
GEORGE WILL	1251	8,756,320	12.6	19.05	38.15	30.2	9
CARBACID INV	765	11,326,755	54.3	3.49	12.77	29.44	4

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS
UNGA GROUP	3710	52,954,468	44	15.49	1.19	60.68	144
2002							
COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS
NIC Bank	18242	82,414,551	15.85	24.06	13.2	46.89	82
KAKUZI	1017	19,599,999	26.06	5.81	17.65	50.48	10
FIRESTONE	7204	278,342,393	67.44	0.45	6.68	25.43	25
BOC	640	2,838,455	16.35	11.32	49	23.33	7
DUNLOP	681	10,000,000	37.99	9.92	13.51	38.58	2
EXPRESS (K)	1371	4,800,000	50.02	25.14	10.5	14.34	2
BARCLAYS	34578	185,166,000	68.5	3.29	22.67	5.54	215
STANDARD C	33826	247,243,464	73.81	12.4	8	5.79	163
BAT	4894	100,000,000	60	1.13	9.09	29.78	105
KENYA AIRWA	90905	461,615,483	26	26.59	13.2	34.21	209
E.A. BREWERI	24121	109,030,252	42.76	14.5	15.09	27.65	133
REA VIPINGO	4872	60,000,000	36.46	17.84	34.14	11.56	9
MARSHALS EA	320	14,393,106	65.57	11.6	6.4	16.43	1
CROWN BERG	1756	21,570,000	50.14	18.5	12.3	19.06	27
BAMBURI	2042	341,118,275	15.3	74.1	1.2	9.4	62
EA PORTLAND	467	90,000,000	22.6	67.8	4	5.6	3
STANDARD N	5670	60,132,310	69.2	10.1	8.8	11.9	38
E.A.PACKAGIN	1131	7,679,980	9.27	9.4	75	6.33	1
KENYA NATIO	2143	67,235,665	23.86	70.3	1.5	4.34	9
KAPCHORUA	66	3,912,000	40.38	2.42	26.97	30.23	3
KENOL	659	10,079,612	84.64	9.92	4.4	1.04	10
GEORGE WILL	1128	8,756,320	51.46	3.58	39.7	5.26	2
CARBACID INV	741	11,326,755	22.61	57.94	4.57	14.88	12
UNGA GROUP	3815	52,938,147	17.2	69.6	8.46	4.74	35

2003

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS
NIC Bank	18242	82,414,551	11.89	27.45	1.1	59.56	233
KAKUZI	1011	19,599,999	38.02	20.2	12.67	29.11	57
FIRESTONE	6644	278,342,393	59.95	16.48	19.98	3.59	305
TOURISM PRO	10021	38,679,000	57.53	6.6	0.1	35.77	96
DUNLOP	681	10,000,000	28.5	17.87	9.5	44.13	8
EXPRESS (K)	1395	4,800,000	37.52	24.61	1.33	36.54	3
BARCLAYS	33640	185,166,000	51.38	1.4	17.13	30.09	590
STANDARD C	33781	247,243,464	18.45	12.47	36.53	32.55	365
BAT	4910	100,000,000	45	12	15	28	190
KENYA AIRWA	90903	461,615,483	19.5	28.39	6.5	39.11	762
E.A. BREWERI	2016	109,030,504	32.07	5.14	15.26	47.53	253
REA VIPINGO	5151	60,000,000	14.25	15.9	47.48	22.37	66
MARSHALS EA	320	14,393,106	59.2	11.63	0.81	28.36	3
CROWN BERG	2460	21,570,000	41.01	23.91	22.76	12.32	31
MUMIAS SUGA	71754	510,000,000	39.44	17.46	17.19	25.9	707

EA PORTLAND	403	90,000,000	22.6	67.8	4	5.6	3
STANDARD N	1077	65,133,359	6.6	8.1	45.64	39.66	40
E.A.PACKAGIN	1126	7,679,980	18.75	9.44	56.25	15.56	3
EA CABLES	760	20,250,000	18.91	9.69	56.72	14.68	28
KAPCHORUA	62	3,912,000	52.27	3.11	26.97	17.65	3
KENOL	630	10,079,612	63.48	9.22	0.77	26.53	32
GEORGE WILL	1251	8,756,320	12.6	19.05	38.15	30.2	16
CARBACID INV	741	11,326,755	28.21	39.05	6.05	26.69	7
UNGA GROUP	3312	52,938,147	17.2	69.6	8.46	4.74	35

TABLE 2: PORTFOLIOS WITH THEIR RESPECTIVE TRADING FREQUENCIES

1997

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS	TRA_ FREQ
NIC 97	18668	82,414,551	18.9	22.32	1.72	57.06	318	0.487
KAKUZI 97	958	19,599,999	24.99	14.02	22.24	38.75	12	0.018
FIRESTONE 97	7328	278,342,393	50.58	3.31	29.63	83.52	76	0.116
E.A.CABLES 97	754	20,250,000	18.91	9.53	56.72	14.84	12	0.018
DUNLOP 97	687	10,000,000	9.5	17.54	22.79	50.17	1	0.002
EXPRESS 97	1390	4,800,000	37.52	24.61	1.33	36.17	7	0.011
BARCLAYS 97	34309	185,166,000	17.13	15.85	51.38	15.64	509	0.779
STANCHART 97	34111	15,009,679	18.45	12.66	55.36	13.53	334	0.511
BAT 97	4699	100,000,000	30	7.35	45	17.65	45	0.069
KENYA AIRWAYS 97	93311	74,800,455	23.75	23.27	19.5	33.48	653	1
E.A. BREW 97	2141	109,030,504	31.32	13.25	5.83	49.6	168	0.257
REA VIP. 97	5124	60,000,000	14.25	16.44	47.48	21.83	132	0.202
DIAMOND T.97	8413	79,500,000	5.68	29.86	27.11	37.35	63	0.096
ICDC 97	13165	18,837,201	17.48	30.3	2.35	49.87	117	0.179
KPLC 97	3856	8,792,000	24.26	12.41	40.44	77.11	4	0.006
EAAGARDS 97	60	6,431,400	46.31	25.55	22.4	5.74	9	0.014
BAMBURI 97	1480	80,634,200	22.27	15.96	54.96	6.81	77	0.118
E.A. STAND 97	800	8,541,239	43	41.69	2.4	12.91	49	0.075
LIMURUTEA 97	67	200,000	50.1	43.05	1.4	5.45	2	0.003
KENYA HOTEL 97	43	58,473	25	37.14	1.89	38.97	4	0.006
CARBACID INV. 97	635	3,009,873	51.71	27.71	7.2	13.38	15	0.023
A. BAUMANM 97	319	2,560,044	13.12	10.84	40.91	35.13	3	0.005
KENYA OIL 97	634	7,199,800	63.48	3.65	8.22	24.65	13	0.02
JUBILEE INS. 97	<u>5716</u>	<u>25,000,000</u>	<u>8.8</u>	<u>18.35</u>	<u>27.97</u>	<u>44.88</u>	<u>33</u>	<u>0.051</u>
TOTAL	238668	1,200,177,811	666.51	476.66	596.2	784.49	2656	4.067
AVERAGE	9944.5	50007408.79	27.771	19.863	24.84	32.688	110.667	0.169

1998

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS	TRA_ FREQ
NIC Bank 98	18705	82,414,551	21	22.33	1.72	54.95	101	0.159
KAKUZI 98	958	19,599,999	25	12.72	21.45	40.83	16	0.025
FIRESTONE 98	7338	278,342,393	16.41	3.31	65.71	14.57	61	0.096
E.A. CABLES 98	750	20,250,000	18.91	9.53	56.4	15.16	15	0.024
DUNLOP 98	692	10,000,000	36.65	17.81	6.38	39.16	18	0.028
EXPRESS (K) LTD 98	1388	4,800,000	37.52	24.76	1.3	36.42	5	0.008
BARCLAYS 98	34439	8,726,610	17.17	14.73	51.52	16.58	594	0.935
STAN.CHART 98	34162	247,243,464	18.45	12.23	55.84	13.48	279	0.439
BAT 98	4722	100,000,000	30	7.34	45	17.66	30	0.047
KENYA AIRWAYS 98	94152	461,615,483	23.75	22.37	20.19	33.69	493	0.776
E.A. BREWERIES 98	24794	97,402,198	31.32	13.44	4.8	50.44	73	0.115
REA VIPINGO 98	5117	60,000,000	14.25	16.34	48.33	21.08	111	0.175
DIAMOND TRUST 98	7822	63,600,000	17.04	21.24	29.87	31.85	28	0.044

ATHIRIVER MINING 98	24774	93,602,252	32.02	16.98	11.55	39.45	79	0.124
KCB 98	125489	112,200,000	12.58	23.37	12	52.05	635	1
PEARL 98	263	1,597,962	43.4	20.07	6.43	30.1	5	0.008
BAMBURI 98	1512	80,644,400	14.88	4.74	73.28	7.1	22	0.035
CMC HOLDINGS 98	2050	10,011,508	10.31	43.09	8.72	37.88	6	0.009
WILLIAMSON TEA 98	1141	8,756,320	12.87	18.98	38.94	29.21	13	0.02
CROWN BERGER 98	2461	21,570,000	41.51	23.87	12.27	32.35	3	0.005
CARBACID INV 98	720	9,438,963	34.82	25.04	5.65	34.49	6	0.009
UNGA GROUP LTD 98	3644	46,858,758	44.71	18.49	1.26	35.54	65	0.102
BROOKBOND 98	4694	48,875,000	22.06	4.7	66.18	7.06	28	0.044
NATIONAL BANK 98	<u>66757</u>	<u>200,000,000</u>	<u>50.28</u>	<u>18.13</u>	<u>1.5</u>	<u>30.09</u>	<u>295</u>	<u>0.465</u>
TOTAL	468544	2,087,549,861	626.91	415.61	646.3	721.19	2981	4.694
AVERAGE	19522.7	86981244.21	26.121	17.317	26.93	30.05	124.208	0.196

1999

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS	TRA_ FREQ
NIC Bank 99	18623	82,414,551	4.11	22.34	8.61	64.94	228	0.439
KAKUZI 99	954	19,599,999	6.52	12.96	22.24	58.28	21	0.04
FIRESTONE 99	7322	278,342,393	54.3	3.34	12.77	70.41	105	0.202
E.A. CABLES 99	757	20,250,000	18.91	9.96	56.72	14.41	16	0.031
DUNLOP 99	689	10,000,000	42.35	17.96	0.68	39.01	1	0.002
EXPRESS (K) LTD 99	1389	1,271,846	37.52	24.76	1.32	36.4	28	0.054
BARCLAYS 99	34531	185,166,000	17.13	15.86	51.38	15.63	519	1
STAN.CHART 99	34241	43,533,645	18.45	12.7	55.48	13.37	89	0.171
BAT 99	4746	100,000,000	30	7.32	45	17.68	38	0.073
KENYA AIRWAYS 99	93311	461,615,483	6.5	25.06	20.02	48.42	303	0.584
E.A. BREWERIES 99	25027	93,602,252	31.76	13.64	13.92	40.68	100	0.193
REA VIPINGO 99	5052	60,000,000	27.35	16.92	46.94	8.79	17	0.033
TPS 99	11151	38,679,000	57.5	4.4	0.1	38	84	0.162
CAR & GENERAL 99	5117	60,000,000	14.25	16.34	46.94	22.47	16	0.031
CMC HOLDINGS 99	2114	10,011,508	10.11	38.77	9.64	41.48	16	0.031
BROOKBOND 99	4994	48,875,000	22.06	4.7	66.18	7.06	35	0.067
BOC 99	622	19,525,446	16.35	11.53	49.04	23.08	28	0.054
LONRHO MOTORS 99	764	63,761,073	59.78	3.37	0.57	36.28	1	0.002
KENYA N. MILLS 99	2142	67,235,665	58.04	10.82	0.7	30.44	29	0.056
KAPCHORUA TEA 99	62	3,912,000	40.18	5.67	26.97	27.18	1	0.002
CARBACID INV. 99	720	9,438,963	34.82	25.04	4.42	35.72	23	0.044
WILLIAMSON TEA 99	1127	8,756,320	12.87	18.48	39.73	28.92	9	0.017
KENYA OIL 99	604	7,199,800	63.48	9.88	0.77	25.87	13	0.025
UNGA GROUP 99	<u>3644</u>	<u>46,858,758</u>	<u>44.71</u>	<u>18.5</u>	<u>1.26</u>	<u>35.53</u>	<u>8</u>	<u>0.015</u>
TOTAL	259703	1,740,049,702	729.05	350.32	581.4	780.05	1728	3.329
AVERAGE	10821	72502070.92	30.377	14.596	24.23	32.504	72	0.139

2000

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS	TRA_ FREQ
NIC Bank 00	18589	82,414,551	21.04	22.34	10.34	46.28	233	0.364
KAKUZI 00	1011	19,599,999	6.51	4.5	20.78	68.21	9	0.014
FIRESTONE 00	7204	287,342,400	50.58	4.4	16.49	28.53	99	0.155

E.A. CABLES 00	757	20,250,000	56.72	9.41	3.78	30.09	23	0.036
DUNLOP 00	681	10,000,000	28.5	15.33	9	47.17	2	0.003
EXPRESS (K) LTD 00	1297	4,800,000	37.51	18.44	12.5	31.55	10	0.016
BARCLAYS 00	34551	185,166,000	17.13	15.9	51.38	15.56	471	0.736
STAN.CHART. 00	34207	247,243,464	18.45	12.57	55.34	13.58	290	0.453
BAT 00	4776	100,000,000	15	7.5	45	32.5	35	0.055
KENYA AIRWAYS 00	94520	461,615,483	23.75	2.8	20	53.45	640	1
E.A. BREWERIES 00	24721	97,402,198	31.32	13.17	5.1	50.41	125	0.195
REA VIPINGO 00	5064	60,000,000	14.25	16.45	46.94	22.36	138	0.216
PEARL 00	221	1,597,715	51.95	15.47	3.73	28.85	5	0.008
CROWN BERGER 00	1778	21,570,000	37.6	17.48	13.63	31.29	12	0.019
BAMBURI 00	2055	362,950,925	18.3	4.86	54.9	21.94	26	0.041
STAND.PAPER 00	5670	9,621,298	12.58	10.1	37.73	39.59	9	0.014
KCB 00	1740	10,229,770	39.8	31	6.7	22.5	610	0.953
E.A.PACKAGING 00	1185	7,679,980	18.75	7.23	56.25	17.77	1	0.002
KENYA N. MILLS 00	2139	59,235,665	28.09	65.96	1.55	4.4	23	0.036
KAPCHORUA TEA 00	62	3,912,000	16.53	49.87	17.47	16.13	1	0.002
CARBACID INV. 00	736	9,438,963	34.81	37.31	4.42	23.46	11	0.017
WILLIAMSON TEA 00	1127	8,756,320	22.44	32.71	4.57	5.7	9	0.014
KENYA OIL 00	644	10,079,612	63.48	3.32	21.16	12.04	2	0.003
UNGA GROUP 00	<u>3710</u>	<u>52,954,468</u>	<u>21</u>	<u>65.52</u>	<u>8.73</u>	<u>4.75</u>	<u>4</u>	<u>0.006</u>
TOTAL	248445	2,133,860,811	686.09	483.64	527.5	668.11	2788	4.356
AVERAGE	10351.9	88910867.13	28.587	20.15	21.98	27.838	116.167	0.182

2001

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF TRA_	
							DEALS	FREQ
NIC Bank 01	18441	82,414,551	21.01	21.98	0.44	56.57	91	0.3
KAKUZI 01	960	19,599,999	24.99	13.21	21.4	40.4	6	0.02
FIRESTONE 01	7234	278,342,393	54.3	3.49	12.77	29.44	52	0.172
E.A. CABLES 01	751	20,250,000	18.91	9.12	56.72	15.25	9	0.03
DUNLOP 01	692	10,000,000	23.35	17.81	22.79	36.05	5	0.017
EXPRESS (K) LTD 01	1391	4,800,000	37.52	24.61	1.33	36.54	3	0.01
BARCLAYS 01	34717	185,165,874	17.94	16.82	51.38	13.86	297	0.98
STAN.CHART. 01	34013	247,243,464	18.57	12.38	55.72	13.33	298	0.983
BAT 01	4699	100,000,000	30	7.35	45	17.65	34	0.112
KENYA AIRWAYS 01	91855	461,615,483	6.5	26.37	20.07	47.06	303	1
E.A. BREWERIES 01	24952	97,402,198	31.32	13.29	4.8	50.59	126	0.416
REA VIPINGO 01	5219	60,000,000	14.25	16.38	48.35	21.02	14	0.046
EAAGARDS 01	52	8,039,250	46.31	6.77	22.16	24.76	3	0.01
CROWN BERGER 01	1749	21,570,000	41.01	24.53	11.12	23.34	12	0.04
BAMBURI 01	1480	80,634,200	30.17	5.95	54.96	8.92	38	0.125
ICDC 01	13165	38,363,958	47.23	8.45	1.9	42.42	73	0.241
KCB 01	1740	149,600,000	19.43	29	6.56	45.01	230	0.759
E.A.PACKAGING 01	1131	7,679,980	18.75	10.84	56.25	15.16	3	0.01
KENYA N. MILLS 01	2143	67,235,665	10.96	13.85	0.19	75	9	0.03
KAPCHORUA TEA 01	62	3,912,000	52.27	3.11	26.97	17.65	3	0.01
DIAMOND TRUST 01	8413	79,500,000	8.2	32.41	24.5	65.11	61	0.201
WILLIAMSON TEA 01	1251	8,756,320	12.6	19.05	38.15	30.2	9	0.03
CARBACID INV. 01	765	11,326,755	54.3	3.49	12.77	29.44	4	0.013

UNGA GROUP 01	<u>3710</u>	<u>52,954,468</u>	<u>44</u>	<u>15.49</u>	<u>1.19</u>	<u>60.68</u>	<u>144</u>	<u>0.475</u>
TOTAL	260585	2,096,406,558	683.89	355.75	597.5	815.45	1827	6.03
AVERAGE	10857.7	87350273.25	28.495	14.825	24.9	33.979	76.125	0.251

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF TRA_	
							DEALS	FREQ
NIC Bank 02	18242	82,414,551	15.85	24.06	13.2	46.89	82	0.381
KAKUZI 02	1017	19,599,999	26.06	5.81	17.65	50.48	10	0.047
FIRESTONE 02	7204	278,342,393	67.44	0.45	6.68	25.43	25	0.116
BOC 02	640	2,838,455	16.35	11.32	49	23.33	7	0.033
DUNLOP 02	681	10,000,000	37.99	9.92	13.51	38.58	2	0.009
EXPRESS (K) LTD 02	1371	4,800,000	50.02	25.14	10.5	14.34	2	0.009
BARCLAYS 02	34578	185,166,000	68.5	3.29	22.67	5.54	215	1
STAN.CHART. 02	33826	247,243,464	73.81	12.4	8	5.79	163	0.758
BAT 02	4894	100,000,000	60	1.13	9.09	29.78	105	0.488
KENYA AIRWAYS 02	90905	461,615,483	26	26.59	13.2	34.21	209	0.972
E.A. BREWERIES 02	24121	109,030,252	42.76	14.5	15.09	27.65	133	0.619
REA VIPINGO 02	4872	60,000,000	36.46	17.84	34.14	11.56	9	0.042
MARSHALS EA LTD 02	320	14,393,106	65.57	11.6	6.4	16.43	1	0.005
CROWN BERGER 02	1756	21,570,000	50.14	18.5	12.3	19.06	27	0.126
BAMBURI 02	2042	341,118,275	15.3	74.1	1.2	9.4	62	0.126
EA PORTLAND 02	467	90,000,000	22.6	67.8	4	5.6	3	0.014
STAND. PAPER 02	5670	60,132,310	69.2	10.1	8.8	11.9	38	0.177
E.A.PACKAGING 02	1131	7,679,980	9.27	9.4	75	6.33	1	0.005
KENYA N. MILLS 02	2143	67,235,665	23.86	70.3	1.5	4.34	9	0.042
KAPCHORUA TEA 02	66	3,912,000	40.38	2.42	26.97	30.23	3	0.014
KENOL 02	659	10,079,612	84.64	9.92	4.4	1.04	10	0.047
WILLIAMSON TEA 02	1128	8,756,320	51.46	3.58	39.7	5.26	2	0.009
CARBACID INV. 02	741	11,326,755	22.61	57.94	4.57	14.88	12	0.056
UNGA GROUP 02	<u>3815</u>	<u>52,938,147</u>	<u>17.2</u>	<u>69.6</u>	<u>8.46</u>	<u>4.74</u>	<u>35</u>	<u>0.163</u>
TOTAL	242289	2,250,192,767	993.47	557.71	406	442.79	1165	5.256
AVERAGE	10095.4	93758031.96	41.395	23.238	16.92	18.45	48.5417	0.219

2003

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF TRA_	
							DEALS	FREQ
NIC Bank 03	18242	82,414,551	11.89	27.45	1.1	59.56	233	0.306
KAKUZI 03	1011	19,599,999	38.02	20.2	12.67	29.11	57	0.075
FIRESTONE 03	6644	278,342,393	59.95	16.48	19.98	3.59	305	0.4
TPS 03	10021	38,679,000	57.53	6.6	0.1	35.77	96	0.126
DUNLOP 03	681	10,000,000	28.5	17.87	9.5	44.13	8	0.01
EXPRESS (K) LTD 03	1395	4,800,000	37.52	24.61	1.33	36.54	3	0.004
BARCLAYS 03	33640	185,166,000	51.38	1.4	17.13	30.09	590	0.774
STAN. CHART. 03	33781	247,243,464	18.45	12.47	36.53	32.55	365	0.479
BAT 03	4910	100,000,000	45	12	15	28	190	0.249
KENYA AIRWAYS 03	90903	461,615,483	19.5	28.39	6.5	39.11	762	1
E.A. BREWERIES 03	2016	109,030,504	32.07	5.14	15.26	47.53	253	0.332
REA VIPINGO 03	5151	60,000,000	14.25	15.9	47.48	22.37	66	0.087
MARSHALS EA LTD 03	320	14,393,106	59.2	11.63	0.81	28.36	3	0.004
CROWN BERGER 03	2460	21,570,000	41.01	23.91	22.76	12.32	31	0.041

MUMIAS S. CO. 03	71754	510,000,000	39.44	17.46	17.19	25.9	707	0.928
EA PORTLAND 03	403	90,000,000	22.6	67.8	4	5.6	3	0.004
STAND.PAPER 03	1077	65,133,359	6.6	8.1	45.64	39.66	40	0.052
E.A.PACKAGING 03	1126	7,679,980	18.75	9.44	56.25	15.56	3	0.004
EA CABLES 03	760	20,250,000	18.91	9.69	56.72	14.68	28	0.037
KAPCHORUA TEA 03	62	3,912,000	52.27	3.11	26.97	17.65	3	0.004
KENOL 03	630	10,079,612	63.48	9.22	0.77	26.53	32	0.042
WILLIAMSON TEA 03	1251	8,756,320	12.6	19.05	38.15	30.2	16	0.021
CARBACID INV. 03	741	11,326,755	28.21	39.05	6.05	26.69	7	0.009
UNGA GROUP 03	<u>3312</u>	<u>52,938,147</u>	<u>17.2</u>	<u>69.6</u>	<u>8.46</u>	<u>4.74</u>	<u>35</u>	<u>0.046</u>
TOTAL	292291	2,412,930,673	794.33	476.57	466.4	656.24	3836	5.034
AVERAGE	12178.8	100538778	33.097	19.858	19.43	27.342	159.833	0.21

**TABLE 3: RANKS AND CATEGORIES OF PORTFOLIOS BASED ON THEIR
TRADING FREQUENCIES**

COMPANY	NUMSH	OUTSH	%INS	%PUB	%FOR	%FIGV	NO. OF DEALS	TRA_F REQ
LQ5-VERY GOOD LIQUIDITY POSITION								
KENYA AIRWAYS 97	93311	74,800,455	23.75	23.27	19.5	33.48	653	1
KCB 98	125489	112,200,000	12.58	23.37	12	52.05	635	1
BARCLAYS 99	34531	185,166,000	17.13	15.86	51.38	15.63	519	1
KENYA AIRWAYS 00	94520	461,615,483	23.75	2.8	20	53.45	640	1
KENYA AIRWAYS 01	91855	461,615,483	6.5	26.37	20.07	47.06	303	1
BARCLAYS 02	34578	185,166,000	68.5	3.29	22.67	5.54	215	1
KENYA AIRWAYS 03	90903	461,615,483	19.5	28.39	6.5	39.11	762	1
STAN.CHART. 01	34013	247,243,464	18.57	12.38	55.72	13.33	298	0.983
BARCLAYS 01	34717	185,165,874	17.94	16.82	51.38	13.86	297	0.98
KENYA AIRWAYS 02	90905	461,615,483	26	26.59	13.2	34.21	209	0.972
KCB 00	1740	10,229,770	39.8	31	6.7	22.5	610	0.953
BARCLAYS 98	34439	8,726,610	17.17	14.73	51.52	16.58	594	0.935
MUMIAS S. CO. 03	71754	510,000,000	39.44	17.46	17.19	25.9	707	0.928
AVERAGE	64058.1	258,858,470	25.433	18.641	26.76	28.669	495.538	0.981
LQ4-GOOD LIQUIDITY POSITION								
BARCLAYS 97	34309	185,166,000	17.13	15.85	51.38	15.64	509	0.779
KENYA AIRWAYS 98	94152	461,615,483	23.75	22.37	20.19	33.69	493	0.776
BARCLAYS 03	33640	185,166,000	51.38	1.4	17.13	30.09	590	0.774
KCB 01	1740	149,600,000	19.43	29	6.56	45.01	230	0.759
STAN.CHART. 02	33826	247,243,464	73.81	12.4	8	5.79	163	0.758
BARCLAYS 00	34551	185,166,000	17.13	15.9	51.38	15.56	471	0.736
E.A. BREWERIES 02	24121	109,030,252	42.76	14.5	15.09	27.65	133	0.619
AVERAGE	36619.9	217,569,600	35.056	15.917	24.25	24.776	369.857	0.743
LQ3-AVERAGE LIQUIDITY POSITION								
KENYA AIRWAYS 99	93311	461,615,483	6.5	25.06	20.02	48.42	303	0.584
STANCHART 97	34111	15,009,679	18.45	12.66	55.36	13.53	334	0.511
BAT 02	4894	100,000,000	60	1.13	9.09	29.78	105	0.488
NIC 97	18668	82,414,551	18.9	22.32	1.72	57.06	318	0.487
STAN. CHART. 03	33781	247,243,464	18.45	12.47	36.53	32.55	365	0.479
UNGA GROUP 01	3710	52,954,468	44	15.49	1.19	60.68	144	0.475
NATIONAL BANK 98	66757	200,000,000	50.28	18.13	1.5	30.09	295	0.465
STAN.CHART. 00	34207	247,243,464	18.45	12.57	55.34	13.58	290	0.453
STAN.CHART 98	34162	247,243,464	18.45	12.23	55.84	13.48	279	0.439
NIC Bank 99	18623	82,414,551	4.11	22.34	8.61	64.94	228	0.439
E.A. BREWERIES 01	24952	97,402,198	31.32	13.29	4.8	50.59	126	0.416
AVERAGE	33379.6	166,685,575	26.265	15.245	22.73	37.7	253.364	0.476

LQ2-POOR LIQUIDITY POSITION

FIRESTONE 03	6644	278,342,393	59.95	16.48	19.98	3.59	305	0.4
NIC Bank 02	18242	82,414,551	15.85	24.06	13.2	46.89	82	0.381
NIC Bank 00	18589	82,414,551	21.04	22.34	10.34	46.28	233	0.364
E.A. BREWERIES 03	2016	109,030,504	32.07	5.14	15.26	47.53	253	0.332
NIC Bank 03	18242	82,414,551	11.89	27.45	1.1	59.56	233	0.306
NIC Bank 01	18441	82,414,551	21.01	21.98	0.44	56.57	91	0.3
E.A. BREW 97	2141	109,030,504	31.32	13.25	5.83	49.6	168	0.257
BAT 03	4910	100,000,000	45	12	15	28	190	0.249
ICDC 01	13165	38,363,958	47.23	8.45	1.9	42.42	73	0.241
REA VIPINGO 00	5064	60,000,000	14.25	16.45	46.94	22.36	138	0.216
AVERAGE	10745.4	102,442,556	29.961	16.76	13	40.28	176.6	0.305

LQ1-VERY POOR LIQUIDITY POSITION

FIRESTONE 99	7322	278,342,393	54.3	3.34	12.77	70.41	105	0.202
REA VIP. 97	5124	60,000,000	14.25	16.44	47.48	21.83	132	0.202
DIAMOND TRUST 01	8413	79,500,000	8.2	32.41	24.5	65.11	61	0.201
E.A. BREWERIES 00	24721	97,402,198	31.32	13.17	5.1	50.41	125	0.195
E.A. BREWERIES 99	25027	93,602,252	31.76	13.64	13.92	40.68	100	0.193
ICDC 97	13165	18,837,201	17.48	30.3	2.35	49.87	117	0.179
STAND. PAPER 02	5670	60,132,310	69.2	10.1	8.8	11.9	38	0.177
REA VIPINGO 98	5117	60,000,000	14.25	16.34	48.33	21.08	111	0.175
FIRESTONE 01	7234	278,342,393	54.3	3.49	12.77	29.44	52	0.172
STAN.CHART 99	34241	43,533,645	18.45	12.7	55.48	13.37	89	0.171
UNGA GROUP 02	3815	52,938,147	17.2	69.6	8.46	4.74	35	0.163
TPS 99	11151	38,679,000	57.5	4.4	0.1	38	84	0.162
NIC Bank 98	18705	82,414,551	21	22.33	1.72	54.95	101	0.159
FIRESTONE 00	7204	287,342,400	50.58	4.4	16.49	28.53	99	0.155
TPS 03	10021	38,679,000	57.53	6.6	0.1	35.77	96	0.126
CROWN BERGER 02	1756	21,570,000	50.14	18.5	12.3	19.06	27	0.126
BAMBURI 02	2042	341,118,275	15.3	74.1	1.2	9.4	62	0.126
BAMBURI 01	1480	80,634,200	30.17	5.95	54.96	8.92	38	0.125
ATHIRIVER MINING 98	24774	93,602,252	32.02	16.98	11.55	39.45	79	0.124
BAMBURI 97	1480	80,634,200	22.27	15.96	54.96	6.81	77	0.118
FIRESTONE 97	7328	278,342,393	50.58	3.31	29.63	83.52	76	0.116
FIRESTONE 02	7204	278,342,393	67.44	0.45	6.68	25.43	25	0.116
E.A. BREWERIES 98	24794	97,402,198	31.32	13.44	4.8	50.44	73	0.115
BAT 01	4699	100,000,000	30	7.35	45	17.65	34	0.112
UNGA GROUP LTD 98	3644	46,858,758	44.71	18.49	1.26	35.54	65	0.102
DIAMOND T.97	8413	79,500,000	5.68	29.86	27.11	37.35	63	0.096
FIRESTONE 98	7338	278,342,393	16.41	3.31	65.71	14.57	61	0.096
REA VIPINGO 03	5151	60,000,000	14.25	15.9	47.48	22.37	66	0.087
E.A. STAND 97	800	8,541,239	43	41.69	2.4	12.91	49	0.075
KAKUZI 03	1011	19,599,999	38.02	20.2	12.67	29.11	57	0.075
BAT 99	4746	100,000,000	30	7.32	45	17.68	38	0.073
BAT 97	4699	100,000,000	30	7.35	45	17.65	45	0.069
BROOKBOND 99	4994	48,875,000	22.06	4.7	66.18	7.06	35	0.067

KENYA N. MILLS 99	2142	67,235,665	58.04	10.82	0.7	30.44	29	0.056
CARBACID INV. 02	741	11,326,755	22.61	57.94	4.57	14.88	12	0.056
BAT 00	4776	100,000,000	15	7.5	45	32.5	35	0.055
EXPRESS (K) LTD 99	1389	1,271,846	37.52	24.76	1.32	36.4	28	0.054
BOC 99	622	19,525,446	16.35	11.53	49.04	23.08	28	0.054
STAND.PAPER 03	1077	65,133,359	6.6	8.1	45.64	39.66	40	0.052
JUBILEE INS. 97	5716	25,000,000	8.8	18.35	27.97	44.88	33	0.051
BAT 98	4722	100,000,000	30	7.34	45	17.66	30	0.047
KAKUZI 02	1017	19,599,999	26.06	5.81	17.65	50.48	10	0.047
KENOL 02	659	10,079,612	84.64	9.92	4.4	1.04	10	0.047
REA VIPINGO 01	5219	60,000,000	14.25	16.38	48.35	21.02	14	0.046
UNGA GROUP 03	3312	52,938,147	17.2	69.6	8.46	4.74	35	0.046
CARBACID INV. 99	720	9,438,963	34.82	25.04	4.42	35.72	23	0.044
DIAMOND TRUST 98	7822	63,600,000	17.04	21.24	29.87	31.85	28	0.044
BROOKBOND 98	4694	48,875,000	22.06	4.7	66.18	7.06	28	0.044
KENOL 03	630	10,079,612	63.48	9.22	0.77	26.53	32	0.042
REA VIPINGO 02	4872	60,000,000	36.46	17.84	34.14	11.56	9	0.042
KENYA N. MILLS 02	2143	67,235,665	23.86	70.3	1.5	4.34	9	0.042
CROWN BERGER 03	2460	21,570,000	41.01	23.91	22.76	12.32	31	0.041
BAMBURI 00	2055	362,950,925	18.3	4.86	54.9	21.94	26	0.041
KAKUZI 99	954	19,599,999	6.52	12.96	22.24	58.28	21	0.04
CROWN BERGER 01	1749	21,570,000	41.01	24.53	11.12	23.34	12	0.04
EA CABLES 03	760	20,250,000	18.91	9.69	56.72	14.68	28	0.037
E.A. CABLES 00	757	20,250,000	56.72	9.41	3.78	30.09	23	0.036
KENYA N. MILLS 00	2139	59,235,665	28.09	65.96	1.55	4.4	23	0.036
BAMBURI 98	1512	80,644,400	14.88	4.74	73.28	7.1	22	0.035
REA VIPINGO 99	5052	60,000,000	27.35	16.92	46.94	8.79	17	0.033
BOC 02	640	2,838,455	16.35	11.32	49	23.33	7	0.033
E.A. CABLES 99	757	20,250,000	18.91	9.96	56.72	14.41	16	0.031
CAR & GENERAL 99	5117	60,000,000	14.25	16.34	46.94	22.47	16	0.031
CMC HOLDINGS 99	2114	10,011,508	10.11	38.77	9.64	41.48	16	0.031
E.A. CABLES 01	751	20,250,000	18.91	9.12	56.72	15.25	9	0.03
KENYA N. MILLS 01	2143	67,235,665	10.96	13.85	0.19	75	9	0.03
WILLIAMSON TEA 01	1251	8,756,320	12.6	19.05	38.15	30.2	9	0.03
DUNLOP 98	692	10,000,000	36.65	17.81	6.38	39.16	18	0.028
KAKUZI 98	958	19,599,999	25	12.72	21.45	40.83	16	0.025
KENYA OIL 99	604	7,199,800	63.48	9.88	0.77	25.87	13	0.025
E.A. CABLES 98	750	20,250,000	18.91	9.53	56.4	15.16	15	0.024
CARBACID INV. 97	635	3,009,873	51.71	27.71	7.2	13.38	15	0.023
WILLIAMSON TEA 03	1251	8,756,320	12.6	19.05	38.15	30.2	16	0.021
WILLIAMSON TEA 98	1141	8,756,320	12.87	18.98	38.94	29.21	13	0.02
KENYA OIL 97	634	7,199,800	63.48	3.65	8.22	24.65	13	0.02
KAKUZI 01	960	19,599,999	24.99	13.21	21.4	40.4	6	0.02
CROWN BERGER 00	1778	21,570,000	37.6	17.48	13.63	31.29	12	0.019
KAKUZI 97	958	19,599,999	24.99	14.02	22.24	38.75	12	0.018
E.A.CABLES 97	754	20,250,000	18.91	9.53	56.72	14.84	12	0.018
WILLIAMSON TEA 99	1127	8,756,320	12.87	18.48	39.73	28.92	9	0.017
CARBACID INV. 00	736	9,438,963	34.81	37.31	4.42	23.46	11	0.017
DUNLOP 01	692	10,000,000	23.35	17.81	22.79	36.05	5	0.017

EXPRESS (K) LTD 00	1297	4,800,000	37.51	18.44	12.5	31.55	10	0.016
UNGA GROUP 99	3644	46,858,758	44.71	18.5	1.26	35.53	8	0.015
KAKUZI 00	1011	19,599,999	6.51	4.5	20.78	68.21	9	0.014
STAND.PAPER 00	5670	9,621,298	12.58	10.1	37.73	39.59	9	0.014
WILLIAMSON TEA 00	1127	8,756,320	22.44	32.71	4.57	5.7	9	0.014
EA PORTLAND 02	467	90,000,000	22.6	67.8	4	5.6	3	0.014
KAPCHORUA TEA 02	66	3,912,000	40.38	2.42	26.97	30.23	3	0.014
EAAGARDS 97	60	6,431,400	46.31	25.55	22.4	5.74	9	0.014
CARBACID INV. 01	765	11,326,755	54.3	3.49	12.77	29.44	4	0.013
EXPRESS 97	1390	4,800,000	37.52	24.61	1.33	36.17	7	0.011
DUNLOP 03	681	10,000,000	28.5	17.87	9.5	44.13	8	0.01
EXPRESS (K) LTD 01	1391	4,800,000	37.52	24.61	1.33	36.54	3	0.01
EAAGARDS 01	52	8,039,250	46.31	6.77	22.16	24.76	3	0.01
E.A.PACKAGING 01	1131	7,679,980	18.75	10.84	56.25	15.16	3	0.01
KAPCHORUA TEA 01	62	3,912,000	52.27	3.11	26.97	17.65	3	0.01
CMC HOLDINGS 98	2050	10,011,508	10.31	43.09	8.72	37.88	6	0.009
CARBACID INV 98	720	9,438,963	34.82	25.04	5.65	34.49	6	0.009
DUNLOP 02	681	10,000,000	37.99	9.92	13.51	38.58	2	0.009
EXPRESS (K) LTD 02	1371	4,800,000	50.02	25.14	10.5	14.34	2	0.009
WILLIAMSON TEA 02	1128	8,756,320	51.46	3.58	39.7	5.26	2	0.009
CARBACID INV. 03	741	11,326,755	28.21	39.05	6.05	26.69	7	0.009
EXPRESS (K) LTD 98	1388	4,800,000	37.52	24.76	1.3	36.42	5	0.008
PEARL 98	263	1,597,962	43.4	20.07	6.43	30.1	5	0.008
PEARL 00	221	1,597,715	51.95	15.47	3.73	28.85	5	0.008
UNGA GROUP 00	3710	52,954,468	21	65.52	8.73	4.75	4	0.006
KPLC 97	3856	8,792,000	24.26	12.41	40.44	77.11	4	0.006
KENYA HOTEL 97	43	58,473	25	37.14	1.89	38.97	4	0.006
CROWN BERGER 98	2461	21,570,000	41.51	23.87	12.27	32.35	3	0.005
MARSHALS EA LTD 02	320	14,393,106	65.57	11.6	6.4	16.43	1	0.005
E.A.PACKAGING 02	1131	7,679,980	9.27	9.4	75	6.33	1	0.005
A. BAUMANM 97	319	2,560,044	13.12	10.84	40.91	35.13	3	0.005
EXPRESS (K) LTD 03	1395	4,800,000	37.52	24.61	1.33	36.54	3	0.004
MARSHALS EA LTD 03	320	14,393,106	59.2	11.63	0.81	28.36	3	0.004
EA PORTLAND 03	403	90,000,000	22.6	67.8	4	5.6	3	0.004
E.A.PACKAGING 03	1126	7,679,980	18.75	9.44	56.25	15.56	3	0.004
KAPCHORUA TEA 03	62	3,912,000	52.27	3.11	26.97	17.65	3	0.004
DUNLOP 00	681	10,000,000	28.5	15.33	9	47.17	2	0.003
KENYA OIL 00	644	10,079,612	63.48	3.32	21.16	12.04	2	0.003
LIMURUTEA 97	67	200,000	50.1	43.05	1.4	5.45	2	0.003
DUNLOP 99	689	10,000,000	42.35	17.96	0.68	39.01	1	0.002
LONRHO MOTORS 99	764	63,761,073	59.78	3.37	0.57	36.28	1	0.002
KAPCHORUA TEA 99	62	3,912,000	40.18	5.67	26.97	27.18	1	0.002
E.A.PACKAGING 00	1185	7,679,980	18.75	7.23	56.25	17.77	1	0.002
KAPCHORUA TEA 00	62	3,912,000	16.53	49.87	17.47	16.13	1	0.002
DUNLOP 97	687	10,000,000	9.5	17.54	22.79	50.17	1	0.002
AVERAGE	3518.12	48,622,472	31.62	19.112	23.02	27.596	26.748	0.051

**TABLE 4: DESCRIPTIVE STATISTICS OF LIQUIDITY AND SHAREHOLDING VARIABLES
FOR THE FIVE PORTFOLIOS BASED ON TRADING FREQUENCY**

<u>PORTFOLIO</u>	<u>NUMSH</u>	<u>OUTSH</u>	<u>%INS</u>	<u>%PUB</u>	<u>%FOR</u>	<u>%FIGV</u>	<u>NO. OF TRAF</u>	<u>DEALS REQ</u>
LQ5	64058.08	258,858,470	25.43308	18.64077	26.75615	28.66923	495.54	0.981
LQ4	36619.86	217,569,600	35.05571	15.91714	24.24714	24.77571	369.86	0.7431
LQ3	33379.64	166,685,575	26.26455	15.24455	22.72727	37.7	253.36	0.4761
LQ2	10745.4	102,442,556	29.961	16.76	12.999	40.28	176.6	0.3047
LQ1	3518.118	48,622,472	31.61976	19.11197	23.0215	27.59598	26.748	0.0514

TABLE 5: REGRESSION DATA SETS**REG SET 1**

<u>YEAR</u>	<u>TRAD_FREQ</u>	<u>OUTSH</u>
1997	0.05	50007409
1998	0.057	86981244
1999	0.033	72502071
2000	0.064	88910867
2001	0.035	87350273
2002	0.022	93758032
2003	0.102	100538778

REG SET 2

<u>YEAR</u>	<u>TRAD_FREQ</u>	<u>NUMSH</u>
1997	0.05	9944.5
1998	0.057	19522.67
1999	0.033	10820.96
2000	0.064	10351.88
2001	0.035	10857.71
2002	0.022	10095.38
2003	0.102	12178.79

REG SET 3

<u>YEAR</u>	<u>TRAD_FREQ</u>	<u>INSOWN</u>
1997	0.05	27.77125
1998	0.057	26.12125
1999	0.033	30.377083
2000	0.064	28.587083
2001	0.035	28.495417
2002	0.022	41.394583
2003	0.102	33.097083

REG SET 4

<u>YEAR</u>	<u>TRAD_FREQ</u>	<u>FIGVOWN</u>
1997	0.05	32.68708
1998	0.057	30.04958
1999	0.033	32.50208
2000	0.064	27.83792
2001	0.035	33.97708
2002	0.022	18.44958
2003	0.102	27.34333

REG SET 5

<u>YEAR</u>	<u>TRAD_FREQ</u>	<u>PUBOWN</u>
1997	0.05	19.8608
1998	0.057	17.3171
1999	0.033	14.5967
2000	0.064	20.1517
2001	0.035	14.8229
2002	0.022	23.2379
2003	0.102	19.8571

REG SET 6

<u>YEAR</u>	<u>TRAD_FREQ</u>	<u>FOROWN</u>
1997	0.05	24.8429
1998	0.057	26.929
1999	0.033	24.225
2000	0.064	21.9788
2001	0.035	24.9
2002	0.022	16.918
2003	0.102	19.43

6.2 A LIST OF QUOTED COMPANIES USED IN THE RESEARCH.

Brooke Bond Ltd Ord. 10.00
Kakuzi Ltd. Ord. 5.00
Rea Vipingo Plantations Ltd. Ord. 5.00
Sasini Tea and Coffee Ltd. Ord. 5.00 African Lakes Corporation PLC Ord. 5.00
Car and General (K) Ltd. Ord. 5.00
CMC Holdings Ltd. Ord. 5.00
Hutchings Biemer Ltd. Ord. 5.00
Kenya Airways Ltd. Ord. 5.00
Marshalls (E.A) Ltd. Ord. 5.00
Nation Media Group Ord. 5.00
Tourism Promotion Services Ltd. Ord. 5.00 (Serena)
Uchumi Supermarket Ltd. Ord. 5.00 Barclays Bank Ltd. Ord. 10.00
C.F.C Bank Ltd. Ord. 5.00
Diamond Trust Bank Kenya Ltd. Ord. 4.00
Housing Finance Co. Ltd. Ord. 5.00
I.C.D.C Investments Co. Ltd. Ord. 5.00
Jubilee Insurance Co. Ltd. Ord. 5.00
Kenya Commercial Bank Ltd. Ord. 10.00
National Bank of Kenya Ltd. Ord. 5.00
NIC Bank Ltd. Ord. 5.00
Pan African Insurance Ltd. Ord. 5.00
Standard Chartered Bank Ltd. Ord. 5.00

Athi River Mining Ord. 5.00
B.O.C Kenya Ltd. Ord. 5.00
Bamburi Cement Ltd. Ord. 5.00
British American Tobacco Kenya Ltd. Ord. 5.00
Carbacid Investments Ltd. Ord. 5.00
Crown Berger Ltd. Ord. 5.00
Dunlop Kenya Ord. 5.00
E.A Cables Ltd. Ord. 5.00
E.A Portland Cement Ltd. Ord. 5.00
East African Breweries Ltd. Ord. 10.00
Firestone East Africa Ltd. Ord. 5.00
Kenya Oil Company Ltd. Ord. 5.00
Mumias Sugar Company Ltd. Ord. 2.00
Kenya Power and Lighting Ltd. Ord. 5.00
Total Kenya Ltd. Ord. 5.00
Unga Group Ltd. Ord. 5.00

Baumann and Company Ltd. Ord. 5.00
City Trust Ltd. Ord. 5.00
E.A. Packaging Ltd. Ord. 5.00
Eaagads Ltd. Ord. 1.25
Express Ltd. Ord 5.00

Williamson Tea Kenya Ltd. Ord. 5.00
Kapchorua Tea Company Ltd. Ord. 5.00
Kenya Orchards Ltd. Ord. 5.00
Limuru Tea Company Ltd. Ord. 20.00
Standard Newspapers Group Ord. 5.00

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