FACTORS THAT INFLUENCE THE DEMAND FOR SHARES LISTED IN THE NAIROBI SECURITIES EXCHANGE
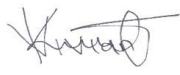
BY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE, FACULTY OF BUSINESS AND MANAGEMENT SCIENCE, UNIVERSITY OF NAIROBI

NOVEMBER, 2021

DECLARATION

I hereby declare that this research project contains my original work and to the best of my knowledge and skills it has not been presented to any institution of higher learning for an award of a degree or a diploma.

Signed……… ~~Kamula~~ …. Date…………17 November 2021…………

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D63/88443/2016

This research project has been submitted for review with my approval as the university supervisor.

Signed……………………………………………………….Date 17/11/2021

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DEDICATION

I dedicate this research project to my mum, Agnes Mbaika for her great support,

encouragement, and sacrifice. Her dream has come true.

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I would like to express my gratitude to God, the Almighty, for His blessings, favor, and grace throughout my research work. His strength has made all things possible and enabled successful completion of the research.

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My completion of this project could not have accomplished without the support of my parents Mr. and Mrs. Kamula and siblings, Isaac, and Israel. Their love, prayers and sacrifices are appreciated.

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LIST OF ABBREVIATIONS

ARCH – Autoregressive Conditional Heteroscedasticity

CMA – Capital Market Authority

FGLS – Feasible Generalized Leased Squares

IPO – Initial Public Offering

KNBS – Kenya National Bureau of Statistics

NSE – Nairobi Securities Exchange

OLS – Ordinary Least Squares

ABSTRACT

The capital market authority has cited a low uptake of capital market products in Kenya. With regards to shares, the local investor participation in the Nairobi Securities Exchange is quite low at 33 percent of the total population meaning that there is a low demand for listed shares among Kenyan firms and households. This study sought to investigate the factors that contribute to the demand for shares in Kenya. The general objective of this study was to establish the factors that influence demand for shares listed in the Nairobi Securities Exchange. To meet this objective two specific objectives were derived form it the first being to establish the macroeconomic factors that influence the demand for shares in the NSE and the second being the company specific factors that influence the demand for shares in the NSE. Two macroeconomic variables were identified namely aggregate income level which was measured using real GDP this variables represents the financial state of the economy in terms of how good or badly off it is. Interest rate was the second macroeconomic variable that was deemed an inverse effect on investment and consequently demand for shares. Company specific variables used in the study were company performance that was measured using after tax profit and company assets. Investors' behavior is greatly influenced by financial records of the company in terms of size and performance. Two models were estimated one that relates macroeconomic variables to share demand and the other that relates company specific variables to share demand. From the analysis, income level was found to have a positive and significant effect on demand for shares (β=0.7406, P-value=0.000), interest rate was also found to have a positive effect on demand for shares in Kenya (β=0.4517, P-value=0.000). On the other hand, company asset was found to have a positive effect on demand for shares (β=0.1468, P-value=0.000), whilst company performance was found to have positive and significant effect on demand for shares (β=0.50763, P-value=0.00). The study recommends that companies should strive to acquire assets as this is critical in boosting investor confidence that they will get their owner equity in the event that businesses go under. The government through the monetary policy committee should take into account the movement of shares demand and stock market performance in their duty of adjusting interest rates.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Listed shares just like normal products in the market are affected by the forces of demand and supply and the interaction of price mechanisms. The classical theory of demand by Smith (1776) and Mill (1884) postulates that a product's demand fluctuates based on factors that range from the nature of the products to the general market conditions. The theory also states that demand for a product is determined by its own price and the relative price of the products that are closely related to it. Marshall (1890) a classical economist further suggested that demand for a product is dependent on its responsiveness to the price change, a concept which was referred to as price elasticity of demand. Neo-classical economists too such as Blaug (1983) contributed to the theory of demand by asserting that demand for a product is influenced by the income of individuals. Therefore, it can be said that the demand for products is influenced by its own price, price of a close substitute and income levels.

Clarkson (1965) in the theory of stock behavior, added a different dimension to the determinants of a listed share. The theory postulates that demand for listed share is influenced by macroeconomic factors, the general performance stock market and the company-specific factors. The theory asserts that the demand for shares is mainly influenced by the general state of the economy, this includes factors such as aggregate income levels, inflation levels. The theory further posits that the performance of the stock market based on the share index affects the demand for shares. The justification for this is

that there are institutions that can influence the demand through analysis, these institutions include mutual funds, pension funds, and investment firms. These firms are considered to be so large to the point of distorting or restoring the demand-supply equilibrium. This is because they trade in large volumes and trade in the stock market on behalf of their clients. Whenever they analyze poor performance in the share index they reduce their investment rate and vice-versa.

Empirical evidence has pointed out the importance of listed stock in increasing the wealth of investors and boosting the economy. However, according to Guiso and Sodini (2013), stock equity demand levels are still below the normative standards across the globe. In their research, they observed that the stock market participation is particularly low in developing countries, this is despite the rising levels of savings among these countries in the last decade. Many nations have tried to advocate and pass on policies that promote high penetration of equity products and in particular listed stock. Among these policies and practices include the promotion of financial literacy levels and sensitization campaigns to educate the masses on the benefits of stock market products (Guiso & Sodini, 2013).

1.1.1 Demand for Listed Shares

Demand for listed shares is the total value of shares traded within a certain predetermined period of time. Shares market is an integral part of the economic system. For once, it aids in determining the economic stability and any upset in their demand and supply is likely to have an adverse effect on the economy including a recession as was witnessed in the United States of America in 1929 and 1986. Shares trading helps the economy to be in a steady state as it helps companies to raise capital, roll out new products and expand their business operations (Pinto & Alves, 2016).

Researchers have been puzzled by the low levels of investment in the stock market, and attempts have been made to gather cross-country evidence about the factors that influence the low demand. Among the empirical studies conducted include a study by Christiansen et al., (2017) who conducted a panel analysis study in a group of 15 countries established factors such as income, age, gender, education level, and tolerance to risk to be among the factors contributing to the dismal stock market participation. Similarly, Cole (2017) carried out a study on 10 developing countries and found financial literacy, and GDP levels to be contributory factors to the demand for listed shares.

Several approaches have been used by researchers to measure the listed share demand. Cole (2017) used the number of investors in the stock exchange of the various countries under study to measure the demand for the listed shares. Christiansen et al., (2017) used the value of shares as a proxy to listed share demand, the justification was that the trade value represents a true picture of the demand of shares, high trade value signifies high demand and vice-versa.

1.1.2 Factors Affecting the Demand for Listed Shares

Attempts have been made in both theoretical and empirical literature to provide a nexus between macroeconomic variables and demand for shares. Among the variables established to show this relationship is the level of income. This is explained by the theoretical works of Clarkson (1965) in the theory of stock behavior who opined that when the income of individuals in the country is high they would invest more in stock. The same view was shared by Verdoom (1993) in the demand centric theory which postulates that increased levels of income would create a new demand for portfolio equity. Empirical

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works that support this assertion include the study by Garcia and Liu (1999) in South America that established a positive association between rising income levels and stock demand.

Interest rate is another variable that has been shown to influence demand for listed shares. Pinte and Alves (2016) pointed out that interest rate affect the behavior of individuals towards consumption and investment. However, there is a disclaimer attached to it as the population must have financial literacy for it to be applicable. When interest rate is high, firms and household will reduce their investment and increase their consumption. People will shy away from taking loans due to the rates avoiding investment all together. On the other hand, when interest rates fall firms and households will borrow more and invest. In addition, interest rate help individuals to form expectations about the prospects in the economy.

There are various measures put across to measure the aggregate income level. The main measure for this is the real Gross Domestic per capita income. This measure was proposed by (Yartey, 2007) as the appropriate measure for income levels because it is arrived at by dividing all the total output in a country by its total population. On the other hand, the income level is measured by central bank lending rate to commercial banks (World Bank, 2018).

Literature has pointed out the factors that are specific to the company that affects the demand for listed shares, these factors include the size of the asset and the company's performance. Clarkson (1965) opined that investors are rational and usually carry out research about the fundamentals of a company prior to buying their stake. If the company

seems to be having enough assets to cushion the firm during hard times, then they would invest in it. This proposition was supported by Levine and Zervos (1998), who observed that there was a relatively higher daily trade on American banks that reported high asset value.

Another company-specific factor that is likely to contribute to the increased purchase of listed share is the financial performance of the company. This was first pointed out by Clarkson (1965) in the theory of stock behavior. Clarkson links this factor to the perception of the investors, if they view a company's asset not to be adequate to repay them in case of liquidation, they would not demand the share of that company. These assertions were later on empirically affirmed by conducted by Marone (2003) on African markets. The research established that investors will always judge firms based on their performance and would purchase shares from companies that are recording consistent profits. The argument is that this raises the value of shares of these firms leading to higher prices and more demand. On the other hand, investors always avoid those companies that continually make losses

There are several proxies for measuring the financial performance of listed firms. They are Earnings after profit and tax, which measures the revenue generated by a firm after taxes and expenses are deducted. Return on Equity (ROE) is another measure that is presented as the ratio of a firm's profit to the equity of its shareholders (Memmel & Raupach, 2010). Finally, there is the Return on Asset (ROA). This approach is viable as it measures the general performance of firms as it takes profitability into account. It measures the percentage of the net income over total assets the organization has (Nacuer et al., 2007). The Firm's asset, on the other hand, is measured by total assets acquired in the year plus the existing assets less depreciation expense (Memmel & Raupach, 2010).

1.1.3 Listed Shares in the Nairobi Securities Exchange

Currently, there are 66 listed firms in the Nairobi Securities Exchange, according to the 2017 – 2018 handbook by the Nairobi Securities exchange. Among these 8 firms fall under the agricultural sector, 1 firm in the motor vehicles and parts, 12 firms are in the banking sector, 5 firms are in the construction and associated sector, 12 firms in the commercial and services, 4 firms are in the petroleum and energy industry, 5 are in the investment services, 6 are in the insurance industry, 9 firms in the manufacturing and allied sector, 1 firm is in the telecommunication and technology, 1 firm is in the real estate trust, while 2 firms are in the exchange-traded fund (NSE, 2018).

Capital Market Authority's (2018) report on the low uptake of capital market products in Kenya showed that Kenya has low local investor participation of 33%. This means that there is a low demand for listed shares among Kenyan firms and households and the majority of the players in the Nairobi Securities Exchange are foreigners. Additionally, a 2019 report by the Capital Market Authority has shown that the stock market in Kenya has recorded massive drops in its performance as shown by the NSE 20 share index. The report linked this performance to reducing levels of stock turnover levels, which also reflects a low demand for listed share in Kenya. This study seeks to find out what are the factors that lead to the low demand for listed shares in Kenya.

1.2 Research Problem

Crosscutting studies have demonstrated the vitality of shares in economic contribution. Thus, there is a need to understand the factors that contribute to participation in the stock market especially developing countries in a bid to increase the demand of shares. Studies

have also pointed out that the demand is influenced by a combination of factors that stem from the general economy and those that unique to the specific companies Guiso and Sodini (2013). Among the macroeconomic factors likely to affect share demand include the general state of the economy and interest rates. On the other hand, the microeconomic factors include the performance of the company as well as the size of a company (Egbunike & Okerekoiti, 2018). A study that encompasses both of these aspect is likely to get a holistic view of the factors that influence the demand for listed shares.

The Nairobi Securities Exchange plays a crucial role in the capital market development in Kenya and this has had a consequential effect on the growth and the development of the economy. The exchange, through the Initial Public Offering (IPO), has aided the growth of many firms in Kenya, through enabling them to raise equities necessaries for expansion of businesses and operation. Most of the listed firms in the NSE are among the ones that have recorded good performance among them irrespective of the industrial sector in which they operate. For this reason, it is of paramount importance that it remains vibrant through recording better performance which is reflected by high turnover ratios and the share index. In order to ensure that its performance is sustainable, it is pivotal to understand the factors that lead to a high stock turnover rate and the demand for listed shares.

Kenya's stock market in Kenya has been experiencing a fluctuating series in the past two years. This is reflected in the performance of the NSE 20 share index which recorded an 11.5 percent drop while the NASI recorded a 0.4 percent decrease in 2018 (Capital Market Authority, 2019). The drop has been largely linked to the low volume stock market turnover in the NSE which in June 2019 stood at Ksh 10 Billion down from Ksh 12 Billion in May 2019. CMA (2019) reported that this was the lowest turnover recorded since the

2017 October's general election. Additionally, the local investor participation stood at 33 percent compared to the 67 percent of foreigner's participation in the same month. The dismal performance in the share market and the relatively low local investors' participation has been a matter of concern among policymakers and financial analysts, prompting the need to carry out a study on what determines the low demand in the share market in demand.

There are a number of studies that have been conducted globally that have attempted to provide a nexus between the demand for listed share and macroeconomic and company-specific factors. Among these include the theoretical works by Clarkson (1965) that linked income levels with demand for listed share, which was supported by a number of empirical literature by Verdoom (1993) and Garca and Liu (1999). Studies have also tried to link interest rate with demand for listed share among these include the theoretical foundations of East (1993) that were backed by empirical findings by Guiso and Jappelli (2008), Kobbeltvedt and Wolff (2009). It is worth noting that these studies are old and therefore cannot be relied upon in the present age owing to the dynamism in the stock market. Recent literature conducted have either focused on gender, for instance, a study by Lusard and Mitchel (2018), this cannot be generalized to an entire population. Other recent studies (Ozamuyi, 2018; and Jain & Manot, 2018) have mainly used questionnaires in data collection, however, there are biases that are associated the use of questionnaires in data collection.

The available body of knowledge on this area focuses more on broader perspectives of African stock markets (Cosh, Hughes, & Singh, 2015), while studies on NSE have not necessarily addressed the factors influencing the demand of listed share but have mostly

focused on its prices (Kiruthu, 2016; Mwebesa, 2017). Auma et al., (2016) investigated the determinants of participation in the Nairobi Securities Exchange however this study was one-sided as it only focused on the investors and did not include the macroeconomic factors and thus the findings cannot be generalized to the entire population. Mbaluka (2018) mainly paid attention to the behavioral aspect making the study one-sided. Motivated by the afore-mentioned discussions, the present study is concerned by both the macroeconomic and company-specific Determinants of share demand with reference to the Nairobi Securities Exchange in Kenya. This study, therefore, sought to answer the study question; what are the factors that influence the demand for shares in the Nairobi Securities exchange?

1.3 Objectives of the Study

The objective of the study is to determine the factors that influence the demand for shares listed on the Nairobi Securities Exchange.

1.4 Value of the Study

Contribution to Theory- The study will contribute to the addition to the existing body of theoretical literature concerning the demand for listed share. The findings of this study will form an empirical basis for future research conducted both regionally and locally by academicians and researchers. The empirical approaches used can be replicated in future studies with similar dynamics. The study will also act as a reference for future studies on the same subject.

Policy reforms - This study is important to the government as well as the capital market authority because it assists in shedding light on the factors that are significant when it

comes to the demand of shares in Kenya. This information can be used by policymakers to enhance wage rates hence high-income levels, increasing employment rates and boosting aggregate demand for shares.

Investors-The finding of this study will be useful to investors as it will highlight the status of the demand for shares in Kenya. The study will enlighten the investors on the potential factors to look at when investing in new shares or when planning to sell their shares. This will help them make the most out of transactions through capital gains. And thus will enable them to make better investment decisions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a detailed review of theoretical and empirical literature around the area of determinants of listed share demand. The theoretical literature highlight in detail the theories that underpin the study while the empirical literature focus on global and local studies around the subject.

2.2 Theoretical Literature

This segment highlights the theories that this study stems on, provides a critical review and its applicability of the theories in the study

2.2.1 Classical Demand Theory

The pioneer in classical demand theory was Smith (1776) in a book entitled Wealth of Nations. Years later the theory was advanced by Mill (1884) and Marshall (1890). These economic theorists had a concerted view that the demand for a product is influenced by its price, price of related goods and income level of households. Price was shown to be having an inverse relationship with demand as the more the price shoot the lower the demand for the product and vice-versa. Similarly, the price of a related product was shown to contribute to the demand for the good. In this case, the related product was referred to as a substitute for the product in question which could easily be replaced with it. If the price of a substitute was lower demand would shift to the substitute and vice-versa.

This classical demand theory has gained much support among contemporary economists. Blaug (1983) supported this assertion by stating that income is a critical determinant of demand. The more people earn the more they spend on shares and other products. The rise in the aggregate levels of income raises the demand for goods and investment. Other proponents of the demand theory include Markowitz (1952) who devised a theory on the modern portfolio, that stated that an individual is presented with an array of portfolios and will select the one that will help minimize their risk. This theory was in the agreement with the classical theory, as it assumed that an expensive portfolio was risky as compared to less expensive ones. The investor is presented with a number of substitute portfolios and will always go for the cheaper ones as it minimizes their risk.

The classical demand theory is relevant in this study as it is vital in explaining the possible determinants of demand for listed share. Form the theory, it can be deduced that income level and interest rate are important determinants of listed share demand. Therefore, the theory is crucial in informing the choice of variables used in the study.

2.2.2 Theory of Planned Behaviour

The theory of planned behavior was first brought in light by Ajzens (1991). The theory articulates the factors that lead to decision making by individuals. These factors include the attitude of the individual, subjective form of a person, perceived control and past behaviors. The theory posits that these are the factors that define a person's actions. The most important factors identified in the theory were perceived control, which is deemed as the social constructs put in place to enable an individual to act in a certain way, they include

the societal norms and expectations. The other critical factor is past behavior as it shapes future actions.

The theory of planned behaviour was extended by East (1993) extended the theory to include investment decisions. He asserted that aggregate individual actions are shaped by societal expectations. Investors will make investment decisions based on the existing ideology, among the factors considered in this case was financial literacy. Individuals are expected to make informed investment decisions based on their literacy levels. People who have surpassed a certain level of education are expected to understand the prevailing risks in the market and act rationally. For example, they might understand the implication of certain financial variables such as interest rate and form their expectations based on its fluctuations. The theory opines that it is the rationality that makes individuals form value judgment and therefore when presented with a pool of portfolio they will choose those from the firms that are performing well.

The theory of planned behaviour is applicable in this study because it depicts how the perception of investors in the market influences their investment choices. The theory shows that individuals will most probably invest in firms that show better financial performance. Additionally, it shows that investors are rational, and are likely to make decisions based on the trends, variations and shocks in the market. This theory is therefore useful in the determination of the variables used in the study, they include interest rate, financial performance and asset. The theory is also useful in model specification as it shows that future decisions are affected by past decisions.

2.3 Determinants of the Demand for Listed Shares

2.3.1 Income Levels

The empirical and theoretical analysis has shown the importance of the level of income as a determinant of demand for listed share. It is expected that when the value of income rises the level of share demand also rises (Garcia & Liu, 1999). The rationale behind this is that, when the economy is performing better than anticipated, the demand of shares rises in expectation of higher earnings. This study uses Real GDP as a proxy for the aggregate income levels as Proposed by Yatery (2007). This variable is measured by dividing total output adjusted for inflation. The study expects to obtain a positive coefficient of this variable.

2.3.2 Interest Rate

Interest rate has been identified as a culprit for the demand for shares. An increase or a decrease on interest rate affects the psychology of investors and general consumers in the economy. When there is a proliferation of interest rate, investors and tend to exercise frugality on expenditure. This in turn leads to reduced earnings and which causes the stock prices to plummet. On the other hand, a fall in interest rate will lead to increased spending by both firms and household increasing the demand for shares (Otieno, Ngugi & Wawire, 2017).

2.3.3 Company Performance

Investors are shown from theories reviewed to be rational thinkers and they invest in a company's stock based on the performance of that company. Investors tend to invest in companies that are more profitable than those performing poorly. They are usually carried

away by the reported profits. This has been observed by volatility that arises periods slightly before and after the release of quarterly corporate results (Marone, 2003). This study uses after tax profit as a measure for firms' performance as it is the main metric that shows the overall performance of a company (Memmel & Raupach, 2010).

2.3.4 Company's Assets

Investors tend to invest in companies that have a larger asset base. The rationale for this is that they view these companies to be more stable and firm in the event that the company goes under (Levine & Zervos, 1998). Investors are rational being and will always make their judgment based on historical company records. This study measures the company's assets by its total value.

2.4 Empirical Literature Review

Several factors have been shown to contribute to the demand for listed shares. Sultan and Pardhasaradhi (2016) used ordinary least square regression analysis to study the factors that determine investors' decisions in India. The study found the income level to be having a positive relationship with investors' participation. The data was collected by the use of a structured questionnaire and it was observed that those provinces that had similar income levels portrayed an almost similar investment behavior. The weakness of this study stems from its methodology, the use of Ordinary least square that may not give optimal solution given the nature of the study that was mainly a comparative study between two regions. OLS suffer from sensitivity especially when fitted with uneven data points. The datasets are likely to contain outliers that may skew the coefficients.

Merilkas and Prasad (2017) conducted a study on the factors that influence investors'

behavior in the Greek Stock Exchange. The study employed the regression analysis technique in analysis and established that the performance of a company to be positively related to investors' behavior while purchasing stock. The study concluded that investors rely heavily on published accounting information when making their purchasing decisions. This study mainly focused on the behavior of investors and thus was one sided. The current study seeks to employ a holistic approach that incorporates both the macroeconomic and microeconomic determinants.

Lusardi and Mitchell (2018) conducted a study on the impact of financial literacy on planning by women in Latin America. The study used regression analysis to establish this effect and established that there exists a positive relationship between financial literacy and investment plan particular on shares and financial market. The study concluded that women who had a higher literacy level have a higher propensity to participate in the stock market. The study however, focused on one gender and thus this study cannot be replicated to the entire population which in real sense is heterogeneous.

Jain and Manot (2018) carried out a survey in Pakistan to study the behavior of investors in the decision-making process of investment choices. The study used a structured questionnaire to collect the data. The logistic regression approach was used in the analysis. The study found out that variables such as age, education level, income levels, and gender played a critical role in influencing the investment decisions of the participants of the study. The study only targeted the people who are already in the investment business. Thus the findings were limited to these group of people.

Ozamuyi (2018) carried out a study on investment behavior by investors in Nigeria. The

study collected data by use of structured questionnaire.it was established that among the factors that influence investors behavior included, the financial performance of a company, expected dividends, and income level. The study concluded that investors always want to maximize their earnings and therefore reliance on past financial information is key in influencing their behavior. Similarly, this study focused on a group of investors and thus inference cannot be drawn for the entire population but these group.

Auma et al., (2016) carried out a study on the behavior and financial gain of the investors participating in the Nairobi Securities Exchange in Kenya. The study sought to find out how the individual investors make their purchasing decision in the stock market. The study used a structured questionnaire and analyzed it using a five-point Likert scale. The study found out that investors rely on the information given to them by their close friends and family members, they also rely on analyst opinion about the market. The study concluded that with investors in the NSE exhibited both rational and irrational behavior while making investment decisions. This study was mainly microeconomic as it only focused on the investors. There is a need to investigate the macroeconomic environment to get a rounded picture of the determinants of demand for shares.

Mbaluka (2018) showed that the demographic characteristics of investors determine the investors 'decision-making behavior. Investors of different demographic characteristics made decisions differently. Some investors made decisions rationally but most of them were affected by behavioral biases. The biases tested include herding, overconfidence, anchoring, and loss aversion. All these biases affected investors as they traded in shares though others were more prominent than others. This study mainly focused on the behavioral aspect of the investors thus touching on one aspect of the factors that influence

the demand for shares.

2.5 Conceptual Framework

A conceptual framework is a tool that demonstrates the possible relationship between a set of independent variables on a dependent variable. This study conceptualized that the demand for listed share is influenced by macroeconomic factors as well as factors specific to a company. The macroeconomic factors identified include income level and interest rate. The justification for the choice of these two macroeconomic variables is that the rise in income level will increase the disposable income which can be channeled to consumption and savings, economic literature shows that saving translates to higher investment levels in either stock or inventory. The study expects a positive relationship between share demand and income levels. On the other hand, the choice of interest rate has been informed by the assertions that interest rate influences the expectations of consumers and households and they are likely to choose to between investment and consumption. The study expects a positive relationship between interest rate and listed share demand.

The company-specific variables identified by empirical literature include asset size and company performance. A company's asset boosts investors' confidence about the firm, and thus increases demand for its shares. This study expects a positive relationship between asset size and listed shares demand. Similarly, company performance is an important determinant of listed share demand. Investors tend to invest in companies that are profitable. The macroeconomic and company-specific variables are the independent variables while share demand is the dependent variable. The conceptual model is shown in Figure 2.1

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┌─────────────────────────────────┐
│  Macroeconomic Factors          │
│                                 │
│     •  Income Levels            │
│     •  Interest rate            │
│                                 │
│                                 │
│                                 │
└─────────────────────────────────┘
                                          ┌─────────────────────────┐
                                          │  Listed share demand    │
                                          │                         │
                                          │   Value of traded       │
                                          │   shares                │
                                          │                         │
┌─────────────────────────────────┐      └─────────────────────────┘
│  Firm-level                     │
│                                 │
│     •  Company financial performance
│     •  Value of company asset   │
│                                 │
│                                 │
└─────────────────────────────────┘
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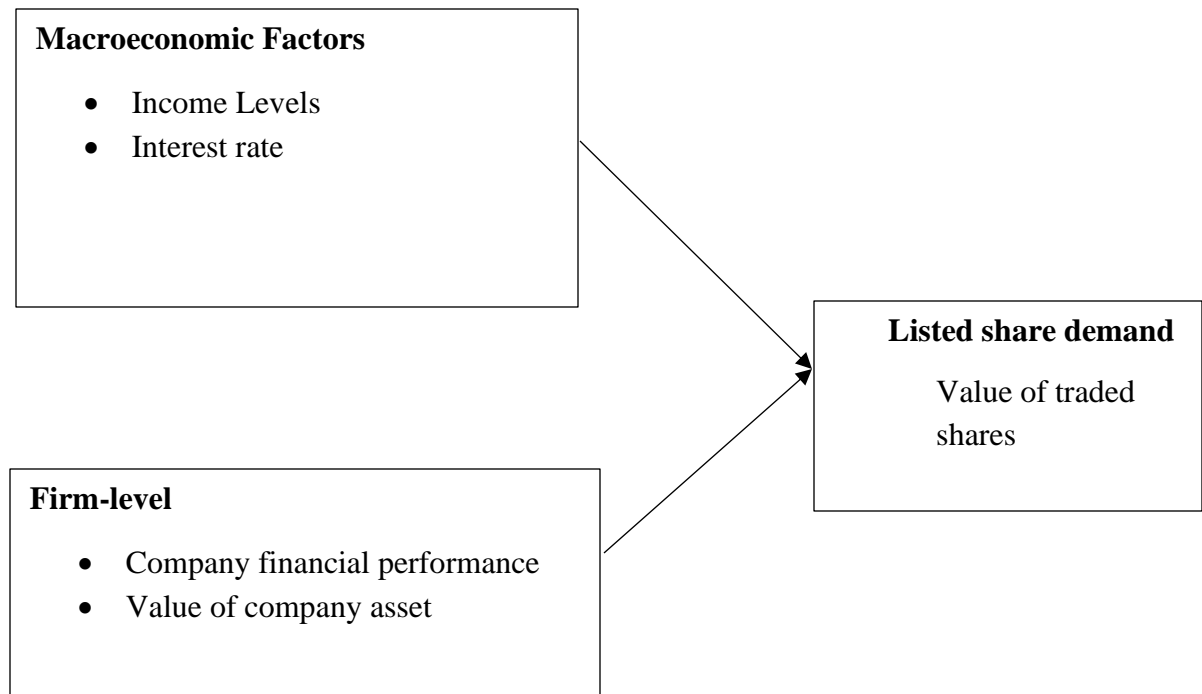
Figure 2.1: Conceptual Model

Source: *Author, 2021*

2.6 Summary of Literature Review

The chapter has reviewed empirical and theoretical literature, as well as providing a conceptual model for the study. Two theories have been reviewed with the aim of identifying the key variables that influence the demand for listed share. These theories are Classical demand theory and the investment decision and the theory of planned behavior. The study further went ahead to highlight the macroeconomic and company-specific determinants for the demand for listed share and their theoretical expected effects. The study reviewed literature from the global, regional and local context. Finally, a conceptual model was constructed to show the possible relationship between the variables under study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology used in the study. The first section defines and describes the research designed to be used in detail. The second section gives a description of the population for this study as well as providing a criterion for sample size determination. The third section describes the sources of data to be used in the study and how they are collected. The fourth section looks at the diagnostic tests to ensure that there is no violation of the Ordinary Least Square (OLS) assumptions while the last section provides the approach used to measure the data in order to meet the study's objectives.

3.2 Research Design

Research design is a strategic plan that is employed in investigating the relationship between the variables under a study with the aim of addressing the objectives of that study (Cooper & Schindler, 2006). This study uses a descriptive research design; it is a framework that contains a number of approaches that can be used to explain causality between the variables (Mugenda & Mugenda, 2003). A descriptive research design is useful in this study because it can be used on a wide range of data and can present data in many forms including graphics, tables, and figures (Kothari, 2004).

3.3 Population

Population refers to a set of individuals, subjects or objects that display a similar characteristic to which research seeks to generate the results of the study (Kothari, 2004).

The target population of this study 45 listed firms in the Nairobi Securities Exchange. These companies are selected based on several criteria namely, firms that had been listed in the NSE as at the first quarter of 2011, has not been suspended in the subsequent years and significant amount of data was available. In this case non-probability sampling specifically purposive sampling has been used in the study.

3.5 Data Collection

The study relied on quarterly data collected from secondary sources for a period of 10 years (2011q1 to 2020q4). Data on interest rate was collected from the Central Bank website. This variable was measured by the central bank lending rate to commercial banks. Data on income levels was collected from the Kenya National Bureau of Statistics (KNBS). This variable was measured using real GDP as suggested by Yartey (2007), KNBS was identified as a viable source because it publishes annual economic survey data. Company performance was measured using Return on Equity, this data was collected from the published financial statements of the companies. The asset size of the companies was also collected from past financial records of the companies. Finally, data on demand for shares was e collected at the aggregate level and disaggregated levels. Demand for shares was proxied by value of shares traded. This data will be obtained from the Capital Market Authority's website.

3.6 Diagnostic Test

The ordinary least square operates based on some assumptions, which when violated will result in econometric problems such as normality, autocorrelation, and heteroscedasticity.

Therefore, it is essential to carry out post estimation tests to ensure that the results obtained are valid and robust.

Normality test was conducted to check the distribution of the data, using the skewness and kurtosis tests. The ordinary least square requires the regression model to be normally and identically distributed, with a mean of zero and a constant variance.

The study sought to carry out tests for heteroscedasticity and autocorrelation to check for the validity of the model. Heteroscedasticity refers to an econometric situation that arises when the variance of the error term is not constant. It results in the violation of Ordinary Least Square (OLS) which requires the error term to have a constant variance, which is likely to lead to inefficient regression predictions. The study used the Langrage Multiplier test for autoregressive conditional heteroskedasticity (ARCH) to test for heteroscedasticity.

On the other hand, Autocorrelation is an econometric problem that arises when two successive error terms seem to be correlated, a situation also referred to as serial correlation. Ordinary least square requires that error terms in a time series be independent of each other as this would lead to biased and inconsistent estimates rendering the inferences invalid. The study used the Breusch-Godfrey LM test for autocorrelation.

3.7 Data Analysis

Descriptive statistics formed part of the initial analysis, data was presented in terms of percentages, mean, standard deviation, kurtosis, and skewness. This analysis is critical in providing information about the distribution of the data. Correlation analysis was also

performed to show the relationship between the independent variables and the demand for shares listed on the NSE.

Two models were estimated, the reason being one dataset is an aggregate for the entire industry while the other is company specific. In light of this, one was a panel data model that linked the company-specific variables with demand for shares of the companies. This is shown in equation 3.1. The other model was a time series model that linked the macroeconomic determinants and demand for listed share in Kenya, it is represented by equation 3.2

$$LnDS_{it} = \beta_{0i} + \beta_{1i}ASSET_{it} + \beta_{2i}CP_{it} + \varepsilon_{it}...........3.1$$

Where:

i=1...N, are banks; t= years of study, which is 10 years; β_{1i}, and β_{2i}, are partial slope coefficients; Ln is the natural logarithm.

DS=Demand for shares (Measured using the value of the share traded)

Asset = company's asset (Measured using the value of the firms' asset)

CP=Company Performance (Measured using after tax profit)

$$LnDS_t = \alpha_0 + \alpha_1 IL_t + \alpha_2 IR_t + \varepsilon_t.....................3.2$$

Where:

t=Number of quarters in the study, which is 40 quarters; α_1, and α_2, are partial slope coefficients; Ln is the natural logarithm.

DS=Aggregate Demand for Shares (as measured using the aggregate value of traded stock)

IL=Income level as measured by Real GDP

IR=Interest rate measured using the central bank lending rate

ε_t= Error Term

3.8 Test for Significance

Inferential statistics was used in hypothesis testing. In this endeavor parametric tests were employed because the variables were shown to exhibit normal distribution. A confidence interval of 95% is used throughout meaning that the acceptable P-value used to reject the null hypothesis are those that are below the 5% point.

CHAPTER FOUR

DATA PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

Data analysis was conducted using Stata software. The main analysis conducted included descriptive and empirical analysis. Descriptive statistics entailed mean, standard deviation kurtosis and skewness. On the other hand, empirical analysis comprised of unit rot tests, regression analysis. This chapter contains results from analysis which are presented in tabular form. The chapter also contains interpretations of the study as well as their discussion in line with the reviewed empirical and theoretical literature.

4.2 Descriptive Statistics

Descriptive statistics formed part of preliminary analysis of the study. It is a critical part of the analysis that aids in revealing the stochastic properties of the underlying data. The number of observation, mean, skewness and kurtosis are among the summary statistics conducted. The findings are displayed in Table 4.1.

Table 4.1: Descriptive Statistics

Variables	N	Mean	Standard Deviation	Skewness	Kurtosis
Aggregate value of traded stock	40	1.06e+12	2.63e+08	-.6557	5.790
Real GDP	40	1.05e+12	1.55e+11	0.0816	1.7801
Interest rate	40	9.76875	2.728287	1.5713	5.7916
Value of shares traded	450	1.50e+08	3.25e+08	4.0480	23.348
Company assets	450	9.35e+10	1.84e+11	2.6142	9.7469
Company profit	450	9.83e+09	6.31e+10	8.6876	83.0423

Source: author's computation

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Summary statistics in the form of descriptive analysis results are displayed in Table 4.1. two sets of data were used one is time series dataset which contains macroeconomic variables namely aggregate value of traded stock which is a proxy for aggregate share demand, real GDP which is a measure of aggregate income levels and interest rate. These data was collected on a quarterly basis from Quarter 1 2011 to Quarter 4 2020, amounting to 40 total observation. The second dataset contains the company specific variables namely value of traded shares which represents demand for shares at the micro-level, company assets and company performance. 45 companies made it to the list based on the various criteria including, firms that had been listed in the NSE as at the first quarter of 2011, has not been suspended in the subsequent years and significant amount of data was available. The total number of observations in this data set was 450, this is composed of data collected from a panel of 45 banks over a 10 year period between 2011 and 2020.

Mean and standard deviation formed initial analysis. Mean is the arithmetic average of the data and it gives information about the data. On the other hand, standard deviation is a measure of the spread of data it is important in giving information about the stochastic behavior of the data as well as detection of outliers in the data (Kothari, 2012). Aggregate value of traded stock had a mean of Ksh 10.6 billion and a standard deviation of 263 million. Real GDP has a mean of Ksh 1.05 trillion for the forty quarters from 2011q1 to 2020q4 and a standard deviation of Ksh 155 billion. On the other hand, the mean of interest rate for the forty quarters is 9.77% with a standard deviation of 2.73%. Comparing the mean and standard deviation values, it is clear that the standard deviation values are lower than the mean meaning that the data has not spread further from the mean.

Paying attention to the company variables, value of shares traded for the 45 companies is 155 billion with a standard deviation of 325 billion. The mean of company assets for the 45 companies over 10 year period was Ksh 93.5 billion with a standard deviation of Ksh 184 billion. Finally, companies' profit for the 10 year period from 2011 to 2020 is Ksh 9.8 billion with a standard deviation of Ksh 63.1 billion. From these findings, it is evident that the mean values are less than standard deviation values, meaning that there are extremes in the data. This is attributable to varied performance by different companies, some companies have been making enormous profit and have large assets for example safaricom, Kengen, Bamburi cement, cooperative bank, equity bank among others. On the other hand, other companies have been recording a dismal performance in terms of after tax profit for example Portland cement, Kenya airways and Eveready.

Skewness is symmetric measurement that is used to show the extent to which the mean has spread from the median (Kothari, 2012). Skewness enables the researcher to understand the distribution of data and consequently identify the distribution type. Values that are less than 1 in absolute are preferred as they indicate that variable is symmetric. Higher values denote skewed data. The Skewness coefficient of aggregate value of traded stock is -0.6557 it has satisfied the condition and thus symmetric albeit moderately skewed to the negative, real GDP has a Skewness coefficient of 0.0816 which is also symmetric. On the other hand, interest rate has a coefficient of 1.5713 meaning that it is positively skewed. With regards to company variables, value of shares traded has a coefficient of 4.0480, company assets has a coefficient of 2.6142 while company profit has a Skewness coefficient of 8.6876. These values are more than 1 meaning that they is Skewness in the data.

Finally, Kurtosis is the measure of the heaviness of the tail in relation to normal distribution (Mugenda & Mugenda, 2003). Kurtosis coefficients of less than 3 denote light tails and thus, normal distribution and vice versa. The kurtosis coefficient of aggregate value of traded stock is 5.7904 while that of real GDP is 1.7801 the two variables have light tails relative to normal distribution. Interest rate has a coefficient of 5.7916, value of shares traded has a coefficient of 23.348, company assets has a coefficient of 9.7469, and company profit has a kurtosis coefficient of 83.0423. This is an indication of heavy tails on these variables.

Form the analysis above namely standard deviation, skewness and kurtosis it is evident that some variables do not exhibit normal distribution as shown by the values above set thresholds. There is a need to reverse this situation in order to make the data suitable for empirical analysis in this case regression and correlation analysis. To alleviate the problem of high standard deviation, skewness and kurtosis in the dataset, all the variables will be standardized using a Z-score. In this view, the transformed data are used in analysis in the subsequent sections.

4.3 Correlation Analysis

Correlation is an analysis that establishes pairwise connection between two variables. This is established by the correlation coefficient that ranges between negative 1 and positive 1. Negative values denote negative association while positive values signify positive correlation. In addition, values that are more than 0.5 in absolute terms are an indication of a strong correlation while those that are less than 0.5 in absolute terms indicate weak association between the variables in question. The results are displayed in Table 4.2.

Table 4.2: Correlation Matrix

Macroeconomic variables	$lnDS_{it}$ =aggregate value of traded stock	IL_t=Income Level	IR_t=Interest rate
$lnDS_{it}$ =aggregate value of traded stock	1		
IL_t=Income Level	0.6918 ***	1	
IR_t=Interest rate	0.2537	-0.2674	1
Company specific variables	$lnDS_{it}$ =value of shares traded	$lnAsset_{it}$=company assets	$lnCP_{it}$=company profit
$lnDS_{it}$ =value of shares traded	1		
$lnAsset_{it}$=company assets	0.2599 ***	1	
$lnCP_{it}$=company performance	0.5043 ***	0.2227***	1

Note: ***, ** denote significant at 1% and 5% respectively

Table 4.2 presents the Pearson's correlation results. The approach is used to measure the magnitude and direction of a monotonic association between two variables. The coefficient for the relationship between aggregate value of traded stock and income level is 0.6918 and statistically significant at 1%. These findings indicate that there is a positive but weak correlation between aggregate value of traded stock and income level as measured by real

GDP. The correlation coefficient for the relationship between aggregate value of traded stock and interest rate is 0.2537 but not statistically significant at any level.

When it comes to company specific variables, the correlation coefficient between value of traded shares and firm's assets is 0.2599 and significant at 1%. This signifies a positive but moderately weak correlation between the two variables. On the other hand, the correlation coefficient between value of traded shares and firm's profit is 0.5403 and statistically significant at 1%. These findings indicate that the two variables have a positive monotonic association.

4.4 Regression Analysis

Regression analysis was the main analysis conducted in the study. It is vital analysis that shows the effect of the variables on each other. To this effect, two models were estimated one a panel model for the company specific variables and the other a time series model that contains the macroeconomic variables.

4.4.1 Macroeconomic Determinants of Demand for Shares

Table 4.3 displays the results for macroeconomic factors that influence the demand of shares.

Table 4.3: Macroeconomic Determinants of Demand for Shares

Variables	Coefficients	Standard Error	T-statistic	P-value
Constant	7.94E-09	0.106003	0.00	1
IL_t=Income Level	0.740563	0.11141	6.65	0.000
IR_t=Interest rate	0.451681	0.11141	4.05	0.000
R-squared	0.5736			
Adj R-squared	0.5505			
Root MSE	0.67042			

Table 4.3 shows regression results for the macroeconomic determinants of demand for shares, it contains the coefficient of determination and the Y intercept, the partial slope coefficients, the T-statistics and the P-values. The regression results can be presented in equation 4.1 below.

$$LnDS_t = 0.7406IL_t + 0.4517IR_t \ldots\ldots\ldots\ldots\ldots\ldots4.1$$

Where:

t=Number of periods, which were 40 quarters from 2011q1 to 2020q4.

DS=Aggregate Demand for Shares (as measured using the aggregate value of traded stock)
IL=Income level as measured by Real GDP

IR=Interest rate measured using the central bank lending rate

The coefficient of determination that is R-squared of the regression model is 0.5736 meaning that 57.36 percent of the variation in the model is explained by the independent

variables in the model while 42.64 percent is explained by other factors that are not included in the model.

4.4.2 The company Specific Determinants of Demand for Shares

Feasible Generalized Least Square regression was used to in the analysis of the company specific factors that affect demand for share. This model was used as it is suitable for panel data that is a combination of Cross-sectional (45 companies) and time-series (10 years). It accounts for autocorrelation which is the successive relationship between error term and makes the random term's variance and mean constant (Greene, 2012). Results are displayed in Table 4.4.

Table 4.4: The company specific determinants of demand for shares

Variables	Coefficients	Standard Error	Z-statistic	P-value
Constant	-1.14e-09	.039175	-0.00	1.000
lnAsset$_{it}$=company assets	0.14688	.040229	3.65	0.000
lnCP$_{it}$=company performance	0.50763	.040229	12.62	0.000
R-squared	0.3125			
Adj R-squared	0.3094			

Table 4.3 shows regression results for the company specific determinants of demand for shares, it contains the Wald chi-square statistics, Y intercept, the partial slope coefficients, the Z-statistics and P-values. The regression results can be presented in equation 4.2 below.

$$LnDS_{it} = 0.1468ASSET_{it} + 0.5076CP_{it}\ldots\ldots\ldots.4.2$$

Where:

i=1…N, are banks; t= years of study, which is 10 years

DS=Demand for shares

Asset = company's asset

CP=Company Performance

The coefficient of determination for the model is 0.3125 implying that 31.25% of the variation in demand for shares is explained by company asset and company performance while the rest 68.75% is explained by factors that are not included in the model.

4.5 Post-estimation Diagnostic Tests

Post estimation tests were conducted for the time series model that is macroeconomic determinants of demand for shares. The rationale behind this was that the panel model used that is, Feasible Generalized Leased Squares accounts for autocorrelation and heteroskedasticity. To this effect, two main test were conducted namely Lagrange multiplier test for autocorrelation, and LM test for autoregressive conditional heteroskedasticity (ARCH). The results are displayed in Table 4.5.

Table 4.5: Post Estimation Tests

Test	Chi2	df	Prob>chi2
LM test for autoregressive conditional heteroskedasticity (ARCH)	2.48	1	0.1157
Breusch-Godfrey LM test for autocorrelation	0.724	1	0.3948

Table 4.5 displays the findings for post estimation diagnostic tests. Two tests were carried out namely autocorrelation and heteroskedasticity. LM test for autoregressive conditional heteroskedasticity (ARCH) was conducted. The null hypothesis for the test states that there is no LM test for autoregressive conditional heteroskedasticity (ARCH) effects against an alternative hypothesis of presence of autoregressive conditional heteroskedasticity (ARCH) disturbances. The Chi-square coefficient obtained for the test is 2.48 while the P-value is 0.1157 and indication that the null hypothesis should not be rejected and conclude that the variance of the error term in the model is constant. This model, therefore, does not violate the Ordinary Least Square assumption of homoskedasticity.

On the other hand, the study conducted the Breusch-Godfrey LM test for autocorrelation. The null hypothesis for this test states that there is no serial correlation while the alternative hypothesis states that there is serial correlation in the error term. Form the findings, the Chi-square coefficient is 0.724 and the P-value is 0.3948, meaning that it is not significant

at any statistical level. We, therefore, accept the null hypothesis of no serial correlation and conclude that the model does not violate the OLS assumption of autocorrelation.

4.6 Interpretations of Findings and Discussion of Results

Beginning with the macroeconomic determinants of demand for shares, the model has a coefficient of determination of 0.5736 meaning that 57.36 percent of the variation in demand for shares at aggregate level is explained by changes in income level as measured using real GDP and interest rate. The implication of this is that the model is a good fit and hence robust.

The partial slope coefficient income level is 0.7406 and statistically significant at 1% (P-value=0.000). These results indicate that a 1 percentage increase in income level will lead to a 0.7406% increase in demand for shares at the aggregate level. The findings are consistent with the expectations of the study and the various works previously conducted on the nexus between these variables. Yartey (2007) established that income level as measured by real GDP has a positive effect on demand for shares. When the economy is performing better than anticipated, the demand of shares rises in expectation of higher earnings.

The partial slope coefficient for interest rate is 0.4517 and statistically significant at 1% (P-value =0.000) meaning that a 1 percent increase in interest rate will result in a demand for shares reduction by 0.4517 and vice versa. These findings are not consistent with the a priori and previous works such as Otieno, Ngugi and Wawire (2017) who established an inverse relationship between interest rate and share demand. A change in interest rate was hypothesized to have a negative effect on the demand for shares. Interest rate affects the

psychology of investors and general consumers in the economy. When there is an increase in interest rate, investors tend to exercise prudence on investment expenditure. On the other hand, a fall in interest rate will lead to increased spending by both firms and household increasing the demand for shares.

Moving to company specific determinants, company performance as measured by after tax profit was positive (β=0.5076, P-value=0.000). These findings are significant at 1% level and they mean that a 1% increase in company performance would lead to a 0.5076% increase in demand for shares in Kenya. The findings are consistent with the works of Marone (2003) who observed that Investors tend to invest in companies that are more profitable than those performing poorly. They are usually carried away by the reported profits.

Finally, company asset has a positive partial slope coefficient and statistically significant at 1% (β=0.1468, P-value=0.000). These results mean that a 1% increase in the size of company asset will lead to a 0.1468 increase in demand for the company's shares and vice versa. These findings are consistent with Ozamuyi (2018) who established that company assets influence behavior of investors towards the company. The rationale for this is that they view these companies to be more stable and firm in the event that the company goes under. Investors always want to maximize their earnings and therefore, reliance on past financial information is key in influencing their behavior.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter contains a summary of findings obtained using descriptive statistics as well as regression analysis. The chapter also provides the conclusion of the research based on the objectives of the study. This section presents policy recommendations, as well as suggested areas of further studies.

5.2 Summary of Findings

The general objective of this study was to establish the factors that influence demand for shares listed in the Nairobi Securities Exchange. To meet this objective two specific objectives were derived form it the first being to establish the macroeconomic factors that influence the demand for shares in the NSE and the second being the company specific factors that influence the demand for shares in the NSE. Two macroeconomic variables were identified namely aggregate income level which was measured using real GDP this variables represents the financial state of the economy in terms of how good or badly off it is. Interest rate was the second macroeconomic variable that has an inverse effect on investment and consequently demand for shares. Company specific variables used in the study were company performance that was measured using after tax profit and company assets. Investors' behavior is greatly influenced by financial records of the company in terms of size and performance.

Macroeconomic data was collected from the Nairobi's security Exchange website and central bank of Kenya. The data was collected on a quarterly basis creating 40 data points. On the other hand, company specific variables were collected from the individual company websites, 45 companies were sampled based on the year they were listed as the year of the study was 2011 and data availability. Two regression models were estimated, one that contained macroeconomic variables and the other company specific variables.

The partial slope coefficient for income level was 0.7406 and statistically significant at 1% this coincided with the results obtained in correlation coefficient of 0.2557 that was obtained from. These means that the demand for shares and income level are positively related. Interest rate had a positive a partial slope coefficient of 0.4517. With regards to company specific variables, company asset had a partial slope coefficient of 0.1469 and a correlation coefficient of 0.2599. Company performance had a correlation coefficient of 0.5403 and a partial slope coefficient of 0.5076, both regression results were significant at 1 percent.

5.3 Conclusion

From the analysis and discussion of findings, it is evident that the study has met its objective of the study which was to establish the factors that influence demand for shares listed in the Nairobi securities exchange. The first objective sought to establish the influence of macroeconomic variables on the demand of shares listed in the NSE. The study obtained a positive and significant coefficient for income level. Thus the study concludes that income level has a positive effect on the demand for shares listed in the NSE. In the same breath, the study obtained a positive coefficient of interest rate that was also significant. This study concludes that interest rate has a positive effect on the demand for

shares listed in the NSE. Overall, macroeconomic variables influence demand for shares in the NSE.

The second objective of the study aimed to determine the influence of company specific variables on demand for shares listed in the NSE. A panel study of 45 companies listed in the NSE over a duration of 10 years. In this endeavor two indicators were used that is company assets and company performance. The study obtained a positive and significant partial slope coefficient for company asset. This study therefore, concludes that company asset has a positive effect on demand for shares listed in NSE. Similarly, the study obtained a positive coefficient for company performance concluding that company performance has a positive effect on demand for shares listed in the NSE.

5.5 Recommendation

From the foregoing discussions, the study established that macroeconomic variables and company's asses have significant influence on the demand for shares listed in the NSE. In light of these the study offers several recommendations. Firstly with regards to income levels, it is evident that they positively affect demand for shares. A proliferation of income level in the economy leads to higher valuation of stock and consequently the general value of the securities market. At the same time households are able to consume and have a surplus to invest. When they find that the shares have a higher value they will be attracted to it increasing demand for shares. In this view, the government should focus on policies that will boost income levels in the country. This will enhance consumption in the country that will make the companies profitable, hire more workers and ultimately increase participation in the securities market due to market-wide increase in value.

Interest rate was established to have a positive influence on the demand for shares in the NSE. The monetary policy committee has a dual mandate that is to ensure that there is full employment and maintaining price stability. Among the methods they use to achieve this is the adjustment of short-term interest rate. When the economy is sluggish they may lower interest rates to make borrowing cheaper, which intron spurs hiring, investing and consumer spending. In this case, the government through the monetary policy should pay attention to the security market performance and adjust the interest rate to suit the movements in the stock market.

Finally, company assets are a reflection of the financial base of a company, whenever the company is in financial distress, most look for ways to liquidate and among these is disposal of assets in a bid to stay afloat. This moves greatly dampens investors' confidence leading to loss of value and demand for company's shares. On the other hand, companies with more assets especially fixed assets such as plant, property and equipment are regarded to be more stable in the eyes of investors. To boost demand for shares listed companies should strive invest both their current and fixed assets. Assets are critical resources of the company and it explains the financial position of the company. They are an indication that a company can manage its liabilities and in the event of a dissolution the company can liquidate the asset to offset the debts as well as pay off shareholder equity. It gives shareholders some sort of collateral thus boosting their confidence.

5.4 Suggested Areas of Further Research

There are many internal and also external factors also affects the financial performance and stock returns. Even market anomalies make differences in the interest rate or income levels

that influence on the investor behavior. Future studies, should attempt to incorporate many variables to establish an all-encompassing influence.

The study was limited by time as it considered a 10 year period based on availability of data. Future studies should consider longer period and attempt to measure both the short-run and long-run determinants of demand for shares listed in the NSE.

Thirdly, currently there is cross-listing of shares in the NSE as a result of an upper integration in the East African Community into a common market. This study only considered Kenyan listed firms. Future studies should expand the scope to East African community and accommodate cross-listed firms from Rwanda, Uganda and Tanzania.

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APPENDICES

Appendix I: Data Collection Sheet Macroeconomic Data

Year	Quarters	Interest Rate	GDP(Ksh Million)	Value of shares traded
2011	q1	5.75	845,684	74220000000
2011	q2	6	818,325	19834000000
2011	q3	6.25	807,482	79353000000
2011	q4	11	823,748	91725000000
2012	q1	18	880,802	1.0081E+11
2012	q2	18	853,430	1.8047E+11
2012	q3	16.5	847,709	1.0109E+11
2012	q4	13	862,398	68305000000
2013	q1	9.5	934,348	81582000000
2013	q2	9.5	917,590	47201000000
2013	q3	8.5	902,361	92511666667
2013	q4	8.5	892,522	93975787879
2014	q1	8.5	982,917	95439909091
2014	q2	8.5	972,761	96904030303
2014	q3	8.5	944,087	98368151515
2014	q4	8.5	942,421	99832272727
2015	q1	8.5	1,039,433	1.01296E+11
2015	q2	8.5	1,026,833	1.02761E+11
2015	q3	11.5	1,001,471	1.04225E+11
2015	q4	11.5	994,165	1.05689E+11
2016	q1	11.5	1,091,750	1.07153E+11
2016	q2	11.5	1,089,944	1.08617E+11
2016	q3	10.5	1,053,216	1.10081E+11
2016	q4	10	1,065,788	1.11545E+11
2017	q1	10	1,148,679	1.13009E+11
2017	q2	10	1,138,107	1.14473E+11
2017	q3	10	1,099,836	1.15938E+11
2017	q4	10	1,120,754	1.17402E+11
2018	q1	10	1,221,619	1.18866E+11
2018	q2	9.5	1,207,059	1.2033E+11
2018	q3	9	1,171,760	1.21794E+11
2018	q4	9	1,191,735	1.23258E+11
2019	q1	9	1,284,861	1.24722E+11
2019	q2	9	1,268,750	1.26186E+11
2019	q3	9	1,239,441	1.27651E+11
2019	q4	9	1,256,634	1.29115E+11
2020	q1	8.25	1,351,050	1.30579E+11
2020	q2	7	1,199,192	1.32043E+11

| 2020 | q3 | | 7 | 1,226,025 | 1.33507E+11 |
| 2020 | q4 | | 7 | 1,221,619 | 1.34971E+11 |

APPENDIX II: Data Collection Sheet from Companies

sno	Companies	Year	value of traded stock	Company assets	Company profit
1	ARM	2011	25433146	2.10E+10	1.20E+08
2	ARM	2012	1.25E+08	2.70E+10	1.20E+08
3	ARM	2013	1.24E+08	3.00E+10	1.30E+08
4	ARM	2014	1.18E+08	3.70E+10	1.50E+08
5	ARM	2015	1.17E+08	5.20E+10	-2.90E+06
6	ARM	2016	1.19E+08	5.10E+10	-2.80E+06
7	ARM	2017	1.27E+08	2.80E+10	-143296
8	ARM	2018	1.83E+08	3.80E+10	7.50E+08
9	ARM	2019	3.17E+08	5.10E+10	1.30E+09
10	ARM	2020	3.17E+08	4.30E+10	-2.40E+09
11	BAT	2011	10978649	8.40E+09	6.30E+09
12	BAT	2012	7234501	9.10E+09	3.30E+09
13	BAT	2013	10965280	1.00E+10	3.70E+09
14	BAT	2014	9810748	1.10E+10	4.30E+09
15	BAT	2015	8706443	1.20E+10	5.00E+09
16	BAT	2016	8112796	1.20E+10	4.20E+09
17	BAT	2017	7981416	1.10E+10	3.30E+09
18	BAT	2018	12454800	1.30E+10	4.10E+09
19	BAT	2019	13248720	1.20E+10	3.90E+09
20	BAT	2020	8129100	1.30E+10	5.50E+09
21	BK	2011	2123629	2.90E+09	5.40E+08
22	BK	2012	2195649	3.20E+09	6.30E+08
23	BK	2013	2602740	4.20E+09	7.10E+08
24	BK	2014	2787902	4.80E+09	1.80E+08
25	BK	2015	2783368	5.60E+09	2.00E+08
26	BK	2016	3575533	6.40E+09	1.10E+09
27	BK	2017	3627835	7.30E+09	1.20E+09
28	BK	2018	3614436	8.80E+09	2.70E+08
29	BK	2019	4081892	1.00E+10	3.70E+08
30	BK	2020	4016913	1.00E+10	3.70E+08
31	BOC	2011	7787674	1.60E+09	6.80E+08
32	BOC	2012	6908266	1.80E+09	1.90E+08
33	BOC	2013	6581174	2.40E+09	2.00E+08
34	BOC	2014	6261887	2.10E+09	2.20E+08

35	BOC	2015	6083414	2.10E+09	1.50E+08
36	BOC	2016	5832448	2.00E+09	1.30E+08
37	BOC	2017	5678101	2.00E+09	6.10E+07
38	BOC	2018	5660662	2.00E+09	1.00E+08
39	BOC	2019	5669832	1.80E+09	7.60E+07
40	BOC	2020	6010624	2.00E+09	1.70E+08
41	Bamburi	2011	12252657	2.30E+10	3.10E+08
42	Bamburi	2012	12189164	3.00E+10	3.90E+09
43	Bamburi	2013	12504800	2.90E+10	3.20E+09
44	Bamburi	2014	13499341	2.80E+10	3.10E+09
45	Bamburi	2015	14432183	2.80E+10	4.30E+09
46	Bamburi	2016	14897244	2.60E+10	3.80E+09
47	Bamburi	2017	15016808	2.90E+10	8.40E+08
48	Bamburi	2018	14537795	3.00E+10	1.60E+09
49	Bamburi	2019	14943952	2.90E+10	1.00E+09
50	Bamburi	2020	19751394	3.00E+10	1.10E+09
51	CIC	2011	6.85E+08	1.10E+10	5.20E+07
52	CIC	2012	8.24E+08	3.10E+10	4.20E+07
53	CIC	2013	7.82E+08	3.90E+10	8.60E+07
54	CIC	2014	8.46E+08	2.40E+10	7.70E+07
55	CIC	2015	8.04E+08	2.50E+10	3.60E+07
56	CIC	2016	8.12E+08	2.70E+10	2.90E+07
57	CIC	2017	9.73E+08	2.50E+10	3.70E+07
58	CIC	2018	9.16E+08	2.40E+10	4.20E+07
59	CIC	2019	9.47E+08	3.50E+10	2.10E+06
60	CIC	2020	96421433	3.70E+10	-3.40E+07
61	Cables	2011	1347817	5.00E+09	2.10E+08
62	Cables	2012	1508718	6.20E+09	5.20E+08
63	Cables	2013	1610337	6.80E+09	4.00E+08
64	Cables	2014	1609548	7.90E+09	3.40E+08
65	Cables	2015	1633586	8.40E+09	-7.40E+08
66	Cables	2016	1665012	7.50E+09	-5.80E+08
67	Cables	2017	1481436	7.00E+09	-6.60E+08
68	Cables	2018	1671248	6.60E+09	-5.70E+08
69	Cables	2019	1633538	6.30E+09	6.30E+08
70	Cables	2020	2103536	6.80E+09	4.00E+08
71	Carbacid	2011	3.12E+08	1.30E+09	2.00E+08
72	Carbacid	2012	3.21E+08	1.40E+09	5.40E+08
73	Carbacid	2013	3.12E+08	1.30E+09	6.30E+08
74	Carbacid	2014	3.48E+08	1.60E+09	6.00E+08
75	Carbacid	2015	3.73E+08	3.00E+09	4.60E+08

76	Carbacid	2016	3.73E+08	3.10E+09	2.60E+08
77	Carbacid	2017	3.7E+08	1.00E+09	2.80E+08
78	Carbacid	2018	3.7E+08	1.10E+09	2.90E+08
79	Carbacid	2019	3.76E+08	9.60E+08	2.70E+08
80	Carbacid	2020	3.83E+08	1.10E+09	3.10E+08
81	Cars	2011	16150176	5.60E+09	4.70E+08
82	Cars	2012	16132122	5.70E+09	2.70E+08
83	Cars	2013	1.22E+08	6.90E+09	3.20E+08
84	Cars	2014	1.25E+08	8.20E+09	2.80E+08
85	Cars	2015	1.31E+08	9.00E+09	1.30E+08
86	Cars	2016	1.44E+08	9.70E+09	8.90E+07
87	Cars	2017	1.49E+08	9.40E+09	8.00E+07
88	Cars	2018	1.64E+08	4.30E+09	1.90E+08
89	Cars	2019	1.63E+08	4.10E+09	1.80E+08
90	Cars	2020	1.76E+08	4.50E+09	2.70E+08
91	Centum	2011	4.75E+08	1.20E+10	1.20E+08
92	Centum	2012	5.01E+08	1.60E+10	4.50E+09
93	Centum	2013	4.75E+08	2.10E+10	1.00E+09
94	Centum	2014	5.76E+08	2.30E+10	1.00E+09
95	Centum	2015	5.68E+08	7.20E+10	4.90E+09
96	Centum	2016	5.67E+08	7.80E+10	1.90E+09
97	Centum	2017	5.62E+08	8.80E+10	1.60E+09
98	Centum	2018	5.6E+08	9.60E+10	1.00E+09
99	Centum	2019	5.77E+08	1.00E+11	7.40E+09
100	Centum	2020	57973395	1.00E+11	7.40E+09
101	Co-operative	2011	6291789	1.70E+11	1.30E+09
102	Co-operative	2012	5212564	2.00E+11	7.70E+09
103	Co-operative	2013	4304740	2.30E+11	9.10E+09
104	Co-operative	2014	3880590	2.80E+11	8.00E+09
105	Co-operative	2015	10692698	3.40E+11	1.20E+10
106	Co-operative	2016	10354603	2.20E+11	1.00E+10
107	Co-operative	2017	9202134	3.90E+11	1.10E+10
108	Co-operative	2018	36148192	4.10E+11	1.30E+10
109	Co-operative	2019	8600666	2.60E+11	1.10E+10

110	Co-operative	2020	8067506	2.80E+11	1.10E+10
111	Crown	2011	47223637	2.20E+09	9.30E+08
112	Crown	2012	46059250	2.30E+09	1.30E+08
113	Crown	2013	43934751	2.90E+09	2.10E+08
114	Crown	2014	44618413	3.90E+09	2.00E+08
115	Crown	2015	41862464	4.50E+09	3.10E+08
116	Crown	2016	46365575	5.10E+09	1.30E+08
117	Crown	2017	46956978	5.90E+09	2.20E+08
118	Crown	2018	46289159	5.50E+09	1.80E+08
119	Crown	2019	42598296	5.50E+09	3.20E+08
120	Crown	2020	45974757	5.60E+09	6.00E+08
121	Diamond	2011	1995502	7.70E+10	5.70E+08
122	Diamond	2012	4055704	9.50E+10	3.10E+08
123	Diamond	2013	4114504	1.10E+11	4.10E+08
124	Diamond	2014	3661954	1.40E+11	4.20E+08
125	Diamond	2015	4021192	1.90E+11	4.80E+08
126	Diamond	2016	4111092	2.40E+11	6.20E+08
127	Diamond	2017	4043092	2.40E+11	5.50E+08
128	Diamond	2018	3869032	2.40E+11	5.80E+08
129	Diamond	2019	3947132	2.40E+11	5.70E+08
130	Diamond	2020	3885632	2.40E+11	3.00E+08
131	EABL	2011	51611758	1.60E+10	6.70E+09
132	EABL	2012	55287013	1.80E+10	7.50E+09
133	EABL	2013	55090276	2.70E+10	6.50E+09
134	EABL	2014	57651662	2.70E+10	6.90E+09
135	EABL	2015	56688546	1.10E+10	8.00E+09
136	EABL	2016	60992793	9.80E+09	1.00E+10
137	EABL	2017	59621710	9.00E+09	1.00E+10
138	EABL	2018	58932845	6.90E+09	2.10E+10
139	EABL	2019	61161649	7.50E+09	1.20E+10
140	EABL	2020	62145542	1.20E+10	7.00E+09
141	Eaagads	2011	1.19E+08	3.50E+08	1.10E+07
142	Eaagads	2012	1.07E+08	5.70E+08	2.20E+07
143	Eaagads	2013	88407544	5.00E+08	-5.90E+07
144	Eaagads	2014	75372983	4.50E+08	-4.20E+07
145	Eaagads	2015	71666994	7.30E+08	2.10E+07
146	Eaagads	2016	70790744	7.60E+08	477000
147	Eaagads	2017	69605684	9.20E+08	1.80E+07
148	Eaagads	2018	68032716	9.10E+08	-6.30E+07
149	Eaagads	2019	66773429	9.40E+08	2.60E+06

150	Eaagads	2020	66981975	9.50E+08	-7.00E+07
151	Equity	2011	57085903	1.80E+11	6.80E+09
152	Equity	2012	66893605	2.20E+11	1.10E+09
153	Equity	2013	64492917	2.40E+11	1.30E+09
154	Equity	2014	62529966	6.30E+11	1.70E+09
155	Equity	2015	62058266	7.00E+11	7.80E+09
156	Equity	2016	61664488	7.30E+11	1.10E+10
157	Equity	2017	62540212	5.20E+11	1.90E+10
158	Equity	2018	62449212	5.70E+11	2.00E+10
159	Equity	2019	62494392	6.70E+11	2.30E+10
160	Equity	2020	62256117	9.00E+11	2.00E+10
161	Eveready	2011	11058163	1.00E+09	8.60E+08
162	Eveready	2012	10920355	1.20E+09	7.00E+07
163	Eveready	2013	10913081	9.30E+09	-4.40E+07
164	Eveready	2014	11774611	9.40E+09	-1.60E+08
165	Eveready	2015	11528521	7.20E+09	-2.00E+08
166	Eveready	2016	11588219	1.80E+08	-2.10E+08
167	Eveready	2017	11652412	5.80E+09	2.70E+08
168	Eveready	2018	10581452	3.20E+09	-1.10E+08
169	Eveready	2019	10330786	3.60E+08	-3.00E+08
170	Eveready	2020	10312483	8.90E+08	-1.10E+08
171	I&M	2011	75525050	7.70E+10	3.50E+09
172	I&M	2012	22644116	1.20E+10	4.10E+09
173	I&M	2013	80978683	1.40E+10	5.00E+09
174	I&M	2014	43833292	1.50E+10	5.60E+09
175	I&M	2015	42102699	2.10E+10	1.40E+09
176	I&M	2016	42742179	2.20E+10	1.50E+09
177	I&M	2017	43540158	2.00E+10	5.50E+09
178	I&M	2018	36379531	2.90E+10	2.90E+09
179	I&M	2019	75525050	2.80E+10	1.10E+10
180	I&M	2020	80680081	2.70E+10	8.60E+09
181	Jubilee	2011	20685054	3.80E+10	1.10E+09
182	Jubilee	2012	22644116	4.80E+10	2.30E+09
183	Jubilee	2013	22584880	6.10E+10	2.50E+09
184	Jubilee	2014	13805600	7.50E+10	3.10E+09
185	Jubilee	2015	14264521	8.20E+10	3.10E+09
186	Jubilee	2016	14055750	9.10E+10	3.70E+09
187	Jubilee	2017	14577695	1.00E+11	4.20E+09
188	Jubilee	2018	13653157	1.10E+11	4.20E+09
189	Jubilee	2019	13477399	1.30E+11	4.00E+09
190	Jubilee	2020	13549559	1.50E+11	4.10E+09

191	KCB	2011	8.63E+08	3.30E+11	1.60E+09
192	KCB	2012	7.76E+08	3.70E+11	1.10E+09
193	KCB	2013	8.23E+08	3.90E+11	1.40E+09
194	KCB	2014	8.18E+08	4.90E+11	1.70E+09
195	KCB	2015	8.03E+08	4.70E+11	1.70E+10
196	KCB	2016	8.33E+08	7.00E+11	1.30E+08
197	KCB	2017	8.34E+08	7.80E+11	2.00E+10
198	KCB	2018	8.47E+08	7.70E+11	2.40E+10
199	KCB	2019	8.24E+08	9.00E+11	2.50E+10
200	KCB	2020	85215380	9.90E+11	2.00E+10
201	KPLC	2011	2.13E+08	1.20E+11	7.70E+07
202	KPLC	2012	2.11E+08	1.30E+11	4.60E+08
203	KPLC	2013	1.98E+08	1.80E+11	4.40E+08
204	KPLC	2014	1.89E+08	2.20E+11	7.00E+08
205	KPLC	2015	1.8E+08	2.80E+11	7.40E+08
206	KPLC	2016	2E+08	2.90E+11	7.60E+08
207	KPLC	2017	2.15E+08	3.30E+11	5.30E+08
208	KPLC	2018	3.18E+08	3.40E+11	1.90E+08
209	KPLC	2019	3.78E+08	3.30E+11	3.30E+08
210	KPLC	2020	45774461	3.30E+11	-1.70E+09
211	KQ	2011	1.06E+08	8.20E+10	1.60E+09
212	KQ	2012	1.74E+08	8.10E+10	1.70E+09
213	KQ	2013	2.01E+08	1.20E+11	-5.30E+09
214	KQ	2014	2.3E+08	1.50E+11	-3.00E+09
215	KQ	2015	2.92E+08	1.90E+11	-2.60E+10
216	KQ	2016	3.49E+08	1.70E+11	-2.60E+10
217	KQ	2017	91604437	1.60E+11	-5.40E+09
218	KQ	2018	92721011	1.50E+11	-6.20E+09
219	KQ	2019	1.02E+08	2.00E+11	-9.00E+09
220	KQ	2020	11266471	1.80E+11	-3.60E+09
221	Kakuzi	2011	5159029	3.80E+09	6.40E+08
222	Kakuzi	2012	6778538	3.60E+09	4.10E+08
223	Kakuzi	2013	6944407	3.70E+09	1.70E+08
224	Kakuzi	2014	7304889	2.60E+09	1.60E+08
225	Kakuzi	2015	7646032	2.80E+09	4.60E+08
226	Kakuzi	2016	7835653	3.00E+09	5.60E+08
227	Kakuzi	2017	7903270	2.40E+09	5.90E+08
228	Kakuzi	2018	8070909	2.30E+09	4.80E+08
229	Kakuzi	2019	8354685	2.60E+09	7.10E+08
230	Kakuzi	2020	8409955	2.90E+09	6.20E+08
231	Kapchorua	2011	681441	1.60E+09	2.10E+07

232	Kapchorua	2012	681041	2.00E+09	7.80E+06
233	Kapchorua	2013	718341	2.10E+09	1.80E+07
234	Kapchorua	2014	706341	1.90E+09	1.30E+07
235	Kapchorua	2015	665022	2.00E+09	-2.30E+06
236	Kapchorua	2016	1349500	2.10E+09	1.10E+07
237	Kapchorua	2017	1368197	2.00E+09	-5.20E+06
238	Kapchorua	2018	1384297	2.00E+09	-5.20E+06
239	Kapchorua	2019	1386592	2.00E+09	-1.30E+07
240	Kapchorua	2020	1326592	1.90E+09	1.90E+06
241	KenGen	2011	3.51E+08	1.50E+11	3.50E+08
242	KenGen	2012	3.67E+08	1.60E+11	2.80E+09
243	KenGen	2013	3.6E+08	1.90E+11	5.30E+09
244	KenGen	2014	3.71E+08	2.50E+11	2.80E+09
245	KenGen	2015	3.97E+08	3.40E+11	1.20E+10
246	KenGen	2016	6.47E+08	3.70E+11	6.70E+09
247	KenGen	2017	5.79E+08	3.80E+11	9.00E+09
248	KenGen	2018	5.82E+08	3.80E+11	7.90E+09
249	KenGen	2019	6E+08	4.00E+11	7.90E+09
250	KenGen	2020	64805704	4.10E+11	1.80E+10
251	Liberty	2011	15691704	3.40E+08	1.80E+08
252	Liberty	2012	17882103	3.80E+08	3.90E+08
253	Liberty	2013	16427007	3.30E+08	1.60E+08
254	Liberty	2014	22451889	3.20E+08	1.70E+08
255	Liberty	2015	18603514	3.20E+08	2.80E+08
256	Liberty	2016	17882103	3.20E+08	-2.90E+07
257	Liberty	2017	20755606	3.20E+08	-1.90E+08
258	Liberty	2018	20372264	2.60E+08	-2.80E+07
259	Liberty	2019	20734372	2.60E+08	-2.80E+08
260	Liberty	2020	20904610	2.60E+08	-3.20E+08
261	Limuru	2011	347992	1.90E+08	2.70E+08
262	Limuru	2012	348042	3.20E+08	1.00E+08
263	Limuru	2013	379492	3.40E+08	2.90E+07
264	Limuru	2014	379290	1.30E+08	2.10E+07
265	Limuru	2015	749374	1.60E+08	5.10E+07
266	Limuru	2016	669712	1.40E+08	-1.90E+07
267	Limuru	2017	514512	1.40E+08	-2.20E+07
268	Limuru	2018	388988	1.60E+08	2.50E+07
269	Limuru	2019	355082	1.40E+08	9.10E+07
270	Limuru	2020	350981	1.70E+08	9.70E+07
271	Nation	2011	0	3.50E+09	1.10E+09
272	Nation	2012	18611290	4.00E+09	1.20E+09

273	Nation	2013	18615690	4.70E+09	1.60E+09
274	Nation	2014	52787792	3.90E+09	2.20E+09
275	Nation	2015	50813048	9.10E+09	1.70E+09
276	Nation	2016	54288108	8.70E+09	1.30E+09
277	Nation	2017	50811258	8.20E+09	3.70E+09
278	Nation	2018	50818809	7.90E+09	3.20E+09
279	Nation	2019	49530455	8.50E+09	2.80E+09
280	Nation	2020	48957555	8.40E+09	5.70E+09
281	National	2011	48466796	6.90E+09	6.00E+07
282	National	2012	46784869	6.70E+09	7.30E+07
283	National	2013	35840991	9.20E+09	1.10E+07
284	National	2014	35822178	1.20E+10	8.00E+07
285	National	2015	36567369	1.30E+10	-1.20E+08
286	National	2016	38424386	1.20E+10	8.20E+06
287	National	2017	39687126	1.10E+10	3.80E+07
288	National	2018	40601555	1.20E+10	1.60E+07
289	National	2019	44808666	1.10E+10	-3.40E+07
290	National	2020	52433811	1.10E+10	1.10E+08
291	Olympia C	2011	18208612	1.90E+09	1.30E+07
292	Olympia C	2012	17979183	1.90E+09	2.40E+07
293	Olympia C	2013	17651868	1.90E+09	7.90E+06
294	Olympia C	2014	19733415	1.50E+09	4.50E+07
295	Olympia C	2015	19231753	1.50E+09	-3.00E+07
296	Olympia C	2016	19196004	1.50E+09	1.50E+07
297	Olympia C	2017	19551777	1.60E+09	3.90E+07
298	Olympia C	2018	19035757	1.60E+09	-3.50E+06
299	Olympia C	2019	18900728	1.60E+09	5.70E+06
300	Olympia C	2020	18835528	1.70E+09	1.00E+07
301	Orchards	2011	6381128	7.00E+07	4.80E+07
302	Orchards	2012	6381128	6.90E+07	244957
303	Orchards	2013	6379928	1.40E+08	2.40E+06
304	Orchards	2014	6604693	5.00E+07	2.50E+07
305	Orchards	2015	6604699	7.90E+07	2.90E+07
306	Orchards	2016	6604699	8.90E+07	3.80E+06
307	Orchards	2017	6605799	7.80E+07	5.70E+06
308	Orchards	2018	6605804	6.70E+08	8.90E+06
309	Orchards	2019	6605204	1.40E+08	8.40E+06
310	Orchards	2020	6605204	1.30E+08	1.30E+07
311	Portland	2011	9.3E+08	1.40E+10	5.20E+09
312	Portland	2012	6.57E+08	1.40E+10	-8.20E+09
313	Portland	2013	5.97E+08	1.60E+10	1.80E+07

314	Portland	2014	5.96E+08	1.60E+10	-3.90E+09
315	Portland	2015	5.95E+08	1.70E+10	-1.20E+09
316	Portland	2016	5.54E+08	1.80E+10	-1.40E+09
317	Portland	2017	4.62E+08	2.70E+10	-1.50E+07
318	Portland	2018	4.3E+08	3.80E+10	7.80E+07
319	Portland	2019	4.05E+08	3.70E+10	-3.40E+07
320	Portland	2020	43632914	3.50E+10	-2.80E+07
321	Safaricom	2011	2.68E+09	2.10E+11	3.50E+10
322	Safaricom	2012	2.39E+09	2.10E+11	1.30E+11
323	Safaricom	2013	2.12E+09	2.50E+11	1.80E+11
324	Safaricom	2014	1.81E+09	2.80E+11	2.30E+11
325	Safaricom	2015	1.73E+09	3.30E+11	3.20E+11
326	Safaricom	2016	1.64E+08	2.70E+11	3.80E+11
327	Safaricom	2017	1.6E+09	2.50E+11	4.80E+11
328	Safaricom	2018	1.57E+09	2.70E+11	5.50E+11
329	Safaricom	2019	1.56E+09	5.00E+11	6.20E+11
330	Safaricom	2020	1.5E+09	4.90E+11	7.40E+11
331	Sameer	2011	49354977	2.30E+09	5.30E+06
332	Sameer	2012	51158868	2.70E+09	1.90E+08
333	Sameer	2013	52211727	3.70E+09	4.00E+08
334	Sameer	2014	50466230	3.90E+09	-6.70E+07
335	Sameer	2015	49914889	3.80E+09	-1.60E+07
336	Sameer	2016	48428712	3.30E+09	-6.50E+08
337	Sameer	2017	42540773	3.00E+09	1.30E+07
338	Sameer	2018	42917699	2.60E+09	-5.30E+08
339	Sameer	2019	48536646	1.50E+09	-4.20E+08
340	Sameer	2020	47593254	1.00E+09	-1.30E+08
341	Sasini	2011	59775539	7.90E+08	3.00E+07
342	Sasini	2012	60283946	8.90E+08	4.40E+08
343	Sasini	2013	60286878	9.10E+08	9.20E+07
344	Sasini	2014	57001630	1.50E+09	4.50E+07
345	Sasini	2015	56380941	1.60E+09	1.10E+08
346	Sasini	2016	58865763	1.70E+09	7.60E+08
347	Sasini	2017	55493081	1.30E+09	3.40E+08
348	Sasini	2018	52561597	1.30E+09	2.90E+08
349	Sasini	2019	52291034	1.50E+09	5.30E+08
350	Sasini	2020	49621757	1.50E+09	1.30E+07
351	ScanGroup	2011	77633194	8.50E+09	1.60E+07
352	ScanGroup	2012	68903698	8.60E+09	7.50E+06
353	ScanGroup	2013	68040920	1.30E+10	8.30E+06
354	ScanGroup	2014	67764992	1.30E+10	6.30E+06

355	ScanGroup	2015	67547195	1.20E+10	4.80E+06
356	ScanGroup	2016	62273414	1.30E+10	4.60E+06
357	ScanGroup	2017	62012823	1.40E+10	4.80E+06
358	ScanGroup	2018	62024088	1.40E+10	6.10E+06
359	ScanGroup	2019	65043320	1.30E+10	4.30E+06
360	ScanGroup	2020	82635922	1.30E+10	1.60E+06
361	Stanbic	2011	12686436	1.50E+08	2.40E+08
362	Stanbic	2012	14574029	1.40E+08	3.00E+08
363	Stanbic	2013	21762074	1.80E+08	5.10E+08
364	Stanbic	2014	19858151	1.80E+08	5.70E+08
365	Stanbic	2015	18694859	2.10E+08	4.90E+08
366	Stanbic	2016	18528460	2.10E+08	4.40E+08
367	Stanbic	2017	18929996	2.50E+08	4.30E+08
368	Stanbic	2018	14855685	2.90E+08	6.30E+08
369	Stanbic	2019	14949974	2.90E+08	7.50E+08
370	Stanbic	2020	15018027	3.20E+08	6.20E+08
371	Stanchart	2011	35195136	5.90E+11	3.00E+08
372	Stanchart	2012	35761573	6.40E+11	5.00E+08
373	Stanchart	2013	35243095	6.70E+11	6.10E+08
374	Stanchart	2014	33055885	7.20E+11	4.20E+08
375	Stanchart	2015	32564147	2.30E+11	9.00E+08
376	Stanchart	2016	38233546	2.50E+11	9.00E+08
377	Stanchart	2017	37239876	2.90E+11	6.90E+08
378	Stanchart	2018	36828660	2.90E+11	8.10E+08
379	Stanchart	2019	35597458	3.00E+11	8.20E+08
380	Stanchart	2020	39762088	3.30E+11	5.40E+08
381	Standard	2011	5290350	2.80E+09	2.20E+08
382	Standard	2012	5819001	3.00E+09	1.80E+08
383	Standard	2013	5827330	3.60E+09	1.90E+08
384	Standard	2014	5904018	3.60E+09	2.20E+08
385	Standard	2015	5877822	3.90E+09	-2.90E+08
386	Standard	2016	6004192	3.80E+09	2.00E+08
387	Standard	2017	6092097	3.70E+09	-2.10E+08
388	Standard	2018	6107840	4.10E+09	2.60E+08
389	Standard	2019	6113606	4.30E+09	-4.10E+08
390	Standard	2020	5870366	4.20E+09	-2.00E+08
391	TPS	2011	16084444	2.40E+10	3.90E+07
392	TPS	2012	16694765	2.10E+10	2.70E+07
393	TPS	2013	14207114	2.30E+10	4.50E+07
394	TPS	2014	16111142	2.20E+10	2.70E+07
395	TPS	2015	15597023	2.30E+10	-2.80E+06

396	TPS	2016	17421504	3.40E+10	1.20E+07
397	TPS	2017	15820105	2.60E+10	1.20E+07
398	TPS	2018	15545276	2.10E+10	1.80E+07
399	TPS	2019	15601983	1.90E+10	1.80E+07
400	TPS	2020	15207165	1.50E+10	-6.30E+06
401	Total	2011	30103006	3.50E+10	-7.10E+07
402	Total	2012	30190946	3.30E+10	-2.00E+08
403	Total	2013	30259126	4.00E+10	1.30E+09
404	Total	2014	29202508	3.30E+10	1.40E+09
405	Total	2015	29560270	3.40E+10	1.60E+09
406	Total	2016	29603101	3.60E+10	2.20E+09
407	Total	2017	28407124	3.80E+10	2.70E+09
408	Total	2018	25550362	3.90E+10	2.30E+09
409	Total	2019	25342199	3.80E+10	2.50E+09
410	Total	2020	25216430	4.10E+10	2.90E+09
411	TransCentury	2011	2.41E+08	2.20E+09	6.20E+08
412	TransCentury	2012	2.31E+08	2.20E+09	7.40E+08
413	TransCentury	2013	2.19E+08	2.40E+09	6.30E+08
414	TransCentury	2014	1.96E+08	1.90E+09	-2.30E+09
415	TransCentury	2015	1.97E+08	2.20E+09	-4.30E+08
416	TransCentury	2016	1.97E+08	1.90E+09	-3.40E+08
417	TransCentury	2017	1.97E+08	1.90E+09	-4.30E+09
418	TransCentury	2018	1.97E+08	1.70E+09	-3.50E+09
419	TransCentury	2019	1.97E+08	1.30E+09	-3.00E+09
420	TransCentury	2020	1.99E+08	1.30E+09	-1.40E+09
421	Unga	2011	30200020	5.70E+09	4.40E+08
422	Unga	2012	29358110	6.40E+09	3.50E+08
423	Unga	2013	27895176	8.10E+09	3.40E+08
424	Unga	2014	28047980	8.00E+09	4.70E+08
425	Unga	2015	26968580	8.60E+09	6.20E+08
426	Unga	2016	26479321	9.20E+09	5.10E+08
427	Unga	2017	25318981	9.50E+09	-3.20E+07
428	Unga	2018	14769804	9.90E+09	7.80E+08

429	Unga	2019	11968589	1.10E+10	5.40E+08
430	Unga	2020	11030446	1.20E+10	6.60E+07
431	Williamson	2011	2187239	6.00E+09	8.80E+08
432	Williamson	2012	2302449	7.20E+09	8.50E+08
433	Williamson	2013	2584569	8.00E+09	8.60E+08
434	Williamson	2014	2481496	8.50E+09	7.40E+08
435	Williamson	2015	2456576	8.60E+09	-2.30E+08
436	Williamson	2016	4534156	8.90E+09	4.80E+08
437	Williamson	2017	4579977	8.40E+09	2.60E+08
438	Williamson	2018	4931464	9.50E+09	5.00E+08
439	Williamson	2019	4820640	8.30E+09	1.70E+08
440	Williamson	2020	4838342	7.90E+09	1.40E+08
441	mutual	2011	77429567	4.50E+11	7.80E+09
442	mutual	2012	2.12E+08	5.00E+11	1.30E+10
443	mutual	2013	60592313	5.40E+11	4.60E+09
444	mutual	2014	57687706	5.90E+11	1.30E+10
445	mutual	2015	62620545	6.20E+11	3.10E+09
446	mutual	2016	63295188	6.30E+11	8.00E+09
447	mutual	2017	69959055	6.60E+11	7.20E+09
448	mutual	2018	70789463	8.80E+11	4.30E+10
449	mutual	2019	34593830	9.10E+11	9.70E+09
450	mutual	2020	34593830	9.40E+11	-5.30E+09

Appendix II: STATA Outputs
Regression analysis

Macroeconomics determinants

. reg ZValue ZGDP Zinterest

Source	SS	df	MS			
Model	22.3696765	2	11.1848382			
Residual	16.6303242	37	.449468221			
Total	39.0000007	39	1.00000002			

				Number of obs	=	40
				F(2, 37)	=	24.88
				Prob > F	=	0.0000
				R-squared	=	0.5736
				Adj R-squared	=	0.5505
				Root MSE	=	.67042

ZValue	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
ZGDP	.7405629	.1114096	6.65	0.000	.5148255	.9663003
Zinterest	.4516813	.1114096	4.05	0.000	.2259439	.6774187
_cons	7.94e-09	.1060033	0.00	1.000	-.2147831	.2147832

Company specific Determinants

. reg Zvolume Zasset Zprofit

Source	SS	df	MS			
Model	140.298909	2	70.1494546			
Residual	308.701086	447	.690606456			
Total	448.999995	449	.999999989			

				Number of obs	=	450
				F(2, 447)	=	101.58
				Prob > F	=	0.0000
				R-squared	=	0.3125
				Adj R-squared	=	0.3094
				Root MSE	=	.83103

Zvolume	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Zasset	.1468768	.040229	3.65	0.000	.0678154	.2259382
Zprofit	.5076285	.040229	12.62	0.000	.428567	.5866899
_cons	-1.14e-09	.039175	-0.00	1.000	-.0769901	.0769901

Correlation analysis

Macroeconomic determinants

. pwcorr Value GDP Interest, sig

	Value	GDP	Interest
Value	1.0000		
GDP	0.6198	1.0000	
	0.0000		
Interest	0.2537	-0.2674	1.0000
	0.1142	0.0953	

Company specific determinants

```
. pwcorr Value asset profit, sig

             |    Value    asset   profit
-------------+---------------------------
       Value |   1.0000
             |
             |
       asset |   0.2599   1.0000
             |   0.0000
             |
      profit |   0.5403   0.2227   1.0000
             |   0.0000   0.0000
             |
```