AN INVESTIGATION OF THE IMPACT OF NATIONAL ELECTIONS IN KENYA ON THE STOCK RETURNS AT THE NSE
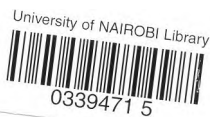
BY

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A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

OCTOBER 2008

DECLARATION

This project is my original work and to the best of my knowledge has not been presented for the award of any degree in any university.

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DATE......22\11\2008.......................................

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

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DATE.......23/11/2008......................................

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I also thank Emily, Lucy, all my friends and family members for their support and always being available through out the course of the research work.

Finally, I thank the almighty God for giving me the strength to finish this research work.

DEDICATION

I dedicate this research paper to my loving parents, to my brother and all my sisters.

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LIST OF ABBREVIATIONS AND ACRONYMS

N.S.E   Nairobi Stock Exchange

EMH   Efficient Market Hypothesis

L.S.E   London Stock Exchange

C.M.A   Capital Markets Authority

C.D.S   Central Depository System

C.A.R   Cumulative Average Residual

U.S   United States

CAPM   Capital Asset Pricing Model

IPO   Initial Public Offer.

ABSTRACT

This study was carried out to establish the impact of national elections in Kenya on the stock returns at NSE. The objective of the study was to investigate the effect of elections in Kenya on the returns of stocks in the various segments of the NSE market. This was to be obtained by computing abnormal returns of the market segments during three election years i.e. 1997, 2002 and 2007.

At the introduction level, various issues were addressed such as the origin of the NSE, which is believed to have started way back in the 1920s during the British colony. The importance of the study was deemed to be relevant to various categories of people including but not limited to: Investors, Brokerage firms, future researchers and academicians to the academic literature, listed companies, and Government and Quasi government bodies.

The literature review explored other related studies such as: the theories that tries to explain the behavior of stock market returns during an election period e.g. political business cycle theory, partisan theory of economic policy, randomness of security price changes and efficient markets hypothesis. Factors such as Demand and supply of shares in the stock market, News related to a company, Market capitalization of the company, Earnings per Share and Price/ Earnings Ratio were identified as those responsible for change in sock prices.

Secondary data was collected from NSE and data vendors. The same was analyzed using statistical packages for social sciences and the findings were interpreted. The findings indicated that the abnormal returns are positive before an election takes place and become negative thereafter. This applies to 1997 and 2002 election year. In 2007 election year the abnormal returns remained positive before and after the election.

A summary of the findings was done and various recommendations made both for further study and policy formulation. Some of the limitations to the study were also identified and noted in the last chapter.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

Stock represents an ownership interest in a corporation, entitling its owners a right to vote in the board of directors and grants the holder a residual claim in the firm's cash flow. Common stock is a popular form of investing used by individual investors and gives them the opportunity to tailor their investment program to meet individual needs and preferences. The returns of stock have two components. The most common component is the periodic payment which is known as dividends. This is also known as the current income. The other component of return is the appreciation in value i.e. the gain from selling the stock for more than its original purchase price. This is known as the capital income (Reilly & Brown, 2003).

For people living off their investment holdings, stocks provide a way of earning a steady stream of current income (from dividends they produce).For investors less concerned about current income, common stock can serve as the basis for the long run accumulation of wealth. Indeed it is this potential for capital gains that is the real draw for most investors. Whereas dividends can provide a steady stream of income, the big returns come from capital gains. Few securities can match common stocks when it comes to capital gains.

Stock returns are crucial to investors. They not only take into account price behavior but also dividend income. They can be used to assess the performance of stocks. Various pricing model can be used to determine stock returns. The models too can be used to assess the impact of the different factors influencing stock returns. It is these factors that ultimately determine the level of risk on the investment.

Past studies done in other parts of the world have clearly indicated that political events have an effect on the performance of the financial markets, (Bacmann and Bolliger 2001).The emerging literature suggests that major political events e.g. elections have

significant explanatory power in emerging market performance. It has been noted that political variables are correlated with value of currencies in a country. In such a case countries with weak governments are more vulnerable, while the ones with strong governments and fragmented opposition tend to be least vulnerable (Block 2001b, Drazen 1999).In addition the financial crises of emerging markets in the 1990's happened during electoral periods or political transition(Wei,1999).

Studies that have been done in the United States indicate that stock market performance is related to the election cycles. Allvine and O'Neill (1980) studied the stock market returns and the presidential cycles in the United States and found that stock returns were particularly high on the two years before the elections took place. Thus their evidence disputed the theory on randomness of stock returns. They stated in their study that many past tests against efficient market hypothesis failed because they were not tested on powerful alternatives. In their study the four year election cycle of stock prices presented such an alternative.

Foerster and Schmitz(1997) on their study "The transmission of US Election Cycles to International Stock returns predicted that the US election cycle is a nondiversifiable factor in the determination of international conditional expected stock returns. Their paper examined the international pervasiveness and the importance of the previously uncovered four year election cycle in the US.

Santa Clara and Valcanov (2003) found that excess return on stock market is higher under democratic than republican presidencies. They state that the difference comes from higher real stock returns and lower real interest rates in democratic presidencies. They also state that the difference is not explained by business cycle variables and is not concentrated around election dates.

Few studies have been done on how the Kenyan stock market performs around election period. A study done by Miya (2007) on the behavior of the stock market in Kenya around national elections indicates that stocks react strongly to election outcomes. He

observed that during the election period temporary elevated levels of stock volatility were observed. He also observed that abnormal returns shift steeply downwards after an election date and increase thereafter to a new equilibrium. However his study does not clearly indicate how the individual segment of the NSE market has been affected during the election periods.

1.1.1 ORIGIN OF THE NAIROBI STOCK EXCHANGE MARKET

In Kenya, the sale of shares and stocks started in 1920s when the country was still a British Colony (Ngugi, 2003) .Trading took place on gentleman agreement in which standard commissions were charged with clients being obligated to honour their contractual commitments of making good delivery and settling relevant costs. However there were no formal marketing rules and regulations to govern stock broking activities. Share trading was a part-time job for accountants, auctioneers, estate agents and lawyers. (Parkinson 1984 and Munga 1974)

One of the estate agents approached the Kenyan Finance minister in 1951 and impressed him upon the idea of setting up a stock Exchange in East Africa. The two approached the London Stock Exchange (LSE) officials in July 1953 and the officials accepted to recognize the setting up of Nairobi Stock Exchange (NSE) as an oversees stock exchange. At this time the participation of local citizens was very little and accounted for only about 5% of the total traders.

Nairobi Stock Exchange Market is regulated by the Capital Market Authority. The Capital Market Authority operates under the enabling legislation of Capital Market Authority Act. (Cap 485 A).The process of setting up the authority involved the Government of Kenya setting up a Capital Market Advisory Council in November 1988, whose role was to work out modalities for establishing the CMA. In November 1989, the Bill was passed by parliament and CMA was constituted in January 1990 and inaugurated in March the same year.

The NSE has grown over time and in 1991 the NSE was registered under the Company's act and phased the "call over" trading system in favour of the floor based open outcry system. A proposal was made to install the Central Depositing System (CDS) in 1995 following a feasibility study which identified the urgent need for CDS as a critical factor to facilitate the growth of NSE market among other three critical issues. The other two issues included the need to establish an enabling legislation to ensure best practice and the need to acquire the best technology.

A draft Bill was submitted to the Attorney General for finalization in March 1996. Installation of a CDS was aimed at enhancing liquidity and efficiency in the trading system by reducing the period of delivery and settlement. This, it was hoped, would facilitate electronic transfer of ownership without the physical movement of such certificates, minimizing systemic risk and the settlement period and ultimately increasing trading volume. The main aim of the CDS was to shorten the registration process, boost liquidity in the market, increase market activity, reduce market risk, attain international standards and deliver the NSE mission statement. The implementation of a Central Depository System came to pass in 2005 which have seen market activity increase.

1.2 STATEMENT OF THE PROBLEM

Various studies have been done in other countries on the behavior of stock market returns during and after election dates. These studies indicate that the stock markets returns react strongly before and after elections. Other studies indicate that the stock markets follow a pattern of a four year election cycle. In the four year election cycle the stocks show a higher return on average on the two years preceding the election date. It is specifically noted in these studies that the stock market returns are on average negative on the second year following an election.

O'Neill (1980) studied the stock market returns and the presidential cycles in the United States and the implications on the efficiency of the US stock market. In his study he opposed the theory on the efficient market hypothesis because he tested it against the

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election cycle in the US. He noted that this theory of random stock movements applied to stocks in the short run.

Bialkowski et al (2006), studied the behavior of stock markets around national elections. In his study he analysed at the behavior of stock markets around elections in twenty seven countries. He found out that the volatility of the stock markets of the specific countries included in his sample increased during an election period. He indicated that narrowing the event window magnifies the implied percentage change in variances which suggest that most of the hike is due to large market moves on the Election Day.

Little literature exists in Kenya and in Africa as a whole on the performance of stock markets around and after the election date. A study by Miya (2007) shows that there is market volatility in NSE around the election period. His study focused on the stock market behavior in general around the election period. In his study he did not analyse how the specific segments of the NSE market are affected by the election period. In addition his study covered the behavior of the NSE market around two elections in Kenya i.e. 1992 and 2002. He found out that the market volatility was not significant using the market model.

This study therefore sought to investigate the volatility of the individual segments at the Nairobi Stock Exchange market during the election periods. It sought to analyse the returns before and after an election in Kenya in all NSE segments to determine the extent to which each segment is affected. The abnormal returns in each segment were analysed for three election years i.e. 1997, 2002 and 2007, using the market model.

1.3 OBJECTIVES OF THE STUDY

The objective of the study was to investigate the effect of elections in Kenya on the returns of stocks in various segments of the NSE market. The study focused on four NSE market segments i.e. Agricultural segment, Commercial and services segment, Finance and investment segment and Industrial and Allied segment.

This was achieved by computing the abnormal returns in the NSE market segments during the last three election periods. The abnormal returns in the segments were compared to indicate which segment was most affected during the election period. The abnormal returns were studied using the market model.

1.4 IMPORTANCE OF THE STUDY

i) **Investors**

The study can assist current and potential investors on when is the right time to invest in the stocks at the Nairobi Stock Exchange in order to maximize their capital gains from the stocks invested.

ii) **Brokerage firms**

The study will give an insight on the pattern of stock returns at the NSE around election dates. This information can be used by stock brokers to advice their clients on when is the right time to invest in the stock market and when to dispose their stock.

iii) **Contribution to the academic literature**

The study is a contribution to the academic literature on the effect of events such as elections in a country on the returns in the stock market. This study therefore adds to the academic literature in Kenya on the impact of political events on the performance and volatility of the NSE market.

iv) **Listed companies**

Listed companies at the NSE market can use the information in the study to come up with better communication strategies to reduce information asymmetry and increase   stakeholders confidence

v) **Government and Quasi government bodies**

Bodies such as Capital markets Authority and Nairobi Stock exchange can use the information in the study for policy formulation, coming up with a legal framework and stock market development. The study will enhance financial deepening initiatives such as introduction of derivative products for managing risk.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

Kenya has made great strides in its attempt to embrace democratic ideals by consistently holding its national elections after every five years. Initially Kenya had a single political party system. This political party system lasted for twenty nine years from 1963 to 1992 after which a multiparty system was adopted. The multiparty system led to the improvement of Kenyan democracy which facilitated a number of constitutional amendments. These amendments have ensured that elections are held after every five years. However the two political systems have impacted differently on the financial system and the stock exchange market in particular.

The election period is associated with great uncertainty and therefore presents challenges for investors especially at the Nairobi Stock Exchange Market. The Nairobi Stock Exchange Market can be categorized as an emerging market which can be affected by events bringing uncertainty to the market. Richard (2006) cites the following events that may bring security price changes: earnings reports, product releases, trade show presentations, bonus issues, IPO's and dividend announcements. On a global scale, Richard (2006) cites national elections, government economic and commodity data releases, Federal Reserve Board announcements, government policy decisions and OPEC statements as some of the events that lead to anticipatory and reactive security price movements in the stock markets.

Over the years, various theories have been developed that try to relate the stock prices and the election periods. These theories have emerged because there has been an evidence of significant change in prices during election periods. The following are some of the theories that try to explain the behavior of stock market returns during an election period.

2.2 POLITICAL BUSINESS CYCLE THEORY

This theory is based on the assumption that voters consider their financial situation when voting. Policy makers may thus generate a rising stock market by manipulating policy instruments. They may also promise to make the stock market perform well after being elected or re-elected. This increases the stream of expected dividends from the stock. For instance the anticipation of lower taxes on profits will increase the expected dividends.

Nordhaus (1975) postulates that, irrespective of their political orientation, incumbents will pursue policies that maximize their chances of re-election. As a result they will try to self servingly attune the business cycle to the timing of elections. The economy will be stimulated by unsustainable expansionary policies before elections, and harsh actions aimed at curbing the resultant inflation will have to follow at the beginning of the new term of office.

Empirically, the political business cycle theory implies that policy makers systematically aim for a rise in the stock prices in periods preceding elections. However it does not necessarily mean that policy makers have not used policy instruments for their re-election or that the political business cycle does not exist even when no political effect is detected on the stock market. It only shows that investors have not adjusted their perception of the stream of dividends and the expected return to the policy moves.

2.3 PARTISAN THEORY OF ECONOMIC POLICY

This theory stresses the uncertainty over the policies that the next government will pursue after an election has taken place. A requisite of this theory is that the ideology of a government has a distinct effect on economic policies. As a result, differences in the ideological composition of a government will be reflected in policy differences and therefore in stock price determinants i.e. the stream of future dividends or the expected returns.

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The idea of the partisan approach is that political parties address themselves to voters with different preferences. Left wing parties are assumed to prioritize employment in their policy goals, where as right wing parties presumably favour low inflation. Investors thus expect that, in comparison with left wing parties, right wing parties will pursue more pronounced supply side policies (Hibbs 1977).

All things being equal, an extension of a right wing government will thus imply stable if not rising stock prices. When evaluating empirical results, it must be taken into account that expected policy changes are uncertain and that this uncertainty differs over time. Since the stock market penalizes uncertainty, this by itself will affect prices negatively. The behavior of the stock market prices may be explained by the following theories,

2.4 RANDOMNESS OF SECURITY PRICE CHANGES

Capital markets deal in securities and their prices have been observed to move randomly and unpredictably. This randomness of security prices may be interpreted to imply that investors in the capital markets take a quick cognizance of all information relating to security prices, and that security prices quickly adjust to such information. Thus the efficiency of security prices depends on the speed of price adjustment to any available information. The more the speed of adjustment, the more efficient the market. The capital market efficiency may therefore be defined as the ability of securities to reflect and incorporate all relevant information in its prices (Pandy, 1995)

In an efficient market a security's price will be a good estimate of its investment value. The investment value is the present value of the security's future prospects as estimated by well informed and capable analysts. In a well developed and free market, major disparities between price and investment value will be noted by alert analysts who will seek to take advantage of their discoveries. Securities priced below investment value will be purchased, creating pressure for price increases due to the increased demand to buy. Securities priced above investment value will be sold, creating pressure for price decreases due to the increased supply. As investors seek to take advantages of opportunities created by temporarily inefficiencies, they will cause the inefficiencies to

be reduced, denying the less alert and the less informed a chance to obtain large abnormal profits. As a consequence of the efforts of such alert investors, at any time a security's price can be assumed to equal to the security's investments value, implying that security mispricing will not exist. The randomness of stock returns has led to the development of the efficient market hypothesis.

2.5 EFFICIENT MARKET HYPOTHESIS

An efficient market is the one which securities fully reflect all possible information quickly and accurately. The concept holds that investors incorporate all available information into their decisions about the price at which they are willing to buy and sell. At any point in time then, the current price of a security incorporates all information. Additionally, the current price reflect not only past information such as might be found in company's reports and financial publications, but also events that have been announced but haven't yet occurred, like a forthcoming dividend payment. Furthermore, the current prices reflect predictions about future information. Investors actively forecast important events and incorporate those forecasts into their estimates. Obviously, because of keen competition among investors, when new information becomes known, the price of the security adjusts quickly. This adjustment is not always perfect. Some time it is too large and other times too small. But on average it balances out and is correct. The new price in effect is set after investors have fully assessed the new information (Malkiel, 2003).

Fama (1970) reviewed the theory of Efficient Market Hypothesis. In his study he made a distinction between three forms of EMH: the weak form, the semi-strong form and the strong form of market efficiency. It is the semi strong form of EMH that has formed the basis for most research.

The strong form suggests that security prices reflect all available published and unpublished information; even private information. Seyhun (1986) provides sufficient evidence that insiders profit from trading on information not already incorporated into prices. Hence the strong form does not hold in a world with uneven playing field. The

semi-strong form of EMH asserts that security prices reflect all publicly available information. There are no undervalued or overvalued securities and thus, trading rules are incapable of producing superior returns. When new information is released, it is fully incorporated into the price rather speedily. The availability of intraday data enabled tests which offer evidence of public information impacting stock prices within minutes (Gosnell, Keown and Pinkerton, 1996)

To establish whether the market is semi strong, researchers have employed event studies. One can study the effect of events such as the earnings/dividends announcements, bonus issues, rights issues or changes in accounting policies. The semi strong efficient market hypothesis implies that the share price reflects an event or information very quickly and therefore, it is not possible for an investor to beat the market using such information. The weak form of the hypothesis suggests that past prices or returns reflect future prices or returns. The security prices reflect all past information about the price movements. It is therefore not possible for an investor to predict future security price by analyzing historical prices and achieve a performance better than the stock market index. The inconsistent performance of technical analysts suggests this form holds. However the concept of the weak form was expanded to include predicting future returns with the use of accounting or macroeconomic variables.

While the semi strong form of EMH has formed the basis for most empirical research, recent studies have expanded the tests of market efficiency to include the weak form of EMH. There continues to be disagreements on the degree of market efficiency. This is exacerbated by the joint hypothesis problem.

However several studies have been done to challenge the theory of the efficient market hypothesis. These studies show that security prices are not random and can be exploited.

2.6 EVIDENCE FROM STUDIES CHALLENGING EMH.

Several studies have been done that dispute the theory on the efficient market hypothesis. These studies indicate that the movement of prices is not random and thus investors can exploit the market prices to make profits.

Allvine and O'Neill (1980) studied the stock market returns and the presidential cycles in the United States and found that stock returns were particularly high on the two years before the elections took place. Their evidence disputed the theory on randomness of stock returns. The authors tested a trading strategy that involved purchasing stock on the last trading day of October two years prior to the presidential election and selling at the close on the last trading day of October preceding the election. Whereas, over the 1960-1978 period, a buy and hold strategy returned two per cent per year, the basic trading strategy returned 5.4 per cent per year. Thus according to their study the randomness of stock prices was only in the short but not in the long run.

Turn of the month effect on stock prices have been shown by some studies thus disputing the theory on the efficient market hypothesis. This where the stock prices appears to be higher at the end of the month. Ariel (1987) showed that returns tended to be higher on the last day of the month. Cadsby and Ratner (1992) found similar turn of month effect in some countries and not in others. Ziemba (1991) found evidence of a turn of month effect for Japan when turn of month is defined as the last five and first two trading days of the month.

January Effect have been reported in some studies thus challenging the theory on efficient market hypothesis. Rozeff and Kinney (1976) documented higher mean returns in January as compared to other months. Using NYSE stock for the period 1904-1974, they found that the average return for the month of January was 4.8% as compared to only 4.2% for the other months. Later studies document that effect persisted in more recent years. Bhard Waj and Brooks (1992) for 1977-1986 and Eleswarapu and

Reinganum (1993) for 1961-1990.There are various factors that affect the prices of stock prices as stipulated below;

2.7 FACTORS AFFECTING THE STOCK PRICES IN THE MARKET

Like any other commodity, in the stock market, share prices are also dependent on a wide range of factors. It is therefore hard to point out just one or two factors that affect the price of the stocks. However there are some factors that are that directly influence the share prices.

Demand and supply of shares in the stock market.

This fundamental rule in economics also applies in the determination of the share prices in the market. When more people are buying a certain stock, the price of that stock increases and when more people are selling the stock, the price of that particular stock falls.

News related to a company

News related to a particular company is undoubtedly a huge factor when it comes to stock price. Positive news about a company can increase buying interest in the market while a negative press release can ruin the prospect of a stock. However in some cases, despite amazingly good news, a stock can show least movement. Thus the overall performance of the company that matters more than news(Pandy,1995).

Market capitalization of the company

The market capitalization is also an important factor in the share prices. Market capitalisation refers to the number of outstanding shares in the company multiplied by the price of the share in the market.

Earnings per Share

Earnings per share are the profit that the company made per share during a financial period. It is mandatory for every public company to publish a report at the end of

financial period that states the earning per share of the company. This is perhaps the most important factor for deciding the health of any company and it influences the buying tendency in the market resulting in the changes in the price of that particular stock (Reilly & Brown, 2003).

Price/ Earnings Ratio

Price/Earnings ratio or the P/E ratio gives a fair idea of how a company's share price compares to its earnings. If the price of the share is too much lower than the earning of the company, the stock is undervalued and it has the potential to rise in the near future. On the other hand, if the price is way too much higher than the actual earning of the company, then the stock is said to be overvalued and the price can fall at any point (Basu, 1977).

2.8 STUDIES ON ELECTIONS AND STOCK RETURNS AND THEIR FINDINGS

Several studies look at the relationship between a country's elections and stock market returns. These studies indicate a significant reaction of stock markets during the election period.

Booth and Booth (2003) reports that the US stock market tends to perform better in the second half of the presidential term. He states that this phenomenon could be a reflection of the political business cycle but can also be explained behaviorally. The authors argue that investors may be optimistic about the implications of the impending elections but their optimism wears off quickly once the new administration fails to keep its election campaign promises.

Nofsinger (2004) also contends that the stock market is a barometer of public sentiments and its movements before an election will indicate whether incumbents will be re-elected. Generally in the British and the US exchanges, it is accepted that stock markets prefer a conservative administration. Ioannidis (1986) attempted to test this

proposition by examining market returns around the time of elections. His study assumed that the election outcomes will be largely be influenced by the market on the basis of published opinion forecasts. He found that opinion movements towards a conservative government do exert a significant impact on the stock market, but only when two parties are relatively evenly balanced.

Brander (1991) examined the relationship between Toronto Stock Exchange and election polls during 1988 Canadian General Election campaign. He found out that the TSE was positively related to conservative party popularity as indicated by opinion polls

Bialkowski et al (2004) studied the relationship between politics and stock prices in 27 industrialized nations. He notes that elections are essentially rare events and the single country approach may lead to a small sample. He therefore based his sample on twenty seven industrialized nations to overcome this obstacle. He postulated that evidence of extreme price movements during elections support the fact that market participants tend to be surprised by actual election results.

Jianliang and Born (2006) document evidence that political uncertainty is observed and priced in the equity market. They note that returns during the election period are indistinguishable from none election period when the incumbent party is assured of reelection. They find evidence that the presidential election cycle is associated with higher return variability when the outcome is uncertain. They further note that volatility is virtually identical to none election periods when the outcome is not in doubt. They also conclude that there is a casual link between political uncertainty and common stock returns.

2.9 EVENT STUDIES

An event study examines the behaviors of firm's stock prices along corporate events. It is a t-test of the change in price of some asset as a result of an event. It looks for an expectedly large increases or decreases in prices relatively to the standard deviation of

a typical change .e.g change in exchange rates, change in stock prices, change in trading volume and change in operating event after an event. Some of the events that have been studied by this methodology include stock splits, earnings announcements, mergers and takeovers announcements and regulatory changes affecting companies. Various usefulness have been documented emanating from these type of studies thus making event studies a major part of financial economics.

In the corporate context, the usefulness of event studies arises from the fact that the magnitude of abnormal performance at the time of an event provides provides a measure of the impact of this type of event on the wealth of the firm's claimholders. This is important for corporate policy decisions.

Event studies also serve an important purpose in capital market research as the principal means of testing market efficiency. Systematically non-zero abnormal security returns that persists after a particular type of corporate are inconsistent with market efficiency. Accordingly event studies focusing on long horizons following an event can provide key evidence on market efficiency (Brown and Warner, 1980 and Fama 1991).

Event studies are also used to spur the development of new theories to explain evidence that is against traditional finance positions. Unexpected changes in dividend are on average associated with the stock price changes(Asquillk and M)1978.These findings are a surprise given the dividend irrelevance theories of MM 1983 and Miller and Scholes 1978 which predict dividend are either irrelevant or bad news because dividends are taxed at higher rate than capital gains.

Event studies are useful in other areas beyond financial economics. In accounting literature, the effects of earnings announcement on stock have been studied by this method. In law, event studies have been used to examine the effect of regulations as well as to assess damages in legal liability cases.

Studies in finance done in the recent past indicate that events such as elections can be studied using the methodologies in event studies. Included is a study by Bialkowski et al (2006) who gauge the stock market volatility around national elections. He studied the impact of elections on the second moment of return distribution using a volatility event study approach. His study covered 27 industrialized countries to ensure the adequacy of his sample. His study conceptually departed from the convection adopted in prior literature. Instead of examining the returns of the stock market throughout the tenure of different administrations, his analysis concentrated on return variability around elections. He found out that stocks prices react strongly around election. He concluded this was due to the fact that investors are surprised by the ultimate distribution of votes after an election.

The success of an event study depends on the identification of a proper model for generating the expected returns or normal returns. This is because it tries to compare the return behaviour of firms when an unusual event occurs against the returns of the firm when no event has occurred. Various models used to generate the expected returns in an event study include;

2.10 MODELS USED TO GENERATE THE EXPECTED RETURNS IN AN EVENT STUDIES

Capital Asset pricing Model

This model is based on the capital asset pricing model theory. It requires that the intercept term be equal to the risk free rate. The CAPM model can be given by

$R_{jt} + (R_{mt} - R_{ft}) \beta_j + e_{jt}$

Where R_{jt-is} the risk free rate

R_{mt} – Return of the market

R_{ft} – It is a measure of risk

e_{jt} – Error term

This model assumes that the systematic risk remains constant over the time of estimation of returns (Roll 1977)

Empirical Market line model

The model is similar and related to the CAPM model and can be represented as follows; $R_{jt=}$ Y_{0t} + Y_{it} β_{jt} + e_{jt}. In this model R_{jt} indicate the excess returns on the security, Y_{it} represent the return of the market less the risk free rate and Y_{0t} the intercept term. This model does not require the intercept to be equal to the risk free rate. This marks its difference with the Capital Asset Pricing Model. The intercept Y0 and Y_{it} are obtained from the best linear estimates taken from across section.

Multifactor cross sectional models

Factor models are based on the idea that security prices move together in reaction to common forces as well as by chance. Many cross- sectional models have been formulated to explain the returns of stocks. One of the model in this category is represented as follows;

$$R_{jt} = a_j + b_{ij}(Rm_t - Rf_t) + b_{2j}(RLE_t - RSE_t) + b_{3j}(HBTM_t - LBTM_t) + e_{jt}$$

Thus the return of the stock is a function of excess return on the market index over the risk free rate, difference in return of large capitalization equity portfolio and a small capitalization portfolio and the difference in return between a high and a low book to market portfolios

Horne and Wachowicz (1997) believe that there are five factors of importance that affect stock returns. These factors include changes in expected inflation, unanticipated changes in inflation, unanticipated changes in industrial production and changes in yield differential between long term and short term bonds.

Market Model

The model argues that returns on security j are linearly related to returns on a market portfolio. Mathematically the market model is described as;

$R_j = a_j + b_j Rm_t + e_{jt}$

R_{jt} in the above model represent the security return, Rmt represent the market return, ejt the error term of the model or part of stock returns not explained by market returns while

aj and bj are constants of the model. These constants may be estimated by ordinary least squares method.

The market model is not supported by any theory. It assumes that the slope and intercept terms are constant over the time period during which the model is fit to the available data.(Brown and Warner,1985)

The CAPM model and empirical line model have been criticized by Roll(1977).Roll observed that if the market portfolio was not identified the use of CAPM model becomes difficult. However the market model and the multifactor model are not subject to Roll's critique. This could indicate their strength in the determination of stock returns. It is from this view point that the researcher chose to use the market model in the determination of expected returns during the analysis.

2.11 TURN OF THE YEAR EFFECT IN STOCK MARKETS

Year end effect is also referred to as the December effect. Past researchers have studied the behavior of share prices throughout the year and find that they tend to be lower at the end of the year while they increase on January the following year. Rozeff and Kinney (1976) documented higher mean returns in January as compared to other months. Later studies documented that this effect persisted in more recent years using the NYSE stock. Bhard Waj and Brook (1992).Thus there is a need to adjust for this effect as elections in Kenya occur at the end of the year.

The decline of stock prices in December is especially reported for small firms and for firms whose prices had already declined during the year (Roll 1983).One of the likely explanations of the year end effect is tax selling. This refers to a situation where investors in the market are reluctant of selling stocks with a high capital gain as they try to minimize the capital gain tax. However there is increased sale of stock whose prices have declined during the year as there is less tax to be paid.Dyl (1977) found out that there is significant abnormal trading volume in the month of December in common

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stocks that had undergone significant price changes during the year. He observed that there was a low volume of stocks traded whose prices had appreciated during the year while a high volume of stocks whose prices had declined during the year were traded.

Another possible explanation of January effect is that small stocks may be relatively riskier in January than in the rest of the year. Due to this increased risk they usually have a higher rate of return. Most individual investors have available funds from tax loss sales and locked in profits from sales in the last five days of the month of December that appear on year end account balances. They also have available funds from Christmas bonuses. They use these funds to buy stocks that they consider underpriced as many researchers have essentially shown that small firms are essentially represented by low priced securities.

Thus from the studies done in the past, there is an indication that turn of the year effect exist in many stock markets including the Nairobi Stock Exchange market. Very few studies have been done on this effect here in Kenya. However as the study on election effect is being done there is a need to control for this effect. This effect will therefore be examined in some selected years in which no elections occurred and the effect compared to years in which elections took place.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter constitutes the research design of the study, data collection methods, measurement and analysis of the data. The chapter also describes the population, sample, method of data analysis and collection.

3.2 RESEARCH DESIGN

This is an event study that sought to analyse the performance of the various segments of the Nairobi Stock Exchange Market around the election period. The study covered the following election years 1997, 2002 and 2007.The 1992 election was not included in the study because of non availability of the data on share prices for the period. The study examined the movement of share prices 60 days before and after each election year. The actual election dates covered include 28/12/1997, 28/12/2002 and 27/12/2007.

3.3 POPULATION

The population of interest for the was all the companies that are quoted at the Nairobi Stock Exchange market from 1997 to 2008.The election years covered in this study include 1997,2002 and 2007.The movement of all the stock prices was studied 60 days before and after the elections and thus no sampling was required. The data on the price movement was presented according to the various sectors in the NSE market to indicate which segments of the NSE market are affected more by the elections than others. The NSE listed companies are categorized into the following segments,

- Agricultural segment
- Commercial and services
- Finance and investment
- Industrial and Allied segment

3.4 DATA COLLECTION

Data on the share prices was collected from secondary sources. The secondary sources included the NSE data vendors and NSE databases.

3.5 DATA ANALYSIS

Data was analysed by critically evaluating the election independent returns of the stock at the NSE market and comparing these with the returns during the election period. The event window used was 60 days before and after the election date.

The first step was to estimate the market model that was used to predict the returns per the market segment during each of the election period. Brown and Warner (1980, 1985) conclude that event study methodologies that are based on OLS (Ordinary Least Squares) method, market model and use parametric tests are well specified under a variety of conditions. The market model was estimated by regression analysis on the basis of 250 days returns prior to the period of study under each election year as used by Brown and Warner (1985).It was estimated by regressing the actual security returns against the actual market returns.

For the purpose of analysis, the market model was represented as follows,

$r_{it} = \alpha_1 + \beta\ R_{mt}$

Where α_1 - constant

r_{it} - the return of a security

R_{mt} - the return of the market

The return of a security was defined as,

$R_{it} = P_{i1t}/P_{i0t}$

Where P_{i1t}- The closing price stock i at time t

P_{i0t}-The opening price of stock i on time t

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Average returns for a certain period in a specific market segment were determined by,

$$1/n \ \sum r_{it}$$

Where n- is the number of securities in the sector at time t

R_{it} - return of a security at time t

The estimated market model was then used to generate the expected returns for each stock in the sector. Then average expected returns for each sector at any period were computed by

$$AER = 1/n \ \sum_{i=1}^{j} ER_t \qquad \text{Where AER- Average Expected Return}$$

n- Number of stocks in a certain segment.

ER_t - Expected return of stock t.

Average abnormal returns at time (t) during the election period were determined by
Average expected return at time (t) – Average actual return at time (t)
Average Abnormal Returns = $AER_t - AAR_t$

Cumulative Abnormal returns were computed as

$$CAAR = \sum_{t=1}^{j} AARs$$

Where CAAR – Cumulative   Average Abnormal Returns

AAR - Average Abnormal Returns

Hypothesis that was tested is:

H0-The cumulative abnormal returns is equal to zero thus no election effect

H1- The cumulative abnormal returns is   not equal to zero thus an election effect

The test statistics that was used is as follows.

CAAR (t1, t2)

$$\{\sigma^2 (t1, t2)\}^{1/2}$$

The Z or t-test can be used to determine the statistical significance of abnormal returns as beyond a sample size of 120 the t and Z distribution becomes virtually identical. When a sample size approaches 120, the sample standard deviation becomes a good estimator of the population standard deviation and thus the Z distribution can be used. Thus the Z distribution was used to determine the significance of the test of the abnormal returns computed.

CHAPTER FOUR

FINDINGS AND INTERPRETATIONS

4.1 INTRODUCTION

The study made use of secondary data which was collected from NSE data vendors and NSE databases. This constituted of data on the share prices for three national election years i.e. 1997, 2002 and 2007 respectively collected from secondary sources. The NSE market index was also part of the data considered in this study. Prices of stocks at NSE 60 days before and after elections were taken in order to determine the abnormal returns on securities. The study intended to investigate how the elections in Kenya affect the various segments in the NSE market.

The collected data was analyzed and interpreted using statistical package for social sciences analysis. This chapter presents the findings of the study with regard to the major objective i.e. to investigate the effect of elections in Kenya on the returns of stocks in the various segments of the NSE market. The focus was laid on the following four market segments as follows: agricultural segment, Commercial and services, finance and investment; and industrial and Allied segment.

4.2 THE TREND OF ABNORMAL RETURNS

Abnormal returns in the NSE market segments during the last three election periods were computed and compared to establish how and to what extent each sector was affected. The abnormal returns computed per segment for election years 1997-2007 is as attached in appendix 1

From the abnormal returns computed, a trend was observed indicating positive abnormal returns 60 days before elections for years 1997 and 2002. The trend then changed to negative abnormal returns 60 days after elections. The abnormal returns for the year 2007 however remained positive which means that the expected returns were higher than the actual returns. This indicates that the volatility of the NSE market was highest during the last election year. This is probably due to post election violence that

affected the actual returns of stocks. The results of the above election years differ with that of non election years 2000 and 2005 which show that the actual return on stocks were always generally higher than what the investors expected from the market.

The abnormal returns for the various segments in the three election years can be represented by the following graphs

Graph 4.1 **ABNORMAL RETURNS FOR 1997 ELECTION YEAR**

Source: Research Findings

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Graph 4.2 **ABNORMAL RETURNS FOR 2002 ELECTION YEAR**
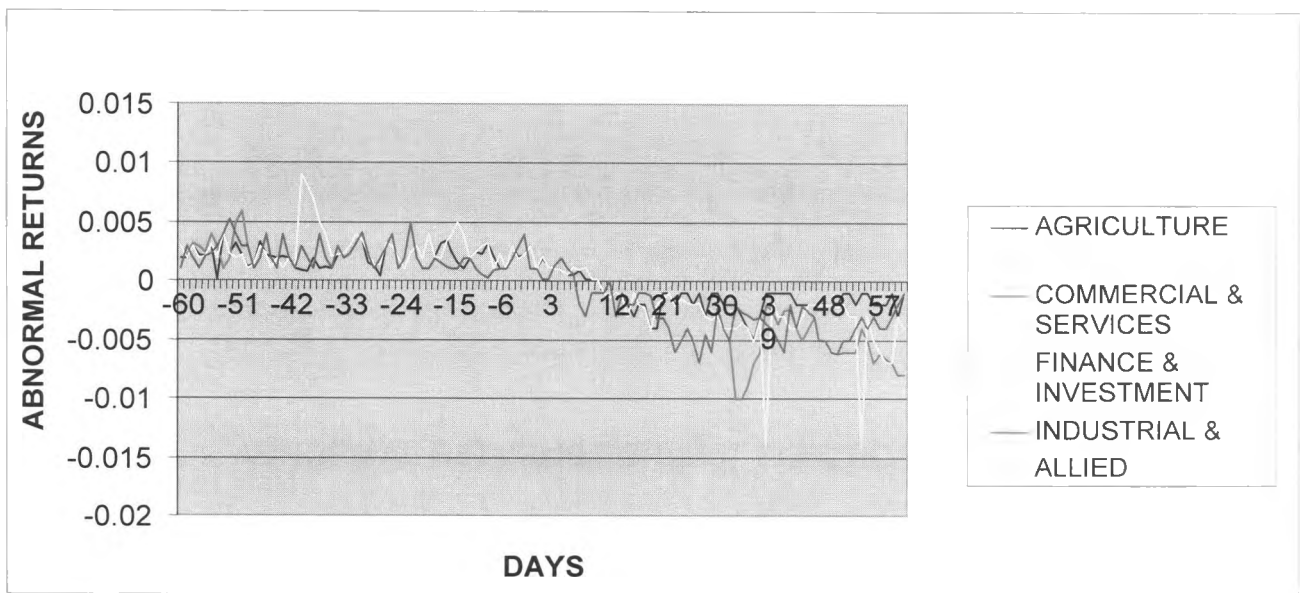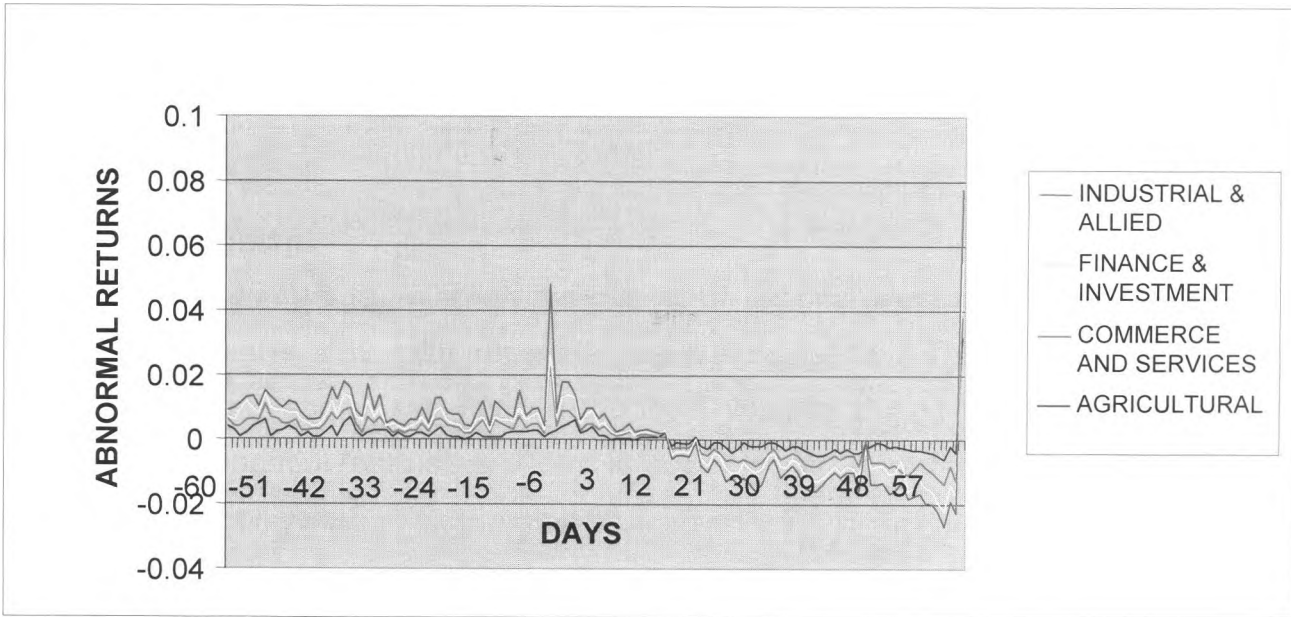
Source: Research Findings

Graph 4.3 **ABNORMAL RETURNS FOR 2007 ELECTION YEAR**
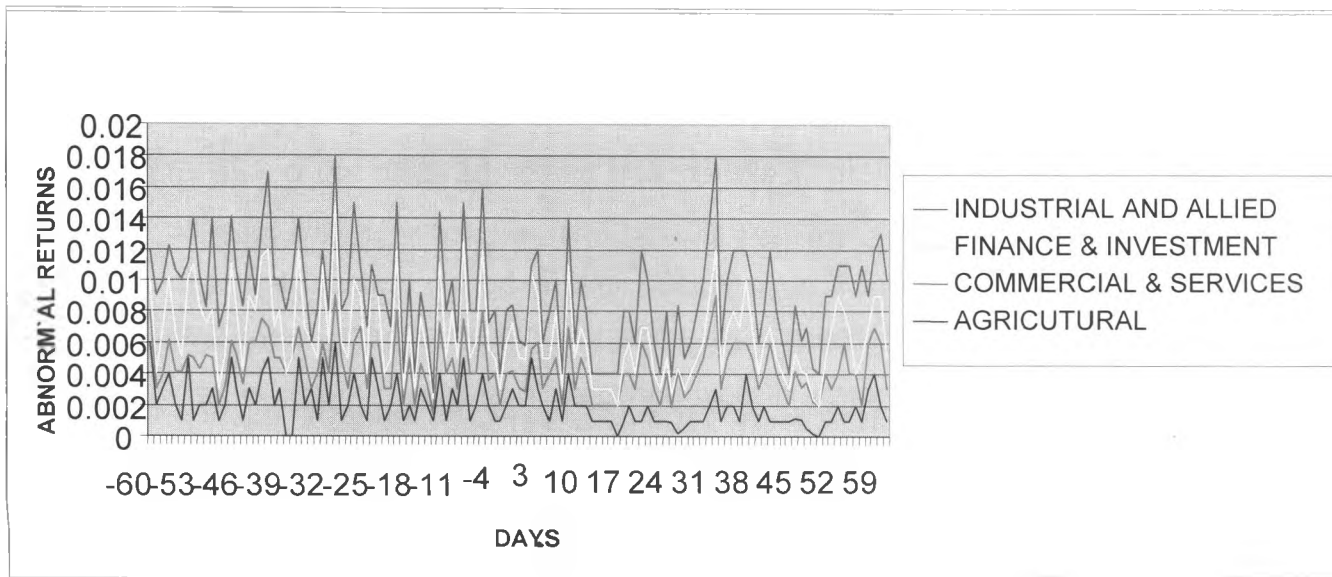
Source: Research Findings

In 1997 and 2002 election years, the abnormal returns showed a positive trend just before the election. However the trend changes to negative abnormal returns after the elections. In 2007 Election year, the abnormal returns remained positive through out the period of 60 days before and after the elections. However the abnormal returns remained statistically insignificant when tested.

Agricultural segment
The researcher wanted to establish the impact of national elections in Kenya on the stock returns at the NSE with regard to agricultural sector. The research findings indicates that this sector experienced the least volatility during the election periods analysed.The abnormal returns were least in 2002 election year while they were highest in the 2007 election year.

The trend of returns for the three election years on the stocks in this segment at the NSE during the three national election years revealed that the abnormal returns were positive before the election period. However the trend changes to negative abnormal returns after the election. This indicates that the expected returns are lower than the actual returns immediately after the election which could be explained by the fact that uncertainty in the market reduces immediately after an election.

Whereas the investors expected better returns, the actual returns fell short of their expectations during the days preceding national elections. On the days after elections the trend indicates higher actual returns than the expected returns. This is probably due to the fact that the election period is over peacefully and the market is trying to regain The abnormal returns during 1997 and 2002 were positive 60 days before elections indicating that investors expected higher than what the market could offer. In 2007 the abnormal returns remain positive for the period under analysis indicating that investors expected more but the market returns fell short of their expectations. This indicates that the volatility was highest in the year 2007.

Commercial and services segment

This segment constitutes the companies that are in the service sector for instance Kenya Airways ltd and Nation Media Group. This study investigated the impact of national elections in Kenya on the stock returns at the NSE in this segment. According to the analysis the volatility of this segment is highest in the 2007 election year while it was least in the 2002 election year. The findings revealed evidence of extreme price movements during elections. This could be largely because investors are often surprised by actual results of the election.

It has also been observed that investors in the NSE observe and price political uncertainty in the stock market. Stock returns during election period change drastically depending on the anticipated outcome. In 2007, the commercial and services sector saw returns dwindle especially in the airline services as traveling during this season became limited due to political uncertainty. This was in turn translated into low share prices of Kenya airways.

Finance and investment segment

This sector largely consists of financial institutions quoted in the Nairobi stock Exchange market. Some of the institutions included in this segment are Kenya Commercial Bank and National Bank of Kenya. The detailed list of institutions under this segment are as attached in Appendix II .The investigation indicates a significant movement of abnormal returns in this segment during the period. The abnormal returns are highest in the 2007 election year while they were least in 1997.The analysis also revealed that this is the second most volatile segment when compared with the other segments in the three election years covered.

The return on stocks from this sector show remarkable variability around elections since stock prices react strongly around election periods. This is so in the finance sector because most investors are hesitant to inject their funds into any investment until they are aware that the new administration is investor friendly. The shift in stock prices in this sector could indicate the level of confidence that players have on the main political

personalities in the political arena. In this case therefore positive abnormal returns before the election date may imply that the players are uncertain whether election of some personality will boost finance and investment services.

Industrial and Allied sector segment

This sector includes manufacturing and allied companies that are quoted in the stock market which include Athi River Mining Company ltd and Bamburi Cement Company ltd The research findings indicate that return on NSE securities in this sector during the last three election years showed a significant change. The abnormal returns were highest in 2007 while they were least in 1997.The volatility of the returns is highest in 2007 and least in 1997 election year.

The response also may be due to the perception of the people and the information they possess concerning some of the companies in this sector. Some of the companies may not be Kenyan owned and investors fear to purchase securities for such companies around election period for fear of loosing out in case the incoming government does not favour foreign investment. Some investors may fear that such companies may end up relocating elsewhere if the incoming administration does not support them.

CHAPTER FIVE

SUMMARY, DISCUSSIONS AND CONCLUSIONS

5.1 INTRODUCTION

The findings of the research are summarized and discussed In this chapter. The chapter also highlights the limitations of the study, recommendations for further research as well as recommendations for policy and practice.

5.2 SUMMARY, DISCUSSIONS AND CONCLUSIONS

This study sought to establish the impact of national elections in Kenya on the stock returns at the NSE. The objective of the study was to investigate whether the elections in Kenya affect the various segments of the NSE market and to which extent. It was generally revealed that there is significant reaction in the performance of the stock market during the election period in every segment of the NSE. The results achieved from the study during the three election years under investigation show evidence of drastic change in share prices and the volume of stocks traded at the stock market during the election period.

It was generally observed that the abnormal returns were positive before the election event and were negative after the election period. However the abnormal returns were positive for whole period under analysis in 2007 election year.

The Agricultural segment indicates the least changes of the return on securities during the election period. From the findings it can be noted that the few companies quoted in the NSE under this sector indicate that elections adversely affect return on securities. This may be attributed to then fact that the condition of peace and tranquility during election periods does not directly affect this segment. This condition is expressed in the segment by minimal change in return on NSE securities and volume of stocks traded.

The Industrial and Allied segment on the hand had the maximum change in returns for the election 2002 and 2007 election year. In 1997 the finance and Investment market had the highest change in the returns of the stocks.

The commodity of the Capital markets is securities. Over time securities in capital market move randomly and unpredictably depending on the information available relating to anticipated security prices. Any information available in the market is quickly translated into change in security prices as investors try to either divest or reinvest in particular sectors which they anticipate better returns. The 2007 elections saw the returns on the security prices in the stock market drastically change due to post-election violence experienced in the country. This condition may be due to the fact that during the violence, most investors would chose to offload the shares they have since they do not know how the situation will end up. As a result the forces of demand and supply come into play thus pushing the prices of securities downwards.

It is also clear from the study that the finance and investment sector too experiences remarkable change in security prices during the three election years under observation. There is a negative relationship between the securities in this segment and the elections. The reason behind this being that most investors are still uncertain on the performance and economic policies of the new administration. But there is an indication that return on securities on this sector tends to improve positively in the early months preceding elections largely because of the improved activity in the sector as people settle down to proceed with various economic activities.

5.3 LIMITATIONS OF THE STUDY
Evaluation of the results of this study will be subject to the following limitations which have been identified and noted down:

1. The major constraint to effective conduct of this study was time and type of data. The type of data that was used was purely secondary. The study did not consider

any primary data. Therefore most of the findings are based on the assumptions made from the analyzed secondary data. The study can be better if there was enough time to obtain primary data from players in the NSE on their views regarding the impact of elections on securities.

2. The study may be applicable to the Kenyan context only. Although the findings can be generalized to some extent to other stock markets around the globe, they may not be applicable to others due to the diverse nature of politics and elections in other countries. This handicap can be eased if more stock markets in other countries are included in the analysis to monitor their trends around the election period.

3. The study is restricted to election years and their impact on the securities at NSE. It does not consider other events that may have significant impact on the NSE stocks as well. The utility of the study is therefore confined to that aspect of Impact of election on NSE securities.

4. The accuracy of the secondary data collected may not 100% accurate due to lack of a mechanism of authenticating the same. This is mainly because the figures involved were obtained from various sources and could therefore possess some degree of error.

5. The study included all the stocks of companies listed in the NSE market. Some of these stocks do not trade frequently in the market. This posed a problem in the computation of daily returns of the share price.

5.4 RECOMMENDATIONS

Recommendations for further study

It is generally a truism that no research is an end in itself. Therefore, what this research has achieved in this area can only be considered to be little hence requiring further research work. From the insights gained in the course of the investigation, the researcher offers the following suggestions, which should act as a direction to future researchers in order to discover more facts concerning this area of study and shed more light on investors:

1. A replication of this study should be done after some time to find out if there are any changes that have taken place and comparison with the current data be done. From this, a definite recommendation should be done.

2. A replication of this study can also be done using the GARCH methods which takes care of the heteroskedasticity associated with an election event. Heteroskedasticity reduce the reliability of the estimates of the standard errors and thus affects the precision with which inferences can be drawn.

3. A study should be carried out to establish the factors that lead to changes in the return to securities at the NSE during the election years. This will enable investors understand the issues behind the drastic chance in security prices during elections

4. There is also need to carry out a comparative study on the impact of national election in developed and developing countries on the security returns traded at the stock market.

5. A research can also be done to find out the reason why the response to security prices is not uniform across all the sectors. This will help in understanding why some sectors are worse hit than others when it comes to the impact of national elections on stock market securities.

Recommendations for Policy making

For NSE to provide good returns to investors there is need to formulate a few policies that may favor the sock market and probably push them for enactment. Investors are often very sensitive to any information which they feel will make them loose whatever they have invested. The following are some of the recommendations that may help in policy making:

1. NSE should try and establish if there are policies that can be formulated and put into practice to reduce the impact of national election on security returns. By doing so, they are able to protect the investors in the stock market.

2. The officials of the NSE market should also be prudent to find out a way of compensating investors who loose out on expected returns due to election related outcomes such as the post election violence.

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APPENDIX 1

NSE MARKET SEGMENTS
AGRICULTURAL

Unilever Tea Kenya Ltd Ord 10.00

Kakuzi Ord.5.00

Rea Vipingo Plantations Ltd Ord 5.00

Sasini Tea & Coffee Ltd Ord 5.00

COMMERCIAL AND SERVICES

Car & 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

Scangroup Ltd Ord 1.00

TPS Eastern Africa (Serena) Ltd Ord 1.00

Uchumi Supermarket Ltd Ord 5.00

FINANCE AND INVESTMENT

Barclays Bank Ltd Ord 2.00

C.F.C Bank Ltd ord.5.00

Diamond Trust Bank Kenya Ltd Ord 4.00

Equity Bank Ltd Ord 5.00

Housing Finance Co Ltd Ord 5.00

I.C.D.C Investments Co Ltd Ord 5.00

Jubilee Holdings Ltd Ord 5.00

Kenya Commercial Bank Ltd Ord 10.00

National Bank of Kenya Ltd Ord 5.00

NIC Bank Ltd 0rd 5.00

Pan Africa Insurance Holdings Ltd 0rd 5.00

Standard Chartered Bank Ltd Ord 5.00

INDUSTRIAL AND ALLIED

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 10.00

Carbacid Investments Ltd Ord 5.00

Crown Berger Ltd 0rd 5.00

E.A.Cables Ltd Ord 0.50

E.A.Portland Cement Ltd Ord 5.00

East African Breweries Ltd Ord 2.00

Eveready East Africa Ltd Ord.1.00

Kenya Oil Co Ltd Ord 0.50

Kenya Power & Lighting Ltd Ord 20.00

KenGen Ltd. Ord. 2.50

Mumias Sugar Co. Ltd Ord 2.00

Olympia Capital Holdings ltd Ord 5.00

Sameer Africa Ltd Ord 5.00

Total Kenya Ltd Ord 5.00

Unga Group Ltd Ord 5.00

ALTERNATIVE INVESTMENT MARKET SEGMENT

A.Baumann & Co.Ltd Ord 5.00

City Trust Ltd Ord 5.00

Eaagads Ltd Ord 1.25

Express Ltd Ord 5.00

Williamson Tea Kenya Ltd Ord 5.00

Kapchorua Tea Co. Ltd Ord 5.00

Kenya Orchards Ltd Ord 5.00

Limuru Tea Co. Ltd Ord 20.00

APPENDIX II

COMPUTED ABNORMAL RETURNS FOR THE THREE ELECTION YEARS

	1997			
SEGMENT DAYS	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
-60	0.002	0.003	0.003	0.001
-59	0.002	0.0021	0.002	0.003
-58	0.003	0.0032	0.003	0.002
-57	0.0022	0.003	0.002	0.001
-56	0.0021	0.0024	0.0021	0.0021
-55	0.0031	0.004	0.0031	0.0023
-54	0.0002	0.003	0.002	0.003
-53	0.004	0.001	0.004	0.004
-52	0.0023	0.002	0.0023	0.0052
-51	0.0032	0.005	0.002	0.004
-50	0.0022	0.006	0.0022	0.003
-49	0.0012	0.003	0.001	0.003
-48	0.0014	0.001	0.0014	0.001
-47	0.0033	0.002	0.003	0.002
-46	0.0022	0.004	0.0022	0.004
-45	0.0021	0.002	0.001	0.002
-44	0.002	0.001	0.002	0.001
-43	0.0021	0.004	0.001	0.004
-42	0.002	0.002	0.002	0.002
-41	0.001	0.001	0.001	0.001
-40	0.0009	0.003	0.009	0.003
-39	0.0008	0.002	0.008	0.002
-38	0.002	0.001	0.007	0.001
-37	0.001	0.004	0.005	0.004
-36	0.0012	0.002	0.004	0.002
-35	0.0011	0.001	0.0021	0.001
-34	0.0022	0.003	0.0022	0.003
-33	0.0023	0.002	0.0023	0.002
-32	0.003	0.0023	0.003	0.0023
-31	0.004	0.0032	0.004	0.0032
-30	0.0035	0.0041	0.0035	0.0041
-29	0.0016	0.0023	0.0023	0.0023

SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
-28	0.0013	0.001	0.0013	0.001
-27	0.0004	0.002	0.0014	0.002
-26	0.0032	0.003	0.0032	0.003
-25	0.003	0.004	0.003	0.004
-24	0.002	0.001	0.002	0.001
-23	0.001	0.002	0.001	0.002
-22	0.0025	0.005	0.0025	0.005
-21	0.003	0.002	0.003	0.002
-20	0.002	0.001	0.002	0.001
-19	0.004	0.001	0.004	0.001
-18	0.0021	0.002	0.0021	0.002
-17	0.0032	0.0015	0.002	0.0015
-16	0.0035	0.0012	0.0035	0.0012
-15	0.0024	0.0011	0.004	0.0011
-14	0.0015	0.001	0.005	0.001
-13	0.001	0.002	0.004	0.002
-12	0.002	0.002	0.002	0.002
-11	0.0024	0.001	0.0024	0.001
-10	0.0023	0.0005	0.003	0.0005
-9	0.0032	0.0003	0.0032	0.0003
-8	0.0021	0.0009	0.001	0.0009
-7	0.001	0.001	0.0023	0.001
-6	0.001	0.001	0.001	0.001
-5	0.003	0.002	0.003	0.002
-4	0.0021	0.003	0.002	0.003
-3	0.0022	0.004	0.0022	0.004
-2	0.003	0.001	0.003	0.001
-1	0.001	0.001	0.001	0.001
0	0.002	0.0002	0.0021	0.0002
1	0.0012	0.0002	0.0012	0.0002
2	0.0011	0.0013	0.0011	0.0013
3	0.0009	0.002	0.0009	0.002
4	0.0005	0.001	0.0005	0.001
5	0.0006	0.0005	0.0012	0.0005
6	0.0009	-0.002	0.0009	-0.002
7	0.0001	-0.003	0.0012	-0.003
8	0.0002	-0.001	0.0002	-0.001

SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
9	0.0001	-0.001	0.0001	-0.001
10	-0.001	-0.001	-0.001	-0.001
11	-0.0013	0	-0.0013	0
12	-0.001	-0.003	-0.001	-0.003
13	-0.0012	-0.001	-0.0012	-0.001
14	-0.002	-0.002	-0.003	-0.002
15	-0.003	-0.002	-0.001	-0.002
16	-0.002	-0.001	-0.002	-0.001
17	-0.002	-0.001	-0.0023	-0.001
18	-0.004	-0.0012	-0.0042	-0.0012
19	-0.004	-0.0032	-0.002	-0.0032
20	-0.001	-0.0031	-0.0015	-0.0031
21	-0.001	-0.004	-0.001	-0.004
22	-0.002	-0.006	-0.0021	-0.006
23	-0.001	-0.005	-0.0015	-0.005
24	-0.001	-0.004	-0.0019	-0.004
25	-0.002	-0.005	-0.002	-0.005
26	-0.001	-0.007	-0.0019	-0.007
27	-0.003	-0.0045	-0.003	-0.0045
28	-0.001	-0.006	-0.0032	-0.006
29	-0.001	-0.0023	-0.003	-0.0023
30	-0.002	-0.004	-0.004	-0.004
31	-0.002	-0.005	-0.004	-0.005
32	-0.002	-0.01	-0.004	-0.0021
33	-0.003	-0.01	-0.0035	-0.0026
34	-0.004	-0.009	-0.004	-0.0029
35	-0.005	-0.007	-0.0052	-0.0032
36	-0.003	-0.006	-0.0032	-0.0031
37	-0.001	-0.002	-0.014	-0.0036
38	-0.001	-0.0025	-0.0015	-0.004
39	-0.001	-0.0036	-0.003	-0.005
40	-0.001	-0.0025	-0.003	-0.006
41	-0.001	-0.0024	-0.004	-0.002
42	-0.002	-0.004	-0.004	-0.004
43	-0.002	-0.005	-0.003	-0.0021
44	-0.002	-0.004	-0.002	-0.0026
45	-0.002	-0.003	-0.002	-0.003

SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
46	-0.002	-0.005	-0.002	-0.005
47	-0.002	-0.005	-0.002	-0.005
48	-0.002	-0.006	-0.002	-0.006
49	-0.002	-0.0062	-0.0022	-0.0062
50	-0.001	-0.006	-0.002	-0.005
51	-0.001	-0.006	-0.003	-0.005
52	-0.002	-0.006	-0.003	-0.004
53	-0.001	-0.004	-0.014	-0.003
54	-0.001	-0.005	-0.003	-0.004
55	-0.002	-0.007	-0.005	-0.003
56	-0.002	-0.0062	-0.006	-0.004
57	-0.002	-0.0065	-0.007	-0.004
58	-0.001	-0.007	-0.007	-0.003
59	-0.003	-0.008	-0.003	-0.002
60	-0.001	-0.008	-0.004	-0.001
	0.0417	**-0.1029**	**0.0045**	**-0.0505**

	2002			
SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
-60	0.004	0.002	0.001	0.002
-59	0.003	0.001	0.002	0.004
-58	0.001	0.003	0.005	0.002
-57	0.002	0.004	0.006	0.001
-56	0.004	0.0025	0.003	0.004
-55	0.005	0.001	0.0021	0.002
-54	0.006	0.005	0.0032	0.001
-53	0.001	0.006	0.003	0.003
-52	0.0025	0.004	0.0024	0.002
-51	0.003	0.002	0.004	0.001
-50	0.004	0.001	0.003	0.004
-49	0.003	0.003	0.0021	0.003
-48	0.001	0.002	0.0032	0.002
-47	0.002	0.001	0.002	0.001
-46	0.001	0.0021	0.001	0.0021
-45	0.001	0.0023	0.001	0.0023

SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
-44	0.002	0.003	0.002	0.003
-43	0.004	0.004	0.004	0.004
-42	0.001	0.0052	0.001	0.0052
-41	0.005	0.004	0.005	0.004
-40	0.007	0.003	0.003	0.003
-39	0.003	0.002	0.002	0.002
-38	0.001	0.001	0.004	0.001
-37	0.002	0.005	0.005	0.005
-36	0.003	0.002	0.002	0.002
-35	0.003	0.004	0.003	0.004
-34	0.003	0.001	0	0.001
-33	0.001	0.001	0.003	0.001
-32	0.002	0.001	0.001	0.001
-31	0.001	0.001	0.001	0.001
-30	0.001	0.002	0.001	0.002
-29	0.002	0.001	0.002	0.001
-28	0.002	0.003	0.002	0.003
-27	0.001	0.0015	0.001	0.0015
-26	0.0023	0.004	0.0023	0.004
-25	0.0035	0.003	0.0035	0.003
-24	0.0013	0.003	0.0013	0.003
-23	0.0009	0.003	0.0009	0.003
-22	0.0008	0.003	0.0008	0.003
-21	0.0002	0.002	0.0002	0.002
-20	0.001	0.001	0.001	0.001
-19	0.002	0.002	0.002	0.002
-18	0.001	0.005	0.001	0.005
-17	0.001	0.001	0.001	0.001
-16	0.001	0.005	0.001	0.005
-15	0.001	0.004	0.001	0.004
-14	0.002	0.002	0.002	0.002
-13	0.0024	0.001	0.0024	0.001
-12	0.0025	0.005	0.0025	0.005
-11	0.0026	0.001	0.0026	0.001
-10	0.0027	0.002	0.0027	0.002
-9	0.003	0.002	0.003	0.002
-8	0.001	0.001	0.001	0.001

SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
-7	0.002	0.022	0.002	0.022
-6	0.003	0.001	0.003	0.001
-5	0.004	0.005	0.004	0.005
-4	0.005	0.004	0.005	0.004
-3	0.006	0.001	0.006	0.001
-2	0.002	0.001	0.002	0.001
-1	0.003	0.002	0.003	0.002
0	0.004	0.001	0.004	0.001
1	0.0012	0.002	0.0012	0.002
2	0.0011	0.003	0.0011	0.003
3	0.0002	0.002	0.0002	0.002
4	0.0003	0.001	0.0003	0.001
5	0.0006	0.001	0.0006	0.001
6	0.0005	0.002	0.0005	0.002
7	0.0002	0.001	0.0002	0.001
8	0.001	0.0005	0.001	0.0005
9	0.001	0.0006	0.001	0.0006
10	0.001	0.0002	0.001	0.0002
11	0.001	0	0.001	0
12	0.002	-0.001	0.002	-0.001
13	-0.002	-0.001	-0.002	-0.001
14	-0.001	-0.0015	-0.001	-0.0015
15	-0.0012	-0.0012	-0.0012	-0.0012
16	-0.0013	-0.0013	-0.0013	-0.0013
17	0.001	-0.0014	0.001	-0.0014
18	-0.002	-0.002	-0.002	-0.002
19	-0.003	-0.002	-0.003	-0.002
20	-0.001	-0.002	-0.001	-0.002
21	-0.001	-0.003	-0.001	-0.003
22	-0.0025	-0.004	-0.0025	-0.004
23	-0.004	-0.002	-0.004	-0.002
24	-0.003	-0.004	-0.003	-0.004
25	-0.001	-0.005	-0.001	-0.005
26	-0.002	-0.005	-0.002	-0.005
27	-0.002	-0.006	-0.002	-0.006
28	-0.002	-0.005	-0.002	-0.005
29	-0.001	-0.003	-0.001	-0.003

SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
30	-0.001	-0.002	-0.001	-0.002
31	-0.002	-0.004	-0.002	-0.004
32	-0.0032	-0.002	-0.0032	-0.002
33	-0.0021	-0.002	-0.0021	-0.002
34	-0.002	-0.003	-0.002	-0.003
35	-0.0033	-0.004	-0.0033	-0.004
36	-0.004	-0.004	-0.004	-0.004
37	-0.005	-0.003	-0.005	-0.003
38	-0.005	-0.002	-0.005	-0.002
39	-0.004	-0.002	-0.004	-0.002
40	-0.003	-0.002	-0.003	-0.002
41	-0.004	-0.002	-0.004	-0.002
42	-0.003	-0.002	-0.003	-0.002
43	-0.004	-0.001	-0.004	-0.001
44	-0.004	-0.004	-0.004	-0.004
45	-0.003	0.003	-0.003	0.003
46	-0.002	-0.005	-0.002	-0.005
47	-0.001	-0.006	-0.001	-0.006
48	-0.0013	-0.0055	-0.0013	-0.0055
49	-0.0024	-0.006	-0.0024	-0.006
50	-0.0021	-0.0058	-0.0021	-0.0058
51	-0.0026	-0.007	0.003	-0.007
52	-0.0029	-0.008	-0.005	-0.0025
53	-0.0032	-0.006	-0.006	-0.0024
54	-0.0031	-0.004	-0.0055	-0.004
55	-0.0036	-0.005	-0.006	-0.005
56	-0.004	-0.0061	-0.0058	-0.004
57	-0.005	-0.007	-0.007	-0.003
58	-0.006	-0.008	-0.008	-0.005
59	-0.002	-0.006	-0.006	-0.005
60	-0.004	-0.009	-0.004	-0.006
	0.032	**0.0061**	**0.0166**	**0.0228**

2007				
SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
-60	0.006	0.002	0.002	0.002
-59	0.002	0.001	0.001	0.005
-58	0.003	0.0009	0.003	0.003
-57	0.004	0.0022	0.004	0.002
-56	0.002	0.0021	0.0025	0.004
-55	0.001	0.0031	0.001	0.005
-54	0.005	0.0002	0.005	0.001
-53	0.001	0.004	0.006	0.003
-52	0.002	0.0023	0.004	0.002
-51	0.002	0.0032	0.002	0.001
-50	0.003	0.002	0.003	0.006
-49	0.001	0.001	0.001	0.004
-48	0.002	0.0012	0.002	0.0032
-47	0.005	0.0011	0.005	0.003
-46	0.003	0.0022	0.003	0.0024
-45	0.001	0.0023	0.001	0.004
-44	0.003	0.003	0.003	0.003
-43	0.002	0.004	0.002	0.001
-42	0.004	0.0035	0.004	0.002
-41	0.005	0.002	0.005	0.005
-40	0.002	0.003	0.002	0.003
-39	0.003	0.002	0.003	0.002
-38	0	0.004	0	0.004
-37	0	0.005	0	0.005
-36	0.005	0.002	0.005	0.002
-35	0.002	0.003	0.002	0.003
-34	0.003	0	0.003	0
-33	0.001	0.003	0.001	0.003
-32	0.005	0.001	0.005	0.001
-31	0.002	0.002	0.002	0.002
-30	0.006	0.003	0.006	0.003
-29	0.001	0.004	0.001	0.002
-28	0.002	0.001	0.002	0.004
-27	0.004	0.002	0.004	0.005
-26	0.002	0.005	0.002	0.002
-25	0.001	0.002	0.001	0.003

SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
-24	0.005	0.001	0.005	0
-23	0.003	0.003	0.003	0
-22	0.001	0.002	0.001	0.005
-21	0.002	0.001	0.002	0.002
-20	0.004	0.004	0.004	0.003
-19	0.001	0.001	0.001	0.001
-18	0.002	0.003	0.002	0.003
-17	0.001	0.001	0.001	0.001
-16	0.003	0.0016	0.003	0.0016
-15	0.002	0.0013	0.002	0.0013
-14	0.001	0.0004	0.001	0.0004
-13	0.004	0.0032	0.004	0.0032
-12	0.001	0.003	0.001	0.003
-11	0.003	0.002	0.003	0.002
-10	0.002	0.001	0.002	0.001
-9	0.005	0.0025	0.005	0.0025
-8	0.001	0.003	0.001	0.003
-7	0.002	0.002	0.002	0.002
-6	0.004	0.004	0.004	0.004
-5	0.002	0.0016	0.002	0.0016
-4	0.001	0.003	0.001	0.003
-3	0.001	0.001	0.001	0.001
-2	0.002	0.002	0.002	0.002
-1	0.003	0.0012	0.003	0.0012
0	0.002	0.0011	0.002	0.0011
1	0.002	0.0009	0.002	0.0009
2	0.005	0.0005	0.005	0.0005
3	0.003	0.003	0.003	0.003
4	0.002	0.001	0.002	0.001
5	0.001	0.003	0.001	0.003
6	0.003	0.002	0.003	0.002
7	0.001	0.001	0.001	0.001
8	0.004	0.003	0.004	0.003
9	0.002	0.001	0.002	0.001
10	0.002	0.003	0.002	0.003
11	0.002	0.002	0.002	0.002
12	0.001	0.001	0.001	0.001

SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
13	0.001	0.001	0.001	0.001
14	0.001	0.001	0.001	0.001
15	0.001	0.001	0.001	0.001
16	0	0.002	0	0.002
17	0.001	0.003	0.001	0.003
18	0.002	0.002	0.002	0.002
19	0.001	0.002	0.001	0.002
20	0.001	0.005	0.001	0.005
21	0.002	0.003	0.002	0.003
22	0.001	0.002	0.001	0.002
23	0.001	0.001	0.001	0.001
24	0.001	0.003	0.001	0.003
25	0.0009	0.001	0.0009	0.001
26	0.0002	0.004	0.0002	0.004
27	0.0005	0.002	0.0005	0.002
28	0.001	0.002	0.001	0.002
29	0.001	0.003	0.001	0.003
30	0.001	0.004	0.001	0.004
31	0.002	0.005	0.002	0.005
32	0.003	0.006	0.003	0.006
33	0.001	0.002	0.001	0.002
34	0.002	0.003	0.002	0.003
35	0.002	0.004	0.002	0.004
36	0.001	0.005	0.001	0.005
37	0.004	0.002	0.004	0.002
38	0.002	0.003	0.002	0.003
39	0.001	0.002	0.001	0.002
40	0.002	0.002	0.002	0.002
41	0.001	0.005	0.001	0.005
42	0.001	0.003	0.001	0.003
43	0.001	0.002	0.001	0.002
44	0.001	0.001	0.001	0.001
45	0.0012	0.003	0.0012	0.003
46	0.0011	0.002	0.0011	0.002
47	0.0005	0.003	0.0005	0.003
48	0.0002	0.002	0.0002	0.002
49	0	0.002	0	0.002

SEGMENT	AGRICUTURAL	COMMERCIAL & SERVICES	FINANCE & INVESTMENT	INDUSTRIAL AND ALLIED
50	0.001	0.003	0.001	0.004
51	0.001	0.002	0.004	0.002
52	0.002	0.002	0.005	0.002
53	0.001	0.005	0.002	0.003
54	0.001	0.003	0.003	0.004
55	0.002	0.002	0	0.005
56	0.001	0.001	0.003	0.006
57	0.003	0.003	0.001	0.002
58	0.004	0.003	0.002	0.003
59	0.002	0.004	0.003	0.004
60	0.001	0.002	0.002	0.005
	0.2456	0.2856	0.2551	0.3149