



TOPIC: Comparative Time Series Analysis of Stock Prices before and After Elections in Kenya

By

Nelson Wasike N15/3/0923/019

Brian Wangai N15/3/1000/020

Millicent Mukami N15/3/1016/020

Submitted in partial fulfillment of the requirements for the Degree of Bachelor of Science (Statistics)

At Laikipia University

School of science and applied technology

Department of Mathematics

Laikipia University

July, 2024

DECLARATION

This research project is our original work and has not been submitted for a degree award at Laikipia University or any other university.

Signature Date.....

Nelson Wasike

Signature Date.....

Brian Wangai

Signature Date.....

Millicent Mukami

This Research project has been submitted with my approval as University unit Lecturer.

Signature Date.....

Dr. Poti Owili Abaja

ACKNOWLEDGEMENTS

We wish to thank The Almighty God for giving us a gift of life to write this work. We wish to express our gratitude to our supervisor Dr. Poti Owili for his professional guidance in research methodology and motivation that enabled us to compile this project. We also extend gratitude to our classmates whose presence offered us the psychological motivation and need to learn. Finally, we thank our families for supporting us throughout our studies. I can't express my gratitude in words for our families, whose unconditional love has been my greatest strength.

DEDICATION

We dedicate this project to the school of science and applied technology at Laikipia University for being a strong pillar stone throughout our Bachelor of Science (Statistics) course. We have been deeply humbled by the knowledge acquired and support accorded to us during my studies at the university

ABSTRACT

The main aim for this research study was to find out how elections can exert significant influence the activities in a stock market as voters in democratic states elect parties which best represent their personal beliefs and interests. Election results may affect post-election corporate performance either by influencing a country's overall economy, like through changes in government spending either through fiscal changes, or company or sector-specific decisions such as changes in the regulatory environment after the new administration has been established. This study sought to examine the effects of the general elections on the stock market return of companies listed in the Nairobi Securities Exchange. The study adopted an event study methodology since the study was concerned with the establishment of the information content of election results on share performance at the NSE. The population of this study was 62 companies listed in the NSE. The study used secondary data to gather information. Data obtained from the NSE covered the period before and after 4th March, 2013, 8th August 2017 and 26th October 2017 ,after the 8th August 2017 election results were nullified and 8th August 2022 elections. The collected secondary data was coded in micro soft excel and entered into Statistical Package for Social Sciences (SPSS, Version 27) for analysis. Study findings from the market model indicated that the market return is a good predictor of stock returns. T-test results indicated that abnormal returns before elections were significantly lower than abnormal returns after the elections. Again T-test results revealed that the expected returns as well as the market returns were significantly higher before elections than after the elections. It is recommended that investors should factor in elections effect when making investment decisions. Specifically, investors should buy stocks after elections and sell them when their returns are high, that is, before elections. It is recommended that the Government should maintain stability after elections as instability brings about drops in stock returns.

TABLE OF CONTENT

TOPIC: Comparative Time Series Analysis of Stock Prices before and After Elections in Kenya	i
DECLARATION.....	iii
ACKNOWLEDGEMENTS	iv
DEDICATION	v
ABSTRACT.....	vi
LIST OF FIGURES	ix
LIST OF TABLES	x
CHAPTER ONE: INTRODUCTION	1
1.0 BACKGROUND OF THE STUDY	1
1.3 ELECTIONS AND THE STOCK MARKET.....	4
1.4 STATEMENT OF THE PROBLEM	4
1.5 OBJECTIVE OF THE STUDY	5
1.6 SIGNIFICANCE OF THE STUDY	5
1.7 SCOPE OF THE STUDY	5
1.8 OPERATIONAL DEFINITION OF TERM.....	6
CHAPTER TWO: LITERATURE REVIEW	7
2.0 INTRODUCTION	7
2.1.2 RANDOM WALK THEORY	7
2.1.3 PROSPECTS THEORY	8
2.1.4 POLITICAL POLICY THEORY	8
CHAPTER THREE: METHODOLOGY.....	9
3.1 RESEARCH DESIGN	9
3.2 POPULATION AND SAMPLING	9
3.3 MODEL SPECIFICATION	10

3.4	NATURE OF STUDY	13
3.5	DATA COLLECTION.....	13
3.6	PRELIMINARY SUPPOSITIONS AND IMPLICATIONS	13
	CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION	14
4.0	INTRODUCTION.....	14
4.1	ANNUAL TRENDS OF RETURNS	14
	Figure 4. 1: Trend Analysis of Abnormal Return.....	15
	Figure 4. 2: Trend Analysis in Actual returns	15
	Figure 4. 3: Trend Analysis in Market Returns.....	16
4.2	REGRESSION ANALYSIS.....	16
4.3	ANALYSIS OF VARIANCE BETWEEN GROUPS AND T-TEST ANALYSIS OF ABNORMAL RETURNS.....	18
4.4	SUMMARY OF FINDINGS.....	20
	CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS	23
5.0	INTRODUCTION.....	23
5.1	SUMMARY	23
5.2	CONCLUSIONS.....	24
5.3	RECOMMENDATION	24
5.4	LIMITATIONS OF THE STUDY	25
5.5	SUGGESTIONS FOR FURTHER STUDIES	25
	REFERENCE.....	27
	APPENDIX I: DATA COLLECTION CHECK LIST	31
	APPENDIX II: THE NSE 20 INDEX, CODED MARKET RETURNS, ACTUAL RETURNS AND ABRNORMAL RETURNS	31
	APPENDIX III; List of companies as per June 15, 2023	33

LIST OF FIGURES

Figure 4. 1: Trend Analysis of Abnormal Return.....	15
Figure 4. 2: Trend Analysis in Actual returns.....	15
Figure 4. 3: Trend Analysis in Market Returns.....	16

LIST OF TABLES

Table 4. 1: Fitness of the model	16
Table 4. 2: Analysis of Variance (ANOVA)	17
Table4. 3 : Linear Regression of Coefficients.....	17
Table 4. 4: Results of Correlation Analysis	18
Table 4. 5: Descriptive Statistics for returns	19
Table 4. 6: Analysis of Variance (ANOVA) between groups.....	20

CHAPTER ONE: INTRODUCTION

1.0 BACKGROUND OF THE STUDY

The correlation between politics and investor behavior has been extensively researched across many countries and contexts. Previous studies suggest that political uncertainty surrounding elections leads to economic uncertainty, which in turn heightens investors' risk aversion. Political events can have varying effects on stock market returns in different countries, with a country's politics having a significant impact on its income distribution and prosperity. Election results may also impact corporate performance, as changes in government spending and tax policies can benefit or harm specific companies or sectors. The performance of a country's stock market is of great interest to a range of stakeholders such as investors, capital markets, stock exchanges, and governments. Market participants factor in expectations of political change into stock prices prior to an election and adjust their opinions based on the actual decision-making that follows. Understanding how stock markets respond to different events, and how abnormal returns arise, is a topic of great interest to both investors and researchers.

1.1 ELECTIONS IN KENYA

Since gaining independence from Britain in 1963, elections have played a crucial role in Kenya's political landscape. The first pre-independence elections were held that same year, with the Kenya African National Union (KANU) and the Kenya African Democratic Union (KADU) vying for power. KANU, led by Jomo Kenyatta, supported a centralized government, while KADU, led by Ronald Ngala, favored a federal system of regional autonomy. KANU won a majority in the House of Representatives and the most seats in the Senate, securing Kenyatta's position as the first Prime Minister, and later, President upon independence.

However, in 1966, a division arose within KANU between Kenyatta and his Vice-President, Jaramogi Oginga Odinga, who accused Kenyatta of betraying nationalist ideals and favoring the Kikuyu ethnic group. Odinga formed the Kenya People's Union (KPU) to challenge Kenyatta's rule and advocate for socialism and democracy. Unfortunately, KPU was banned in 1969 after clashes with security forces and Kenya became a de facto one-party state under KANU. Kenyatta

was re-elected unopposed until his death in 1978. His Vice-President, Daniel arap Moi, took over and further solidified his power by suppressing dissent and amending the constitution to make Kenya a de jure one-party state in 1982.

During the late 1980s and early 1990s, Moi faced mounting pressure for political reforms as opposition groups and civil society organizations called for the restoration of multiparty democracy. In 1991, Moi acquiesced to the repeal of the constitutional clause that had previously made KANU the sole legal party, thereby opening the door for the first multiparty elections since independence in 1992. However, Moi was able to secure re-election by taking advantage of the divisions among his opponents, who formed several parties based on ethnic lines. Moreover, Moi resorted to using state resources and violence to intimidate and manipulate voters. This same pattern repeated itself in 1997, when Moi secured another term amidst allegations of fraud and violence.

In 2002, Moi was prohibited by the constitution from seeking another term, and he chose Uhuru Kenyatta, the son of Jomo Kenyatta, as his successor. However, Uhuru faced a tough challenge from Mwai Kibaki, a former Vice-President who had left KANU and formed the National Rainbow Coalition (NARC), a coalition of many opposition parties. Kibaki triumphed over Uhuru in a resounding victory, ending KANU's four-decade reign and ushering in a new era of democratic governance. Kibaki introduced a new constitution in 2010 that devolved power to county governments and established new institutions to keep a check on executive authority.

Despite having some successes during his tenure, Kibaki's time in office was also marked by controversy and violence. One particularly tumultuous event occurred during the 2007 re-election campaign when he faced off against Raila Odinga, leader of the Orange Democratic Movement (ODM) coalition, which opposed Kibaki's constitutional reforms. The disputed election results led to ethnic clashes that resulted in the deaths of over 1,000 people and displaced hundreds of thousands more. In 2008, a power-sharing agreement brokered by former UN Secretary-General Kofi Annan made Kibaki the President and Odinga the Prime Minister until the next elections.

Fast forward to 2013, when Uhuru Kenyatta, leader of the Jubilee Alliance coalition, ran for president against Raila Odinga, who was running under the banner of the Coalition for Reforms and Democracy (CORD). Despite winning the election, Uhuru faced a legal challenge from

Odinga, who alleged irregularities and fraud. The Supreme Court ultimately upheld Uhuru's victory, but Odinga refused to concede defeat.

During the 2017 election, Uhuru and Odinga ran against each other for the third time. Despite Uhuru being declared the winner, Odinga contested the results and took the matter to the Supreme Court. The court ultimately nullified Uhuru's victory and called for a fresh election. However, Odinga chose not to participate in the repeat election, citing concerns over the electoral process. Uhuru ultimately won the election, but Odinga's refusal to accept the results led to a political crisis. In January 2018, Odinga held a symbolic "people's president" inauguration that only further escalated tensions. However, by March 2018, Uhuru and Odinga had reconciled and pledged to work together to promote national unity. In 2022 William Ruto ran for election against Raila Odinga and Ruto ended up winning the election.

1.2 STOCK MARKET RETURNS

The stock market is a dynamic and complex system that reflects a country's economic activity and sentiment. It is influenced by various factors such as political events, corporate earnings, consumer confidence, interest rates, inflation, and global trends. Stock market returns measure how much investors gain or lose from investing in the market over a period of time, and they can be calculated as the percentage change in the value of a stock index, such as the NSE. Stock returns are a significant subject in the stock market as they affect the economy of a country. According to Zuravicky (2005), economists are as perplexed by the stock market as anyone else and have attempted to come up with explanations as to why stock prices keep changing. The prices in the stock market are impacted by factors that can be volatile and complex, and these reasons can impact the stocks directly or indirectly.

Rioba (2003) argues that the predictability of ordinary stock returns at the Nairobi Securities Exchange (NSE) cannot be attributed to efficient market hypothesis or taxes. The ability to predict stock market returns one-period ahead should not be construed to mean market inefficiency. The information trader's use in generating forecasts depends on the trading style. Quantitative traders estimate expected returns and odds of success on the basis of historical relationships. Short-term trader's measure flow and sentiment to determine price behavior, and longer-term traders, who are

often theme-based, try to set bounds on risk in an uncertain world through economic logic and scenario analysis. .Werah (2006) surveyed the influence of behavioral biases on investor activities at the NSE. The study population composed of both individual and institutional investors at the NSE. The results suggest that the behavior of investors at the NSE is influenced by herd behavior, mental accounting, loss aversion, anchoring, and overreaction and under reaction, overconfidence, confirmation bias, and regret aversion.

According to Lee (1998), a stock return is a monetary gain or loss on an investment that is highly sensitive to both fundamentals and expectations in a market. It is the gain or loss of a security in a particular period consisting of the income and the capital gains relative on an investment usually quoted as a percentage (Gartner, 1995). Stock returns are affected by several factors including elections, growth potential, market liquidity, information, and financial system structure. The performance of the stock market is influenced by various factors, the main ones being the activities of government policies, political processes, and the general performance of the economy. Other factors that affect the stock market's performance include the availability of other investment assets, changes in the composition of investors, economic activities, and market sentiments, among other factors (Mishkin and White Eugene, 2002).

1.3 ELECTIONS AND THE STOCK MARKET

Researchers have examined the correlation between Kenya's general elections and the stock market. In a study conducted by Zainabu (2014), the impact of general elections on Kenya's stock market returns was analyzed for the period spanning 1997 to 2013. The findings showed that during election years, the stock market returns were notably lower compared to non-election years. Furthermore, Ochieng's D et al (2015) study also explored the relationship between the general elections and market performance at the Nairobi Securities Exchange, demonstrating that the stock market returns were lower during election years than during non-election years.

1.4 STATEMENT OF THE PROBLEM

The research problem is to investigate the relationship between elections and stock market prices in Kenya. Specifically, the study aims to determine whether there is a significant difference at the Nairobi stock Exchange before, during, and after elections in Kenya. The study will also explore the factors that influence the relationship between elections and stock market prices in Kenya, including political stability, investor confidence, and government policies. Understanding the

relationship between elections and stock market prices in Kenya can provide valuable insights for investors, policymakers, and other stakeholders in the Kenyan economy.

1.5 OBJECTIVE OF THE STUDY

1. Investigate the statistical correlation between election cycles and fluctuations in stock market prices on the Nairobi Stock Exchange.
2. Analyze the impact of political stability on investor sentiment and its subsequent effect on stock market performance before, during, and after elections.
3. Evaluate the influence of government policies, particularly those related to economic regulations and investment incentives, on stock market behavior during election periods in Kenya.
4. Examine historical data to identify patterns and trends regarding the relationship between elections and stock market prices, aiming to provide predictive insights for investors and policymakers.

1.6 SIGNIFICANCE OF THE STUDY

This study holds significant importance for multiple stakeholders.

1. It provides valuable insights for investors, allowing them to make more informed decisions regarding their stock portfolios and financial strategies during election periods.
2. Policymakers can benefit from this research by gaining a deeper understanding of the relationship between elections and stock prices, potentially leading to the implementation of more effective economic policies.
3. This study contributes to the academic field by expanding the existing body of knowledge on the impact of elections on stock markets, particularly in the context of Kenya.

1.7 SCOPE OF THE STUDY

This study will focus on examining the relationship between elections and stock market prices in Kenya, with specific attention to the Nairobi Stock Exchange. The scope encompasses the following:

1. Analysis of data covering multiple election cycles in Kenya, including period before, during, and after the 2013, 2017 and 2022 elections.
2. Examination of the Nairobi Stock Exchange to understand the fluctuations in stock market prices

in relation to election events.

3. Investigation into the impact of political stability on investor sentiment and its subsequent effect on stock market performance.

4. Evaluation of government policies, particularly economic regulations and investment incentives, and their influence on stock market behavior during election periods.

5. Utilization of historical data to identify patterns and trends regarding the relationship between elections and stock market prices, aiming to provide predictive insights for investors and policymakers.

6. The study will consider various factors such as market volatility, investor behavior, and external influences on stock market dynamics during election cycles.

1.8 OPERATIONAL DEFINITION OF TERM

KADU: Kenya African Democratic Union

KANU: Kenya African National Union

ODM: Orange Democratic Movement

KPU: Kenya People Union

NSE: Nairobi Stock Exchange

NARC: National Rainbow Coalition

AR: Abnormal Returns

EMH: Efficient Market Hypothesis

CHAPTER TWO: LITERATURE REVIEW

2.0 INTRODUCTION

In this section, we will examine the connection between information and stock market performance by referring to the existing theories and studies conducted by other scholars. This chapter will include a review of theories, a methodology review, a review of empirical studies, and a summary of the chapter.

2.1 THEORETICAL REVIEW

Numerous studies have proposed hypotheses to examine the correlation between stock market prices and their fluctuations. In this section, we will examine four theories - efficient market hypothesis, random walk theory, prospect theory, and political policy theory. These theories are necessary to the study as they pertain to both aspects of this research.

2.1.1 EFFICIENT MARKET HYPOTHESIS

In their 1969 study, Fama et al. analyzed how stock prices adjust to new information. They found that in a market with knowledgeable and astute investors, securities are appropriately priced and reflect all relevant information. The authors concluded that the lack of correlation between successive price changes supports the idea of an efficient market. An efficient market is one where all the relevant information is already incorporated into security prices, making it difficult to consistently achieve above-average returns using publicly available information. Additionally, the authors observed that stock splits tend to occur after a period of unusually high rates of return (including dividends and capital appreciation) on the securities being split. Fama (1970) proposed the Efficient Market Hypothesis (EMH) which comes in three forms: weak, semi-strong, and strong. The weak form suggests that past prices cannot be used to predict future prices. The semi-strong form suggests that all publicly available information is already factored into the stock prices. The strong form suggests that all information, even insider information, is already reflected in the stock prices.

2.1.2 RANDOM WALK THEORY

According to financial theory, stock prices are considered random and past trends cannot accurately predict future trends. This implies that attempting to beat the market without accepting

additional risk is not feasible. Burton Malkiel further asserts that consistently outperforming the market is impossible. Many financial experts believe that the most effective investment strategy is to invest in a diversified portfolio and hold onto it for an extended period. This theory gained popularity back in 1973, when Malkiel presented the argument that attempting to outperform the market is a futile effort. In his book, "A Random Walk down Wall Street," he famously stated that even a blindfolded chimpanzee randomly selecting stocks could create a portfolio that performs just as well as the most knowledgeable investment professionals. Based on research conducted by French & Roll (1986), it was found that the stock market usually experiences lower performance during weekends and holidays compared to regular trading days. This suggests that active trading can be highly unpredictable, possibly due to the presence of noise traders as proposed by Black (1988).

2.1.3 PROSPECTS THEORY

The prospect theory is theory of behavioral economics, judgement and decision making. Studies reveal that people tend to emphasize more weight on outcomes they perceive to be sure about compared to those that they consider to be only likely, and less weight on outcomes perceived to be impossible than those that are improbable, a characteristic known as the 'certainty effect' (Daniel Kahneman and Amos Tversky, 1979). The theory assumes that people are risk averse when it comes to gains and risk takers in the face of losses. The framing effect is another theory that affects people's choice and it stipulates that people's decision depend on their perception and processing of the problem which is known as "mental accounting" of that problem (Thaler, 1985).

2.1.4 POLITICAL POLICY THEORY

A political party with superior economic policies should experience an improvement in the performance of the economy. However, politicians often prioritize policies that increase their chances of being re-elected, regardless of their political affiliation (Nordhous, 1975). Alesina (1987) suggests that different political parties may have varying economic policy preferences. This could be due to the fact that each party has its own unique objectives that they aim to achieve through their economic policies.

CHAPTER THREE: METHODOLOGY

3.0 INTRODUCTION

This chapter presented various stages and phases that were followed in completing the study. The following subsections were included; research design, population and sampling, model specification, nature of study, data collection and preliminary suppositions and implications.

3.1 RESEARCH DESIGN

This study seeks to carry out a quantitative analysis of the effect of presidential elections on stock prices using a case study of Kenya. Event study methodology was used following the steps as outlined by MacKinlay (1996). Event study methodology is widely regarded in financial literature as an appropriate technique in determining the impact of a given event on stock prices. As such, it is a suitable methodology for this research study in determining the impact of presidential elections on the stock market.

The event of interest here is the presidential elections in the country. The event windows were selected and set to 1 year before and 1 year after the election month. The estimation period started from 2 months before the event window. The post-event period was selected to be 2 months after the event window. The pre-event period can be used to consider any leakages of information and the post-event period can be used to determine if there were any delays in the reaction of the prices to the election years. It is essential to establish an appropriate event period. Empirical research shows that assessing monthly returns “has more statistical power” (Warner & Brown, 1985). In addition, Warner & Brown (1985) stated that a short event period is more preferable to a long period as it reduces the effects of “confounding factors”. This simply means that in longer periods, there are more factors (other than the event of study) that could influence results.

3.2 POPULATION AND SAMPLING

The population under study includes all the shares listed under the Nairobi Securities Exchange. There are 62 shares listed under the Nairobi Securities Exchange as at June, 2023. The NSE 20 was chosen to reflect the general market performance. This was in preference to the NSE All Share Index (NASI) since all shares on the NSE 20 are active, which is not the case for NASI.

3.3 MODEL SPECIFICATION

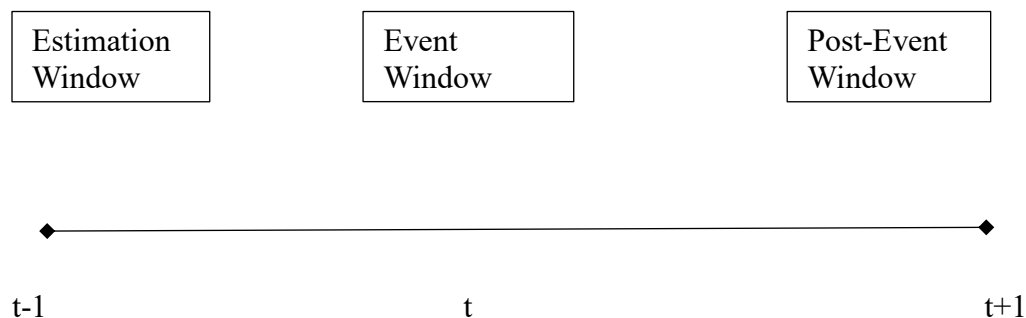
The study used the following Market Model (MM) steps as outlined by MacKinlay (1996);

Step 1: Identification of the event of interest.

The event of interest is the effect of general elections on the return of stocks quoted at the NSE. The election dates under this study fall on the 4th March 2013, 8th August 2017 and 26th October 2017, after the 8th August 2017 election results were nullified and 8th August 2022. Special attention was also given to the April, 2013 which falls immediately after March 2013, December 2017 and September 2022 respectively which occurs after the election months.

Step 2: Definition of the event window.

The event windows were selected and set to 1 year before and 1 year after the election year. The event window was selected in such a way as to incorporate the effect of the challenge of the presidential results. The estimation window started from 1 year before the event window. The post-event window was selected to be 1 year after the event window.



Step 3: Selection of the sample set of firms included in the analysis

The population under study includes all the shares listed under the Nairobi Securities Exchange. There are 62 shares listed under the Nairobi Securities Exchange as at 2023. The NSE 20 was chosen as a sample to reflect the general market performance.

Step 4: Prediction of a “normal” return during the event window in the absence of the event. There is minimal difference between the simple and the continuously compounded returns (Brown & Warner, 1985). Market returns were calculated from the historical prices within the range of 1 month prior to the election year.

The logs of the returns were used since they are more statistically significant than just using absolute returns.

$$\text{Actual share return in month } t, Rit = \ln \frac{P_{it}}{P_{it-1}}$$

Where;

P_{it} = Price of security i at time t

P_{it-1} = Price of security i at time $t - 1$

The changes in the NSE index for the same period were also computed. This was denoted as the market return.

$$\text{NSE 20 share index return in month } t, Rmt = \ln \frac{NSE_t}{NSE_{t-1}}$$

The following regression was then carried out in order to find the expected returns;

$$Rit = \alpha + \beta Rmt + \varepsilon_t$$

Where;

Rit = Actual returns

α = constant

β = market risk coefficient for market return and actual returns

Rmt = Market return

ε_t = Error term

The normal/expected return was generated from the following regression;

$$\hat{Y} = \alpha + \beta R_{mt}$$

Where;

$$\hat{Y} = \text{Expected Return}$$

Step 5: Estimation of the “abnormal” return within the event window.

The abnormal returns within the event window were then calculated as the difference between the actual returns and the predicted returns without the event occurring.

$$\text{Abnormal Returns, } AR_{it} = R_{it} - \hat{Y}$$

Step 6: Testing whether the abnormal return is statistically different from zero.

The Abnormal Returns (AR_{it}) was calculated using the following formula for the different periods.

$$\text{Abnormal Returns, } AR_{it} = R_{it} - \hat{Y}$$

To determine whether indeed election result announcements do have an effect on the market, the following hypothesis was tested;

H_0 : Election years do not have an effect on the market, i.e. Abnormal returns are equal to zero.

H_1 : Election years do have an effect on the market, i.e. Abnormal returns are not equal to zero.

Test statistics were used to measure the statistical significance of the ARs reported on the event month and the interval around the event month of a significant level of 95%. To test for the strength of the model, an Analysis of Variance (ANOVA) was conducted. On extracting the ANOVA table, the researcher looked at the significance value. The study tested at 95% confidence level (5% significant levels). If the significance number found is less than the critical value (α) set at 0.05, then the conclusion would be that the model is significant in explaining the relationship. Otherwise

the model would be regarded as insignificant, that is that presidential elections do not influence stock returns.

3.4 NATURE OF STUDY

The nature of this research study is correlational with two key variables of interest which are stock prices and the general elections.

3.5 DATA COLLECTION

The type of data required for this study is the daily share prices during the various election periods which constitute secondary data. The monthly share prices were obtained from www.tradingeconomics.com for the periods under study.

3.6 PRELIMINARY SUPPOSITIONS AND IMPLICATIONS

An event study is usually very closely linked to the semi-strong form of efficiency in the Efficient Market Hypothesis (EMH) as suggested by Musavian (2000). Efficient Market Hypothesis contends that in an efficient market, prices reflect all available and relevant information (Eatwell, Milgate, & Newman, 1991). The model used assumes that the market is efficient and that all relevant information is equally distributed to all players in the market at the same time. This however is not the case in the real world.

As elaborated above, in an event study, the researcher assesses how prices react to a given event; in the context of a market. It can therefore be inferred that in carrying out an event study a researcher simultaneously tests for market efficiency in line with Efficient Market Hypothesis. The announcement of election results is considered public information thus, in carrying out this study, this paper will simultaneously test for the semi-strong form market efficiency.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 INTRODUCTION

This chapter consists of data analysis, findings and interpretation on the data gathered to address the objective of the study. Descriptive statistics and model results were also presented in the chapter.

4.1 ANNUAL TRENDS OF RETURNS

This section presents the trend analysis of the dependent and independent variables of the study. Abnormal returns present the difference between the actual returns and the expected returns over a certain period of time. The formula for calculating abnormal returns was arrived at by using the alpha and the beta in the formula below;

$$R_{it} = \alpha + \beta R_{mt} + \varepsilon_t$$

Where;

R_{it} = Actual returns

α = constant

β = market risk coefficient for market return and actual returns

R_{mt} = Market return

ε_t = Error term

Subtraction of the actual returns from the expected returns gave rise to the abnormal stock returns. The trend analysis of the abnormal return represented in figure 4.1 shows that there was a drastic decline from year 2012 to year 2017 followed by an increase in abnormal returns in year 2022. This changes that caused the drift in abnormal returns as represented by the graph can be explained by the election period. In 2017 the nullification of election results caused the drop in abnormal returns compared to the other election years. This further is because abnormal returns are sometimes triggered by events. In finance events can typically be classified as occurrences or information that has not already been priced by the market. The decline in 2017 may be as a result of a decline in the firms' market value which exceeded the expected amount, this therefore is a loss.

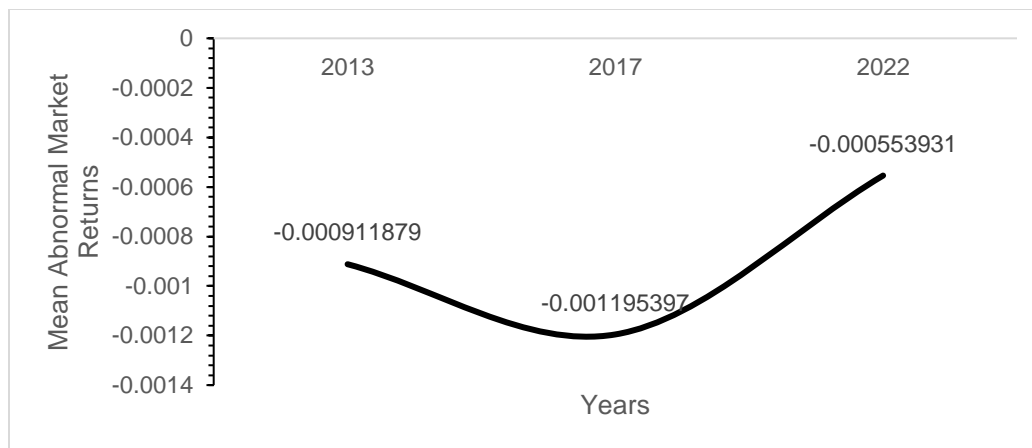


Figure 4. 1: Trend Analysis of Abnormal Return

Figure 4.2 presents the trend analysis of actual returns between years 2013, 2017 and 2022 which were the election years for Kenya. The graph shows increase in actual or real returns of stock in year 2017 and a decrease in election year 2022. However the mean actual returns rose sharply after the nullification of the presidential election.

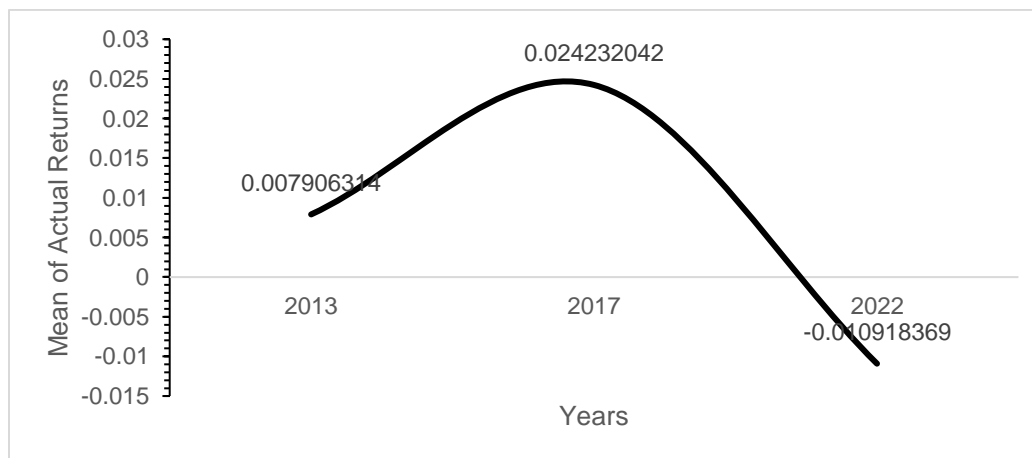


Figure 4. 2: Trend Analysis in Actual returns

Trend analysis in market return presented in figure 4.3 indicates an increase in market return in year 2017 and a decrease in 2022. The mean market return of year 2017 is more than that of the performance of market of the preceding year 2016. This indicates that the market was more volatile in the election year 2017 compared to the previous years.

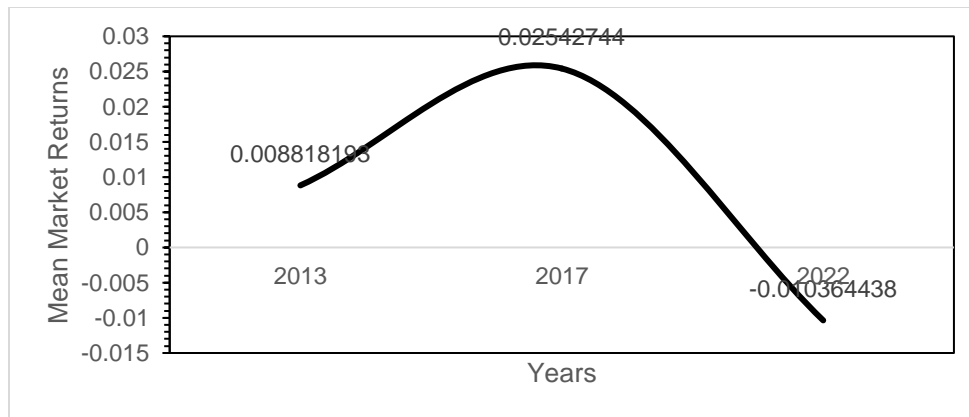


Figure 4. 3: Trend Analysis in Market Returns

4.2 REGRESSION ANALYSIS

This section illustrates the fitness of the model used in the study as well as the calculation that derived the alpha and beta coefficients for generation of the abnormal returns. The regression model (market model) used was as follows;

$$R_{it} = \alpha_i + \beta R_{mt}$$

Where;

R_{it} = Actual Return of Stock i at time t

R_{mt} = Market Return

α and β = Firm specific constants or parameters

Table 4.1 shows fitness of the regression model in determining the abnormal returns. The variables that were used to determine abnormal returns were actual returns and market returns. From the results presented below, an R square of 0.993 represents that the independent variables; actual and market return derived 99.3% of the abnormal return which is satisfactory.

Table 4. 1: Fitness of the model

Indicator	Coefficient
R	0.997
R Square	0.993
Standard error of the estimate	0.004681

ANOVA statistics presented on Table 4.2 indicate that the overall model was statistically significant. This was supported by an F statistic of 15735.426 and probability (p) value of 0.000. Probability value (p) is usually given the value of 0.05, therefore any value below the same is statistically significant while any value above 0.05 is not significant. Therefore from the results the reported p value 0.000 was less than the conventional probability of 0.05 significance level thus its significance. The ANOVA results imply that the independent variable was a good predictor of return and alpha and beta coefficients.

Table 4. 2: Analysis of Variance (ANOVA)

Indicator	Sum of Df	Mean Square	F	Significance	
Regression	0.345	1	0.345	15735.426	0.000
Residual	0.002	106	0.000		
Total	0.347	107			

Table 4.3 presents results of the alpha and beta constants that were used to derive the abnormal return. The model presented below shows how the abnormal return was calculated. The regression of coefficients results further indicate that the variable market return had a positive and significant relationship with the actual return, which is evident from the value 0.000. The conventional value of 0.05 is the scale that determines the significance of an independent variable, thus any value below 0.05 is significant and a value above the same is not significant. Therefore in the results, 0.000 is lower than the conventional value 0.05 thus making the market return variable significant in explaining actual return and determining the beta and alpha coefficients.

Table4. 3 : Linear Regression of Coefficients

Indicator	B	Std. error	Beta	T	Sig.
Constant	0.001	0.000		2.591	0.011
Market Re- turn	1.067	0.009	0.997	125.441	0.000

$$\hat{Y} = 0.01 + 1.067X$$

Where;

\hat{Y} Is Expected returns

X Is the Market returns

Table 4.4 shows the research study wanted to establish the relationship effect of the general elections on volatility of the stock market returns in Kenya.

The relationship between Expected returns and Market returns indicated a Pearson correlation ratio = (0.997) indicating an effect of the Expected returns on market returns during elections in Kenya. The research findings indicated that there was a strong positive relationship ($R = 0.997$) between the variables. The study also revealed that 99.3% of return of the Expected return of the firms can be explained by market returns. From this study it is evident that at 95% confidence level, the variables produce statistically significant values ($p = 0.000$) hence the variable can be relied on the relationship effect of the Expected returns on volatility of the market returns in Kenya.

Table 4. 4: Results of Correlation Analysis

Correlation	Expected Returns	Market Returns
Expected Returns	1.000	0.997
Market Returns	0.997	1.000
Sig.		
Expected Returns		0.000
Market Returns	0.000	

4.3 ANALYSIS OF VARIANCE BETWEEN GROUPS AND T-TEST ANALYSIS OF ABNORMAL RETURNS

The table below provides descriptive statistics for the expected, market and abnormal returns before and after election period. The results indicate a high score in the mean of actual return before elections than after the election period. The market return had a mean of 0.008 before election and

a mean of -0.002 after the election. The same case is also presented in the expected returns mean where the returns before election are higher than after the election period, with means of 0.011 and -0.001 respectively. The mean of the abnormal return before election is -0.002 a value higher than the mean after the election period which is -0.01. These results show that abnormal returns are higher before elections than after elections.

Table 4. 5: Descriptive Statistics for returns

		95% Confidence Interval for Mean						
		Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Market Returns	Before elections	0.008	0.065	0.011	-0.014	0.031	-0.131	0.309
	After elections	-0.002	0.051	0.008	-0.191	0.015	-0.114	0.232
Expected Returns	Before elections	0.0107	0.072	0.012	-0.014	0.035	-0.123	0.363
	After elections	-0.001	0.054	0.009	-0.019	0.018	-0.108	0.261
Abnormal	Before	-0.002	0.009	0.001	-0.005	0.001	-0.053	0.000

Returns	elec-							
	tions							
After		-0.001	0.005	0.001	-0.003	0.0004	-0.290	0.000
elec-								
tions								

Statistics in table 4.6 indicate that all the returns were statistically significant before and after the elections. This is represented p values of 0.008 for market return, 0.008 expected returns and 0.006 for abnormal return which were all statistically significant in relationship between the stocks and election period.

Table 4. 6: Analysis of Variance (ANOVA) between groups

		Sum of Squares	Df	Mean Square	F	Sig.
Market Re- turns	Between Groups	0.079	1	0.079	40.365	0.008
	Within Groups	0.137	70	0.002		
Expected Returns	Between Groups	0.045	1	0.045	40.909	0.008
	Within Groups	0.077	70			
Abnormal Returns	Between Groups	0.004	1	0.004	16.123	0.006
	Within Groups	0.0174	70	0.0025		

4.4 SUMMARY OF FINDINGS

The results indicate a high score in the mean of market return before elections than after the election period. This is presented by a mean of 0.008 before election and a negative mean of 0.002 after election. The same case is also presented in the expected returns mean where the returns before election are higher than after the election period, with means of 0.011 and -0.001 respectively. The mean of the abnormal return before election is -0.002 a value lower than the mean after the election period which is -0.001. These results show that abnormal returns are lower before elections than after elections.

Results further indicate that all the returns were statistically significant before and after the elections. This is represented p values of 0.008 for market return, 0.008 for expected return and 0.006 for abnormal returns which were all statistically significant in relationship between the stocks and election period. The results in the findings agree with those of Wong and McAleer (2007) who did a study on mapping the presidential election cycle in United States stock markets. Their study shows that in the almost four decades from January 1965 through to December 2003, US stock prices closely followed the four-year Presidential Election Cycle where in general, stock prices fell during the first half of a Presidency. These findings agree with those of the study that stock prices tend to decrease in the period after election which causes a decrease in the stock return compared to periods before election. Further, these findings did not agree with those of Kairu (2007) who studied the effects of announcement of secondary equity offerings on stock prices of firms listed on the NSE as well as to investigate the impact of the announcement on trading volume before and after the secondary issue the study showed that the amount of abnormal shares traded was more at the post announcement period than in the pre announcement period for most companies involved in the study. Kairu's study provided that the announcement had an effect in increasing the volume of trade, which is contrary to the findings in this study, where returns perform better before announcement of election results.

Muikiria (2010) looked at the reaction of share prices to issue of IPOs from the NSE: the study sought to establish if there exists a relationship between stock prices as may be influenced by the news of initial public offerings in the Nairobi Security Exchange. He found that issuing of IPO's at NSE has negative effects on the days nearing the IPO's event days which are as result of buyer and seller expectation in the market, while positive effects are in the days far from the IPO's event day which are result of buyer seller initiated trading. The days far from the IPO's issue event may represent the period prior election in the current study. These findings can be compared with those of this study that returns perform well in periods before the election than during and after the election period. Durnev (2011) studied the real effects of political uncertainty specifically looking at elections and investment sensitivity to stock prices. This study found that that politics has a real impact on corporate performance by altering how managers respond to stock prices when making investment decisions which agree to the findings of this study. The finding in the study that stock returns increases in the period before and around election support those of Lusinde (2012) who examined volatility in stock returns of listed companies around general elections in Kenya

between 1997 to 2007. The findings revealed that volatility in stock returns of Kenyan listed companies' increase around general elections. Within this period investors are sensitive to the developing political landscape which then influences their decisions on whether to invest at the NSE or not. The study is in agreement with some local studies that portray general elections as having an impact on the stock returns of companies listed at the NSE.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 INTRODUCTION

This chapter presents the summary of key data findings, conclusions drawn from the findings highlighted and recommendations thereof. The conclusions and recommendations drawn were in quest of addressing research objectives of establishing the effect of elections on stock returns at Nairobi Securities Exchange.

5.1 SUMMARY

The objective of the study was to establish the effect of elections on stock returns at Nairobi Securities Exchange. The means performance of the market, actual return and abnormal return are low after election and indicate good performance before election period. The increase in market return in year 2017 as indicated in the trend analysis can also be explained by the increase in stock prices. Increase in market rates of stocks leads to an increase in prices. The increase and decrease in stock prices can be termed as volatility. When volatility increases, risk increases and returns decrease. Risk is represented by the dispersion of returns around the mean. The greater the dispersion of returns around the mean, the larger the drop in the compound return.

The mean performance of abnormal returns was higher in years 2013 and 2022 while low performance was recorded in year 2017. Abnormal returns present the difference between the actual returns and the expected returns over a certain period of time. This changes that caused the drift in abnormal returns as represented by the graph can be explained by the election period. The performance in year 2017 was affected by the then elections which brought about instability in the country affecting the social and economic part of the economy. Results in the actual returns shows a low performance of the actual stocks in year 2013 and high performance in years 2017. Results further show that the overall performance of actual returns in the periods before elections performed better than actual returns on stocks after elections. Further the rise in the market performance after 2022 followed the smooth transition of the political regime to the new government.

Study findings from the market model indicated that the market return is a good predictor of stock

returns. ANOVA results indicated that abnormal returns before elections were significantly lower than abnormal returns after the elections. Finally, ANOVA results revealed that the expected returns as well as the market returns were significantly higher before elections than after the elections.

5.2 CONCLUSIONS

From the results, events that tend to affect the financial performance of stock are primarily political such as the elections. Uncontrollable losses mainly from the external environment for instance natural calamity and political instability have an effect on the market value of a firm irrespective of whether it has a weak or a strong shareholders rights.

Study findings led to the conclusion that the market return is a good predictor of stock returns. It was concluded that abnormal returns before elections were significantly lower than abnormal returns after the elections. Results led to the conclusion that actual stock returns were significantly higher before elections than after election periods. Finally, results led to the conclusion that the expected returns as well as the market returns were significantly higher before elections than after the elections.

From the study conclusions can be made that during periods of increased political uncertainty such as election periods, the stock returns declined. Political uncertainty surrounding elections can affect how corporate investment responds to stock prices.

Kenya is not the only country that experiences this effect, most countries around the world have sensitive stock returns during and the short period after election years compared to periods before election. The poor performance after the election could be attributed to investor anxiety and panic associated with post-election period. It is therefore with the findings from this study that elections have a real impact on performance of returns in the Nairobi Security Exchange market.

5.3 RECOMMENDATION

The study provides recommendation to the investors who should carefully plan and carry out investments during and after the periods of the general elections as the returns could be affected either positively or negatively during that period. Elections can have important consequences in the stock market; therefore investors can devote a certain Portion of money to

invest in stocks before and another in stocks after elections. Many Investors simply invest in stocks after elections where they presume that the market will be performing well as a result of the new regime. However, this is not the best option as expanding ones mindset may lead to discovery of high returns on stocks before the Election or even after the election.

Further recommendations are to government policy makers, who formulate and Implement laws and policies on management of security exchange. The recommendation Is that they should implement policies that reduce capital flights which may lead to huge Losses especially to investors making them to draw out from investing in securities Exchange which in turn may affect the gross national income of the country.

5.4 LIMITATIONS OF THE STUDY

A limitation for the purpose of this research regards a challenging factor that was present To the researcher when sourcing for information. The study focused on market returns Which are not the only factors that affect the performance of a company during and after The election period. The possibility of other external factors influencing stock prices during election periods, Potential data limitations and inherent volatility of stock markets. Other factors that ought to have been considered in the study are cash Flows, gearing ratio, asset base, growth opportunities, liquidity which were not Considered when estimating the returns. These factors account for the unexplained Element in the regression model.

.

5.5 SUGGESTIONS FOR FURTHER STUDIES

The study put more emphasis on the effects of elections on stock returns, thus further Studies should examine what other factors affect NSE stock returns. Factors such as Corporate performance, increased tax rates or dividends of shareholders could be assessed To analyze their effects on stock returns.

Further research could be done to analyze the performance of stock returns in non Election periods to compare their performance with the periods prior to elections as it is In this study. Furthermore, researchers should analyze the effect of terrorist events, IPO

Events, regulation events, demutualization events among other events.

REFERENCE

Alaina, A. & Jeffrey, S. (1987). Political Parties and the Business Cycle in the United States, 1948-1984. *Journal of Money, Credit and Banking*, Vol. 20 (1), 63–82.

Alesina, S., & Rodrik, D. (1994). *Political Cycles and the Macroeconomy*. Massachusetts Institute of Technology Press. Cambridge.

Allvine, P. & O’Neil, D. E. (1980) Stock market returns and the presidential election cycle. *Journal of Financial Analysts*, Vol.36, 49-56.

Amihud, Y., & Mendelson, H. (1986). Asset pricing and the bid-ask spread. *Journal of Financial Economics*, Vol. 17, 223-249.

Armitage, S. (1995). Event Study Methods and Evidence on Their Performance. *Journal of Economic Surveys*, Vol. 8, 25-52

Bachted T., & Fuss, S. (2006). Financing investment. *Journal of American Economic Review*, Vol. 91, 1263-1285.

Black, F. (1988). An Equilibrium Model of the Crash. *National Bureau of Economic Research. Macroeconomics Annual*, 269–275.

Zainabu Zuweni. (2014). an assessment of effect of general elections on stock market returns in Kenya, University of Nairobi

Menge, R.N. (2013). Effect of elections on stock market returns in Nairobi Security Exchange , University of Nairobi

Timothy, C.J (2018). Effects of presidential elections on stock market, Strathmore University

Bloomberg, S., & Hess, G. (2001). Is the political business cycle for real? *Journal of Public Economics*, Vol. 87, 1091-1121.

Booth, J.R. & Booth, L.C. (2003). Is the presidential cycle in security returns merely a reflection of business conditions? *Journal Review of Financial Economics*, Vol. 12(1), 131-159.

Durnev, A., Morck, R. & Yeung, B. (2004). Value enhancing capital budgeting and firm specific stock return variation. *Journal of Finance*, Vol. 59, 65-105.

Durnev, A., Errunza, V. & Molchanov, A. (2011). Property rights protection, corporate transparency, and growth. *Journal of International Business Studies*, Vol. 40, 99107.

Fama, E. F. (1965). The Behavior of Stock Market Prices. *Journal of Business*, Vol. 38, 34-105.

Fiorina, M. P. (1991). Elections and the Economy in the 1980s: Short- and Long-Term Effects. In Alberto Alesina and Geoffrey Carliner Eds. *Politics and Economics in the Eighties*, 17-40. Chicago, University of Chicago Press

Foerster, S. R. & Schmitz J. J. (1997). The Transmission of US Election Cycles to International Stock Returns, *Journal of International Business Studies*, Vol. 28, 127.

French K.R. & Rou R. (1966). The market pricing of accruals quality, *Journal of Accounting and Economics*, Vol. 39, 295–327.

Gartner, B.L., & Wellershoff, K. W. (1995). Is there an election Cycle in American stock returns. *Journal of Internal Review of Economics and Finance*, Vol. 4, 387-410.

Gichema, G. W. (2007). The Effect of Bonus Share Issues on Stock Prices of Companies Quoted at The Nairobi Security Exchange. Unpublished MBA Project, University of Nairobi.

Gitobu, M. (2000). Determining the Influence of Macro Economic Indicators on Stock Market Indicators. Unpublished MBA Dissertation, University of Nairobi

Hibbs, D. A. (1977). Political Parties and Macroeconomic Policy. *Journal of American Political Science Review*, Vol. 7, 1467-1487.

Irungu, A. (2012). Informational content of presidential results at the Nairobi Securities Exchange. Unpublished MSC Project, University of Nairobi.

James, L. (2006). Earnings Yields, Market Values, and Stock Returns, *Journal of Finance*, Vol.44, 135-148.

Kairu, G. S. (2007). The Effects of Secondary Equity Offering on Stock Returns Of Firms Quoted on The Nairobi Stock Exchange. Unpublished MBA Project, University of Nairobi.

Kariuki, N. J. (2007). Effects of share split in a listed company a study of the Nairobi stock exchange. *Journal of financing investment Review*, Vol. 1, 24-26

Kibuthu W. (2005) Capital Markets in Emerging Economies, A Case Study of the Nairobi Stock Exchange. Unpublished MA dissertation, Tufts University

Kinyua, J., Nyanumba, P. M., Gathaiya, .R.N. & Kithitu, J. W. (2013). Journal of Effects of Initial Public Offer on Performance of Companies Quoted at the Nairobi Stock Exchange, Vol.3 (1).

Kiptoo, L. (2006). Information content on dividend announcements by companies quoted in NSE. Unpublished MBA Project, University of Nairobi

APPENDIX I: DATA COLLECTION CHECK LIST

Month	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2012												
2013												
2014												
2016												
2017												
2018												
2021												
2022												
2023												

APPENDIX II: THE NSE 20 INDEX, CODED MARKET RETURNS, ACTUAL RETURNS AND ABRNORMAL RETURNS

NSE 20 index	Year/ Month	January	February	March	April	May	June	July	August	September	October	November	December
	2012	3224	3304	3367	3547	3651	3704	3832	3866	3972	4143	4084	4133
	2013	4417	4519	4861	4765	5007	4598	4788	4698	4793	4993	5101	4927
	2014	4856	4933	4946	4949	4882	4885	4906	5139	5256	5195	5156	5112.7
	2016	2834	3862	3982	4009	3828	3641	3489	3179	3243	3229	3247	3186.2
	2017	2794	2995	3113	3158	3441	3607	3798	4027	3751	3730	3805	3711.9
	2018	3737	3751	3845	3735	3333	3286	3297	3203	2876	2810	2797	2833.8
	2021	1882	1916	1846	1867	1872	1928	1974	1952	2031	1945	1871	1902.6
	2022	1889	1887	1847	1801	1682	1613	1701	1751	1718	1678	1638	1676.1
	2023	1657	1647	1622	1579	1547	1575	1577	1540	1509	1461	1496	1501.2

MARKET RETURNS										
Month	2012	2016	2021	2013	2017	2022	2014	2018	2023	

January	0.02438	0.309615	0.017785	0.02283	0.069216	-0.00137	0.015784	0.0036	-0.00651
February	0.018931	0.030559	-0.03683	0.073009	0.038645	-0.02143	0.002504	0.024906	-0.015
March	0.052017	0.0068	0.010865	-0.01986	0.014373	-0.02528	0.000645	-0.0291	-0.02698
April	0.028954	-0.04632	0.002659	0.049483	0.085971	-0.06828	-0.01371	-0.11378	-0.02053
May	0.014437	-0.05014	0.029472	-0.08517	0.04715	-0.04184	0.000713	-0.01439	0.018016
June	0.034099	-0.04263	0.023969	0.040365	0.051425	0.053371	0.0043	0.003327	0.001478
July	0.008662	-0.09301	-0.01121	-0.01894	0.058701	0.028903	0.046457	-0.0287	-0.0238
August	0.027119	0.02005	0.039614	0.020115	-0.07091	-0.01933	0.022364	-0.10798	-0.0206
September	0.042227	-0.00432	-0.04325	0.040815	-0.00584	-0.02351	-0.01162	-0.02293	-0.03211
October	-0.01455	0.005549	-0.03873	0.0214	0.019928	-0.02426	-0.00745	-0.00459	0.023345
November	0.012049	-0.01896	0.016567	-0.03469	-0.02468	0.023268	-0.00851	0.012928	0.003724
December	0.066362	-0.13126	-0.00698	-0.01448	0.006801	-0.01127	0.018831	0.003667	0.231682

ACTUAL RETURNS									
Month	2012	2016	2021	2013	2017	2022	2014	2018	2023
January	0.024679	0.3629	0.017945	0.023092	0.071668	-0.00137	0.01591	0.003607	-0.00649
February	0.019112	0.031031	-0.03616	0.07574	0.039402	-0.02121	0.002507	0.025219	-0.01489
March	0.053393	0.006823	0.010924	-0.01967	0.014477	-0.02496	0.000645	-0.02868	-0.02661
April	0.029377	-0.04526	0.002663	0.050728	0.089774	-0.066	-0.01362	-0.10755	-0.02032
May	0.014542	-0.0489	0.029911	-0.08165	0.048279	-0.04097	0.000713	-0.01429	0.018179
June	0.034687	-0.04173	0.024259	0.04119	0.05277	0.054821	0.004309	0.003333	0.001479
July	0.008699	-0.08881	-0.01115	-0.01876	0.060458	0.029324	0.047553	-0.0283	-0.02352
August	0.02749	0.020253	0.040409	0.020318	-0.06845	-0.01914	0.022616	-0.10236	-0.02039
September	0.043132	-0.00431	-0.04233	0.041659	-0.00582	-0.02324	-0.01156	-0.02267	-0.0316
October	-0.01444	0.005565	-0.03799	0.021631	0.020128	-0.02397	-0.00742	-0.00458	0.02362
November	0.012122	-0.01878	0.016705	-0.03409	-0.02438	0.023541	-0.00847	0.013012	0.003731
December	0.068613	-0.12301	-0.00696	-0.01437	0.006824	-0.0112	0.01901	0.003673	0.260718

Abnormal Market returns									
Month	2012	2016	2021	2013	2017	2022	2014	2018	2023
January	-0.0003	0.05329	0.00016	0.00026	0.00245	-9.3E-07	0.00013	-6.5E-06	-2.1E-05
February	0.00018	0.00047	0.00067	0.00273	0.00076	0.00023	-3.1E-06	0.00031	0.00011
March	0.00138	-2.3E-05	-5.9E-05	-0.0002	-0.0001	0.00032	-2.1E-07	0.00042	0.00036

April	- 0.00042	- 0.00106	-3.5E- 06	- 0.00124	-0.0038	- 0.00228	-9.4E- 05	- 0.00623	- 0.00021
May	-0.0001	0.00124	0.00044	0.00353	0.00113	0.00086	-2.5E- 07	-0.0001	0.00016
June	- 0.00059	-0.0009	- 0.00029	- 0.00083	- 0.00135	- 0.00145	-9.3E- 06	-5.5E- 06	-1.1E- 06
July	-3.8E- 05	- 0.00419	-6.3E- 05	- 0.00018	- 0.00176	- 0.00042	-0.0011	- 0.00041	- 0.00028
August	- 0.00037	-0.0002	-0.0008	-0.0002	0.00246	0.00019	0.00025	0.00563	0.00021
September	-0.0009	-9.3E- 06	- 0.00092	- 0.00084	-1.7E- 05	- 0.00027	-6.7E- 05	- 0.00026	- 0.00051
October	- 0.00011	-1.5E- 05	- 0.00074	- 0.00023	-0.0002	- 0.00029	-2.8E- 05	-1.1E- 05	- 0.00027
November	-7.3E- 05	- 0.00018	- 0.00014	- 0.00059	-0.0003	- 0.00027	-3.6E- 05	-8.4E- 05	-6.9E- 06
December	- 0.00225	- 0.00825	-2.4E- 05	-0.0001	-2.3E- 05	-6.3E- 05	- 0.00018	-6.7E- 06	- 0.02904

APPENDIX III; List of companies as per June 15, 2023

Sector/Company	Security Code
AGRICULTURAL	
Eaagads Ltd Ord 1.25 AIM	EGAD
Kakuzi Plc Ord.5.00	KUKZ
Kapchorua Tea Co. Ltd Ord 5.00 AIM	KAPC
The Limuru Tea Co. Plc Ord 20.00AIMS	LIMT
Sasini Plc Ord 1.00	SASN
Williamson Tea Kenya Ltd Ord 5.00 AIM	WT
AUTOMOBILES & ACCESSORIES	
Car & General (K) Ltd Ord 5.00	CGEN
BANKING	
ABSA Bank Kenya Plc Ord 0.50	ABSA
BK Group Plc Ord 0.80	BKG
Diamond Trust Bank Kenya Ltd Ord 4.00	DTK
Equity Group Holdings Plc Ord 0.50	EQTY
HF Group Plc Ord 5.00	HFCK
I&M Group Plc Ord 1.00	IMH
KCB Group Plc Ord 1.00	KCB
NCBA Group Plc Ord 5.00	NCBA
Stanbic Holdings Plc ord.5.00	SBIC
Standard Chartered Bank Kenya Ltd Ord 5.00	SCBK
The Co-operative Bank of Kenya Ltd Ord 1.00	COOP

COMMERCIAL AND SERVICES	
Deacons (East Africa) Plc Ord 2.50AIMS	DCON
Eveready East Africa Ltd Ord.1.00	EVRD
Express Kenya Ltd Ord 5.00 AIMS	XPRS
Homeboyz Entertainment Plc 0.50GEMS	HBE
Kenya Airways Ltd Ord 5.00	KQ
Longhorn Publishers Plc Ord 1.00AIMS	LKL
Nairobi Business Ventures Plc Ord. 1.00 GEMS	NBV
Nation Media Group Ltd Ord. 2.50	NMG
Sameer Africa Plc Ord 5.00	SMER
Standard Group Plc Ord 5.00	SGL
TPS Eastern Africa Ltd Ord 1.00	TPSE
Uchumi Supermarket Plc Ord 5.00	UCHM
WPP Scangroup Plc Ord 1.00	SCAN
CONSTRUCTION & ALLIED	
ARM Cement Plc Ord 1.00	ARM
Bamburi Cement Pl Ord 5.00	BAMB
Crown Paints Kenya Plc Ord 5.00	CRWN
E.A.Cables Ltd Ord 0.50	CABL
E.A.Portland Cement Co. Ltd Ord 5.00	PORT
ENERGY & PETROLEUM	
KenGen Co. Plc Ord. 2.50	KEGN
Kenya Power & Lighting Co Ltd Ord 2.50	KPLC
Total Kenya Ltd Ord 5.00	TOTL
Umeme Ltd Ord 0.50	UMME
INSURANCE	
Britam Holdings Plc Ord 0.10	BRIT
CIC Insurance Group Ltd ord.1.00	CIC
Jubilee Holdings Ltd Ord 5.00	JUB
Kenya Re Insurance Corporation Ltd Ord 2.50	KNRE
Liberty Kenya Holdings Ltd Ord.1.00	LBTY
Sanlam Kenya Plc Ord 5.00	SLAM
INVESTMENT	
Centum Investment Co Plc Ord 0.50	CTUM
Home Afrika Ltd Ord 1.00	HAFR
Kurwitu Ventures Ltd Ord 100.00	KURV
Olympia Capital Holdings Ltd Ord 5.00	OCH
Trans-Century Plc Ord 0.50AIMS	TCL
INVESTMENT SERVICES	
Nairobi Securities Exchange Plc Ord 4.00	NSE
MANUFACTURING & ALLIED	

B.O.C Kenya Plc Ord 5.00	BOC
British American Tobacco Kenya Plc Ord 10.00	BAT
Carbacid Investments Ltd Ord 1.00	CARB
East African Breweries Ltd Ord 2.00	EABL
Flame Tree Group Holdings Ltd Ord 0.825	FTGH
Kenya Orchards Ltd Ord 5.00 AIM	ORCH
Mumias Sugar Co. Ltd Ord 2.00	MSC
Unga Group Ltd Ord 5.00	UNGA
TELECOMMUNICATION	
Safaricom Plc Ord 0.05	SCOM
REAL ESTATE INVESTMENT TRUST	
STANLIB FAHARI I-REIT	FAHR
LAPTRUST IMARA I-REIT	LAPR

Source: NSE