

**Cash Dividend Change Announcement Effects on Share Price Returns
for Listed Companies in Kenya**

Otieno, Pauline Atieno

**Submitted in partial fulfillment of the requirements for the Degree of
Master of Commerce at Strathmore University**

**School of Management and Commerce
Strathmore University
Nairobi, Kenya**

JUNE, 2013

This thesis is available for Library use on the understanding that it is copyright material and that no quotation from the thesis may be published without proper acknowledgement.

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

© No part of this thesis may be reproduced without the permission of the author and Strathmore University

Student's Name: **Otieno, Pauline Atieno**

Student's Signature.....Date.....

Approval

The thesis of **Otieno, Pauline Atieno** was reviewed and approved by the following:

Dr Freshia Mugo-Waweru

School of Management and Commerce
Strathmore University

Dr David Wang'ombe

Dean, School of Management and Commerce

Prof. Ruth Kiraka

Dean, School of Graduate Studies

ABSTRACT

The policy of dividends has been a puzzle and knowing why companies and investors pay attention to dividends is still problematic. The study covered the period 2005 to 2012 and sought to establish the relationship between cash dividend change announcements and share price returns, the kind of relationship and if share price returns were affected differently between the periods before, during and after the Post Election Violence in Kenya. The study also analyzed the stock price reaction of firms listed on the Nairobi Securities Exchange that announced dividend changes before, during and after the Post-Election violence in Kenya. An event study methodology was used to assess the reaction of shares price returns to dividend change announcement. An abnormal performance around the event date was also analyzed using the daily closing share prices. Results revealed that dividend announcement had significant effect on share price returns for all the periods (before, during and after the crisis period). Further, the type of dividend announced had an effect on the share price returns as dividend decreases resulted to negative returns while dividend increases resulted to positive returns. From this, it was evident that dividend announcement had information content and the information content had significant effect on share price returns. The findings showed that investors became more conscious of the signals in dividends. This study will help managers in dividend policy decisions, as a reference point for investors and assist in future research on dividends as dividend announcement had an effect on shares and they acted as signals affecting share prices indicating investors were aware of dividends as a signal of firms' future earnings.

TABLE OF CONTENTS

DECLARATION.....	ii
ABSTRACT.....	iii
List of Appendices.....	viii
List of Figure.....	ix
List of Tables.....	x
ACKNOWLEDGMENTS.....	xii
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.0 Background of the study	1
1.1 Effect of dividends on share prices in Emerging Markets	4
1.2 Effect of dividends on share prices in Kenya.....	5
1.3 Problem Statement	6
1.4 Research Objectives	7
1.4.1 General Objective	7
1.4.2 Specific Objectives	8
1.5 Research Questions	8
1.6 Research Justification.....	8
1.6.1 For Companies.....	8
1.6.2 For Investors	9
1.6.3 For Academicians	9
1.7 Scope of the Study.....	9
CHAPTER TWO.....	10
LITERATURE REVIEW.....	10

2.0 Introduction	10
2.1 Theoretical review on signaling models.....	10
2.1.1 Bhattacharya's Model (1979)	10
2.1.2 Miller and Rock's Model (1985)	11
2.1.3 John and William's Model (1985).....	12
2.2 Empirical reviews on signalling.....	12
2.3 Effect of dividend announcements on share price in Kenya.....	18
2.3.1 Dividend Change Announcement.....	20
2.3.2 Post election violence in Kenya.....	20
2.4 Event studies	22
2.4.1 Mean Adjusted Return Model	23
2.4.2 Market Adjusted Return Model.....	23
2.4.3 Market Model Adjusted Return Model	24
2.4.4 Capital Asset Pricing Model (CAPM) Adjusted Return Model	25
2.4.5 Fama-French three factor model.....	25
2.5 Research Model.....	26
2.5.1 Dividend change model	27
2.5.2 Abnormal return calculation.....	27
CHAPTER THREE.....	29
RESEARCH METHODOLOGY	29
3.0 Introduction	29
3.1 Research Design.....	29
3.2 Population and Sample.....	29
3.3 Data Collection.....	29

3.4 Data Analysis.....	30
CHAPTER FOUR.....	31
DATA ANALYSIS AND PRESENTATION.....	31
4.0 Introduction.....	31
4.1 Dividend analysis and interpretation.....	31
4.2 Dividend change model.....	32
4.3 General effect on share price.....	36
4.4 Effect of dividend increase and decrease announcements.....	39
4.5 Effect of dividend announcements in different economic periods.....	48
4.5.1 Pre Crisis Period.....	48
4.5.2 During Crisis Period.....	51
4.5.3 After Crisis Period.....	55
CHAPTER FIVE.....	60
SUMMARY, CONCLUSION AND RECOMMENDATIONS.....	60
5.0 Introduction.....	60
5.1 Summary of this Study.....	60
5.2 Conclusion from this Study.....	61
5.3 Limitations of the study.....	64
5.4 Implications of the study.....	64
REFERENCES.....	67
APPENDICES.....	72

List of Abbreviations

DPS	Dividend per Share
PEV	Post Election Violence
SCBK	Standard Chartered Bank of Kenya
BAT	British American Tobacco Kenya Ltd
EABL	East African Breweries Ltd
EAPCC	East Africa Portland Cement Company
NSE	Nairobi Securities Exchange
CAR	Cumulative Abnormal Returns
AAR	Average Abnormal Returns
ANOVA	Analysis of variance
LSD	Least Significant Difference

List of Appendices

Appendix 1: Nairobi Securities Exchange Listed Companies.....	72
Appendix 2: Sampled Companies.....	75
Appendix 3: Dividends paid.....	77

List of Figures

Figure 2.1: Kenya Inflation rate for the period 2005-2012.....	21
Figure 2.2: Kenya GDP growth rate for the period 2005-2012.....	22
Figure 4.1: Annual Trend of Total Dividend Paid 2005 – 2012.....	31
Figure 4.2: Annual Trend of Total Dividend Paid Per Company 2005 – 2012.....	32
Figure 4.10: Frequency of dividend changes per year.....	35
Figure 4.11: Number of dividend events per year.....	35

List of Tables

Table 4.1: Frequency of dividend changes per year for the period 2005 – 2012.....	34
Table 4.2: Pre, during and post crisis number of dividend changes.....	36
Table 4.3: Two Sample t- test for CAR for the period 2005 – 2012.....	37
Table 4.4: Two Sample t- test for AAR for the period 2005 – 2012.....	37
Table 4.5: Two Sample t- test for CAR (Dividend Increase) for the period 2005 – 2012.....	40
Table 4.6: Two Sample t- test for AAR (Dividend Increase) for the period 2005 – 2012.....	40
Table 4.7: Analysis of variance for CAR (Dividend Increase) for the period 2005 – 2012.....	42
Table 4.8: Analysis of variance for AAR (Dividend Increase) for the period 2005 – 2012.....	42
Table 4.9: Two Sample t- test for CAR (Dividend Decrease) for the period 2005 – 2012.....	43
Table 4.10: Two Sample t- test for AAR (Dividend Decrease) for the period 2005 – 2012.....	44
Table 4.11: Analysis of variance for CAR (Dividend Decrease) for the period 2005 – 2012.....	45
Table 4.12: Analysis of variance for AAR (Dividend Decrease) for the period 2005 – 2012.....	46
Table 4.13: Two Sample t- test for Pre Crisis CAR (Dividend Decrease) for the period 2005 – 2007.....	48
Table 4.14: Two Sample t- test for Pre Crisis AAR (Dividend Decrease) for the period 2005 – 2007.....	49
Table 4.15: Two Sample t- test for Pre Crisis CAR (Dividend Increase) for the period 2005 – 2007.....	50
Table 4.16: Two Sample t- test for Pre Crisis AAR (Dividend Increase) for the period 2005 – 2007.....	51
Table 4.17: Two Sample t- test for During Crisis CAR (Dividend Decrease) for the period 2008 – 2009.....	52

Table 4.18: Two Sample t- test for During Crisis AAR (Dividend Decrease) for the period 2008 – 2009.....	52
Table 4.19: Two Sample t- test for During Crisis CAR (Dividend Increase) for the period 2008 – 2009.....	53
Table 4.20: Two Sample t- test for During Crisis AAR (Dividend Increase) for the period 2008 – 2009.....	54
Table 4.21: Two Sample t- test for Post Crisis CAR (Dividend Decrease) for the period 2010 – 2012.....	55
Table 4.22: Two Sample t- test for Post Crisis AAR (Dividend Decrease) for the period 2010 – 2012.....	56
Table 4.23: Two Sample t- test for Post Crisis CAR (Dividend Increase) for the period 2010 – 2012.....	57
Table 4.24: Two Sample t- test for Post Crisis AAR (Dividend Increase) for the period 2010 – 2012.....	58

ACKNOWLEDGMENTS

I thank God for His grace. Much gratitude to my research supervisor, Dr. Freshia Mugo-Waweru and Dean, School of Management and Commerce, Dr. David Wang'ombe for their guidance of my research activities to a meaningful and fruitful conclusion. For the help and contributions from everyone, am grateful. Specifically, I would like to thank Ms. Jane Ngaruiya and Ms. Nancy Noreh for their support, motivation and encouragement. Finally, I thank my family especially Dr. Maurice Oyoo, Melvin, Sidney and Amy for their absolute support, interest and unwavering confidence in my abilities.

CHAPTER ONE

INTRODUCTION

1.0 Background of the study

For several decades, dividend policy has been a puzzle. Black (1976) wrote, “The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don’t fit together”. Bhattacharya (2007) stated that a difficult challenge facing financial economists was explaining dividend policy. He further stated that despite decades of study, factors influencing dividend policy and their interaction were yet to be understood. Amidu and Abor (2006) noted that companies earn income which can be invested in the business or distributed as dividends to shareholders. They further noted that there are issues that a company considers when it decides to distribute income which is, how much of the income will be distributed to shareholders and if cash or stock should be distributed or buying back some shares from the shareholders and the stability of the distribution as a stable distribution produces better positive signal on the future of the company than a volatile distribution because changes cause uncertainty. Baker (1999) reported that since 1976, there has been a dramatic increase in empirical and theoretical research done on dividend policy. He added that companies had various reasons not to pay dividends or pay dividends and establishing the reasons dividends are paid by firms and so much attention is paid on dividends by investors is still problematic. He concluded that setting of a dividend policy for a company is still debatable and needs prudence by decision makers.

Lintner (1956) was the first to study dividend policy and he found that a benchmark for the management was formed by an existing dividend rate and there was strong reluctance by management to reduce the dividends. He reported that managers increased the dividends over the years as they moved closer to set the target payout ratio. Further, he observed that decreasing dividends should only be when managers know the cash flows will not be sufficient for the current dividend payout ratio. Gordon (1959) view on dividend policy was developed from his valuation of stock price which asserted that the price of a share is the same as the discounted value of its expected payments of dividends in the future. He concluded that a firm is more valuable with the more cash dividends it

pays. The dividend policy was stated by Baker and Powell (1999) as being a significant decision taken by the directors and financial manager of any company and investors and the firm have a positive view when dividends are paid. They further stated that the value of a share of a firm is determined by the expectations of dividends by the shareholders and firms that do not pay dividends are rated badly by the investors who value dividend payments and in turn affecting the share price.

Various dividend theories have been put across which view dividends as either irrelevant or relevant to financial decision making of a company. The irrelevance of dividend policy where there are no transaction costs or taxes and all investors have full information on the uncertain future cash flows of the company was proved by Miller and Modigliani (1961). They stated that the firm value cannot be altered by changing the dividend policy. Walter's Model and Gordon's Model advocated for the relevance of dividends to financial decision making. Walter (1956) tried to depict the relationship between stock prices and dividend policies. His main focus was on common stock prices of large public firms due to their imperfect markets for small firms' securities and the close identification of these small firms with their principal shareholders. He concluded that stock prices reflected the present values of the expected dividends over longer periods and so the value of the firm is affected by dividends. Gordon (1959) asserted that the price of a share equaled to the discounted value of its expected future dividends. He argued that at different dates in the future, dividends are subject to different risks and so each expected future dividend should be discounted at different rates that reflect the differential risk. He concluded that current income would be preferred to future income by investors.

Various explanations for dividend relevance have been developed which include the signaling, agency costs, tax preference and bird-in-the-hand explanations (Baker 1999). The explanation of the bird-in-the-hand is that investors prefer dividend payment in the present to an uncertain future price appreciation. According to Bhattacharya (1979) and Miller and Modigliani (1961) the reasoning behind the bird-in-the-hand explanation is fallacious and risk is determined by a company's cash flow riskiness. Dividend policy

based on tax differential between dividends and capital gains was developed by Brennan (1970), Stapleton (1972) and others. According to the explanation of tax preference, investors favour dividends nonpayment because of tax related reasons as dividends are taxed twice while the capital gains are taxed once or not taxed at all in countries that capital gains do not attract tax. Agency cost could arise when management serve their own interests and not that of the shareholders thus paying of dividends will force companies to seek more financing externally subjecting it to capital markets and suppliers of capital scrutiny therefore reduce possibility of sub optimal investment by management (Jensen and Meckling, 1976).

The first dividends analysis as a signaling tool was developed by Ross (1977) and was followed by others like Bhattacharya (1979, 1980), Miller and Rock (1985), John and Williams (1985), Yoon and Starks (1995), Adelegan (2009), Asamoah (2010), Akbar and Baig (2010), Aamir and Ali Shah (2011), Waweru et al (2012) and Olweny (2012). It suggests that dividend announcement conveys information on future prospects of the company and the investors assess stock price of the firm using dividend announcements information. The explanation of signaling suggests that dividend changes should lead to earnings changes (Baker 1999).

Previous studies by Aharony and Swary (1980), Kwan (1981), Eades (1982) and Woolridge (1982) established that there was significant positive relationship between stock returns and dividend changes announcement. They concluded that a positive (negative) change in stock prices arises from positive (negative) dividend change announcements. Woolridge (1983) corroborated the results of the previous studies that signaling effect is a major factor influencing the stock prices. According to Chen et al (2009), a cash dividend increase announcement is an optimistic signal on a firm's future operation and cash flow for investors. Chen et al (2009) stated that an increase in cash dividend is followed by positive abnormal returns. On the contrary, they further stated that, negative abnormal returns follow the announcement of a cash dividend decrease as it is a pessimistic signal. They concluded that these empirical studies support the dividend

signaling hypothesis and investors' expectations of a firm's cash flow are adjusted after cash dividend changes.

1.1 Effect of dividends on share prices in Emerging Markets

A study on the Dhaka Stock Exchange was done by Uddin and Chaundhary (2005) who investigated dividend announcement impact on stock prices of Dhaka market. They hoped that some information may be carried for the market and share prices adjust according to announcement of dividend payments. The paper however, concluded that the dividend had no information content from the evidence from Dhaka Stock Exchange and Dhakan market stock prices and returns supported the dividend irrelevance theory that dividend payments do not affect share prices.

In the Pakistan market, evaluation of whether dividend announcement had an impact on prices of shares for companies that announced the dividend and other rival firms in the industry was conducted by Aamir and Ali Shar (2011). They found that on the day dividend was announced and a few days after, there was positive impact on share prices. They concluded that for the rival firms, the findings previously seen also existed. They stated that the results confirmed that for future price determination, dividend distribution was relevant.

Adelegan (2009) stated that a change in corporate policy was made visible by firms when they either pay or not pay dividends. Naranjo et al (1998), Amihud and Murgia (1997), Michealy et al (1995) and Dhillon and Johnson (1994) stated that performance of the volume and price of shares had long and short term effects due to payment of dividends. The importance of dividend policy in the firms was examined by Adelegan (2009). She examined the efficiency of the Nigerian stock market to dividend announcements and found that share prices reacted to the announcements of dividends and so the dividend policy matters but insider trading could not be completely ruled out on the Nigerian stock market. She further concluded that since price was still drifting 30 days after the announcement, the Nigerian stock market was not semi strong efficient.

The Lintner's model derived in the 1950s was assessed by Wolmarans (2003) on whether payments of dividend could be explained using it. He found that payments in South African could not be explained by the model because some firms did not explain the context largely due to data issues because in the Johannesburg Stock Exchange, some entities followed constant dividend payout policy while others had not been listed for a sufficient period of time. From the financial analysts' forecast measurement, the dividend signal is effective or complete rather than from an already paid dividend as mentioned by Ravi and Sirikiat (2007). They consequently concluded that prices of stocks react to dividend surprises as per their analysis. Share price reaction to announcement of extra (special) dividend was investigated by Bhana (1998). He concluded that on the Johannesburg Stock Exchange prices of shares react positively to special dividends announcement.

1.2 Effect of dividends on share prices in Kenya

There are 61 listed firms on the Nairobi Securities Exchange (NSE) which is the only stock exchange firm in Kenya (Nairobi Securities Exchange, 2013). There are three main segments where the listed companies fall, the alternative investment market segment, the main investment market segment and the growth enterprise market segment. The classifications of the sectors in the main investment market segment are ten namely; agricultural, commercial and services, telecommunication and technology, automobiles and accessories, banking, insurance, investment, manufacturing and allied, construction and allied and energy and petroleum (Nairobi Securities Exchange, 2013).

Among listed firms in the Nairobi Securities Exchange, the relationship between firm performance and dividend payout was sought by Murekefu and Ouma (2012). Their findings indicated that there was a strong and positive relationship between the performance and dividend payout. They also showed that among listed firms in Kenya, cash dividends was the commonly used type of dividends, other types of dividends were rarely employed by firms. They concluded that firm performance was mainly affected by dividend payout and this showed that dividend policy was relevant. Their finding was collaborated by Olweny (2012) who sought to determine the extent to which there was

information content in dividend announcements, the effect dividend announcements had on the firm value and its implications on the semi strong efficiency of the Nairobi Stock Exchange (NSE). He concluded that there was information content in dividend announcements which affected the value of the firm. This conclusion arose from the fact the he found out that there was a significant relationship between abnormal stock returns and unexpected dividend announcements.

By testing the displacement property of dividends, the signaling hypothesis was investigated by Waweru et al (2012). They suggested that only when the firms were sure of future earnings that would allow them maintaining higher payout then dividends were increased by firms. From the study, the findings provided further empirical evidence that signals from dividends were used to know about future earnings prospects of the firm.

1.3 Problem Statement

The theory that corroborates dividend announcement on the firm's value centers on two schools of thought (Olweny, 2012). Lintner (1956) developed the first school of thought where he asserted that a considerable amount of information is conveyed by current dividends on firm value. Positive dividends announcement were made by firms so as to support the higher rate of payment as observed by Lintner (1956). The second school of thought was that the absolute size of the future value conveyed by announcements of dividends was small thus making information content of dividends trivial (Watts, 1973). This triviality has made information content of the announcements be a hot issue opening up debates of whether or not there is information content in dividend announcements (Olweny, 2012).

According to Miller and Rock (1985), the cash dividends depend on operating cash flows of a company such that when a company announces a dividend increase, it translates to the future cash flow of companies increasing making the stock prices to increase. The theory established that the firm's stock price increased when there is an increase in cash dividends and decreased when there is a decrease in cash dividends. The trend of Nairobi

Securities Exchange is that the firm's future prospects are predicted from signals from dividends. This is collaborated by Olweny (2012) and Waweru et al. (2012).

A number of researches (Aharon and Swary's 1980; Impson and Karafiah's 1992; Impson's 1997; Balchandra's 1999) conducted have been successful in explaining the theories of dividend signals. The researchers concluded that share prices of the company are affected by changes in the dividend payments. Likewise, many other researchers like Farrar and Selwyn (1967) and Uddin and Chaundhary (2005) concluded that share prices of companies were not affected by dividend changes. This indicated that there was no agreement on how dividend changes affect share prices and so empirical evidence on signaling was not conclusive (Allen and Michaely, 2003).

This study aimed to establish if the results of the studies on the various views and empirical theories of dividend signals hold true among the listed companies in Kenya and if policy makers of firms when making dividend announcements consider how the dividend change announcement will affect their stock prices. The study also sought to determine the share price reaction to dividend changes before, during and after the Post-Election violence in Kenya of listed firms on the Nairobi Securities Exchange. The work endeavoured to establish how the stock price reacted to changes in dividend made or announced in the pre crisis, crisis and post crisis period, i.e. during different market phases. This is because dividend change announcements convey more information when they run in the opposite direction to the market phase.

1.4 Research Objectives

The research objectives were set to determine the scope of the research. The study had a general objective and specific objectives.

1.4.1 General Objective

The main objective of the study was to contribute to knowledge on how public announcement on cash dividend changes affect share price returns of listed stocks during normal economic conditions and during a crisis period.

1.4.2 Specific Objectives

The study had three specific objectives which were;

1. To establish if there was a relationship between cash dividend change announcement and share price returns.
2. To determine the kind of effect cash dividend increase and decrease announcements had on share price returns.
3. To establish if cash dividend change announcements affected share price returns differently between the periods before, during and after the Post-Election violence in Kenya.

1.5 Research Questions

The following research questions guided this study;

1. Does a cash dividend change announcement have a general effect on share price returns regardless of other economic factors?
2. What is the effect of cash dividend increase and decrease announcements on share price returns?
3. Does a cash dividend change announcement affect share price returns differently between the periods before, during and after crisis?

1.6 Research Justification

This aimed at providing the reasons for the research being conducted and the benefits to the various stakeholders.

1.6.1 For Companies

The objective of the firm is value maximization for its investors and so if the empirical theories of dividend signaling hold true in the Kenyan listed firms then managers should consider the effects of dividend announcement changes as they plan the announcements.

1.6.2 For Investors

The Kenyan capital market has different investor expectations and structures, regulations, and shareholder structures. This makes the effect of cash dividend change announcements in Kenya an important issue for research. There are firms that announce a dividend decrease but this does not translate to a decrease in future earnings but the need to re-invest for future growth. This is mostly applicable to the technology firms that spend lots of money on the technology infrastructure which changes in a span of less than three years. These firms need to be up to date in terms of the technology offered to its customers. The results obtained from this study will serve as a good decision reference for investors apart from also providing the effect of cash dividend changes announcement from an emerging market.

1.6.3 For Academicians

The study intends to shed more light on the effects of cash dividend change announcement on prices of shares for listed firms on the NSE. The study will also contribute to literature on the Nairobi Securities Exchange in terms of how cash dividend change announcement affect share prices.

1.7 Scope of the Study

The firms covered in the study were those listed on the NSE that announced changes in dividends for the period 2005 to 2012. The period of analysis was chosen to include the period of Post-Election violence in Kenya. This enabled the assessment of how prices of stocks reacted to changes in dividend before, during and after the Post-Election violence in Kenya. There are various types of dividend announcements by listed firms namely; cash dividends, stock dividends, special dividends, stock repurchase and extra dividends. This research focused on cash dividends. Murekefu and Ouma (2012) studied firms listed on the NSE and they reported a strong and positive relationship among the listed firms. Their findings also showed that among listed firms in Kenya, cash dividends was the commonly used type of dividends while other types of dividends were rarely employed by firms.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

A detail of the literature review is provided in this chapter and it is structured as follows:

2.1 Theoretical review on signaling models; **2.2** Empirical reviews on signaling; **2.3** Effect of dividend announcements in Kenya; **2.4** Event studies.

2.1 Theoretical review on signaling models

Signaling models gives an understanding on the way that dividend announcements convey information about the firms to the market. The models also predict a positive relationship between share price and dividend change announcements. Classic signaling models based on information asymmetry hypothesis were developed by Bhattacharya (1979), Miller and Rock (1985) and John and Williams (1985) and they showed that under imperfect information, dividends act as a costly signal of expected future performance of a firm. These models showed that informed insiders use dividends as signals to convey the future prospects of firms to the outsiders who are less informed. They assumed that dividends are the only signaling mechanism.

2.1.1 Bhattacharya's Model (1979)

Bhattacharya (1979) developed a model to explain why firms pay dividends. The model developed by Bhattacharya was a one period model that assumed that the managers set a specific dividend policy and at the end of a period, the firm paid dividends set from the cash flow generated in that period. He found out that if the cash flows generated were not enough for the payment of dividends then the firm used outside financing to pay the dividends. He assumed that outside investors had imperfect information on the firms' profitability and cash dividends are taxed higher than capital gains and so firms pay dividends even when they are taxed.

According to Bhattacharya (1979), unexpected dividend change announcement was an effective way for firms to signal to the market about its value and future prospects as investors believed that the value of the firm was directly related to the dividends paid.

The model was criticized by several authors for not explaining why firms use dividends to signal their future prospects instead of other means like newspaper announcements and why firms tend to smooth dividends.

2.1.2 Miller and Rock's Model (1985)

Miller and Rock (1985) considered a two period model to analyse announcement effects and their consequences under conditions of information asymmetry. The model was based on cost of foregone investment opportunities and discussed earnings effect. They analysed dividends and investment decisions in the context of information asymmetry where at the time of announcement earnings are only known by management and not by outsiders. The model assumed that the firm invests in a project, uses the cashflow generated to pay dividends and reinvests in new projects and taxable dividends and share repurchase are considered perfect substitutes.

Miller and Rock (1985) argued that managers know more than shareholders about a firm's earnings and dividend announcement convey this information to the market suggesting that firms whose shares have a larger reaction to the information conveyed are those with stronger information asymmetry. They showed that information conveyed by an unexpected earnings change is similar to that conveyed by an unexpected dividend change, dividend announcement effect on share prices depends on unanticipated operational cashflow changes and firms with higher capacity for cash flow generation pay higher dividends.

They concluded that a signalling equilibrium can be reached where dividends convey information future cashflows. The model was criticised for not being clear if in the presence of taxes dividends would continue to be best signalling method or if stock repurchases would be a cheaper way of transmitting information to the market and not assuming where earnings are announced to the market before dividend announcements and shareholders have access to this information.

2.1.3 John and William's Model (1985)

John and William (1985) developed a dividend equilibrium signalling model to identify the dividend effect under personal taxation where taxable dividends and share repurchases were not related. The model assumed that taxes were paid only on dividends and the tax level was the same for all shareholders, no transaction costs when trading shares, management can sell some shares to cover cash requirements, sources and uses of funds are observed by the outsiders through costless public audits and that management have better information about firms' future prospects. The model was based on tax differential between dividends and capital gains.

In conclusion, John and William (1985) stated that the empirically observed positive relationship between profitability and dividend yield was due to both the information effect of dividend announcement and to taxes. The model had weaknesses in not being obvious in supporting the smooth dividend hypothesis proposed by Lintner (1956) and supported by other authors like Fama and Babiak (1968) and assuming that shareholders cover their liquidity needs by selling shares and not considering other financing options for both the insiders and outsiders.

2.2 Empirical reviews on signalling

In the real world, the information symmetry assumption has been considered unrealistic and several dividend policy models have been proposed that are based on the information asymmetry assumption (Waweru et al. 2012). It suggests that dividend announcement conveys information on future prospects of the company and the investors assess stock price of the firm using dividend announcements information. The explanation of signaling suggests that dividend changes should lead to earnings changes as dividend change announcements are positively associated with share returns in the days surrounding the announcement (Baker 1999). According to Lintner (1956), managers prefer stable dividends as they are reluctant to dividend changes that might be reversible. He further stated that stable and predictable dividends provide smaller uncertainty to the investors than the variable dividends due to the information content effect.

The hypothesis that knowing current dividends improves future earnings forecast was analyzed by Watts (1973). His main goal was to test the hypothesis that dividends contain information concerning firms' future earnings. He used a sample of 310 companies listed in the American market and analyzed them for a period of 20 years between 1947 and 1966. Watts (1973) tested whether current and past levels of dividends and earnings could explain future earnings. He found out that the relationship between future earnings and dividend changes was positive which was consistent with the dividend information content hypothesis. However, the tests suggested that the earnings changes were not significant hence Watts (1973) concluded that information content had no economic meaning.

Petit (1972) did a study on dividend change announcements of 625 firms listed on the New York Stock Exchange (NYSE) between the periods of January 1964 and June 1968. He found out that dividend change announcements conveyed information to the market and thus concluded that the information conveyed was superior to that sent by earnings announcements. He further concluded that most of the information conveyed by dividend announcements was reflected in share prices at the end of the announcement period thus dividend increase announcements were followed by increase in share prices while dividend decrease announcements were followed by decrease in share prices.

A strong association between share prices and dividend payment was reported by Ross (1977). In his theory, he stated that dividends were regarded as signals by investors of the managers forecast of future earnings of the firms. He further stated that unless a higher or stable earnings was anticipated that could sustain higher payments of dividends, managers did not raise dividends and were reluctant to reduce dividends. This meant that investors saw as signals of improved future earnings when higher than expected dividends were paid and poor future earnings when reduced dividend were paid. It was therefore, argued that the changes in stock price indicated that there was information content in the dividend announcement and not that dividends and not retained earnings were preferred by investors. Information that was previously only known by management was provided by dividend announcement.

Cash dividends were taxed at a rate higher than that for capital gains under the assumption that investors did not have perfect information on the profitability of firms (Bhattacharya, 1979). Therefore, in an imperfect information setting, the dividends are used as a signal of expected firms' cash flows. Because capital gains were taxed lower than ordinary income, the signaling costs led to dividends being used as signals (Bhattacharya, 1979). The equilibrium notion that was important for modeling information content of dividends as a signal of future earnings was shown by Bhattacharya (1980).

Watts (1973) methodology was improved by Kwan (1981). In his study, Kwan (1981) emphasized on the isolation of dividend information in relation to other sources of information that were publicly available. He considered 183 dividend announcements of firms listed on the NYSE for the period 1973 to 1977. He concluded that dividends conveyed information to the market and there was evidence of abnormal returns when firms announced unexpected dividend changes supporting results of Petit (1972).

Aharony and Swary (1980) in their study of quarterly dividends and earnings announcement and stockholders' returns showed that increasing (decreasing) dividend announcements resulted in positive (negative) abnormal returns around the announcement days meaning that changes in dividend payments conveyed new information about the firm. Their findings were corroborated by Allen and Michaely (2003) who established that dividend changes were associated with stock price changes of the same sign around the dividend change announcement and immediate price reaction was related to the size of the dividend.

Woolridge (1983) studied 411 dividend change announcements of 225 firms listed on the NYSE between 1970 and 1977. His results were consistent with the dividend content information hypothesis as well as the wealth transfer hypothesis. He concluded that the main factor influencing share reaction to the dividend changes was the signaling effect.

The cash dividend signaling model was used by Miller and Rock (1985) to replace the assumption of the standard finance model of dividend decision or financing or optimal investment that both the inside managers and outside investors have the same information on the true status of the current and future earnings of the firm with one that outside investors do not have the same information with the inside managers as the inside managers know more.

In conclusion, Miller and Rock (1985) stated that in response to information conveyed by managers in their decisions on dividend payment, security prices adjusted to new equilibrium levels. Therefore, according to the signaling effect, the changes in values of equity and debt are linked to dividend changes.

An analysis of the Australian market where earnings and dividends are announced simultaneously was done by Eaton (1991) between the periods of 1978 to 1989 for 339 industrial firms listed on the Melbourne Stock Exchange. He had a sample of 896 financial reports and found out that there was interaction effect between the two kinds of announcements and there was evidence of earnings and dividend announcement affecting abnormal returns.

Dividend announcement effect on share price in the Japanese market where managers simultaneously announce dividends, current earnings and predictions for the following year was analyzed by Conroy et al. (2000). They had a sample of 3,890 observations for firms listed on the Tokyo Stock Exchange between 1988 and 1993. They found that the market reacted significantly to the information announced by firms regarding earnings and dividends. They further found out that predictions about subsequent dividends had some influence on share price though not as significant as earnings predictions. The results from the study suggested that current dividend announcement had no effect on share prices which was consistent with Miller and Modigliani (1961) proposition. Conroy et al. (2000) concluded that in Japan, earnings dominate dividends regarding their capability to explain share price changes and share price movements were mostly justified by information that came from earnings.

Gurgul et al. (2003) examined reactions of dividend announcement using data from the Austrian market. They sampled 175 dividend announcement for 33 firms listed on the Austrian share market and found that dividend increase induce a significant positive reaction in the share prices while dividend decrease induce a significant negative reaction in the share prices and constant dividends leave share prices unchanged. The results of the study supported the hypothesis that investors prefer regular and higher payments to capital gains and that bad news had a stronger impact on the market than good news. They further concluded that the market was semi strong efficient as news on dividends was digested at least within one day as there were no subsequent abnormal price changes after the announcement day.

A study on the Dhaka Stock Exchange was done by Uddin and Chaundhary (2005). They investigated dividend announcement impact on stock prices of Dhaka market. They hoped that some information may be carried for the market and share prices adjust according to announcement of dividend payments. The paper however, concluded that the dividend had no information content from the evidence from Dhaka Stock Exchange and Dhakan market stock prices and returns supported the dividend irrelevance theory.

Adelegan (2009) stated that a change in corporate policy was made visible by firms when they either pay or not pay dividends. Naranjo et al (1998), Amihud and Murgia (1997), Michealy et al (1995) and Dhillon and Johnson (1994) stated that performance of the volume and price of shares had long and short term effects due to payment of dividends. The importance of dividend policy in the firms was examined by Adelegan (2009). She examined the efficiency of the Nigerian stock market to dividend announcements. She concluded that the share prices reacted to the announcements of dividends and so the dividend policy matters but insider trading could not be completely ruled out on the Nigerian stock market. She further concluded that since price was still drifting 30 days after the announcement, the Nigerian stock market was not semi strong efficient.

The systematic effect of dividend policy for a firm on the price of its shares on the Johannesburg Stock Exchange was assessed by Sealy and Knight (1987). Their tests

revealed prices of securities were not affected by dividend policies of the firms. The Lintner's model derived in the 1950s was assessed by Wolmarans (2003) on whether payments of dividend could be explained by using it. He found that payments in South African could not be explained by the model because some firms did not explain the context largely due to data issues because in the Johannesburg Stock Exchange, some entities followed constant dividend payout policy while others had not been listed for a sufficient period of time. From the financial analysts' forecast measurement, the dividend signal is effective or complete rather than from an already paid dividend as mentioned by Ravi and Sirikiat (2007). They found that prices of stocks react to dividend surprises as per their analysis. Share price reaction to announcement of extra (special) dividend was investigated by Bhana (1998). He concluded that on the Johannesburg Stock Exchange prices of shares react positively to special dividends announcement.

Dividend policy in Chinese firms was investigated by Chowdhury et al. (2010) to establish if the dividend policies in the firms were consistent with the signaling hypothesis. Based on financial information of a big number of publicly listed firms, they estimated the sensitivity of changes in dividends to firms' profitability. The results showed that changes in dividends were followed by changes in future earnings of the dividend paying firms thus they concluded that the Chinese investors got signals of the firms' quality of governance and future performance through dividend payment announcements.

In the Pakistan market, evaluation of whether dividend announcement had an impact on prices of shares for companies that announced the dividend and other rival firms in the industry was sought by Aamir and Ali Shar (2011). They concluded that on the day dividend was announced and a few days after there was positive impact on dividend. They further concluded that for the rival firms, the findings previously seen also existed. They stated that the results confirmed that for future price determination, dividend distribution was relevant.

Policy makers are surrounded by the issue of whether there is information content in dividend announcements. Olweny (2012) sought to determine the extent to which there is information content in dividend announcements, the effect dividend announcements had on the firm value and its implications on the semi strong efficiency of the Nairobi Stock Exchange (NSE). He examined the information that was contained in dividend announcements and the effects on the firm value from the signals in the information contained in dividend announcements. He also determined the semi strong form efficiency of NSE. He concluded that there was information content in dividend announcements which affected the value of the firm. This conclusion arose from the fact that there was a significant relationship between abnormal stock returns and unexpected dividend announcements. He further concluded that some investors had unequal access to public information earning them abnormal returns thus the NSE was not semi strong form efficient.

Waweru et al. (2012) tested displacement property of dividends using Ohlson (1995; 2001) model followed by Hand and Landsman 2005 approach to investigate signaling hypothesis. The study found out that to know about the future earnings, dividends were used as signals. Their study supported the view that dividends were only increased by firms when certain that the future earnings prospects will be able to maintain higher payouts. The view of Waweru et al. (2012) was supported by Murekefu and Ouma (2012) who sought to find out the association between firm performance and dividend payout for firms listed on the NSE. They concluded that dividends was a major factor affecting firm performance and that dividend decisions was relevant and managers need to spend ample time coming up with a dividend policy that strengthens the performance of the firm and in turn value of the shareholder.

2.3 Effect of dividend announcements on share price in Kenya

In the 1920s, dealing in stock and shares started with an informal market that had no rules and regulations governing stock broking activities. The first professional stock broking firm was established in 1951. Nairobi Stock Exchange was constituted in 1954 as a voluntary association of stock brokers and the business of dealing in stocks was only

allowed for resident European communities (Nairobi Securities Exchange, 2013). The Nairobi Securities Exchange (NSE) has 61 listed firms in three segments namely; the alternative investments market the main investment market and the growth enterprise market segments (Nairobi Securities Exchange, 2013). The sector classes are ten; agricultural, commercial and services, telecommunication and technology, automobiles and accessories, banking, insurance, investment, manufacturing and allied, construction and allied and energy and petroleum (Nairobi Securities Exchange, 2013).

Among listed firms in the Nairobi Securities Exchange, the relationship between firm performance and dividend payout was sought by Murekefu and Ouma (2012). Their findings indicated that there was a strong and positive relationship. They also showed that among listed firms in Kenya, cash dividends were the commonly used type of dividends while other types of dividends were not employed by firms. They concluded that firm performance was mainly affected by dividend payout and this showed that dividend policy was relevant. Their finding was collaborated by Olweny (2012) who sought to determine the extent to which there is information content in dividend announcements, the effect dividend announcements had on the firm value and its implications on the semi strong efficiency of the Nairobi Stock Exchange (NSE). He concluded that there was information content in dividend announcements which affected the value of the firm. This conclusion arose from the fact the he found out that there was a significant relationship between abnormal stock returns and unexpected dividend announcements.

By testing the displacement property of dividends, the signaling hypothesis was investigated by Waweru et al. (2012). They suggested that only when the firms were sure of future earnings that would allow them maintaining higher payout then dividends were increased by firms. From the study, the findings provided further empirical evidence that signals from dividends were used to know about future earnings prospects of the firm. Mokaya et al. (2013) did a study on the effect of dividend policy on market share value in the banking industry in Kenya. Their study sought to establish the effects dividend policy had on the value of shares in the banking industry using National Bank of Kenya as a

case study. They found out that according to the investors, dividend payments influenced the share value and as dividend payments increase so does the price of the share.

2.3.1 Dividend Change Announcement

Dividend change announcement is the public announcement of cash dividend changes, different dividend announcement from the previous dividend announcement. Aharony and Swary (1980) used the naive 'no change' expectations model where they asserted that unless there will be significant changes in the future earnings prospects of the firm, change in dividends should not be made. Capstaff et al. (2004) used both the naive model and analysts' forecast model. The analysts' model reflects all available information at the time of forecasts. Cash dividend change announcement was measured using the dividend change model. This measure was chosen as it measures the change in the dividends compared to previous year.

2.3.2 Post election violence in Kenya

Following the announcement of the controversial general elections on 30 December 2007, an outbreak of violence erupted throughout the country that lasted about two months (Kniss, 2010). According to the Kenya National Commission on Human Rights (KNCHR), 136 of the 210 constituencies were affected with over 1,000 Kenyans killed and thousands injured and internally displaced. International pressure to end the standoff brought about mediation and power sharing that ended the conflict at the end of February 2008 when Kenya looked to be on the brink of state collapse (Kniss, 2010).

The violence had an effect on the economy of the country with the flower exports reducing by 24% overall and 38% for the firms that were located in the conflict areas due to workers being displaced. The sector was an important part of the country's GDP and had been enjoying a growth rate of 24% over 10 years that proceeded the time of the violence (Ksoll, 2009). The inflation rate for Kenya averaged 12% from the period 2005 to 2013 but in May 2008 it recorded an all time high of 31.5%. The high rate was attributed to the post election violence that had rocked the country at the beginning of 2008 (KNBS). This is represented in figure 2.1. The GDP growth rate averaged 1.15%

between the years 2005-2012. As a result of the post election violence, the GDP growth rate was at its lowest in March 2008 with a rate of -3.9% as can be seen in figure 2.2 (KNBS).

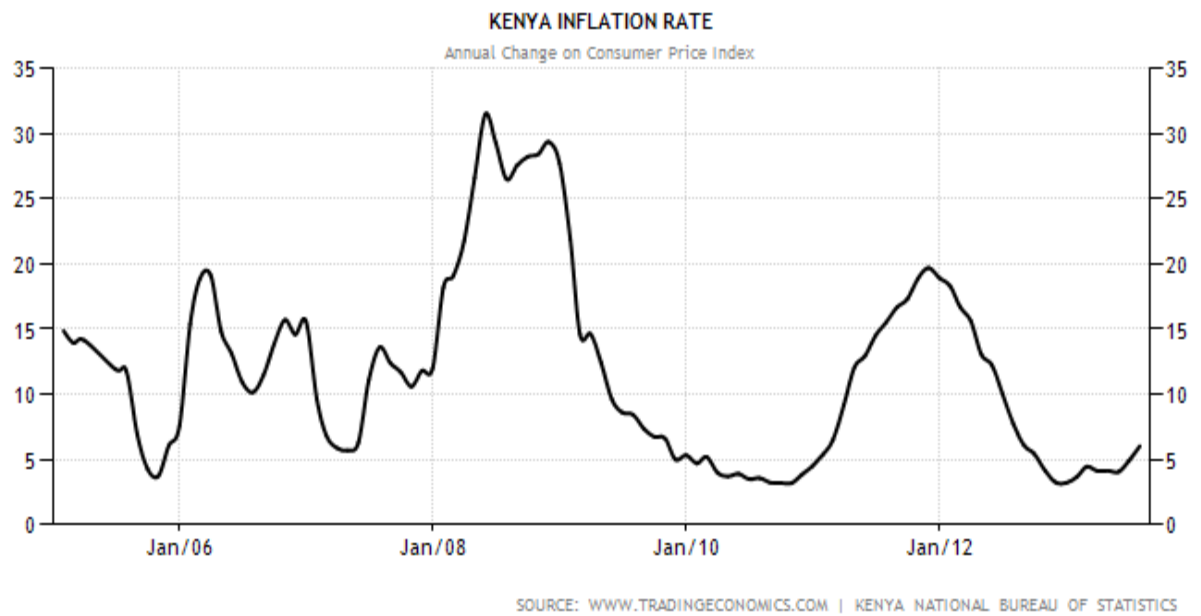


Figure 2.1: Kenya Inflation rate for the period 2005-2012 (KNBS, 2013)

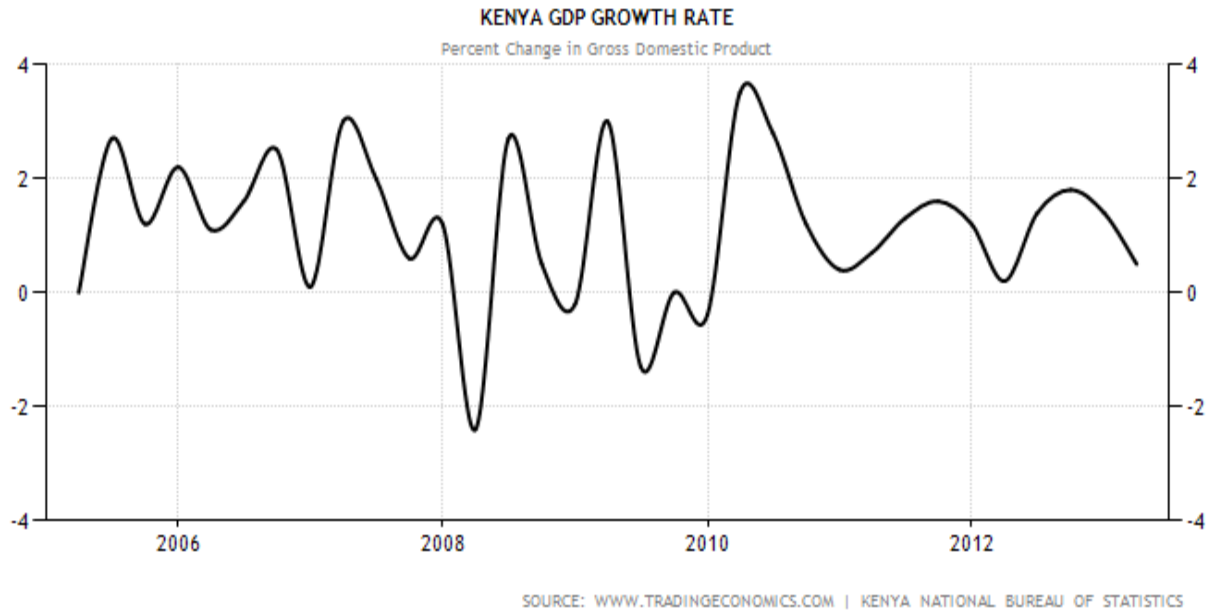


Figure 2.2: Kenya GDP growth rate for the period 2005-2012 (KNBS, 2013)

Nezerwe (2012) did a study to establish the impact of post election violence in Kenya that happened at the beginning of 2008 on the returns of the stock. He used the event methodology to analyse the impact of the violence on the returns of the market (NSE 20 Index). The findings of the study were that the violence had a significant negative effect on the market returns. Post election violence was used as a control variable to establish the effect of cash dividend change announcement on share price returns in the periods before the crisis, during the crisis and after the crisis. A measure of 1 was used for the periods of the crisis to indicate the presence of the crisis and 0 for the periods before and after the crisis to indicate the periods without the crisis. This measure was chosen as to indicate the periods with and without the post election crisis.

2.4 Event studies

The event study methodology was introduced by Fama, Fisher, Jensen and Roll (FFJR) (1969) who studied the effect of stock split announcement on stock returns. According to Binder (1998), event study methodology had been widely used to examine stock price behaviour around events like accounting rule changes, earnings announcements, changes in CEO and dividend announcements. Peterson (1989) stated that event studies are one of

the most frequently used analytical tools in financial research and it assesses whether there are any abnormal returns earned by stock holders after the specific event. She further stated that through observation of stock prices around the events, the market response to the event is examined. Event studies have become the standard method of measuring stock price reaction to announcements or events and are used mainly to test that the market efficiently incorporates information and to examine the impact of events on the wealth of the firms' stock holders (Binder, 1998).

Event studies have models used to estimate expected returns. The models are; mean adjusted return, market adjusted return, market model adjusted return, CAPM adjusted return and Fama-French three factor models. The event window and estimation period have to be identified where the impact of the event on stock prices is examined in the event window period while the expected return of the stocks are estimated in the estimation period which is a neutral period before the event window.

2.4.1 Mean Adjusted Return Model

The mean adjusted return is the average return over the estimation period and the average return can be used as the expected return. Brown and Warner (1980, 1985) found out that the mean adjusted returns model yielded results similar to other sophisticated models yet it was the simplest model.

$$E(R_{it}) = \bar{R}_i \dots\dots\dots \text{(Equation 1)}$$

Where:

$E(R_{it})$ is the Expected return of firm i on day t in the event window

$\bar{R}_i$ is the average return on day t within the estimation window

2.4.2 Market Adjusted Return Model

The expected return used for this model is the market return (R_{mt}) over the event window period. When the market adjusted return model is used, the estimation period is not required (Bruner, 1999). In market adjusted return, the measure of risk (β) is assumed to

be 1 and the intercept (α) to be zero therefore, the expected return is equal to the market return (Weber et al., 2008).

$$E(R_{it}) = R_{mt} \dots \dots \dots \text{(Equation 2)}$$

Where:

$E(R_{it})$ is the Expected return of firm i on day t in the event window

R_{mt} is the NSE 20 return on day t within the event window

The market adjusted return shows the changes that arise in the individual stocks value caused by announcement of dividend and is calculated as below:

$$AR_{it} = R_{it} - R_{mt} \dots \dots \dots \text{(Equation 3)}$$

Where:

AR_{it} is the Market Adjusted Abnormal return of firm i on day t in the event window

R_{it} is the return of firm i on day t within the event window

R_{mt} is the NSE 20 return on day t within the event window

2.4.3 Market Model Adjusted Return Model

The expected return is estimated based on a single factor market model as shown below.

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} \dots \dots \dots \text{(Equation 4)}$$

Where:

$E(R_{it})$ is the Expected return of firm i on day t in the event window

α_i is the intercept

β_i is the measure of risk

R_{mt} is the NSE 20 return on day t within the event window

In market model adjusted return, the regression coefficients are estimated by regressing the daily share price returns and the daily market index returns in a neutral period which is the estimation period using Ordinary Least Square (OLS). This method allows for the variation in risk associated with a selected stock as it controls the relation between stock returns and market returns (Small et al., 2007).

Under the market model adjusted return model, the abnormal return is calculated as;

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \dots \dots \dots \text{(Equation 5)}$$

Where:

AR_{it} is the Market Adjusted Abnormal return of firm i on day t in the event window

R_{it} is the return of firm i on day t within the event window

α_i is the intercept

β_i is the measure of risk

R_{mt} is the NSE 20 return on day t within the event window

2.4.4 Capital Asset Pricing Model (CAPM) Adjusted Return Model

According to Espenlaub et al. (2001), the expected return for CAPM adjusted return model is the outcome of the risk free rate of return (R_f) plus the market risk premium.

$$E(R_{it}) = R_{ft} + \beta_i (R_{mt} - R_{ft}) \dots \dots \dots \text{(Equation 6)}$$

Where:

$E(R_{it})$ is the Expected return of firm i on day t in the event window

R_{ft} is the risk free rate

β_i is the measure of risk for the stock

R_{mt} is the NSE 20 return on day t within the event window

The risk (β_i) of the model measures the risk of the stock as it assumes the investor wants higher returns to compensate for the high risk.

2.4.5 Fama-French three factor model

The model uses monthly returns over a long period of time and is an extension of the CAPM adjusted return model that combines more risk factors like a factor for size, market excess and book to market equity ratio (Fama and French, 1993).

$$E(R_{it}) = R_{ft} + \beta_i (R_{mt} - R_{ft}) + S_i SMB_t + H_i HML_t \dots \dots \dots \text{(Equation 7)}$$

Where:

$E(R_{it})$ is the Expected return of firm i on day t in the event window

R_{ft} is the risk free rate

β_i is the measure of risk for the stock

R_{mt} is the NSE 20 return on day t within the event window

S_i is a factor for size

SMB_t is the difference between average returns of small stock portfolios and big stock portfolios

H_i is the factor for book to market equity ratio

HML_t is the difference in average returns between high and low book to market stock portfolios

2.5 Research Model

The study used the event study method to investigate the effect on cash dividend announcement on prices of shares for firms listed on the NSE. The event window was 41 days; 20 days before and 20 days after the event date which is the announcement date with the announcement day being day 0. The choice of the event window was made in order to take into consideration other possible pre-event reaction because due to peculiar nature of the information environment in developing countries, there are possibilities that market reaction starts long before the actual announcements. Stock price reaction is the drift or change in the share price. Chen et al. (2009) and Olweny (2012) used the event study to determine the effect of cash dividend announcement on prices of shares. This they did by measuring the stock price reaction. To estimate abnormal returns for the different event windows, the Market Adjusted Return Model was used.

The main steps when conducting the event were; identifying the event to be tested, defining the period to be studied in terms of the event window and event date, estimating the expected returns, calculation of the abnormal returns, calculating the average abnormal returns and cumulative abnormal returns for test statistic, testing the significance of the abnormal returns and analyzing and interpreting the results from the test statistic.

2.5.1 Dividend change model

Dividend change announcement is the public announcement of cash dividend changes, announcement of different dividend from the previous announcement. Aharony and Swary (1980) used the naive ‘no change’ expectations model where they asserted that unless there will be significant changes in the future earnings prospects of the firm, change in dividends should not be made. Capstaff et al. (2004) used both the naive model and analysts’ forecast model. The analysts’ model reflects all available information at the time of forecasts. The period under study was from 1 January 2005 to 31 December 2012. This was measured by the dividend change model where the announcements were categorized into no change, increase and decrease announcements. The model expressed below is for the dividend change:

A dividend change is considered constant if;

$$D_{it} = D_{it-1}$$

Where:

D_{it} is the firm i present cash dividend

D_{it-1} is the firm i previous year’s cash dividend

A dividend change is considered a decrease if;

$$D_{it} < D_{it-1}$$

A dividend change is considered an increase if;

$$D_{it} > D_{it-1}$$

2.5.2 Abnormal return calculation

Integral to the event study is the abnormal performance analysis around the date of the event. The abnormal performance was measured using the Market Adjusted Return Model. The Market Model Adjusted Return Model, Mean Adjusted Return Model, CAPM Adjusted Return Model and Fama-French three factor model are other models that can be used. In Market Adjusted Return Model, the measure of risk (β) is assumed to be 1 and the intercept (α) to be zero. In Market Model Adjusted Return Model, the risk measure is calculated by regressing the daily share price returns and the daily market index returns in a neutral period. It is argued that using Market Model Adjusted Return

Model is not superior to Market Adjusted Return Model and in small markets; Market Adjusted Return Model gives good results as the Market Model Adjusted Return Model (Brown and Warner, 1980; Armitage, 1995; Travlos et al., 2001).

The market adjusted return shows the changes that arise in the individual stocks value caused by announcement of dividend and was calculated as below:

$$AR_{it} = R_{it} - R_{mt} \dots \dots \dots \text{(Equation 8)}$$

Where:

AR_{it} is the Market Adjusted Abnormal return of firm i on day t in the event window

R_{it} is the return of firm i on day t within the event window

R_{mt} is the NSE 20 return on day t within the event window

The Average Abnormal Return (AAR) and Cumulative Abnormal Return (CAR) were used to measure and test the abnormal return significance. The AAR and CAR was calculated as below:

$$AAR_t = \sum AR_{it} / N \quad t = -20, -19, \dots, 20 \dots \dots \dots \text{(Equation 9)}$$

$$CAR_t = \sum AR_{it} \quad t = -20, -19, \dots, 20 \dots \dots \dots \text{(Equation 10)}$$

Most event studies use parametric test of t-statistic to test the significance of the abnormal returns.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This study aimed at investigating the effect of dividend change announcement on stock price. This chapter discusses the statistical techniques used to establish the relationships between variables. The chapter is presented as follows: research design, population and sample; data collection tools used and data analysis.

3.1 Research Design

The event study methodology was used. The study required examining panel data for a period of six years from 1 January 2005 to 31 December 2012 to establish the relationships that exist between the variables under the study over the period.

3.2 Population and Sample

The population consisted of the 55 companies listed on the Nairobi Securities Exchange for the entire period 1 January 2005 to 31 December 2012. The sample population was drawn from companies that announced dividends for the period 1 January 2005 to 31 December 2012 and whose data was available. The sample number therefore consisted of 44 companies.

3.3 Data Collection

Data required for the study were those on closing share prices and dividend announcement which were obtained from secondary data as all the data required for the study was available from financial reports and from share prices at the Nairobi Securities Exchange. Dividend data on the companies listed was collected from the annual reports and prospectus of the companies. The documents were sourced from the specific companies' websites and the Capital Markets Authority library. Data on the daily closing share prices was sourced from the Nairobi Securities Exchange. The data was collected for the time period 1 January 2005 and 31 December 2012. The period 2005 to 2012 was chosen to cover the period of the Post-Election violence in Kenya. The periods were categorized into three; three years before the crisis 2005 to 2007 (pre crisis), two year

during the crisis (2008/2009) and three years after the crisis 2010 to 2012(post crisis). This enabled the assessment of the stock price reaction to dividend changes before, during and after the Post-Election violence in Kenya that is in different market phases; bull and bear market phases.

3.4 Data Analysis

Collected data was subjected to statistical analysis using Gen Stat ver. 14 software. Dividend change was calculated by the use of the dividend change model. The event date was then established for companies with dividend changes to determine the event window. The first objective aimed at establishing whether there was a relationship between share price returns and dividend change announcement. The objective was achieved by running a two sample t-test on the abnormal returns to determine their significance (95%) around the announcement date.

The second objective was to establish the kind of effect cash dividend increase and decrease announcement had on share price returns. A two sample t-test was run on the abnormal returns to determine the significance (95%) of the returns around the announcement date for the different types of dividends.

The third objective aimed at establishing how cash dividend change announcement affected share price returns in the different economic periods (before, during and after the PEV crisis). A two sample t-test was also run on abnormal returns for the different dividend types to determine their significance (95%) around the announcement date.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.0 Introduction

This chapter presents the data used in the study, analysis and the results obtained. For each data set, an analysis was done based on the specific study objectives and the variables that were selected for the study. The chapter is structured as follows: **4.1** Dividend analysis and interpretation; **4.2** Dividend change model; **4.3** General effects on share price; **4.4** Effect of dividend increase and decrease announcements; **4.5** Effect of dividend announcements in different economic periods

4.1 Dividend analysis and interpretation

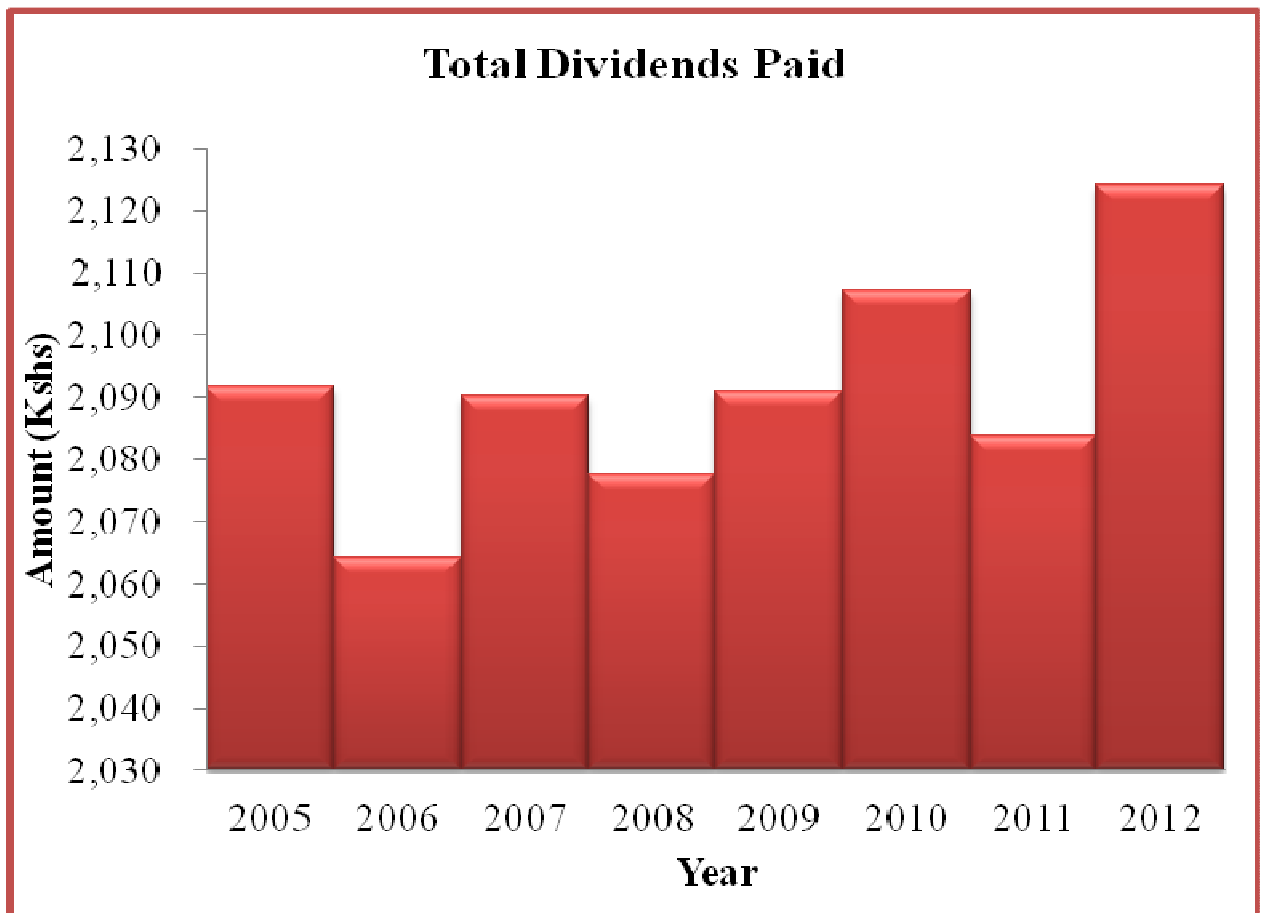


Figure 4.1: Annual Trend of Total Dividends Paid 2005 – 2012

Trend in the total dividend paid for the cash dividends of the companies under study is shown in figure 4.1. In 2008, there was a decline in the total dividend paid. This decline could be attributed to the economic conditions prevailing at the time that resulted from PEV in Kenya. In 2009 the total dividend paid increased. Over the post crisis period, 2010 to 2012, the total dividend paid showed an upward trend. This could be explained by the recovery of the economy from the PEV crisis.

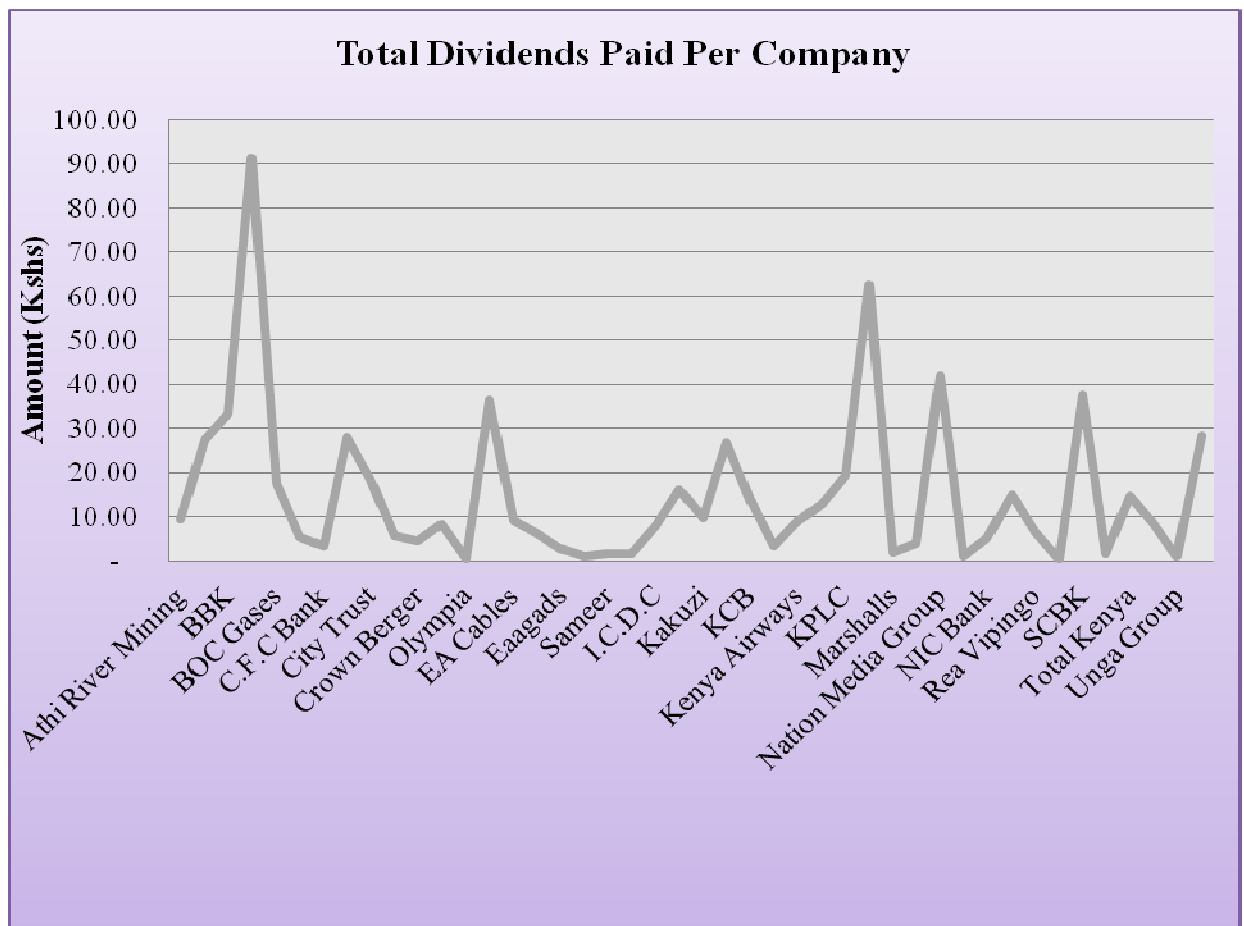


Figure 4.2: Annual Trend of Total Dividends Paid Per Company 2005 – 2012

4.2 Dividend change model

This consisted of panel data for 352 events. The model separated the 352 dividend events into dividend increase events, no change events and dividend decrease events. The 352 dividend events constituted 137 dividend increase events, 119 showed no changes while

96 dividends exhibited decreased events (Table 4.1). The number of dividend increases in the pre-crisis period of 2005 to 2007 was 49; the crisis period of 2008 to 2009 was 31 and 57 for the post crisis period of 2010 to 2012. The pre crisis and post crisis period numbers were higher than the crisis period suggesting that fewer firms announced dividend increases in the crisis period. During economic downturn periods like the PEV, it is expected that lower profits are reported for company as compared to the normal economic periods. More firms tend to reduce dividends during economic downturns as dividends are paid out of earning. Since the company profits are usually lower during economic downturns in comparison to normal economic periods, it is expected that firms will have no change in dividend during the economic downturn periods than during normal economic periods.

Table 4.1: Frequency of dividend changes per year for the period 2005-2012

	Dividend Increases		No Change		Dividend Decreases		Total Per Year	
	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
2005	19	13.87%	18	15.13%	7	7.29%	44	12.50%
2006	12	8.76%	17	14.29%	15	15.63%	44	12.50%
2007	18	13.14%	21	17.65%	5	5.21%	44	12.50%
2008	15	10.95%	16	13.45%	13	13.54%	44	12.50%
2009	16	11.68%	15	12.61%	13	13.54%	44	12.50%
2010	20	14.60%	13	10.92%	11	11.46%	44	12.50%
2011	15	10.95%	11	9.24%	18	18.75%	44	12.50%
2012	22	16.06%	8	6.72%	14	14.58%	44	12.50%
	137	70.07%	119	78.15%	96	78.13%	352	75.00%

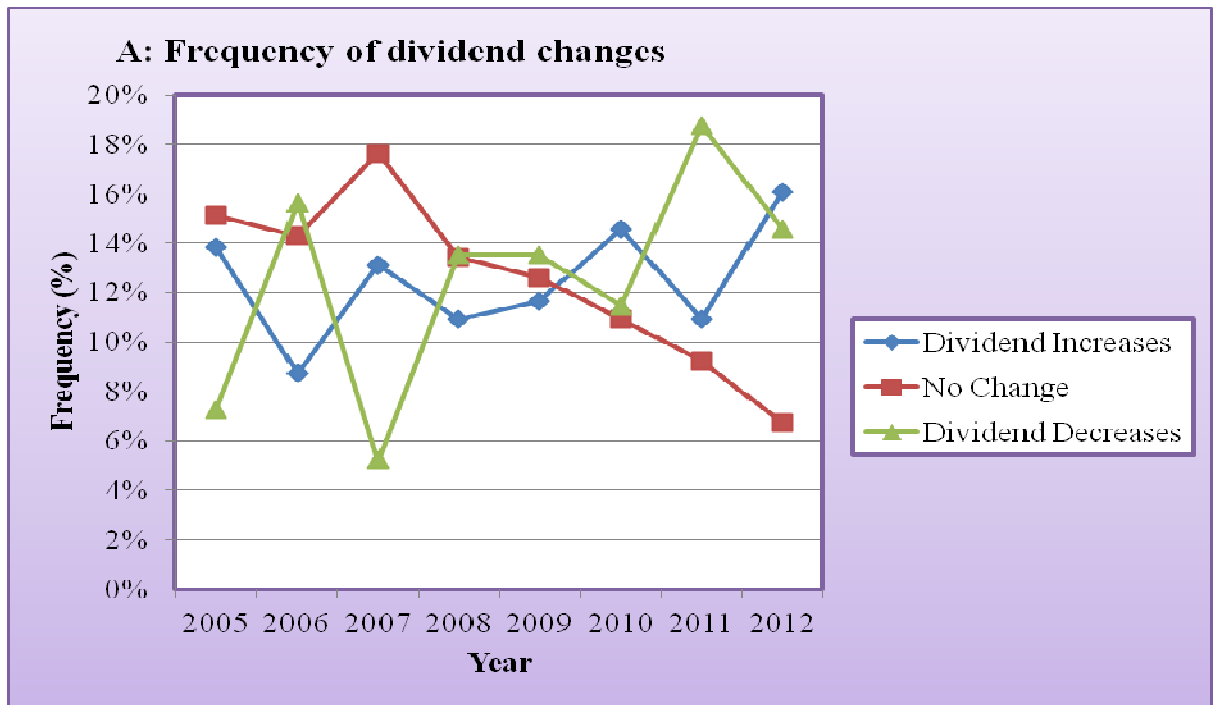


Figure 4.10: Frequency of dividend changes per year for the period 2005 - 2012

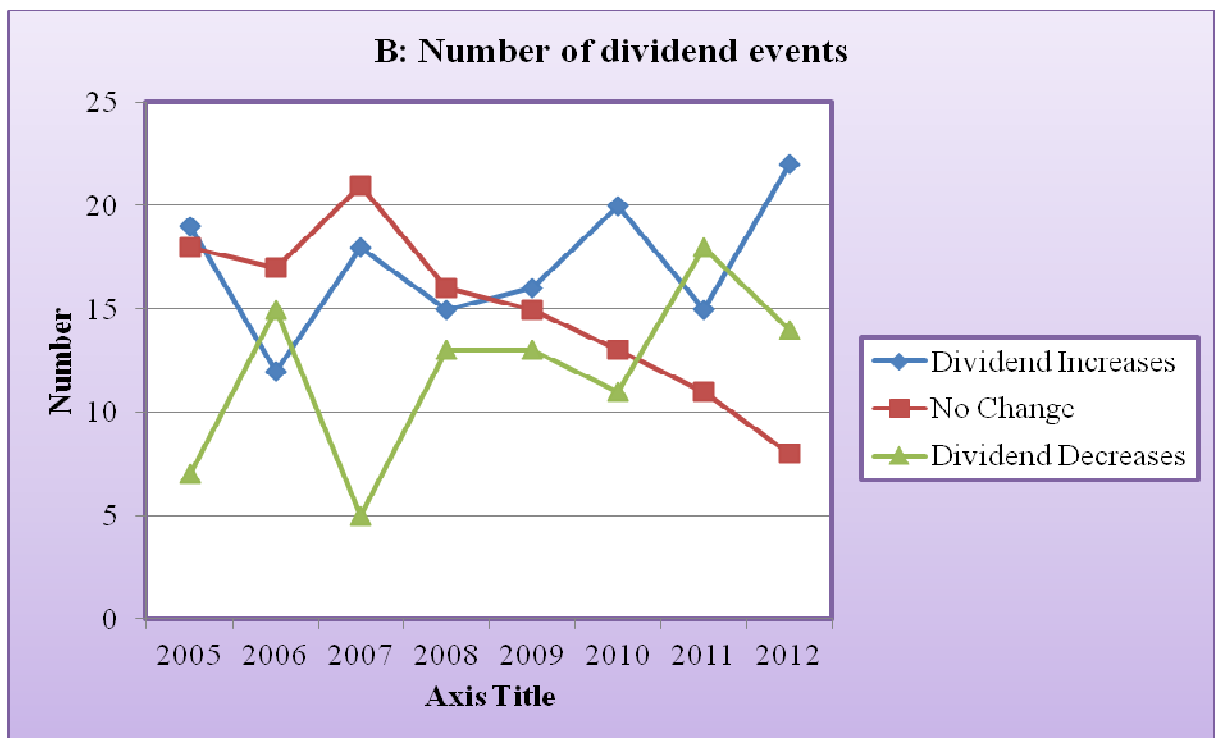


Figure 4.11: Number of dividend events per year for the period 2005 – 2012

Figure 4.10 and figure 4.11 showed that the trends confirmed that the frequency of dividend increases reduced in the crisis period and increased during the post crisis period. Therefore, it can be concluded that at the start of the PEV in Kenya, the frequency of increases in dividends reduced because firms reduced dividends. A similar trend was also observed for the dividend events numbers.

Table 4.2: Pre, during and post crisis number of dividend changes for the period 2005 - 2012

Period	Number of dividend events		
	Dividend Increases	No Change	Dividend Decreases
Pre-crisis	49	56	27
During crisis	31	31	26
Post-crisis	57	32	43
Total	137	119	96
% change	-36.73%	-44.64%	-3.70%
% change	83.87%	3.23%	65.38%

As shown in Table 4.2, the number of increases in dividend declined by 36.73% in the crisis period, then increased by 83.87% during the post crisis period. The number of no change decreased by 44.64% during the crisis period and increased by 3.23% during the post crisis. The number of dividend decreases decreased by 3.7% during the crisis period and increased by 65.38% during the post crisis period.

4.3 General effect on share price

The first objective of the study was to establish if there was a relationship between cash dividend change announcement and share price returns. The objective aimed at establishing whether cash dividend announcement had a general effect on share price returns regardless of other market environment and economic factors. The objective was analyzed by running a two sample t-test to test for significance of the abnormal returns before and after cash dividend announcement for all the years (2005 to 2012) to determine the differences if any in returns before and after cash dividend announcement

and if the cash dividend announcements had a general effect on share prices. This is presented in Table 4.3 and Table 4.4.

Table 4.3: Two-sample t-test for CAR for the period 2005 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	418.2	316,935	563.0	125.9
Before	20	-135.1	813,604	902.0	201.7

Test for equality of sample variances

Test statistic $F = 2.57$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.07

Difference of means: 553.3

Standard error of difference: 237.8

95% confidence interval for difference in means: (-1038, -68.94)

Test of null hypothesis that mean of CAR before announcement = mean for CAR after announcement

Test statistic $t = -2.33$ on approximately 31.85 d.f.

Probability = 0.026

Table 4.4: Two-sample t-test for AAR for the period 2005 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	1.867	6.32	2.513	0.5620
Before	20	-0.603	16.22	4.027	0.9004

Test for equality of sample variances

Test statistic $F = 2.57$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.07

Difference of means: 2.470
Standard error of difference: 1.061

95% confidence interval for difference in means: (-4.633, -0.3078)

Test of null hypothesis that mean of AAR before announcement = mean of AAR after announcement

Test statistic $t = -2.33$ on approximately 31.85 d.f.

Probability = 0.026

The two sample t-test for the significance of the means for CAR before cash dividend announcements and after cash dividend announcements was done. The results showed that there was statistically significant ($P < 0.05$) difference between CAR before cash dividend announcements and after cash dividend announcements (Table 4.3). It can therefore be concluded that the difference in the means of the CAR before and after cash dividend announcements were likely due to the cash dividend announcements. Consequently, the dividend announcements had a general significant effect on the share prices

A two sample t-test for significance of the means for AAR before cash dividend announcements and after cash dividend announcements was calculated. The results (Table 4.4) indicated that there was statistically significant ($P < 0.05$) difference between AAR before cash dividend announcements and after cash dividend announcements. This could imply that the difference in the means of AAR before and after cash dividend announcements were likely due to the cash dividend announcements. Therefore the dividend announcements had a significant effect on the share prices. This is supported by the results for the CAR that also showed that dividend announcements had a significant effect on share prices. The dividend announcements acted as signals and hence affected the share prices as there was statistical difference between the means before and after announcements. The announcements had information content that determined the share prices.

The empirical findings of this study corroborated those of Dasilas and Leventis (2011) who did a study in the Greek market on the trading volume and stock price sensitivity to dividend announcements. In their conclusion, they supported the information content in dividends as they found out that there was a significant market reaction to announcements. In this work, the abnormal returns show that dividend announcements had a significant effect on the share price returns and the means were negative before announcement and positive after the announcement. The study however, contrasted that of Uddin and Chaundhary (2005) who did a study on the Dhaka Stock Exchange to investigate dividend announcement impact on stock prices of Dhaka market. They hoped that some information may be carried for the market and share prices adjust according to announcement of dividend payments. The paper however, concluded that the dividend had no information content from the evidence from Dhaka Stock Exchange and Dhakan market stock prices and returns supported the dividend irrelevance theory

The first objective which aimed at establishing whether there was a relationship between cash dividend announcement and share price returns regardless of other market environment and economic factors was achieved by running a two sample t-test for the abnormal returns. The test results showed that there was statistically significant difference between the abnormal returns before cash dividend announcements and after cash dividend announcements and it was therefore, concluded that the dividend announcements did have an effect on the share prices. The findings supported the dividend signaling theory as the dividend announcements acted as signals of the firms' future earnings, there was information content in the dividend announcements.

4.4 Effect of dividend increase and decrease announcements

The second objective was to determine the kind of effect cash dividend increase and decrease announcements had on share price returns. The aim of the objective was to determine how cash dividend increases and decreases affected share price returns. The objective sought to find out whether the effect of cash dividend announced varied with the type of dividend announced (decrease or increase in dividend). A two sample t-test

was done for the abnormal returns. The objective was achieved as given in Table 4.5, Table 4.6, Table 4.7, Table 4.8, Table 4.9, Table 4.10, Table 4.11 and Table 4.12.

Table 4.5 Two-sample t-test for CAR (Dividend Increase) for the period 2005 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	258.6	181,194	425.7	95.2
Before	20	-282.3	513,713	716.7	160.3

Test for equality of sample variances

Test statistic F = 2.84 on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.08

Difference of means: 540.9

Standard error of difference: 186.4

95% confidence interval for difference in means: (-921.1, -160.7)

Test of null hypothesis that mean of CAR before announcement = mean of CAR after announcement

Test statistic t = -2.90 on approximately 30.92 d.f.

Probability = 0.007

Table 4.6 Two-sample t-test for AAR (Dividend Increase) for the period 2005 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	1.930	10.09	3.177	0.7103
Before	20	-2.107	28.61	5.349	1.1960

Test for equality of sample variances

Test statistic F = 2.84 on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.08

Difference of means:	4.036
Standard error of difference:	1.391

95% confidence interval for difference in means: (-6.874, -1.199)

Test of null hypothesis that mean of AAR before announcement = mean of AAR after announcement

Test statistic $t = -2.90$ on approximately 30.92 d.f.

Probability = 0.007

The two sample t-test for the significance of the means for CAR for before cash dividend increase announcements and after cash dividend increase announcements was done. The results showed that there was statistically significant ($P < 0.05$) difference between CAR before cash dividend increase announcements and after cash dividend increase announcements (Table 4.5). The mean before the announcement for CAR was -282 and after was 259 with LSD of 11.8 (Table 4.7). It can therefore be concluded that the difference in the means of CAR before and after cash dividend increase announcements was due to the cash dividend increase announcements. Consequently, the dividend increase announcements had a significant effect on the share prices. For AAR, a two sample t-test for the significance of the means before cash dividend increase announcements and after cash dividend increase announcements was done. The results showed that there was statistically significant ($P < 0.05$) difference between AAR before cash dividend increase announcements and after cash dividend increase announcements (Table 4.6). The LSD for AAR was 0.088 with the mean before announcement of -2.11 and after announcement of 1.93 (Table 4.8). It was concluded that the difference in the means of AAR before and after cash dividend increase announcements was due to the cash dividend increase announcement hence, the dividend increase announcements had a significant effect on the share prices.

Table 4.7: Analysis of variance for CAR (Dividend Increase) for the period 2005 - 2012

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
PERIOD	1	2,925,408	2,925,408	8.42	0.006
Residual	38	13,203,224	347,453		
Total	39	16,128,631			
Tables of means					
PERIOD	After		Before		
	259		-282		
Standard errors of differences of means					
Table		PERIOD			
rep.		20			
d.f.		38			
s.e.d.		186.4			
Least significant differences of means (95% level)					
Table		PERIOD			
rep.		20			
d.f.		38			
l.s.d.		11.8			

Table 4.8: Analysis of variance for AAR (Dividend Increase) for the period 2005 - 2012

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
PERIOD	1	162.92	162.92	8.42	0.006
Residual	38	735.31	19.35		
Total	39	898.23			
Tables of means					
PERIOD	After		Before		
	1.93		-2.11		
Standard errors of differences of means					
Table		PERIOD			
rep.		20			
d.f.		38			
s.e.d.		1.391			
Least significant differences of means (95% level)					
Table		PERIOD			
rep.		20			
d.f.		38			
l.s.d.		0.088			

The ANOVA results (Table 4.7 and Table 4.8) established that the mean before the announcement was lower than the mean after the announcement for both CAR and AAR indicating that the dividend increase announcement was received positively by the investors as the share price returns increased after the announcement. It was therefore, concluded that dividend increase announcement affected the share prices positively. The dividend increase announcement met the investors' expectations hence the share price increased.

Table 4.9: Two-sample t-test for CAR (Dividend Decrease) for the period 2005 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	147.1	127,417	357.0	79.82
Before	20	159.6	124,260	352.5	78.82

Test for equality of sample variances

Test statistic F = 1.03 on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.96

Difference of means: -12.4

Standard error of difference: 112.2

95% confidence interval for difference in means: (-239.5, 214.6)

Test of null hypothesis that mean of CAR before announcement = mean of CAR after announcement

Test statistic t = -0.11 on 38 d.f.

Probability = 0.012

Table 4.10: Two-sample t-test for AAR (Dividend Decrease) for the period 2005 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	1.635	15.73	3.966	0.8869
Before	20	1.773	15.34	3.917	0.8758

Test for equality of sample variances

Test statistic $F = 1.03$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.96

Difference of means: -0.138

Standard error of difference: 1.246

95% confidence interval for difference in means: (-2.662, 2.385)

Test of null hypothesis that mean of AAR before announcement = mean of AAR after announcement

Test statistic $t = -0.11$ on 38 d.f.

Probability = 0.012

A two sample t-test for significance of the means for CAR before cash dividend decrease announcements and after cash dividend decrease announcements was done. The results (Table 4.9) indicated that there was statistically significant ($P < 0.05$) difference between CAR before cash dividend decrease announcements and after cash dividend decrease announcements. The LSD (Table 4.11) was 7.1 with the mean for before announcement of 160 and after announcement of 147 indicating that the two means were not the same with the mean before the announcement higher than the mean after the announcement. This could imply that the difference in the means of CAR before and after cash dividend decrease announcements was due to the cash dividend decrease announcements. Therefore the dividend announcements had a significant effect on the share prices. The two sample t-test for the significance of the means for AAR for before cash dividend

decrease announcements and after cash dividend decrease announcements was calculated. The results showed that there was statistically significant ($P < 0.05$) difference between AAR before cash dividend decrease announcements and after cash dividend decrease announcements (Table 4.10). The LSD (Table 4.12) was 0.079 with the mean for before announcement of 1.77 and after announcement of 1.63 indicating that the two means were not statistically the same, the mean before the announcement was higher than after the announcement. It can therefore be concluded that the difference in the means of AAR before and after cash dividend decrease announcements was due to the cash dividend decrease announcements. Consequently, the dividend decrease announcements had a significant effect on the share prices. This is supported by the results for the CAR and AAR for cash dividend increase that also showed that dividend announcements did have a significant effect on share prices.

Table 4.11: Analysis of variance for CAR (Dividend Decrease) for the period 2005 - 2012

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
PERIOD	1	1,550	1,550	0.01	0.012
Residual	38	4,781,868	125,839		
Total	39	4,783,418			
Tables of means					
PERIOD	After			Before	
	147			160	
Standard errors of differences of means					
Table		PERIOD			
rep.		20			
d.f.		38			
s.e.d.		112.2			
Least significant differences of means (95% level)					
Table		PERIOD			
rep.		20			
d.f.		38			
l.s.d.		7.1			

Table 4.12: Analysis of variance for AAR (Dividend Decrease) for the period 2005 - 2012

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
PERIOD	1	0.19	0.19	0.01	0.012
Residual	38	590.35	15.54		
Total	39	590.55			
Tables of means					
PERIOD	After		Before		
	1.63		1.77		
Standard errors of differences of means					
Table		PERIOD			
rep.		20			
d.f.		38			
s.e.d.		1.246			
Least significant differences of means (95% level)					
Table		PERIOD			
rep.		20			
d.f.		38			
l.s.d.		0.079			

From the ANOVA (Table 4.11 and Table 4.12), it was further established that the mean before the announcement was higher than the mean after the announcement for both CAR and AAR indicating that the dividend decrease announcement was received negatively by the investors as the share price reduced after the announcement. It was therefore, concluded that dividend decrease announcement affected the share prices negatively. The value of the firm is determined by investors' expectations, investors rate badly firms that do not meet their expectations and so the dividend decrease announcement did not meet the investors' expectations hence affected the share price.

The study contrasted a study done by Uddin and Chaundhary (2005) who did a study on the Dhaka Stock Exchange to investigate dividend announcement impact on stock prices of Dhaka market. They hoped that some information may be carried for the market and share prices adjust according to announcement of dividend payments. The paper however, concluded that the dividend had no information content from the evidence from Dhaka Stock Exchange and Dhakan market stock prices and returns supported the dividend irrelevance theory. However, the findings of this study corroborated those by

Olweny (2012). Olweny (2012) sought to determine the extent to which there is information content in dividend announcements, the effect dividend announcements had on the firm value and its implications on the semi strong efficiency of the Nairobi Stock Exchange (NSE). He examined the information that was contained in dividend announcements and the effects on the firm value from the signals in the information contained in dividend announcements. He also sought to determine the semi strong form efficiency of NSE. He concluded that there was information content in dividend announcements which affected the value of the firm. This conclusion arose from the fact that he found out that there was a significant relationship between abnormal stock returns and unexpected dividend announcements. He further explained that some investors had unequal access to public information earning them abnormal returns thus the NSE was not semi strong form efficient.

According to Chen et al. (2009), a cash dividend increase announcement is an optimistic signal on a firm's future operation and cash flow for investors. Chen et al. (2009) stated that an increase in cash dividend is followed by positive abnormal returns. On the contrary, they further stated that, negative abnormal returns follow the announcement of a cash dividend decrease as it is a pessimistic signal. They concluded that these empirical studies support the dividend signaling hypothesis and investors' expectations of a firm's cash flow are adjusted after cash dividend changes. The findings of the study supported the findings of Chen et al. (2009) where the second objective aimed at establishing the kind of effect cash dividend increase and decrease had on share price returns. A two sample t-test for the abnormal returns for both dividend increases and decreases was run and the test results showed that there was statistically significant difference between the abnormal returns before cash dividend announcements and after cash dividend announcements and it was therefore, concluded that the dividend announcements did have an effect on the share prices. It was further concluded that share prices reacted positively to dividend increase and negatively to dividend decrease and so there was information content in the dividend announcements which affected the share prices. The dividends acted as a signal.

4.5 Effect of dividend announcements in different economic periods

The third objective was to establish if cash dividend change announcements affected share price returns differently between the periods before, during and after the Post-Election violence in Kenya. The objective aimed at establishing whether cash dividend change announcements affected the share price returns differently during different economic conditions and in the study the different economic conditions were before, during and after the PEV in Kenya. A two sample t-test was done on the abnormal returns during the pre crisis period of 2005 to 2007, crisis period of 2008 to 2009 and post crisis period of 2010 to 2012. Effect of dividend announcements in different economic periods is given in Tables 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, 4.20, 4.21, 4.22, 4.23 and 4.24.

4.5.1 Pre Crisis Period

The two sample t-test for significance of CAR and AAR for dividend decreases before the PEV is presented in Table 4.13 and Table 4.14. There was statistically significant ($P < 0.05$) difference for CAR and AAR before the PEV crisis period for dividend decreases. It can be concluded that the difference in the means of the abnormal returns for dividend decreases before the PEV crisis period was likely due to the cash dividend decrease announcements. Therefore the dividend decrease announcements did have a significant effect on the share prices before the PEV crisis period.

Table 4.13: Two-sample t-test for Pre Crisis CAR (Dividend Decrease) for the period 2005 - 2007

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	49.76	50,192	224.0	50.10
Before	20	139.08	44,009	209.8	46.91

Test for equality of sample variances

Test statistic $F = 1.14$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.78

Difference of means: -89.31
 Standard error of difference: 68.63

95% confidence interval for difference in means: (-49.62, 228.2)

Test of null hypothesis that mean of CAR before announcement = mean of CAR after announcement

Test statistic $t = 1.30$ on 38 d.f.

Probability = 0.021

Table 4.14: Two-sample t-test for Pre Crisis AAR (Dividend Decrease) for the period 2005 - 2007

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	2.164	94.88	9.741	2.178
Before	20	6.047	83.19	9.121	2.040

Test for equality of sample variances

Test statistic $F = 1.14$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.78

Difference of means: - 3.883
 Standard error of difference: 2.984

95% confidence interval for difference in means: (-2.157, 9.924)

Test of null hypothesis that mean of AAR before announcement = mean of AAR after announcement

Test statistic $t = 1.30$ on 38 d.f.

Probability = 0.021

A two sample t-test for significance of CAR and AAR for dividend increases before the PEV was done and is presented in table 4.15 and table 4.16. There was statistically significant ($P < 0.05$) difference for CAR and AAR before the PEV crisis period for dividend increases. It was concluded that the difference in the means of the abnormal returns for dividend increases before the PEV crisis period was due to the cash dividend increase announcements. Therefore, the dividend increase announcements had a significant effect on the share prices before the PEV crisis period.

Table 4.15: Two-sample t-test for Pre Crisis CAR (Dividend Increase) for the period 2005 - 2007

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	172.3	190,661	436.6	97.64
Before	20	-70.2	202,401	449.9	100.60

Test for equality of sample variances

Test statistic $F = 1.06$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.90

Difference of means: 242.6

Standard error of difference: 140.2

95% confidence interval for difference in means: (-526.4, 41.24)

Test of null hypothesis that mean of CAR before announcement = mean of CAR after announcement

Test statistic $t = -1.73$ on 38 d.f.

Probability = 0.042

Table 4.16: Two-sample t-test for Pre Crisis AAR (Dividend Increase) for the period 2005 - 2007

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	3.666	86.31	9.290	2.077
Before	20	-1.495	91.63	9.572	2.140

Test for equality of sample variances

Test statistic $F = 1.06$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.90

Difference of means: 5.161

Standard error of difference: 2.983

95% confidence interval for difference in means: (-11.20, 0.8775)

Test of null hypothesis that mean of AAR before announcement = mean of AAR after announcement

Test statistic $t = -1.73$ on 38 d.f.

Probability = 0.042

Dividend increase and decrease announcements before the PEV crisis had a significant effect on the share price returns. The announcements had information content and so acted as signals with increases having positive reactions and decreases negative reactions. Share prices increased after dividend increase announcements and decreased after dividend decrease announcements.

4.5.2 During Crisis Period

The two sample t-test for significance of CAR and AAR for dividend decreases during the PEV is presented in table 4.17 and table 4.18. There was statistically significant ($P < 0.05$) difference for CAR and AAR during the PEV crisis period for dividend decreases. It can be concluded that the difference in the means of the abnormal returns for

dividend decreases during the PEV crisis period was likely due to the cash dividend decrease announcements. Therefore the dividend decrease announcements did have a significant effect on the share prices before the PEV crisis period.

Table 4.17: Two-sample t-test for During Crisis CAR (Dividend Decrease) for the period 2008 - 2009

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	129.2	69022	262.7	58.75
Before	20	136.5	61932	248.9	55.65

Test for equality of sample variances

Test statistic F = 1.11 on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.82

Difference of means: -7.37

Standard error of difference: 80.92

95% confidence interval for difference in means: (-171.2, 156.4)

Test of null hypothesis that mean of CAR before announcement = mean of CAR after announcement

Test statistic t = -0.09 on 38 d.f.

Probability = 0.028

Table 4.18: Two-sample t-test for During Crisis AAR (Dividend Decrease) for the period 2008 - 2009

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	5.382	119.8	10.95	2.448
Before	20	5.689	107.5	10.37	2.319

Test for equality of sample variances

Test statistic $F = 1.11$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.82

Difference of means: -0.307

Standard error of difference: 3.372

95% confidence interval for difference in means: (-7.132, 6.518)

Test of null hypothesis that mean of AAR before announcement = mean of AAR after announcement

Test statistic $t = -0.09$ on 38 d.f.

Probability = 0.028

A two sample t-test for significance of CAR and AAR for dividend increases during the PEV was done and is presented in table 4.19 and table 4.20. There was statistically significant ($P < 0.05$) difference for CAR and AAR during the PEV crisis period for dividend increases. It was concluded that the difference in the means of the abnormal returns for dividend increases during the PEV crisis period was due to the cash dividend increase announcements. Therefore, the dividend increase announcements had a significant effect on the share prices during the PEV crisis period.

Table 4.19: Two-sample t-test for During Crisis CAR (Dividend Increase) for the period 2008 - 2009

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	167.40	133,273	365.1	81.63
Before	20	-31.04	132,389	363.9	81.36

Test for equality of sample variances

Test statistic $F = 1.01$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.99

Difference of means: 198.4

Standard error of difference: 115.3

95% confidence interval for difference in means: (-431.7, 34.88)

Test of null hypothesis that mean of CAR before announcement = mean of CAR after announcement

Test statistic $t = -1.72$ on 38 d.f.

Probability = 0.033

Table 4.20: Two-sample t-test for During Crisis AAR (Dividend Increase) for the period 2008 - 2009

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	5.580	148.1	12.17	2.721
Before	20	-1.035	147.1	12.13	2.712

Test for equality of sample variances

Test statistic $F = 1.01$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.99

Difference of means: 6.614

Standard error of difference: 3.842

95% confidence interval for difference in means: (-14.39, 1.163)

Test of null hypothesis that mean of AAR before announcement = mean of AAR after announcement

Test statistic $t = -1.72$ on 38 d.f.

Probability = 0.033

Dividend increase and decrease announcements during the PEV crisis had a significant effect on the share price returns. The announcements had information content and so acted as signals with increases having positive reactions and decreases negative reactions. Share prices increased after dividend increase announcements and decreased after dividend decrease announcements.

4.5.3 After Crisis Period

The two sample t-test for significance of the means for CAR and AAR for dividend decreases after the PEV indicated that there was statistically significant ($P < 0.05$) difference for the abnormal returns after the PEV crisis period (Table 4.21 and Table 4.22). This implied that the difference in the means of abnormal returns after the PEV crisis period was likely due to the cash dividend decrease announcements. As such, the dividend decrease announcements did have a significant effect on the share price returns after the PEV crisis period. Dividend announcements after the PEV crisis periods had a strong effect on share price returns and therefore, the difference in the means of the share price returns after the PEV crisis periods was not due to chance.

Table 4.21: Two-sample t-test for Post Crisis CAR (Dividend Decrease) for the period 2010 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	-121.11	17360	131.8	29.46
Before	20	-26.71	27347	165.4	36.98

Test for equality of sample variances

Test statistic $F = 1.58$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.33

Difference of means: - 94.39

Standard error of difference: 47.28

95% confidence interval for difference in means: (-190.1, 1.320)

Test of null hypothesis that mean of CAR before announcement = mean of CAR after announcement

Test statistic $t = -2.00$ on 38 d.f.

Probability = 0.05

Table 4.22: Two-sample t-test for Post Crisis AAR (Dividend Decrease) for the period 2010 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	-2.816	9.39	3.064	0.6852
Before	20	-0.621	14.79	3.846	0.8599

Test for equality of sample variances

Test statistic $F = 1.58$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.33

Difference of means: -2.195

Standard error of difference: 1.100

95% confidence interval for difference in means: (-4.421, 0.03070)

Test of null hypothesis that mean of AAR before announcement = mean of AAR after announcement

Test statistic $t = -2.00$ on 38 d.f.

Probability = 0.05

A two sample t-test for significance of the means for CAR and AAR for dividend increases after the PEV indicated that there was statistically significant ($P < 0.05$) difference for the abnormal returns after the PEV crisis period (Table 4.23 and Table 4.24). This implied that the difference in the means of abnormal returns after the PEV

crisis period was due to the cash dividend increase announcements. As such, the dividend increase announcements had a significant effect on the share price returns after the PEV crisis period. Dividend announcements after the PEV crisis periods had a strong effect on share price returns and therefore, the difference in the means of the share price returns after the PEV crisis periods was not due to chance.

Table 4.23: Two-sample t-test for Post Crisis CAR (Dividend Increase) for the period 2010 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	-81.1	32975	181.6	40.60
Before	20	-181	31740	178.2	39.84

Test for equality of sample variances

Test statistic $F = 1.04$ on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.93

Difference of means: 99.88

Standard error of difference: 56.88

95% confidence interval for difference in means: (-215.0, 15.27)

Test of null hypothesis that mean of CAR before announcement = mean of CAR after announcement

Test statistic $t = -1.76$ on 38 d.f.

Probability = 0.037

Table 4.24: Two-sample t-test for Post Crisis AAR (Dividend Increase) for the period 2010 - 2012

Sample	Size	Mean	Variance	Standard deviation	Standard error of mean
After	20	-1.423	10.149	3.186	0.7124
Before	20	-3.175	9.769	3.126	0.6989

Test for equality of sample variances

Test statistic F = 1.04 on 19 and 19 d.f.

Probability (under null hypothesis of equal variances) = 0.93

Difference of means: 1.752

Standard error of difference: 0.998

95% confidence interval for difference in means: (-3.773, 0.2680)

Test of null hypothesis that mean of AAR before announcement = mean of AAR after announcement

Test statistic t = -1.76 on 38 d.f.

Probability = 0.037

Dividend increase and decrease announcements after the PEV crisis had a significant effect on the share price returns. The announcements had information content thus acted as signals with increases having positive reactions and decreases negative reactions. Share prices increased after dividend increase announcements and decreased after dividend decrease announcements.

The empirical findings of this study were in line with Fuller and Goldstein (2003). They did a study to determine the effect of paying dividends on the returns of a firm for S&P 500 stocks. They investigated whether investors preferred dividend paying stocks to non dividend paying stocks in declining markets. They established that during recessions, non-dividend paying firms had lower returns than dividend paying firms. These findings

were in line with the findings of this study as the results indicated that dividend announcements had an effect on the share price returns during the crisis period which was considered a recession. Further the importance of dividend policy in the firms was examined by Adelegan (2009). She analysed the efficiency of the Nigerian stock market to dividend announcements. She concluded that the share price returns reacted to the announcements of dividends and so the dividend policy matters but insider trading could not be completely ruled out on the Nigerian stock market. These findings were similar to those of Adelegan (2009).

The third objective of this work aimed at determining whether cash dividend change announcements affected the share price returns differently during different economic conditions and in the study the different economic conditions were before, during and after the PEV in Kenya. A two sample t-test was done on the abnormal returns during the pre crisis period which was between 2005-2007, the crisis period which was between 2008-2009 and the post crisis period which was between 2010-2012. The results showed that there was statistically significant difference for abnormal returns in all the periods. It can be concluded that the dividend announcements (both increase and decrease) did have an effect on the share price returns in all the economic periods (before, during and after the crisis). This can be attributed to the different impacts of dividend changes in different countries due to different information, tax and control environments. The findings of the study were that dividend announcements had information content and acted as signals for the investors as dividend paying firms had higher returns while non dividend paying firms had lower returns. This was consistent with the signaling hypothesis of dividends.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The chapter presents a summary, conclusion and recommendations that arose from this study. The chapter is structured as follows: **5.1** Summary of this study; **5.2** Conclusion from this study; **5.3** Limitations of the study; **5.4** Implications of the study; **5.5** Recommendations for further research.

5.1 Summary of this Study

This study sought to establish the stock price reaction of firms listed on the Nairobi Securities Exchange to cash dividend change announcements over the period 2005 to 2012. The cash dividend announcements were an increase and decrease relative to the previous year's dividends. The general objective of this study was to contribute to knowledge on how public announcement on cash dividend changes affect share price returns of listed stocks during normal economic conditions and during a crisis period.

The study first sought to establish the relationship between cash dividend change announcement and share price returns. The objective aimed at establishing whether cash dividend announcement had a general effect on share price returns regardless of other market environment and economic factors. A two sample t-test to test for significance of the abnormal returns before and after cash dividend announcement for all the years (2005 to 2012) was done in order to determine the differences in returns before cash dividend announcements and after cash dividend announcement and whether the cash dividend announcements had a general effect on share price returns.

The second objective was to determine the kind of effect cash dividend increase and decrease announcements had on share price returns. The aim of the objective was to determine how cash dividend increases and decreases affected share price. The objective aimed at finding out whether the effect of cash dividend announced varied with the type

of dividend announced (decrease and increase in dividend). A two sample t test was calculated for the abnormal returns.

The third objective was to establish if cash dividend change announcements affected share price returns differently in the periods before, during and after the PEV in Kenya. The objective aimed at establishing the effect of cash dividend change announcements on the share price returns during different economic conditions which were before, during and after the PEV in Kenya. A two sample t-test was done on the abnormal returns during the pre crisis period which was between 2005 and 2007, the crisis period which was between 2008 and 2009 and the post crisis period which was between 2010 and 2012.

5.2 Conclusion from this Study

The first objective which aimed at establishing whether there was a relationship between cash dividend announcement and share price returns regardless of other market environment and economic factors was achieved by running a two sample t-test for the abnormal returns. The results showed that there was statistically significant difference between the abnormal returns before cash dividend announcements and after cash dividend announcements. It was concluded that the dividend announcements had an effect on the share prices. The findings supported the dividend signaling theory as the dividend announcements acted as signals of the firms' future earnings, there was information content in the dividend announcements.

The empirical findings of this study are fully in line with Dasilas and Leventis (2011) who did a study in the Greek market on the trading volume and stock price sensitivity to dividend announcements. In their conclusion, they supported the information content in dividends as they found that there was a significant market reaction to announcements. In this work, the abnormal returns show that dividend announcements had a significant effect on the share price returns and the means were negative before announcement and positive after the announcement. These findings also corroborate the findings of Dasilas and Leventis (2011). The study however, contrasted a study done by Uddin and Chaundhary (2005) who did a study on the Dhaka Stock Exchange to investigate

dividend announcement impact on stock prices of Dhaka market. They hoped that some information may be carried for the market and share prices adjust according to announcement of dividend payments. The paper however, concluded that the dividend had no information content from the evidence from Dhaka Stock Exchange and Dhakan market stock prices and returns supported the dividend irrelevance theory

According to Chen et al. (2009), a cash dividend increase announcement is an optimistic signal on a firm's future operation and cash flow for investors. Chen et al. (2009) stated that an increase in cash dividend is followed by positive abnormal returns. On the contrary, they further stated that, negative abnormal returns follow the announcement of a cash dividend decrease as it is a pessimistic signal. They concluded that these empirical studies support the dividend signaling hypothesis and investors' expectations of a firm's cash flow are adjusted after cash dividend changes. The findings of the study supported the findings of Chen et al. (2009) where the second objective aimed at establishing the kind of effect cash dividend increase and decrease had on share price returns. A two sample t-test for the abnormal returns for both dividend increases and decreases was run and the results showed that there was statistically significant difference between the abnormal returns before cash dividend announcements and after cash dividend announcements and it was concluded that the dividend announcements had an effect on the share prices. It was also evident that share prices reacted positively to dividend increase and negatively to dividend decrease and so there was information content in the dividend announcements which affected the share prices. The dividends acted as a signal.

These findings contrasted a study done by Uddin and Chaundhary (2005) who did a study on the Dhaka Stock Exchange to investigate dividend announcement impact on stock prices of Dhaka market. They hoped that some information may be carried for the market and share prices adjust according to announcement of dividend payments. The paper however, concluded that the dividend had no information content from the evidence from Dhaka Stock Exchange and Dhakan market stock prices and returns supported the dividend irrelevance theory. However, the findings of this study corroborated those of Olweny (2012). Olweny (2012) sought to determine the extent to which there was

information content in dividend announcements, the effect dividend announcements had on the firm value and its implications on the semi strong efficiency of the Nairobi Stock Exchange (NSE). He examined the information that was contained in dividend announcements and the effects on the firm value from the signals in the information contained in dividend announcements. He also sought to determine the semi strong form efficiency of NSE. He concluded that there was information content in dividend announcements which affected the value of the firm. This conclusion arose from the fact that there was a significant relationship between abnormal stock returns and unexpected dividend announcements. He further reported that some investors had unequal access to public information earning them abnormal returns thus the NSE was not semi strong form efficient.

The third objective which aimed at determining whether cash dividend change announcements affected the share price returns differently during different economic conditions and in the study the different economic conditions were before, during and after the PEV in Kenya. A two sample t-test was done on the abnormal returns during the pre crisis period which was between 2005-2007, the crisis period which was between 2008-2009 and the post crisis period which was between 2010-2012. The results showed there was statistically significant difference for abnormal returns in all the periods. It can be concluded that the dividend announcements (both increase and decrease) did have an effect on the share price returns in all the economic periods (before, during and after the crisis). This can be attributed to the different impacts of dividend changes in different countries due to different information, tax and control environments. The findings of the study were that dividend announcements had information content and acted as signals for the investors as dividend paying firms had higher returns while non dividend paying firms had lower returns. This was consistent with the signaling hypothesis of dividends.

The empirical findings of this study were in line with Fuller and Goldstein (2003). They did a study to determine the effect of paying dividends on the returns of a firm for S&P 500 stocks. They investigated whether investors preferred dividend paying stocks to non dividend paying stocks in declining markets. They established that during recessions,

non-dividend paying firms had lower returns than dividend paying firms. These findings were in line with the findings of this study as the results indicated that dividend announcements had an effect on the share price returns during the crisis period which was considered a recession. The importance of dividend policy in the firms was examined by Adelegan (2009). She examined the efficiency of the Nigerian stock market to dividend announcements. She concluded that the share price returns reacted to the announcements of dividends and so the dividend policy matters but insider trading could not be completely ruled out on the Nigerian stock market. These findings echoed those of Adelegan (2009).

5.3 Limitations of the study

While undertaking data collection, data from some companies were missing for a substantial period. The companies with missing data were omitted from the sampled companies that were used for analysis. The findings of this study should therefore be evaluated under the context of the sample used.

For this study, daily closing share prices were used and not other prices like the average price. This is because the daily closing prices were more readily available and the findings should be evaluated in the context of the daily closing prices.

5.4 Implications of the study

The findings of this study were that dividends had information content and had significant effects on share price returns for all the economic periods (before, during and after the crisis). From the t-test results, dividend increase announcements had positive returns while dividend decrease announcement had negative returns. The investors in Kenya are conscious of dividends as a signal of a firm's future earnings. The post election violence affected the stock market eroding the gains made in the market before the violence. For the investors, dividends will then be used as signals of future earnings and thus share prices will react to the announcements. The management of companies will also consider the signals that will be sent out by the dividends they pay as this affects the share value. Other studies in the Kenyan market have concluded that dividends have

information content and in turn affect share prices. The findings of this study will help academics have more information on dividends when evaluated or viewed in the context of different economic periods.

5.5 Recommendations for Further Research

A study based on the other types of dividends like stock dividends which was not the focus of this study should be done with a view of finding out how they affect the share price during different economic periods. This will establish whether investors react the same way to all types of dividends or they have a preferred type of dividend.

A sector by sector research of the firms listed in the Nairobi Securities exchange should be done to determine how share prices react to dividend change announcement during different economic periods as particular sectors/industries tends to be affected in a similar manner.

Different researchers propose different days to be used for the event window. A study should be done to determine the best days to be used for the event window in the Kenyan market. This is so because days that apply for the developed countries may not apply for the developing countries. There is a difference in development of countries and markets react differently depending on the level of development and so it would be important to know the best days to use for event window for the Kenyan market as per her development level and based on how long the market reacts to announcements and the efficiency of the market.

This research was quantitative in nature. A qualitative research on dividends should be carried out in order to know the management of the firm and fund manager's view on the role of dividends on share prices in the Kenyan market. Most studies have investigated the issue from the corporate view point.

The market adjusted model was used to analyze the effect of dividend announcements on share prices. Other studies can be done using other models like the market risk adjusted

model so as to find out whether the market adjusted model is as good as the market risk adjusted model.

REFERENCES

- Aamir, M. and Ali Shah, S.Z. (2011). Dividend Announcement and the Abnormal Stock Returns For the Event Firm and Its Rivals. *Australian Journal of Business and Management Research*. 1(8), 72-76.
- Aamihud, Y. and Murgia, M. (1997). Dividends, taxes and signaling. Evidence from Germany. *The Journal of Finance*. 397-408.
- Adelegan, O.J. (2009). Price Reactions to Dividend Announcements on the Nigerian Stock Market. AERC Research Paper No. 188. African Economic Research Consortium, Nairobi.
- Aharony, J. and Swary, J. (1980). Quarterly dividend and earnings announcements and Stockholders returns: An empirical analysis. *Journal of Finance*. 35, 1-12.
- Akbar, M. and Baig, H.H. (2010). Reaction of Stock Prices to Dividend Announcements and Market Efficiency in Pakistan. *The Lahore Journal of Economics*. 15(1), 103-125.
- Amidu, M. and Abor, J. (2006). Determinants of Dividend Payout Ratios in Ghana. *Journal of Risk Finance, The*. 7(2), 136-145.
- Armitage, S. (1995). Event Study Methods and Evidence on Their Performance, *Journal of Economic Surveys*, 8 (4), 25-52.
- Asamoah, G.N. (2010). The Impact of Dividend Announcement on Share Price Behaviour in Ghana. *Journal of Business and Economics Research*. 8(4), 47-58.
- Baker, H.K. (1999). Dividend Policy Issues in Regulated and Unregulated Firms: A Managerial Perspective. *Managerial Finance*. 8(6), 1-19.
- Baker, H.K., Garry, E.P. and Theodore, E.V. (2001). Factors influencing dividend policy Decisions of Nasdaq firms. *The policy financial review*. 19-38.
- Baker, H.K. and Powell, G.E. (1999). How Corporate Managers view Dividend Policy? *Quarterly Journal of Business and Economics*. 38(2), 17-27.
- Bhana, N. (1998). The share price reaction on the Johannesburg Stock Exchange for special (extra) dividend announcements. *The Investment Analyst Journal*. 47
- Bhattacharyya, N. (2007). Dividend Policy: A Review. *Managerial Finance*. 33(1), 4-13.
- Bhattacharya, S. (1979). Imperfect information, dividend policy, and “the bird in the hand” Fallacy. *Bell Journal of Economics*. 10, 259-270.

- Bhattacharya, S. (1980). No dissipative Signaling Structures and Dividend Policy. *Quarterly Journal of Economics*. 95, 1-14.
- Black, F. (1976). The Dividend Puzzle. *Journal of Portfolio Management*. 2(2), 5-8.
- Brealey, R.A. and Myers, S.C. (2002). *Principles of Corporate Finance*. Irwin/McGraw-Hill, Boston, MA
- Brennan, M. (1970). Tax reform and the stock market: An Asset Price Approach. *American Economic Review*. 23(4), 417-427.
- Brown, S. J. and Warner J. B. 1980. Measuring security price performance. *Journal of Financial Economics*, 8, 205-258.
- Capstaff, J., Klaeboe, A. and Marshall, A.P. (2004). Share Price Reaction to Dividend Announcement: Empirical Evidence on the Signaling Model from the Oslo Stock Exchange. *Multinational Finance Journal*. 8(1 & 2), 115-139.
- Chen, D., Liu, H. and Huang, C. (2009). The announcement effect of cash dividend changes on Share prices: An empirical analysis of China. *The Chinese Economy*. 42(1), 62-85.
- Dasilas, A. and Leventis, S. (2011). Stock Market Reaction to Dividend Announcements: Evidence from the Greek Market. *International Review of Economics and Finance*. 20(2), 302-311.
- Dickinson, J.P. and Muragu, K. (1994). Market efficiency in developing countries: A case study Of the Nairobi Stock Exchange. *Journal of Business Finance and Accounting*. 21(1), 133-150.
- Dhillon, U.S. and Johnson, H. (1994). The effect of dividend changes on stock and bond prices. *The Journal of Finance*. 49(1), 281-290.
- Eades, K.M. (1982). Empirical evidence on dividends as a signal of firm value. *Journal of Financial and Quantitative Analysis*. 17, 471-500.
- Farrar, D.E. and Selwyn, L.L. (1967). Taxes, Corporate Financial Policy and Return to Investors. *National Tax Journal*. 20, 444-462.
- Fuller, K.P. and Goldstein, M.A. (2003). Dividend policy and market movements
- Gordon, M.J. (1959). Dividends, Earnings and Stock Prices. *The Review of Economics and Statistics*. 41(2), 99-105.

- Jensen, M.C. and Meckling, W.H. (1976). Theory of the firm: Managerial Behaviour, Agency Costs and Capital Structure. *Journal of Financial Economics*. 3(4), 305-360.
- John, J. and Williams, J. (1985). Dividends, Dilution and Taxes: A Signaling Equilibrium. *Journal of Finance*. 40(4), 1053-1070.
- Kanwal, A. and Sujata, K. (2008). Determinants of dividend payout ratios-A study of Indian Information technology sector. *International Research Journal of Finance and Economics*. (15), 63-71.
- King, B.F. (1966). Market and industry factors in stock price behaviour. *Journal of Business*. 39, 139-190.
- Kenya National Commission on Human Rights (2008). On the brink of the precipice: a human Rights account of Kenya's post-2007 election violence. 3,19.
- Kniss, M. (2010). Walking Kenya back from the brink. A micro level study of horizontal Inequity and civil conflict prevention. CISS working paper.
- Ksoll, C., Macchiavello, R. and Morjana, A. (2009). Guns and rose: the impact of the Kenyan Post election violence on flower exporting firms. University of Oxford policy paper.
- Kwan, C.Y. (1981). Efficient market tests of the informational content of dividends Announcements. *Journal of Financial and Quantitative Analysis*. 16, 193-205.
- Litner, J. (1956). Distribution of Incomes of Corporations among dividends, retained earnings and taxes. *American Economic Review*. 46, 97-113.
- Matome, T.T. (1998). The price discovery process of the Namibian Stock Exchange and the Information content of the share index. *Savings and Development*. 22(3).
- Michaelis, R., Thaler, R.H. and Womack, K.L. (1995). Initiations and omissions. Overreaction or Drift? *The Journal of Finance*. 50(2), 573-607.
- Miller, M.H. and Modigliani, F. (1961). Dividend policy, growth and the valuation of shares. *Journal of Business*. 34(4), 411-433.
- Miller, M. and Rock, K. (1985). Dividend Policy Under Asymmetric Information. *Journal of Finance*. 40(4), 1031-1051.

- Mokaya, S.O., Nyang'ara, D.M. and Jame, L.T. (2013). The effects of dividend policy on market Share value in the banking industry; the case of National bank of Kenya. *International Journal of Arts and Commerce*. 2(2), 91-101.
- Murekefu, T.M. and Ouma, O.P. (2012). The Relationship Between Dividend Payout and Firm Performance: A Study of Listed Companies in Kenya. *European Scientific Journal*. 8(9), 199-215.
- Nairobi Securities Exchange. www.nse.co.ke. Accessed on 17 April 2013.
- Naranjo, A., Nimalendran, M. and Ryngaerty, M. (1998). Stock returns, dividend yields and Taxes. *The Journal of Finance*. 6, 2029-2057.
- Nezerwe, Y. (2012). The impact of the 2007 post election violence on the market returns in Kenya. *Journal of International Business and Economics*. 12(2), 120-122.
- Olweny, T. (2012). Dividend Announcement and Firm Value: A Test of Semi Strong Form of Efficiency at the Nairobi Stock Exchange. *Asian Social Science*. 8(1), 161-75.
- Osei, K.A. (1998). Analysis of factors affecting the development of an emerging market: The Case of Ghana Stock Market. AERC Research Paper No. 76. African Economic Research Consortium, Nairobi.
- Ross, S. (1977). The Determination of Financial Structures: The Incentive Signaling Approach. *Bell Journal of Economics*. 8, 23-40.
- Ravi, L. and Sirikiat, R. (2007). Complete dividend signal
- Sealy, R. and Knight, R.F. (1987). Dividend policy, share price and return: A study on the Johannesburg Stock Exchange. *The Investment Analyst Journal*. 33-47.
- Stapleton, R.C. (1972). Taxes, the cost of capital and the theory of investment value. *Economic Journal* . 82, 1273-1292.
- Travlos, N., Trigeorgis, L. and Vafeas, N. (2001). Shareholder Wealth Effects of Dividend Policy Changes in an Emerging Stock Market: The Case of Cyprus. *Multinational Finance Journal*, 5 (2), 87-112.
- Uddin, M.H. and Chaundhary, G.M. (2005). Effect of Dividend Announcement and Shareholders' Value: Evidence from Dhaka Stock Exchange. *Journal of Business Research*. 7, 61-72.

- Walter, J.E. (1956). Dividend Policies and Common Stock Prices. *The Journal of Finance*.11(1), 29-41.
- Watts, R. (1973). The Information Content of Dividends. *Journal of Business*. 46(April), 191-211.
- Waweru, K.M., Pokhariyal, G.P. and Mwaura, M.F. (2012). The signaling hypothesis: evidence From the Nairobi Securities Exchnage. *Journal of Business Studies Quarterly*. 3(4),105-118.
- Wolmarans, H.P. (2003). Does Lintner's dividend model explain South African Dividend payments? *Meditari Accountancy Research*. 11, 243-254.
- Woolridge, J.R. (1982). The information content of dividend changes. *Journal of Financial Research*. 5, 237-247.
- Woolridge, J.R. (1983). Dividend Changes and Security Prices. *The Journal of Finance*. 38(5), 1607-1615.

APPENDICES

APPENDIX I: NAIROBI SECURITIES EXCHANGE LISTED COMPANIES

AGRICULTURAL	
1.	Eaagads Ltd
2.	Kapchorua Tea Co. Ltd
3.	Kakuzi
4.	Limuru Tea Co. Ltd
5.	Rea Vipingo Plantations Ltd
6.	Sasini Ltd
7.	Williamson Tea Kenya Ltd
COMMERCIAL AND SERVICES	
1.	Express Ltd
2.	Kenya Airways Ltd
3.	Nation Media Group
4.	Standard Group Ltd
5.	TPS Eastern Africa (Serena) Ltd
6.	Scangroup Ltd
7.	Uchumi Supermarket Ltd
8.	Hutchings Biemer Ltd
9.	Longhorn Kenta Ltd
TELECOMMUNICATIONS AND TECHNOLOGY	
1.	AccessKenya Group Ltd
2.	Safaricom Ltd
AUTOMOBILES AND ACCESSORIES	
1.	Car and General (K) Ltd
2.	CMC Holdings Ltd
3.	Sameer Africa Ltd
4.	Marshalls (E.A.) Ltd
BANKING	
1.	Barclays Bank Ltd
2.	CFC Stanbic Holdings Ltd

3. I&M Holdings Ltd
4. Diamond Trust Bank Kenya Ltd
5. Housing Finance Co. Ltd
6. Kenya Commercial Bank Ltd
7. National Bank of Kenya Ltd
8. NIC Bank Ltd
9. Standard Chartered Bank Ltd
10. Equity Bank Ltd
11. The Co-operative Bank of Kenya Ltd
INSURANCE
1. Jubilee Holdings Ltd
2. Pan Africa Insurance Holdings Ltd
3. Kenya Re-Insurance Corporation Ltd
4. Liberty Kenya Holdings
5. British-American Investments Company (Kenya) Ltd
6. CIC Insurance Group Ltd
INVESTMENT
1. Olympia Capital Holdings Ltd
2. Centum Investment Co. Ltd
3. Trans-Century Ltd
MANUFACTURING AND ALLIED
1. B.O.C Kenya Ltd
2. British American Tobacco Kenya Ltd
3. Carbacid Investments Ltd
4. East African Breweries Ltd
5. Mumias Sugar Co. Ltd
6. Unga Group Ltd
7. Eveready East Africa Ltd
8. Kenya Orchards Ltd
9. A. Baumann Co. Ltd
CONSTRUCTION AND ALLIED
1. Athi River Mining

2. Bamburi Cement Ltd
3. Crown Berger Ltd
4. E.A. Cables Ltd
5. E.A.Portland Cement Ltd
ENERGY AND PETROLEUM
1. Kenolkobil Ltd
2. Total Kenya Ltd
3. KenGen Ltd
4. Kenya Power & Lighting Co.Ltd
5. Umeme Ltd

Source: Nairobi Securities Exchange 2013

APPENDIX II: SAMPLED COMPANIES

COMPANY	SECTOR	WEBSITE
1. Eaagads Ltd	Agricultural	www.eaagads.com
2. Kapchorua Tea Co. Ltd	Agricultural	www.kapchoruatea.co.ke
3. Kakuzi	Agricultural	www.kakuzi.co.ke
4. Limuru Tea Co. Ltd	Agricultural	www.limurutea.com
5. Rea Vipingo Plantations Ltd	Agricultural	www.reavipingo.com
6. Sasini Ltd	Agricultural	www.sasini.co.ke
7. Williamson Tea Kenya Ltd	Agricultural	www.williamsontea.com
8. Express Ltd	Commercial & Services	www.expresskenya.com
9. Kenya Airways Ltd	Commercial & Services	www.kenya-airways.com
10. Nation Media Group	Commercial & Services	www.nation.co.ke
11. Standard Group Ltd	Commercial & Services	www.standardmedia.co.ke
12. TPS Eastern Africa (Serena) Ltd	Commercial & Services	www.serenahotels.com
13. Car and General (K) Ltd	Automobiles & Accessories	www.cargen.com
14. CMC Holdings Ltd	Automobiles & Accessories	www.cmcmotors.com
15. Sameer Africa Ltd	Automobiles & Accessories	www.sameerafrica.com
16. Marshalls (E.A.) Ltd	Automobiles & Accessories	www.marshalls-ea.com
17. Barclays Bank Ltd	Banking	www.barclays.com
18. CFC Stanbic Holdings Ltd	Banking	www.cfcstanbicbank.co.ke
19. Diamond Trust Bank Kenya Ltd	Banking	www.dtbafrica.com
20. Housing Finance Co. Ltd	Banking	www.housing.co.ke

COMPANY	SECTOR	WEBSITE
21. Kenya Commercial Bank Ltd	Banking	www.kcbbankgroup.com
22. National Bank of Kenya Ltd	Banking	www.nationalbank.co.ke
23. NIC Bank Ltd	Banking	www.nic-bank.com
24. Standard Chartered Bank Ltd	Banking	www.standardchartered.com
25. Jubilee Holdings Ltd	Insurance	www.jubileeinsurance.com
26. Pan Africa Insurance Holdings Ltd	Insurance	www.pan-africa.com
27. City Trust Ltd	Investment	
28. Olympia Capital Holdings Ltd	Investment	www.olympiacapital.co.ke
29. Centum Investment Co. Ltd	Investment	www.centum.co.ke
30. B.O.C Kenya Ltd	Manufacturing & Allied	www.boc.co.ke
31. British American Tobacco Kenya Ltd	Manufacturing & Allied	www.bateac.com
32. Carbacid Investments Ltd	Carbacid Investments Ltd	www.carbacid.co.ke
33. East African Breweries Ltd	Manufacturing & Allied	www.eabl.com
34. Mumias Sugar Co. Ltd	Manufacturing & Allied	www.mumias-sugar.com
35. Unga Group Ltd	Manufacturing & Allied	
36. Athi River Mining	Construction & Allied	www.armafrica.com
37. Bamburi Cement Ltd	Construction & Allied	www.lafarge.co.ke
38. Crown Berger Ltd	Construction & Allied	www.crownpaints.co.ke
39. E.A. Cables Ltd	Construction & Allied	www.eacables.com
40. E.A.Portland Cement Ltd	Construction & Allied	www.eastafricanportland.com
41. Kenolkobil Ltd	Energy & Petroleum	www.kenolkobil.com
42. Total Kenya Ltd	Energy & Petroleum	www.total.co.ke
43. KenGen Ltd	Energy & Petroleum	www.kengen.co.ke
44. Kenya Power & Lighting Co.Ltd	Energy & Petroleum	www.kplc.co.ke

Source: Nairobi Securities Exchange 2013

APPENDIX III: DIVIDENDS PAID

COMPANY	YEAR							
	2005	2006	2007	2008	2009	2010	2011	2012
Athi River Mining	0	0.75	1.00	1.25	1.25	1.50	1.75	2.00
Bamburi	3.50	0	0	0.50	2.80	5.50	7.00	8.00
BBK	11.00	11.00	1.20	1.15	1.50	2.00	4.70	0.70
BAT	4.50	4.50	7.50	10.50	12.50	10.25	14.50	27.00
BOC Gases	2.25	0	0	4.25	0	4.80	1.40	4.80
Car & General	0.67	0.67	0.67	0.67	0.67	0.67	0.80	0.55
C.F.C Bank	0.84	0	1.25	0.50	0	0	0.80	0
Carbacid	5.00	0	5.00	5.00	5.00	3.00	2.00	3.00
City Trust	2.75	3.10	3.75	3.75	1.00	4.00	0	0
CMC Holdings	1.00	1.50	2.30	0.35	0.35	0.20	0	0
Crown Berger	0	0	0	1.00	1.00	1.25	0	1.25
Diamond Trust	0.70	0.70	1.00	1.40	1.40	1.60	1.60	0
Olympia	0	0	0	0.20	0.10	0.10	0	0.10
EABL	3.00	4.15	5.55	5.65	5.55	6.25	0	6.25
EA Cables	1.75	3.50	0.50	0.90	1.00	0.50	1.00	0
E.A. Portland Cement	2.50	1.30	1.30	0	1.30	0	0	0
Eaagads	1.00	0	0	0	0.63	0	0	1.25
Express Kenya	0	0	0.50	0.50	0	0	0	0
Sameer	0.50	0.50	0	0	0	0.50	0	0.20
H.F.C.K	0	0	0	0.25	0.30	0.50	0.70	0
I.C.D.C	3.00	4.00	0.45	0.45	0	0	0	0
Jubilee Holdings	1.75	0	0	3.25	3.25	3.50	0	4.50
Kakuzi	1.00	0	0	0	0	2.50	2.50	3.75
Kapchorua	5.00	0	5.00	0.50	2.50	6.25	0	7.50
KCB	2.00	0	6.00	0.70	1.00	1.00	1.25	1.85
Kengen	0	0.55	0.40	0.90	0.50	0.50	0	0.60
Kenya Airways	1.25	1.75	1.75	1.75	1.00	1.00	0	0.25
KenolKobil	0	2.25	2.25	1.25	3.50	3.25	0.52	0
KPLC	1.50	1.50	1.80	3.00	6.00	5.00	0.35	0.30
Limuru Tea	10.00	5.00	10.00	5.00	10.00	7.50	7.50	7.50
Marshalls	0	1.00	1.00	0	0	0	0	0
Mumias Sugar	0.90	1.00	1.00	0	0.40	0	0	0.50
Nation Media Group	5.00	5.00	5.00	7.50	4.00	4.00	5.00	6.50
NBK	0	0	0	0	0	0	0.60	0.40
NIC Bank	1.70	0	1.90	0.80	0.25	0.25	0.25	0

COMPANY	YEAR							
Pan Africa Insurance	1.00	1.20	1.44	1.60	0	1.70	6.00	2.00
Rea Vipingo	0.80	0.80	0.80	0.80	0.20	0.80	1.30	1.10
Sasini	0	0	0	0	0.20	0.30	0	0
SCBK	2.10	0	4.10	0	5.00	7.00	8.50	11.00
Standard Group	0	0	0	0	0	1.00	0.50	0
Total Kenya	2.50	2.50	2.50	2.50	2.50	1.00	1.05	0
TPS Eastern Africa (Serena)	1.10	0	1.25	1.25	1.25	1.25	1.25	1.30
Unga Group	0	0	0	0	0	0.50	0	0.50
Williamson Tea	5.00	0	5.00	0.50	4.00	6.25	0	7.50
TOTAL	2,092	2,064	2,090	2,078	2,091	2,107	2,084	2,124