

**EFFECT OF NATIONAL BUDGET READING ON SECTOR RETURNS
AT THE NAIROBI SECURITIES EXCHANGE**

BY

LINDA WAIRIMU KANYARI

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DECLARATION

This research project is my original work and has not been presented in any other University.

Signed..... Date

Linda Wairimu Kanyari

D63/70825/2014

This research project has been submitted for presentation with my approval as University Supervisor.

Signed..... Date

Dr. Duncan Elly Ochieng, PhD, CIFA

DEDICATION

The research project is dedicated to my family.

ACKNOWLEDGEMENT

I wish recognize a number of individuals who contributed to the successful completion of this research project.

Special appreciation goes to my supervisor Dr. Duncan O. Elly. I wish to sincerely acknowledge your professional advice and guidance in the research project. To my family and friends for their moral support and encouragement during the study. To all of you kindly accept my appreciation for your great support.

ABSTRACT

Investors expect stock prices to react to some special event. They are however uncertain about timing and magnitude of that reaction. If financial markets pick up information about an impending event, that event can change stock prices days or weeks before it occurs and continue to influence stock prices for some time thereafter. The economic and political changes like budget announcement occurring locally and globally also influences the share prices of the stock market. The study adopted event study methodology. Event studies examine stock returns for some specific firms (or for an industry) before and after the announcement of a special event. The target population for this study included companies listed at the Nairobi Securities Exchange. Data was obtained from the NSE covering the period from 2010 to 2014. The study entailed collecting data on share price for all companies in each sector. The event period was 10 days prior and post budget announcement. The study sought to compare sector returns and market returns prior to and subsequent to the budget to assess how abnormal returns vary with the event. The study found that national budget reading had an impact on the cross-sectional average sector returns. The impact was observed over the event period with different sectors reacting uniquely to the budget on different days within the event period. It was observed that opportunities to make abnormal gains existed just before, on and during the event period in some sectors dependent on the budget. Significant positive CARs were noted in the automobile sector, construction and manufacturing sectors over the 2013 budget period. However, statistical tests did not indicate significant differences between pre budget and post budget sector returns over the event periods studied. This indicates that investors had on average, anticipated the effects of the event days before the budget reading.

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LIST OF ABBREVIATIONS

AAR	-	Average Abnormal Return
AGRI	-	Agricultural Sector
AR	-	Abnormal Return
AUTO	-	Automobiles and Accessories
BANK	-	Banking Sector
CAAR	-	Cross-sectional Average Abnormal Returns
CAR	-	Cumulative Abnormal Returns
COMM&SVS	-	Commercial and Services Sector
CONSTR	-	Energy and Petroleum Sector
EMH	-	Efficient Market hypothesis
ENER&PETR	-	Energy and Petroleum Sector
INSUR	-	Insurance Sector
INVEST	-	Investment Sector
MANUF	-	Manufacturing and Allied Sector
MS-EXCEL	-	Microsoft Excel
NSE	-	Nairobi Security Exchange
SPSS	-	Statistical Package for Social Sciences
TELECOMM	-	Telecommunication and Technology Sector

CHAPTER ONE

INTRODUCTION

1.1 Background

Various studies have been done focusing on factors influencing stock prices. Such factors include, interest rates, inflation, political changes and other macroeconomic variables. Some studies have focused on microeconomic variables such as dividend policy, company size and their impact on stock price.

The economic and political changes like budget announcement or the elections occurring locally and globally influence the share prices of the stock market as cited by Vadali et. al(2015). A budget is of great importance to a nation, an institution or an individual. It reflects an entity's plan to mobilize its scarce resources among the many competing needs. A national budget influences investment, consumption and growth. It is a means through which government raises revenue and allocates those resources to programmes it is committed to. Budgeting has social and political implications as it involves making choices on what to do, how to finance what needs to be done, who pays and who benefits (Citizens Budget Handbook, 2007).

The government's economic policy might provide support or restrain an industry's development. For example, it can impose restrictive import quotas and/or tariffs, increase/decrease customs duty and favorable/unfavorable tax legislations, which may substantially lessen or improve the profits of a particular industry (Fischer and Jordan, 1993). The impact to the stock market can be seen prior and after the budget announcement day.

1.1.1 The National Budget Reading

The National Budget is a forecast by a government of its expenditure and revenues for a specific period of time. It is unique in that its preparation and presentation is a Constitutional requirement. The Cabinet Secretary for Finance seeks Parliament's authority to raise resources and approve use of those resources for delivery of goods and services to the citizens. The budget serves as a fiscal tool for stabilization of the economy. It deals with macroeconomic goals that are necessary for attaining and maintaining a desired level of economic performance through sustainable taxes and expenditures. Excessive taxation and over borrowing can be major sources of instability.

The National Budget has two main components, namely: financing and expenditure side. The government mainly finances its expenditure through taxes, user charges, domestic and foreign borrowing, grants, privatization proceeds and investment revenues from public corporations. Government expenditure can be classified as recurrent or development expenditures. Recurrent expenditures are provisions made to meet government operational needs, such as, compensation to employees, transport expenses and repairs and maintenance of equipment. Developmental expenditures are those provisions made for creation of new assets, for instance, construction of roads and rehabilitation and construction of water installations (Citizens Budget Handbook, 2007).

The budget process is a collective function that involves contributions from various economic agents. These include Parliament, Treasury, government ministries, KRA, CBK, non state players, the citizens and developmental partners and Aid Agencies. Many perceive the national

budget process as a onetime event marked by the budget speech, delivered by the Finance Cabinet Secretary in the month of June every year. However, the Kenyan budget cycle passes through four main phases namely: Budget planning and preparation, proposal, debate and approval, execution and monitoring and evaluation. From practice, Annual Printed Estimates of expenditure must be laid before Parliament atleast two Parliamentary days before the Cabinet Secretary reads his budget speech. Revenue raising proposals are all tabled in Parliament on Budget Day after the Cabinet Secretary reads his budget speech. Budget proposals are presented before Parliament during the second or third week of June, each year and should be approved by end of October. In accordance with the constitution and Parliamentary standing orders, the Cabinet Secretary is required to present the budget speech on or before 20th June (Citizens Budget Handbook, 2007).

1.1.2 Sector Returns

Shares represent proportion of ownership in a company. Shares rise and fall in value and are better as a long term investment. An investor can make money from shares through capital gains, where you sell a share for more than you paid for it, and from earning income called dividends. The returns for a certain holding period are calculated by adding the stock's dividend for the period to the change in stock price (a capital gain or loss) and dividing it by initial stock price. Changes in the stock price, then has a major impact on the stock's return. News of a significant event could alter the pattern of stock returns for a firm (or, an industry). If an event is taken a good news investors perceive this as bright future prospects for the firm. The stock price will increase as a result. This presents capital gain, which raises the return on the firm's stock (Schweitzer, 1989).

A sector refers to an area of the economy in which businesses share the same or a related product or service. Stock exchanges comprise of various sectors reflecting the areas of the economy. Sector classification groups companies according to their main business activities, enabling one to look at the whole market and compare companies based on their industry. Developed exchanges such as the Australia Stock Exchange provides individual indexes for each of the different sectors to give a clearer picture of which sectors drive the performance of the broader index. The Nairobi Securities Exchange has 64 companies grouped into 12 sectors namely: Agricultural, Commercial and Services, Telecommunication and Technology, Automobiles and Accessories, Banking, Insurance, Investment, Investment Services, Manufacturing and Allied, Construction and Allied, Energy and Petroleum , and, Growth and Enterprise Market Segment.

1.1.3 National Budget Reading and Sector Returns

Soni (2010) studied the Reaction of the stock market to union budget and monetary policy announcements. This paper examined the impact of the announcement of union budget and monetary policy on the stock market. The time period covered was 10 years i.e. from the year 2000-2009. Paired t-test was carried out among different periods during announcements days. F-tests were also carried out to compare the last 30 days returns with next three fifteen and thirty days. The findings of the paper were that the union budget and monetary policy announcements had no impact on the stock market in the long run. However in the short run impact may be either positive or negative.

National budget is one of such important policy factor which brings volatility and greater returns to the stock market. If investor can take wise and informed decision well in advance before the declaration of budget and after the declaration of budget he, may gain good returns out of this. Singh and Kansal (2010) studied impact of union budget on the NIFTY. The S&P CNX NIFTY (a well diversified 50 stock index accounting for 24 sectors of the economy) was used to check whether union budget announcement has any impact on returns at the Mumbai Stock Exchange. The returns and volatility were compared taking into account 21 union budgets and 30days before and after the budget. They found that the budget has no significant impact at all on post budget average returns of Nifty Index.

1.1.4 The Nairobi Securities Exchange

The Nairobi Stock Exchange (NSE) was registered under the Societies Act (1954) as a voluntary association of stockbrokers and charged with the responsibility of developing the securities market and regulating trading activities. Business was transacted by telephone and prices determined through negotiation. By 1968, the number of listed public sector securities was 66 of which 45% were for Government of Kenya, 23% Government of Tanzania and 11% Government of Uganda. During this period, the NSE operated as a regional market in East Africa where a number of the listed industrial shares and public sector securities included issues by the Governments of Tanzania and Uganda (the East African Community). However, with the changing political regimes among East African Community members, various decisions taken affected the free movement of capital which ultimately led to the delisting of companies domiciled in Uganda and Tanzania from the Nairobi Stock Exchange. (www.nse.co.ke)

NSE was registered as a private company limited by shares in 1991. Share trading moved from being conducted over a cup of tea, to the floor based open outcry system, located at IPS Building, Kimathi Street, Nairobi. The market at the NSE is split into the Main Investment Market Segment (MIMS), Alternate Investment Market Segment (AIMS), the Fixed Income Securities Market Segment (FISMS) and the Growth Enterprises Market Segment (GEMS). Trading hours at the Nairobi Stock Exchange (NSE) commence from 9.00am and close at 3.00pm each working day. (www.nse.co.ke)

The Nairobi Stock Exchange introduced the NSE All-Share Index (NASI) in 2008 in order to provide investors with a comprehensive measure of the performance of the stock market. In 2011, the stock exchange changed its name to the Nairobi Securities Exchange Limited. It received formal approval from the Capital Markets Authority (CMA) to offer its shares to the public through an Initial Public Offer (IPO) and subsequently Self-list its shares on the Main Investment Market Segment (MIMS) of the bourse in June 2014. (www.nse.co.ke).

1.2 Research Problem

Various scholars and academicians have studied factors influencing stock prices and returns. Some of the factors examined include, interest rates, inflation, political changes and other macroeconomic variables. Studies have also focused on microeconomic variables such as dividend policy, rights issues, IPOs, company size and their impact on stock price. The economic and political changes like budget announcement or the elections occurring locally and globally influence the share prices of the stock market as cited by Vadali et. al(2015).

Gupta and Kundu (2006) analyzed the impact of Union Budgets on stock market considering the returns and volatility in Sensex. They found that budgets have maximum impact in short- term post budget period, as compared to medium term and long term average returns and volatility does not generally increase in a post- budget situation as the time period increases. Varadharajan and Vikkraman (2013) explored the impact of budget on the volatility of four major indices of the Indian stock market from 2002-2011. They found out that return of the indices after the budget was negative when compared to pre budget and also there was higher volatility during the post budget period. They concluded that investors should be cautious while investing for very short term investment.

Faridah, Arlinah, and Shah (2013) examined the impact of the federal government budget from 2007 to 2011 on the stock market volatility as represented by the indexes of nine major sectors in Bursa Malaysia aiming to study the effect on mean returns and volatility. The empirical evidence showed the presence of volatility in both periods with pre budget showing high volatility as compared to post budget announcements. Evidence also suggested that the mean of returns were high with post budget announcements suggesting that investors can make high returns if they buying before the budget announcements and selling after the budget.

In Kenya, the budget speech is presented by the Cabinet Secretary on or before 20th June in accordance with the constitution and Parliamentary standing orders, (Citizens Budget Handbook, 2007). Despite evidence of budget announcement impact on stock returns by the various international studies, there exists no literature of the same on the NSE. Many event studies have however been carried out investigating the impact of several variables on stock prices at the

NSE. Miya (2007) looked at the stock market behaviour around national elections in Kenya and found that share prices go down before the election date and start rising thereafter. Abnormal returns shift steeply downwards after the election date and start increasing thereafter before settling to a new equilibrium.

Kamau (2012) investigated the stock market performance before and after the promulgation of the new constitution (2010) at the Nairobi Securities Exchange and found that the stock market recorded higher returns before the promulgation, average returns during the event date and low returns after the event. Irungu (2012) found that market reaction to election announcements is highly negative or positive depending on the election at hand.

Kithinji, Oluoch and Mugo (2014) studied effects of rights issue on the share performance of listed Kenyan-based companies on the Nairobi Securities Exchange. The study examined share performance before and after issuance of rights issues. They found that rights issue announcement has a significant effect on the share price performance of companies doing rights issues.

There is therefore limited empirical investigation into effect of fiscal policy and events that indicate major fiscal policy adjustments like the budget on stock market returns at the NSE. This study seeks fill this gap by investigating the effect of budget reading on sector returns at the Nairobi Securities Exchange. To do this, this study seeks to answer one question: What are the effects of national budget reading on sector returns at the Nairobi Securities Exchange?

1.3 Research Objective

The objective of the study is to examine sector returns at the Nairobi Securities Exchange before and after the annual national budget reading.

1.4 Importance of Study

The study results will be beneficial to current and prospective local and foreign investors. It will give investors useful information concerning likely performance of the NSE during special events such as the national budget reading. Investors will be able to analyze behaviour of sector returns around the budget reading and hence make informed investment decisions.

Financial analysts stand to benefit from the study as they will understand the stock market behaviour during an annual budget reading. They will then use that knowledge to advise their clients on the appropriate investment approaches during such an event. The findings of the study will be of importance to government and policy makers as it seeks to shed light into the behaviour of sector returns to annual budget reading. This will help in ensuring stability and growth of the economy.

The study will be of use to scholars and academicians. It will contribute to existing literature in the area of announcements and stock returns. This will be a source of reference and create areas for further research in fiscal policy decisions and effect on the stock market.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature in the area of the study. It looks at the work by other scholars on the subjects of stock returns and special events. In particular, the chapter covers, review of theories, review of empirical studies and chapter summary.

2.2 Theoretical Review

The two common approaches used by market professionals to predict stock prices are: the chartist/technical theory and fundamental/intrinsic value theory. The basic assumption of chartists is that history tends to repeat itself and past patterns of individual securities will tend to recur in the future. Fundamental analysts assume that at any given point an individual security has an intrinsic value which depends on its earnings potential. The earnings potential depends on fundamental factors such as quality of management, industry and economy outlook. As a result various schools of thought have emerged to explain the behaviour of share prices. These include: the Efficient Market Hypothesis (EMH), Random Walk Theory and Political Business Cycle Theory.

2.2.1 Efficient Market Hypothesis

Efficient market hypothesis (EMH) was introduced by Markowitz in 1952 and subsequently named by Eugene Fama in 1970. It states that it is impossible to beat the market because prices already incorporate and reflect all relevant information. According to the EMH, stocks always trade at their fair value on stock exchanges, making it impossible for investors to either purchase

undervalued stocks or sell stocks for inflated prices. As such, it should be impossible to outperform the overall market through expert stock selection or market timing, and that the only way an investor can possibly obtain higher returns is by purchasing riskier investments. Prior to the 1950's, it was believed that traditional investment analysis could be used to outperform the stock market. In 1950's studies emerged for example Kendall (1953) that changes in security prices followed a random pattern. This generated theories and research that led to the efficient market notion. (Lofthouse, 2001).

In a perfectly efficient market there is no mispricing. Therefore, there is no possibility to generate abnormal returns. Abnormal returns are actual returns minus normal returns. Normal returns are calculated using asset pricing models such as the Capital asset pricing model (Sharpe, 1964), the arbitrage pricing theory (Roll and Ross, 1980) and the three factor model (Fama and French, 1992). Psychologists and behavioural economists have criticized this theory arguing that the EMH is based on the assumption that investors are rational.

According to Fama (1970), the overall efficient market exists in three variants. The weak form informational efficient, semi-strong form and strong form. In its weakest form, current stock prices reflect past information. Any investor making investment decisions backed by analysis of past prices will not make abnormal returns. In the semi strong form EMH, all publicly available information is reflected in the stock prices. Lastly, the strong form EMH postulates that stock prices reflect all publicly available information and private information.

In a semi-strong efficient market, the security prices reflect all publicly available information. Semi-strong efficiency says that an investor cannot earn abnormal return with the knowledge of publicly available information. Immediately after the Budget speech by the Finance Minister, several reports crop up on the Internet, newspapers as well as on satellite TV channels including News and Business news channels. The reports appearing in these media construe the possible impact of the Budget on various industrial sectors (Kutchu, 2012). Therefore, if the market, in this case, the NSE, was semi strong form efficient then the investors would not make abnormal returns after the budget reading since the prices would have reflected all publicly available information. The returns in the pre-event period and returns in the event period would be about the same.

2.2.2 Random Walk Theory

The Random walk theory is a stock market theory that states that the past movement or direction of the price of a stock or overall market cannot be used to predict its future movement. Stock market prices evolve according to a random walk and thus cannot be predicted. This theory can be traced to French broker Jules Regnault in 1863, and French mathematician Louis Bachelier in 1900. The idea was then developed by Professor Paul Cootner in 1964. The term was popularized in 1973 by Burton Malkiel, a Professor of Economics at Princeton University. From his tests the stock had no overall trend. Malkiel argued that this indicates that the market and stocks could be just as random as flipping a coin.

Lofthouse (2001) and Sharpe (1964) work found that security prices move in a random manner and that it is impossible to beat the market except by chance. The paradox of efficient markets is that if every investor believes a market is efficient, then the market will not be efficient because no one would analyze securities.

Gupta and Basu (2007) documented a study on weak form of efficiency in India stock markets which is published in international business and economics research journal. They tested the weak form of efficiency of the emerging markets, in the framework of random walk hypothesis for two equality markets in India for the period of 1991-2006. They used run test and LOMAC variance ratio test to test the weak form of efficiency and Random walk hypothesis. They concluded that these markets were not weak form efficient, the series didn't follow random walk model and there was evidence of auto correlation in both markets rejecting the weak form of efficiency hypothesis.

This theory purports that share prices move in a random manner and an investor cannot outperform the market except by chance. The theory states that all methods of predicting prices are futile. Autocorrelation tests can be used to determine the randomness of stock returns. Evidence of auto or serial correlation between stock returns after the event and prior to the event, faults this theory.

2.2.3 Political Business Cycle Theory

This theory is attributed to the work of Kalecki in 1973. It is based on the assumption that voters consider their financial situation when voting. Kalecki argued that governments are subject to

pressure from the entrepreneurial class to discipline the work force through fear of unemployment. Policy makers may thus generate a rising stock market by manipulating policy instruments such as, expansionary fiscal policies, namely, increased government spending and lower taxes. They may also promise to make the stock market perform well after being elected or re-elected. This increases the stream of expected returns from the stock.

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

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

The partisan view of macroeconomics, as described by Alesina (1986), acknowledges that different political parties may have different preferences concerning their economic policy which may be explained by the fact that different parties aim to represent a different part of the electorate,

and therefore may have different objectives to be reached with their economic policy. As Nofsinger (2004) points out, the political policy theory implies that if one party has superior economic policies over the other, then a governmental period of this party should lead to a better performance of the economy. This better performance should not only be noticeable through the more conventional economic indicators as inflation and unemployment, but also on the stock market, which then as an indicator of the economy should show higher returns.

2.3 Determinants of Share Returns

There are several factors that affect the share prices and in turn, the share returns. The stock market is said to be bullish if it experiences a general increase in price level whereas general decrease in price level is referred to as bear market. Some of the major factors include: Demand and Supply of shares in the market, News related to a firm, Market capitalization of the company, Earnings report and dividend announcement, Inflation and Interest rates and political factors (Kamau, 2012). These are briefly discussed below:

2.3.1 Demand and Supply of shares in the market

When people are buying more stocks, then the price of that particular stock increases. On the other hand if people are selling more stocks, then the price of that stock falls. As supply and demand for security change overtime, different types of investors are attracted to the market. If the risk preferences of the investors are not as those of current investors the required rate of return tend to shift .Accordingly price relationship will change quite independently of any modification in earnings expectations. Participation by institutional investors at Nairobi

Securities Exchange influences pricing and returns generated at the stock market (Reilly and Brown, 2011).

2.3.2 Impact of news related to a company

When there is positive news about a particular stock or company, people try to invest all their money in that particular stock or market. This leads to increase in the interest of buying the stock. But there are many circumstances where news could also bring a negative effect where it could ruin the prospect of the particular stock. So it is very important to know the overall news of a stock or company where you can invest your money so that it grows within a very short period of time.

2.3.3 Market Capitalization of the company

Major capitalization changes involve stock split, bonus issues and right issues. When a company declares a stock split, the price of the stock will decrease, but the number of shares will increase proportionately. A stock split has no effect on the value of what shareholders own. If the company pays a dividend, your dividends paid per share will also fall proportionately. Companies often split their stock when they believe the price of their stock exceeds the amount smaller individual investors would be willing to pay for stock. By reducing the price of stock, companies try to make their stock more affordable to these investors.

2.3.4 Earnings report and Dividends announcement

Earnings per share (EPS), means the profit that a particular company has made per share and that too on the last quarter. If you need to know the health of the company then this is the most

important factor. What's more earning per share also influences the buying tendency in the market that results in the increase of the particular stock price.

Dividends are important to shareholders because of their implied relationship to the current and future profitability of the firm. Changes in a stock's dividend rate leads to a change in the price of the stock. It is argued that a change in a firm's dividend rate is likely to be seen as management's view of future profit.

2.3.5 Inflation and Interest rates

One of the more predictable influences of the stock market are periodic adjustments of interest rates by the Central Bank to combat inflation. When interest rates are raised, many investors sell or trade their higher risk stocks for government-backed securities such as bonds to take advantage of the higher interest rates they yield and to ensure that their investments are protected.

2.3.6 Political factors

Political factors like changes in government, budget announcement, changes in a country's diplomatic relations with another, change of a country's constitution and even a foreign tour by a diplomat can have a profound effect on the country's stock market. This proposal thus seeks to investigate the stock market performance before and after the budget announcement at the Nairobi Securities Exchange.

2.4 Empirical Studies

Thomas and Shah (2002) studied the Indian stock market index from April 1979 to June 2001 covering 26 Budget dates in this period. They found that in some years, post-budget returns were positive; in other years post-budget returns were negative; on average, there is no clear pattern about movement in the Index after budget date. They also report no evidence of over-reaction or under-reaction prior to budget date, or immediately after it. Thus they concluded that the information processing by stock market participants is rational, and that the Indian stock market is semi-strong efficient.

Verma and Neti (2005) dealt with an event study using the budget as an event window for four years and they found that the budget event has a significant impact on the stock market.

Gupta and Kundu (2006) examined the impact of Union Budgets on Sensex group of stocks from 1991 to 2005 covering 17 Budgets. They found that Investors can earn super profits during the short-term and medium term periods around the budget (up to 15 days) and also face the risk of abnormal losses if the investors' expectations are not met from the budget.

Ranjani, Sujeewa and Rathnasiri (2009) examined the impact of Sri Lankan government budget announcements on the Colombo stock exchange indices for the period 2005-2009. Event study methodology was followed in the study with an event window of 15 days before and after the event date. The indices considered for the study were mainly the All Share Price Index (ASPI) and Milanka Price Index (MPI) listed on Colombo stock exchange. The study found significant negative trend in indices returns in the event window period across all the years except for 2007. The study concluded that continued imposition and concessions in tax may have been one of the

major reasons for negative and positive trend respectively in the index returns over the around the event date.

A study done by Singh and Kansal (2010) on the impact of the budget announcements to the stock market volatility found that with regard to the return, an investors has the chance to earn super-profits by investing during the short-term and medium-term periods around the budget and they also concluded that the volatility does not increase in the post budget situation as the time period increases. (Kutchu, 2012) found that investors have a chance to make abnormal returns after the budget speech and the impact of budget seems to be specific to the sectors.

Wilayat et al. (2012) explored the volatility of Karachi stock exchange due to the Federal Government budget and found that the returns were not affected but the volatility of stocks had been significantly affected by the federal budget announcement.

Irungu (2012) evaluated the effect of general election results on stock market performance. The study concluded that there is a strong relationship between the general election results announcement on stock performance. The study established that stocks had experienced mostly negative average abnormal returns. This depicted that the elections were generally associated with negative abnormal return; thus, was accompanied by devaluation of shares in the market relative to years before elections. The study also found that the stock returns experienced a high abnormality especially during the 2007 elections than in any other election. Thus, investors generally either benefited or lost by trading in stocks within this period.

Kamau (2012) investigated the stock market performance before and after the promulgation of the new constitution (2010) at the Nairobi Securities Exchange. This study revealed that the stock market recorded higher returns before the promulgation and average returns during the event date. However the performance after the promulgation was poor thus the market performance was indifferent. The findings of the study revealed that there was a difference in the performance of the stock market for the period before and after the promulgation of the new constitution in all the 10 segments of the NSE. The results further revealed that all the segments performed much better before the promulgation and poorly after the promulgation of the new constitution.

Ndegwa and Kiweu (2013) sought to establish whether announcement of issuance of bonus shares by companies quoted at the Nairobi Securities Exchange result in significant abnormal returns. The study employed the event study methodology by using the bonus announcements of eighteen NSE listed companies that occurred during the year 2005 to 2010. The t-test statistic was employed to test the significance of the average abnormal returns and cumulative average abnormal returns from zero. The results of t tests on the average abnormal return (AAR) and the cumulative average abnormal return (CAAR) indicated that abnormal returns were significantly different from zero which implied that there was an anomaly in the semi-strong form efficiency of the NSE with regards to bonus announcements as it is possible to profit from such announcements which is regarded as news by NSE investors.

Kithinji, Oluoch and Mugo (2014) studied effects of rights issue on the share performance of listed Kenyan-based companies on the Nairobi Securities Exchange. The study examined share

performance before and after issuance of rights issues. 9 companies were analysed on the event period of 20 days before and 20 days after and t-test was conducted on all companies. They found that rights issue announcement has a significant effect on the share price performance of companies doing rights issues and 100% of the results indicated a positive significance level. It was therefore concluded that there is an effect of rights issue announcement on share price performance of companies doing rights issue.

2.5 Summary of Literature Review

The impact of micro and macroeconomic variables on stock returns has been an area of keen focus by academicians and researchers. Several studies have been conducted internationally to examine specifically the impact of the budget announcement to the volatility of the stock market. (Faridah, et al. 2013) examined the impact of the federal government budget on the stock market volatility in Malaysia. Pre budget period showed high volatility as compared to post budget and mean of returns were high with post budget announcements. (Varadharajan and Vikkraman, 2013) explored the impact of budget on the Indian stock market. They found out that return of the indices after the budget was negative when compared to pre budget and also there was higher volatility during the post budget period.

In Kenya, there have been many event studies investigating the impact of several variables on stock prices. Most of the empirical studies on impact of events on stock markets use the event modeling to establish the correlation. Kamau (2012) investigated the stock market performance before and after the promulgation of the new constitution (2010) at the Nairobi Securities Exchange and found that the stock market recorded higher returns before the promulgation,

average returns during the event date and low returns after the event. Irungu (2012) evaluated the effect of general election results on stock market performance. He found that the elections were generally associated with negative abnormal return in the years before elections. The study also found that the stock returns experienced a high abnormality especially during the 2007 elections than in any other election. Thus, investors generally either benefited or lost by trading in stocks within this period.

There is limited empirical investigation into effect of the budget on stock market returns. As presented in the empirical review, there have been extensive studies on the effect of general elections on stock returns and general stock market performance at the NSE. However, to the best of my knowledge there has been no empirical investigation into the effect of budget announcements on stock market returns at the NSE. This study investigates the effect of budget announcements on sector returns in the Nairobi Securities Exchange. Event modeling methodology will be used to establish the correlation between the variables.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was adopted to achieve the research objectives of the study. The first subsection covers research design. Sub section two and three covers the unit of analysis followed by the data collection methods. Lastly, how data was analyzed.

3.2 Research Design

The research used a descriptive research design through observation to describe the behaviour of stock prices to budget announcements. Event study methodology was used focusing on announcement effects for a short horizon period 10 days prior and 10 days after the event date to isolate other possible effects on the stock returns. Short horizon studies are considered relatively straightforward and trouble-free than long-horizon tests (Kothari and Warner, 1997). The scholars further sight that inferences from long-horizon tests require extreme caution.

3.3 Population

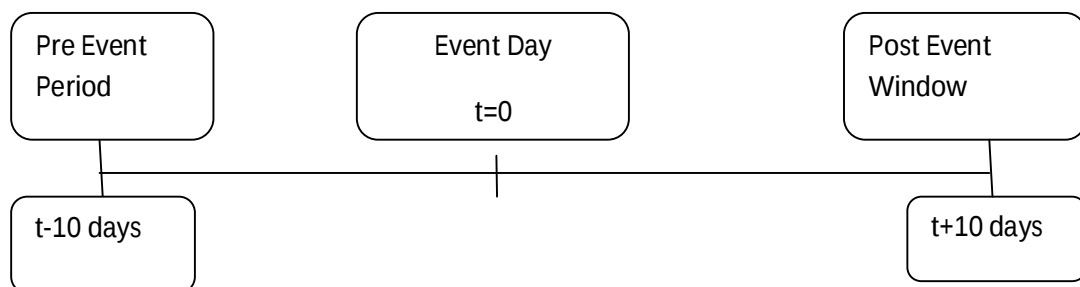
Target population refers to the entire group of individuals or objects from which the study seeks to generalize its findings. Census study was used with the target population comprising of all the fifty eight (58) companies listed at the NSE during the period of study as per Appendix I and the market returns in the years running from June 2010 to June 2015. This period consists of five budget reading events which are considered adequate to capture any incidences of the annual national budget reading.

3.4 Data Collection

The study used secondary data from the NSE daily market reports, national archives, stock brokers' research departments and press websites such as nation media and standard media. The data collection included the national budgets read over five years, daily stock market performance, the dates of the budget readings, the industry's reaction to the reading for the period running from 2010 to 2015.

3.5 Event-Date Specification

The national annual budget reading date was assigned day $t=0$ if it happens on trading day. Where announcements were done on a non-trading day, the next available trading day was assigned day $t=0$. The event period was taken to be ten days before the reading to ten days after the national annual budget reading. The event dates included 10th June 2010, 8th June 2011, 14th June 2012, 13th June 2013 and 12th June 2014.



3.6 Data Analysis

Event study methodology is one of the most frequently used analytical tool in financial research.

The objective of an event study is to assess whether there are any abnormal or excess returns earned by the security holders accompanying specific events where a abnormal of excess return

is the difference between observed returns and the appropriate given a particular return generating model. The basic idea is to find the abnormal return attributable to the event being studied by adjusting for the return that stems from the price fluctuation of the market as a whole (Siegel, 1998).

Event studies follow four basic steps. The first step is to identify the event and the date on which it occurred. Usually the event of interest is a single, one-time occurrence, such as a merger. Other event studies investigate the impact on a group of firms(or on a specific industry), of a frequent occurring event, such as earnings announcement. The daily returns were calculated for both individual securities as well as Market Index (NASI):

$$R_{i,t} = (P_t - P_{t-1})/P_{t-1}$$

Where, $R_{i,t}$ = Returns on Security i on time t ; P_t = Price of the security at time t (closing price); and, P_{t-1} = Price of the security at time $t-1$ (opening price).

The second step is estimation of abnormal returns. This involves analyzing the total return around the selected date and separating out the return that is a reaction to the event. Abnormal or excess returns are computed which represents the firm's return after subtracting returns attributable to overall stock market movement. Estimated normal returns are subtracted from the actual returns to obtain the abnormal returns. The pattern of abnormal returns reveals the impact of the event if any. Normal returns are determined using statistical models (Schweitzer, 1989).

Abnormal Returns (AR), was computed using the equation: $AR_{i,t} = R_{i,t} - R_{m,t}$

Where; $AR_{i,t}$ = Abnormal returns on security i at time t ; $R_{i,t}$ = Actual returns on security i at time t ; and, $R_{m,t}$ = Actual returns on market index.

The third step is grouping the abnormal returns for analysis. This involves computing the cross-section average and cumulative abnormal returns for the firms. The cross-section average abnormal return is calculated by summing the abnormal returns and dividing by the number of firms in the study.

Cumulative abnormal return is the sum of the average abnormal returns upto a point in time. The Average Abnormal Returns was calculated by: $AAR_t = 1/n \sum AR_{i,t}$

Where, AAR_t is the average abnormal returns on day t and $AR_{i,t}$ is the abnormal returns on security i at time t .

The Cumulative Abnormal Returns (CAR) was calculated as: $CAR_k = \sum AAR_t$

Where, CAR_k is the cumulative average abnormal returns for the k th period and AAR_t is average abnormal returns at time t .

3.7 Test of Significance and Interpretation

The final step was interpretation of the abnormal returns data. The secondary data collected was coded and entered into SPSS for analysis. Statistical tests were then done on this abnormal returns data to determine the statistical significance (Schweitzer, 1989). The significance of the abnormal returns was established using the t-test and findings presented in graphs and tables.

CHAPTER FOUR

DATA FINDINGS AND ANALYSIS

4.1 Introduction

This section presents results on the effect of national budget reading on sector returns at the Nairobi Securities Exchange. The data was collected from the NSE website and analyzed using Microsoft Excel and SPSS. The study looked specifically at the how the stock market was affected by the 2010 to 2014 budget reading. Abnormal returns of all listed companies were analyzed; the average abnormal returns (AAR) and cumulative abnormal returns (CAR) were also calculated. The study compared a 10 day period before and after reading of the national budget by the Cabinet Secretary. Further analysis was done using line graphs utilizing trends of the movement of the performance of the market to describe its patterns; this was used to understand the relationship between the period in question and the performance of the market during that particular period.

The chapter presents findings of the study with regard to the objective i.e. to examine sector returns at the Nairobi Securities Exchange before and after the annual national budget reading. The focus was on all the sectors in the Nairobi Securities Exchange.

4.2 Hypothesis Test

The study conducted a one sample t-test to determine whether the stocks abnormal returns were significantly different from zero (0) or whether the observed difference was due to sampling error:

H_0 : There is no significant difference of observed mean from hypothesized 0 (no abnormality return)

H_A : There is significant difference of observed mean from hypothesized 0 (abnormality return)

The study also conducted a paired samples test to determine whether the average abnormal returns pre budget were significantly different from average abnormal returns post budget:

$H_0: \mu_1 = \mu_2$ There is no significant difference between pre budget and post budget average abnormal returns

$H_A: \mu_1 \neq \mu_2$ There is significant difference between pre budget and post budget average abnormal returns

Where: μ_1 = Mean of population 1 (before budget reading)

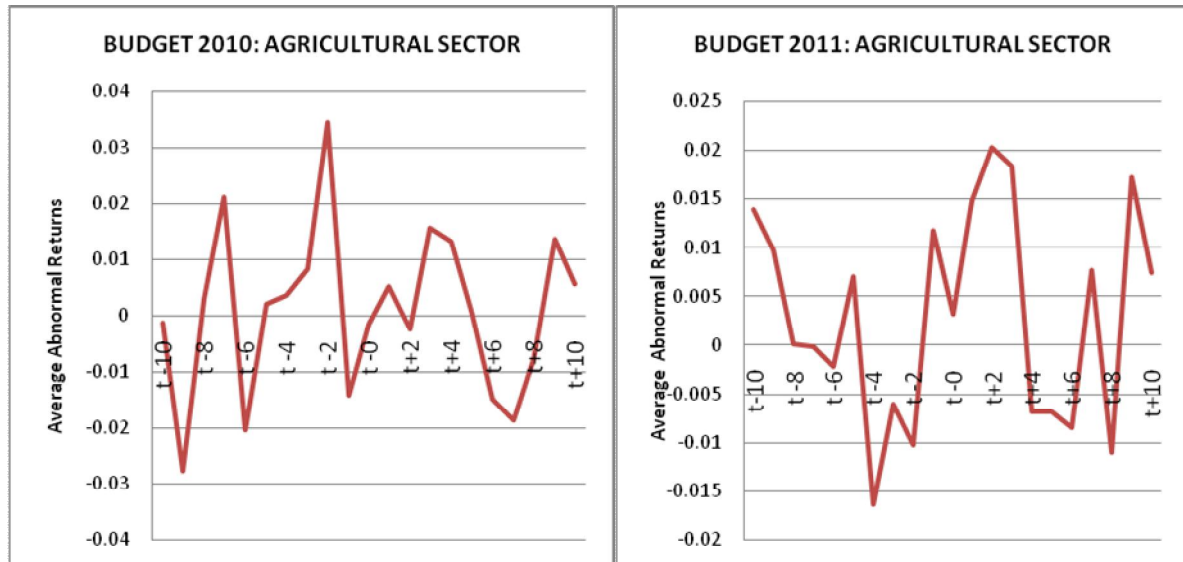
μ_2 = Mean of population 2 (after budget reading)

4.3 Sector Performance

This section discusses the performance of the stock market by sectors. The objective is to examine the effect of national budget reading on the different sectors before and after the event. Graphical representations have been included to illustrate fluctuations in the cross sectional abnormal returns before, on and after the event day. One sample t-test and paired sample test were done to determine significance of the daily fluctuations and pre and post budget means in the ten sectors during five budget events. This was tested at 95% confidence level.

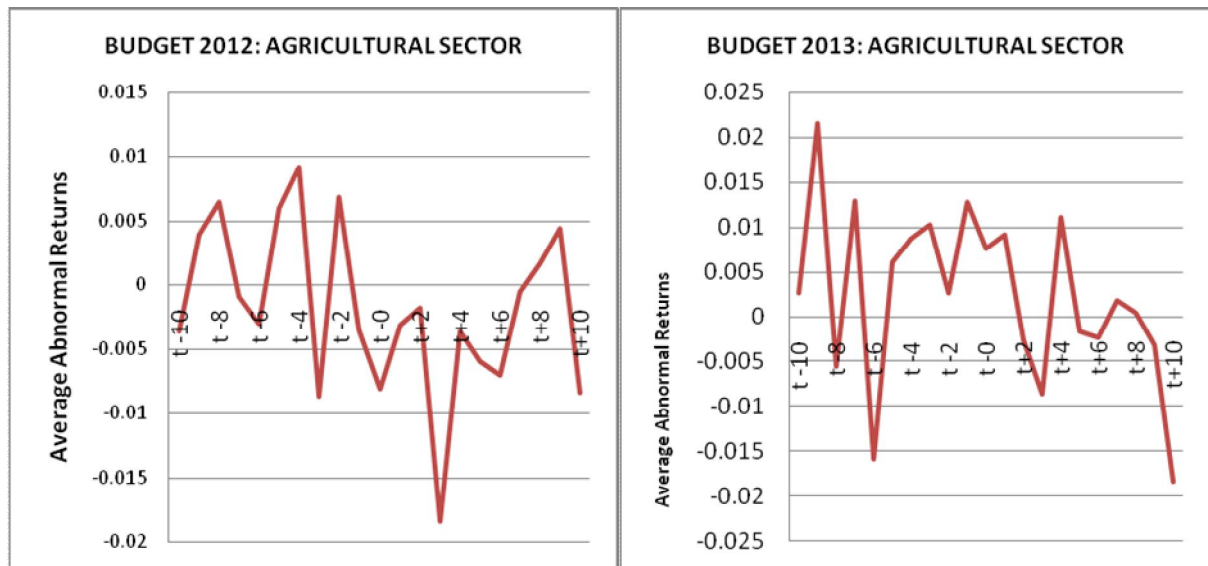
4.3.1 Agricultural Sector

Figure 4.1 Agricultural Sector 2010 and 2011 CAAR



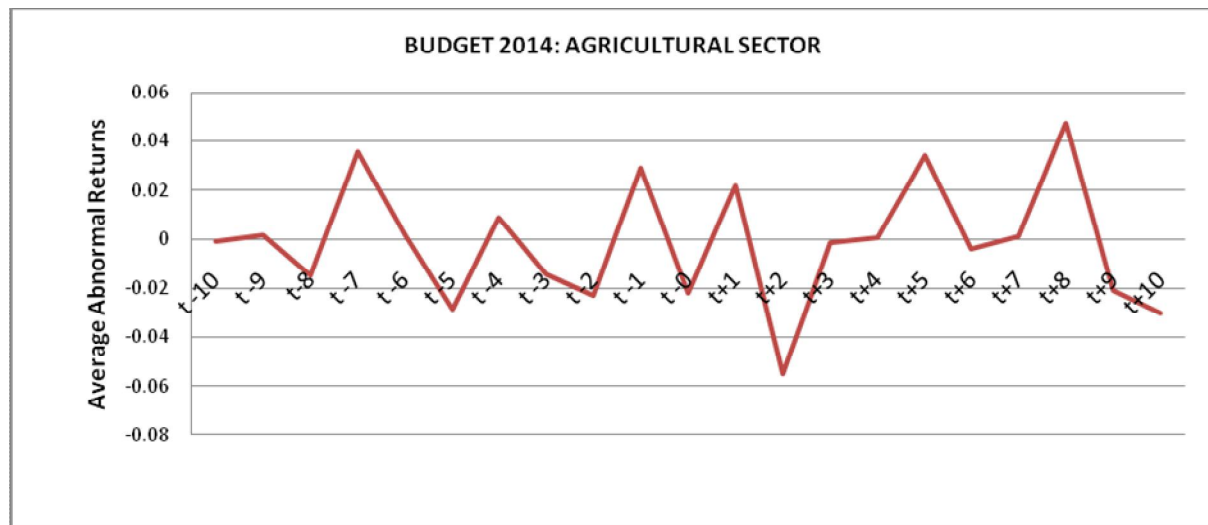
Analysis of data relating to the performance of the Agricultural sector over the 2010 and 2011 budget reading reveals fluctuations of abnormal returns from the mean as depicted in the above graphs. Paired sample statistics indicates a pre and post mean of 0.0016 and 0.0009 over the 2010 budget period respectively. At 95% confidence level, $p=0.897$ showing no significant difference between means. One sample t-test shows the p values of pre and post abnormal returns to be more than 0.05 thus null hypothesis is accepted and it is concluded that pre budget and post budget abnormal returns were not statistically significant. However, over the 2012 budget period, pre 10, shows significant t test of ($p=0.001$) with no significant results on day 9 prior to the budget through to day 10 after the budget.

Figure 4.2 Agricultural Sector 2012 and 2013 CAAR



Paired sample statistics of the 2013 budget period shows pre and post means of 0.0061 and 0.0076 respectively. At 95% confidence level, $p=0.919$ showing no significant difference between means. Therefore no significant results are observed over the 2013 budget period, except on day 1 after the budget reading with a positive mean difference of 0.0092. In 2014, pre and post means of 0.0001 and 0.0019 were observed with $p=0.658$ indicating no significant difference between the two means. The graph below depicts the average abnormal returns 10 days before and 10 days after the 2014 budget reading. One sample t-test indicates no significant difference from the hypothesized mean.

Figure 4.3 Agricultural Sector 2014 CAAR

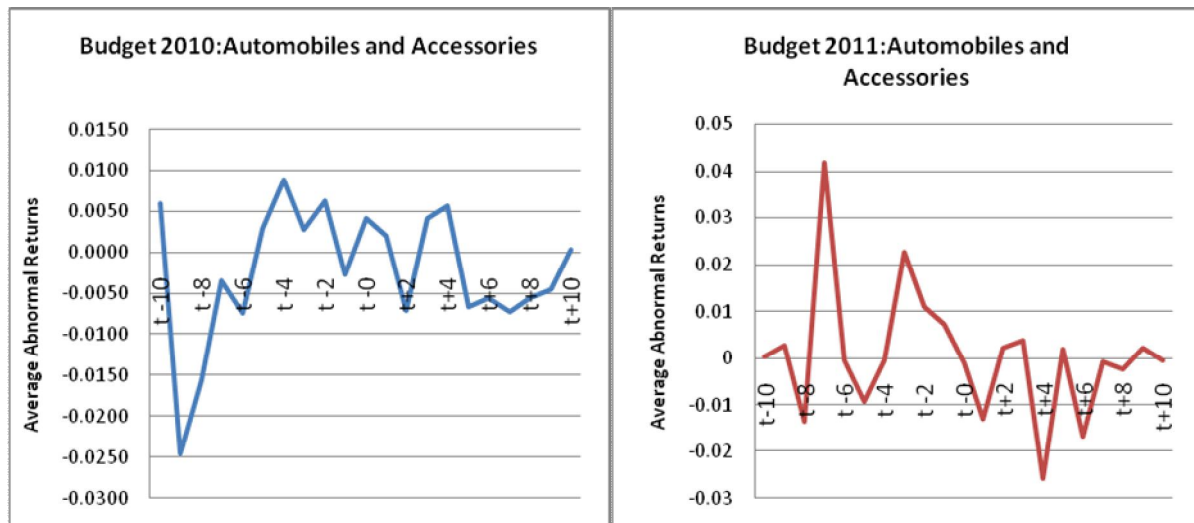


4.3.2 Automobiles and Accessories Sector

In this sector, the results of the paired sample statistics indicate pre and post means of -0.0040 and -0.0048 respectively during the 2010 budget period. At 95% confidence level, the significance of the difference between the two means is found to be insignificant at 0.827. Results of the one sample test indicate no significant results over the event period. The dip in average abnormal returns on day 9 prior to the budget reading as indicated in the graph below was shown to be insignificant at 0.060. Over the 2011 budget period, fluctuations from the hypothesized mean abnormal returns are observed as indicated in the graphs below.

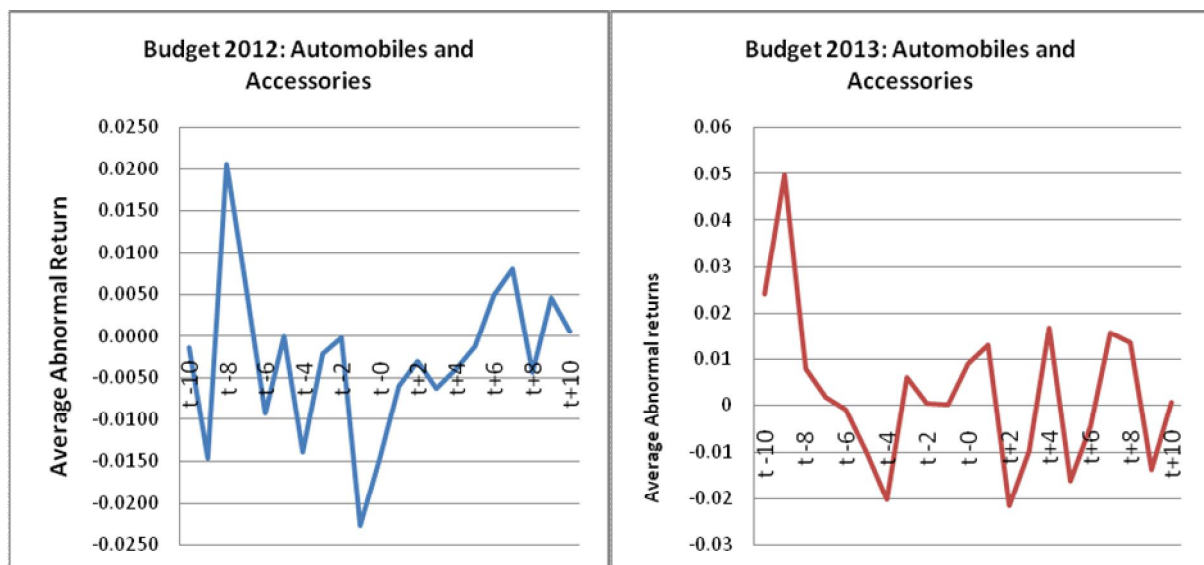
Results of the one sample test indicate no significant abnormal returns. These research findings reveal that the null hypothesis is not rejected as the pre and post budget abnormal returns are not statistically significant. One sample t test of CARs did not indicate any significant difference from the hypothesized mean. This shows the automobiles and accessories sector was not significantly affected by the 2010 and 2011 budget events. This indicates that the budget events did not have an impact on this sector.

Figure 4.4 Automobiles and Accessories Sector 2010 and 2011 CAAR



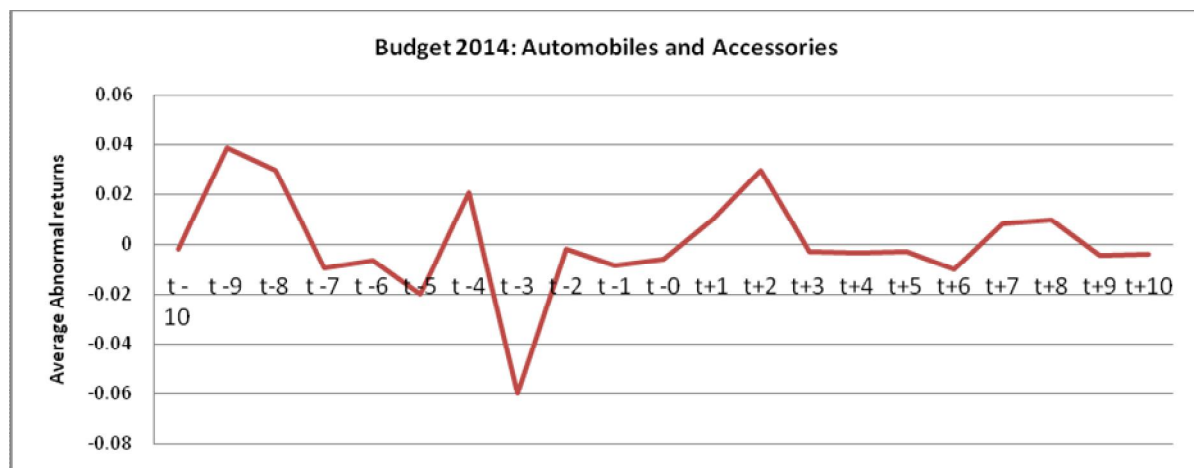
The Paired samples test indicate insignificant difference between the pre and post budget means for the 2012 and 2013 budget period with P values of 0.330 and 0.206 respectively. Despite the downward trend in the average abnormal returns, results of the one sample test indicate no significant observations over the 2012 budget period. However, significant average abnormal returns are observed on day one after the 2013 budget reading ($p=0.002$).

Figure 4.5 Automobiles and Accessories Sector 2012 and 2013 CAAR



The pre and post budget average abnormal returns were -0.0034 and 0.0024 in 2014 and results of the Paired samples correlations indicate a negative correlation between the pre and post budget means. This difference is however not significant as the p value indicates 0.511. The results of the one sample test indicate no significant abnormal returns over this budget period at 95% confidence level. This is depicted graphically below:

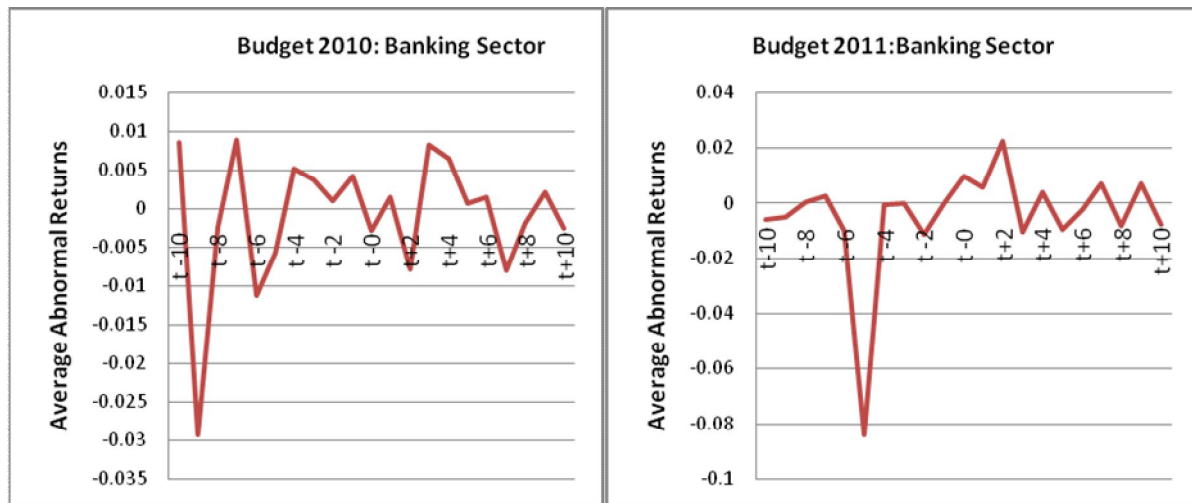
Figure 4.6 Automobiles and Accessories Sector 2014 CAAR



4.3.3 Banking Sector

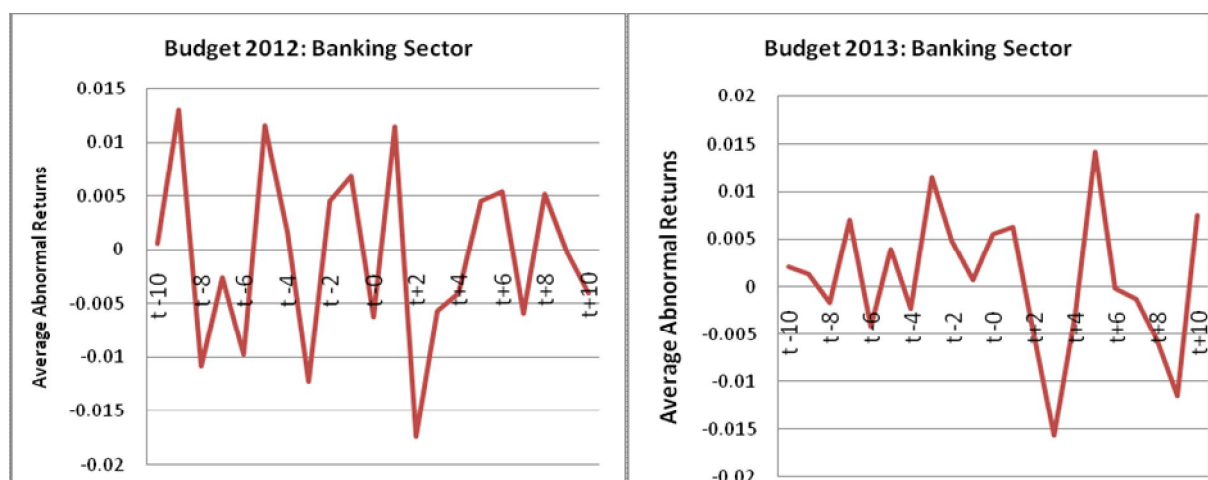
The average abnormal returns pre and post budget were -0.0014 and -0.00001 respectively over the 2010 budget period. This positive correlation was observed to be insignificant ($p=0.457$) at 95% confidence level. Generally, average abnormal returns over the budget period were found to be insignificant, except on day 9 prior to budget reading ($p=0.04$) where a significant dip in returns was observed. In 2011, an insignificant negative correlation is observed between the pre and post budget abnormal returns. Results of the one sample test indicate significant negative differences in abnormal returns on day 6 ($p=0.015$) and day 2 ($p=0.028$) prior to budget reading and on day 10, long after the budget is read ($p=0.016$). This is demonstrated graphically below:

Figure 4.7 Banking Sector 2010 and 2011 CAAR



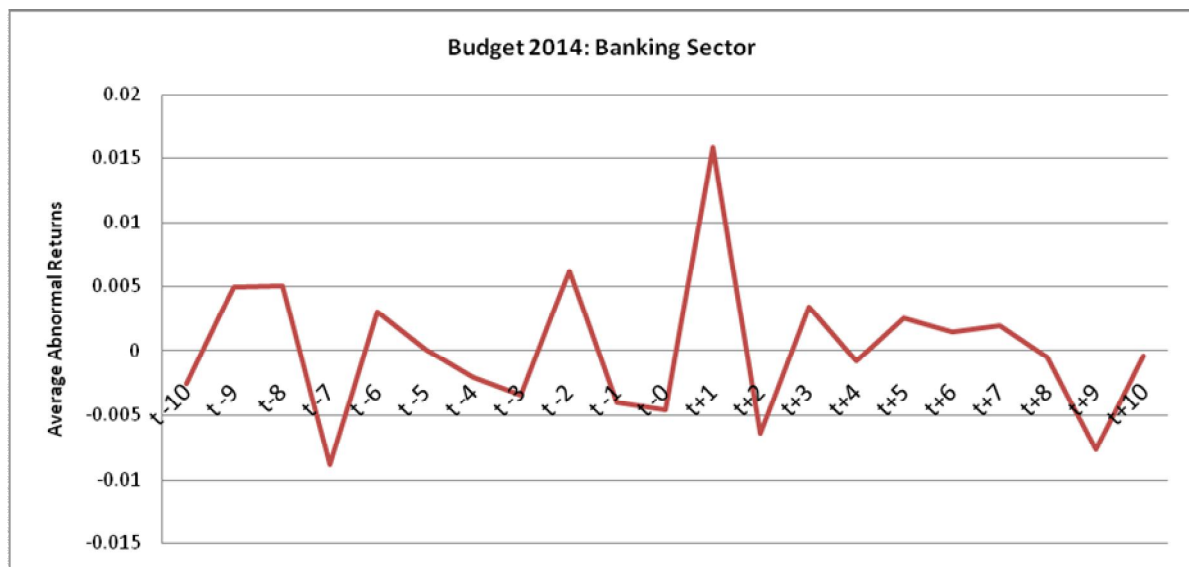
Over the 2012 and 2013 budget period, results of the paired samples statistics showed difference in the pre and post budget abnormal returns to be insignificant at 95% confidence level. Deviations from the mean hypothesized value were also insignificant in both budget periods, except for a significant dip on day 3 (0.004) and a significant gain on day 5(0.019) after the 2013 budget reading day. The dip in 2012 after the budget day from 0.01144 on day one to -0.0174 on day two were was found to be statistically insignificant. These fluctuations are illustrated in the graphs below:

Figure 4.8 Banking Sector 2012 and 2013 CAAR



Results of the paired samples statistics showed difference in the pre and post budget abnormal over the 2014 budget period, to be insignificant at 95% confidence level. Significant dip in abnormal returns is observed on day 7 ($p=0.002$) prior to the budget day and significant gain ($p=0.023$) day 1 after the budget is read. The alternate hypothesis is accepted on $t+1$ as a average abnormal returns are statistically significant from the hypothesized value. This is graphically depicted below:

Figure 4.9 Banking Sector 2014 CAAR

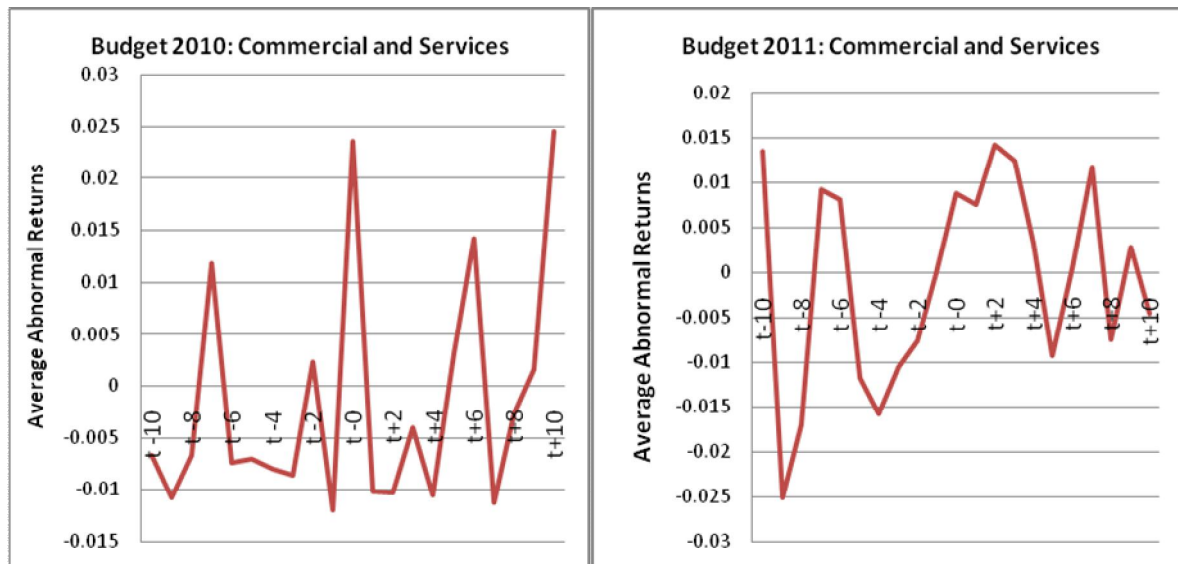


4.3.4 Commercial and Services Sector

A positive but insignificant correlation is observed between the pre and post budget mean abnormal returns over the 2010 budget period. Average abnormal returns fluctuate over the budget period as depicted in the graph below. Results of one sample test however indicate these fluctuations to be insignificant and could be merely by chance. Over the 2011 budget period, a strong negative correlation is observed between the pre and post budget means. However the mean of the of the paired difference is insignificant ($p=0.228$). A significant dip is observed 5 days before the 2011 budget reading ($p=0.049$). The alternate hypothesis is accepted on $t+5$ as

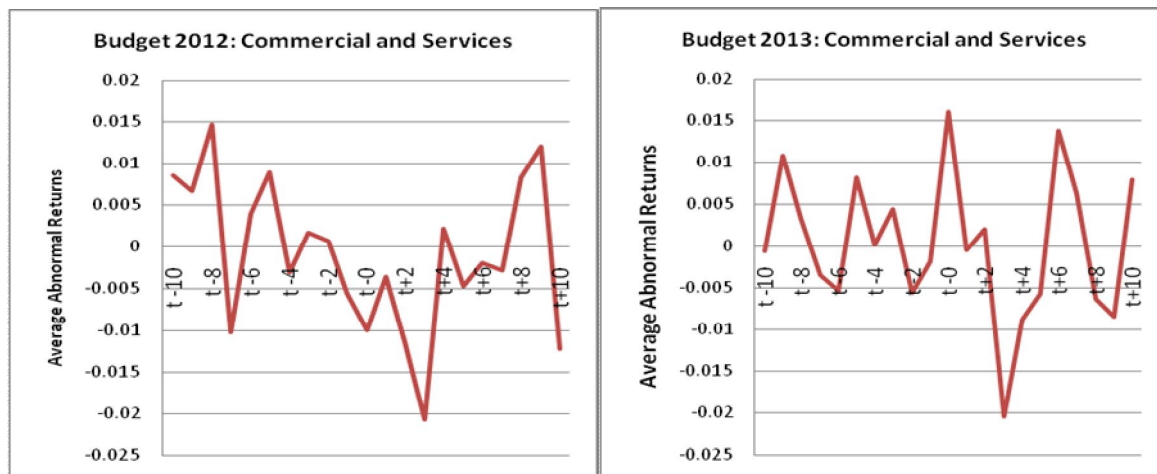
there exists a significant difference from the hypothesized mean. Below are the graphical depictions:

Figure 4.10 Commercial and Services Sector 2010 and 2011 CAAR



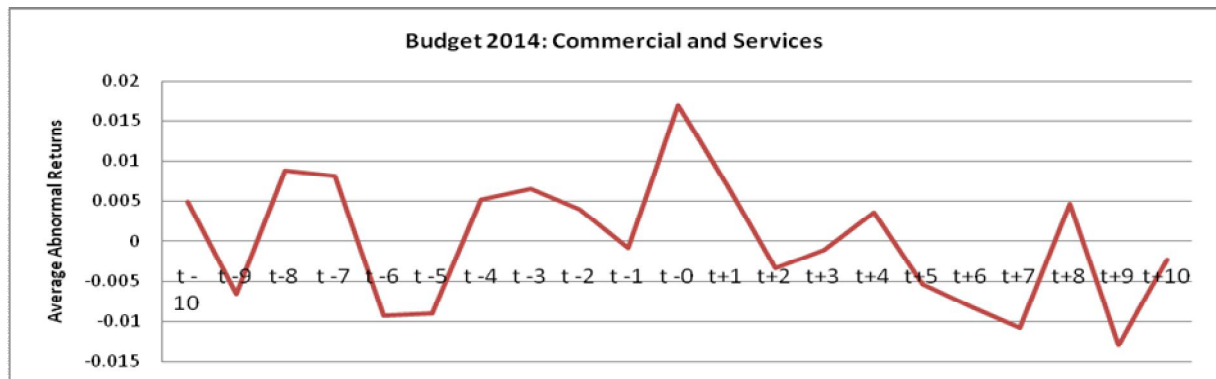
A weak negative correlation is observed between the average abnormal returns pre and post the 2012 and 2013 budget reading. Results of the paired sample test indicate fluctuations of the means pre and post budget to be significant for 2012($p=0.048$) and insignificant for 2013($p=0.169$) at 95% confidence level. Over the 2012 budget period, day 8 and 7 prior to the budget day indicate pronounced fluctuations as per the graph below, however results of the one sample test show that the pre and post budget means are not statistically significant from the hypothesized mean except on day t+9 where significant gains were observed ($p=0.022$). One sample t test of CARs also did not show any significant differences from the hypothesized mean. The 2010 budget therefore did not significantly impact this sector.

Figure 4.11 Commercial and Services Sector 2012 and 2013 CAAR



In 2013, a significant gain in the mean abnormal returns is observed on the budget day ($t=0$) with p value=0.003 and a significant dip on day 3 after the budget day ($t+3$) $p=0.008$. Other fluctuations over the budget period were not significant as shown in the one sample test results. This indicates that on average, the 2013 budget had an impact on the commercial services sector. The alternate hypothesis is accepted in this case. For the 2014 budget period, results of the paired samples test indicate a weak negative correlation between the pre and post budget means. The fluctuations from the hypothesized mean were found to be insignificant at ($p=0.338$). The one sample test indicates daily fluctuation before and after the budget day to be insignificant and could be attributable to chance. One sample test of CARs did not indicate significant differences in the mean of abnormal returns from the hypothesized mean during the event period, indicating this sector was not significantly affected by the 2013 and 2014 budget event.

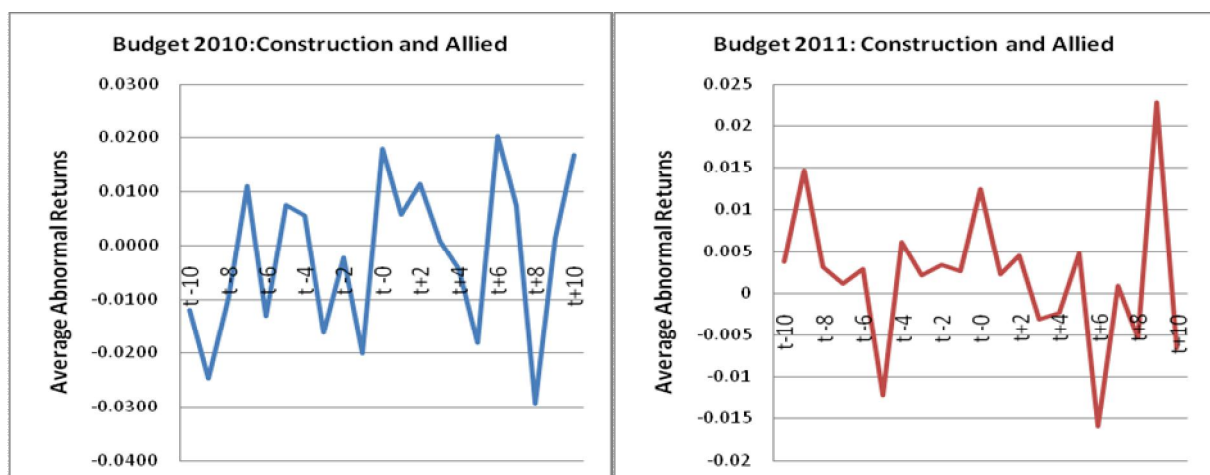
Figure 4.12 Commercial and Services Sector 2014 CAAR



4.3.5 Construction and Allied Sector

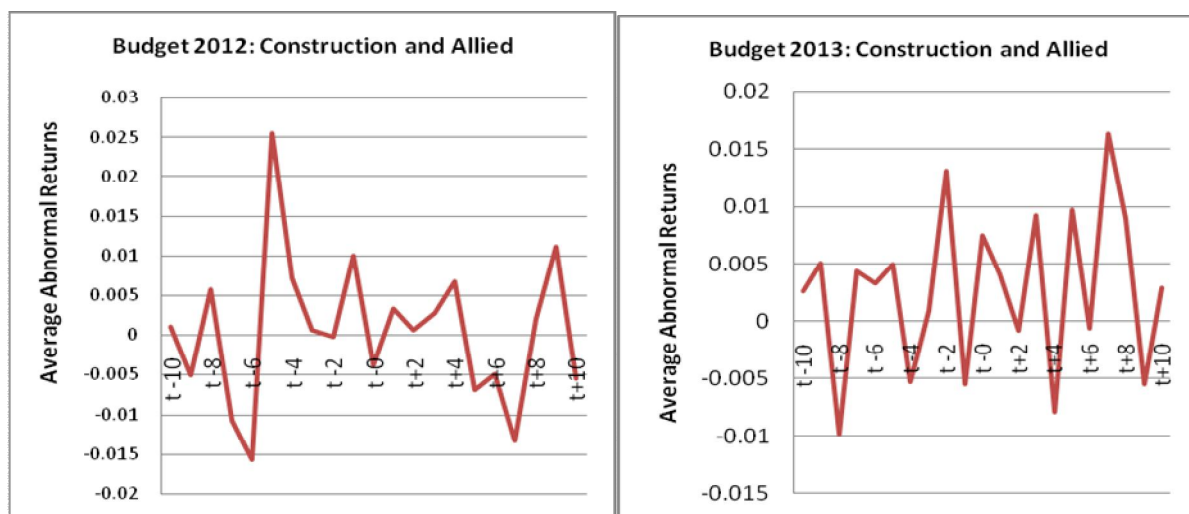
The Paired Samples Statistics results indicated pre and post budget means of -0.0072 and 0.0017 respectively for the budget period in 2010. These means are seen to be strongly negatively correlated over the event period. However the difference in the means is not statistically significant at 95% confidence level. Fluctuations from the hypothesized mean were observed over the budget period and found to be insignificant except for a significant gain in abnormal returns 7 days to the budget period with p value at 0.019. A significant dip was noted 8 days after the budget reading in this sector ($p=0.003$). These statistics are shown in the graph below:

Figure 4.13 Construction and Allied Sector 2010 and 2011 CAAR



The 2011 budget period showed a weak positive correlation between the pre and post mean which was insignificant at $p = 0.199$ at 95% confidence level. Significant gains in average abnormal returns were observed 9 days before the budget ($p=0.031$), and day 2 after the budget ($p= 0.022$). A significant dip followed on day 3 after the budget reading ($p=0.045$). Fluctuations over the other days were found to be insignificant compared to the hypothesized mean value. During the 2012 budget period, paired samples test indicates insignificant difference between the pre and post budget mean abnormal returns. Fluctuations of the mean abnormal returns on a daily basis over this period did not show any significant differences from the hypothesized value. The null hypothesis of no significance was accepted in this sector for the 2012 budget period.

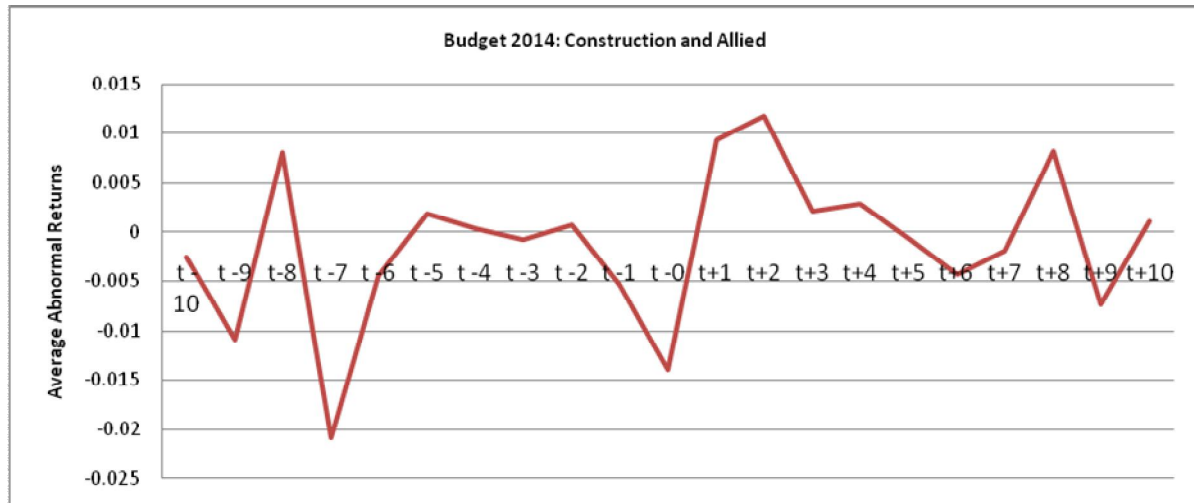
Figure 4.14 Construction and Allied Sector 2012 and 2013 CAAR



The pre and post budget mean over the 2013 budget period were found to be insignificantly different at 95% confidence level. Pre and post budget average abnormal returns were not statistically different from the mean value. A significant gain was however observed on day $t+5$, i.e., 5 days after the budget period ($p=0.012$) in the construction sector. In 2014, the results of the paired samples test indicate p value equal to 0.056 indicating the mean of the pre and post budget period indicating an insignificant difference at 95% confidence level. However, a significant

drop in mean abnormal returns was observed on the day of the budget reading, i.e, at $t=0$ with a p value of 0.049. On average however, the difference in the pre and post budget means was statistically insignificant.

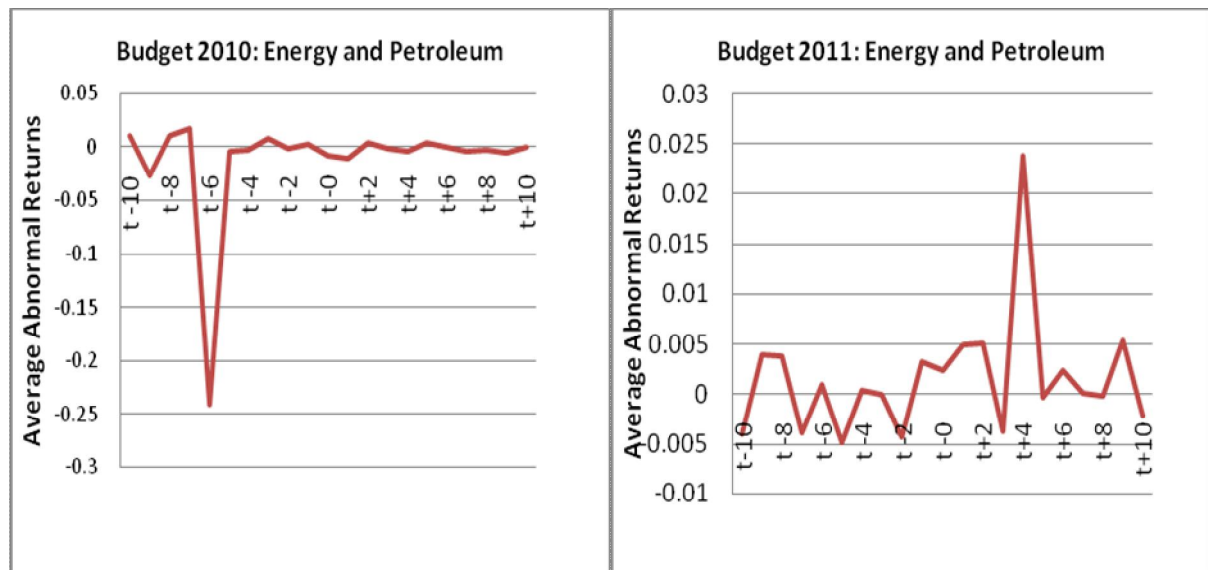
Figure 4.15 Construction and Allied Sector 2014 CAAR



4.3.6 Energy and Petroleum Sector

An insignificant positive correlation was observed between the pre budget and post budget means in this sector over the 2010 and 2011 budget periods. Overall, the pre and post budget means did not show any statistically significant difference from the hypothesized value as shown by the results of the paired samples test. However, a keen look at the daily average abnormal returns shows significant loss 9 days to and a significant gain 7 days to the 2010 budget day. A significant loss was observed 2 days to the 2011 budget day. The drop in abnormal returns 6 days to the 2010 budget speech and rise in abnormal returns 4 days after the 2011 budget were found to be insignificant and may have been due to chance. These statistics are shown in the graphs below:

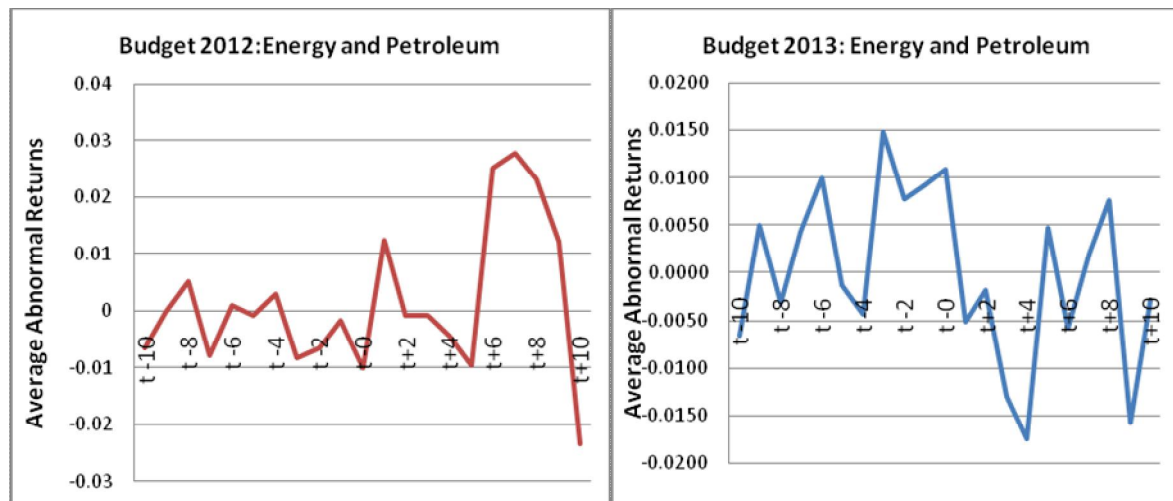
Figure 4.16 Energy and Petroleum Sector 2010 and 2011 CAAR



Results of the paired samples statistics showed pre and post 2012 budget average abnormal returns at -0.0023 and 0.0072 respectively. The difference between the pre budget mean and post budget mean was observed to be significant at 95% confidence level with a p value of 0.011. However, the pre mean and post mean fluctuations from the hypothesized value, that is, zero did not reflect any statistically significant difference. This means the post budget means were statistically significant from the pre budget means but both were not significantly different from the hypothesized mean.

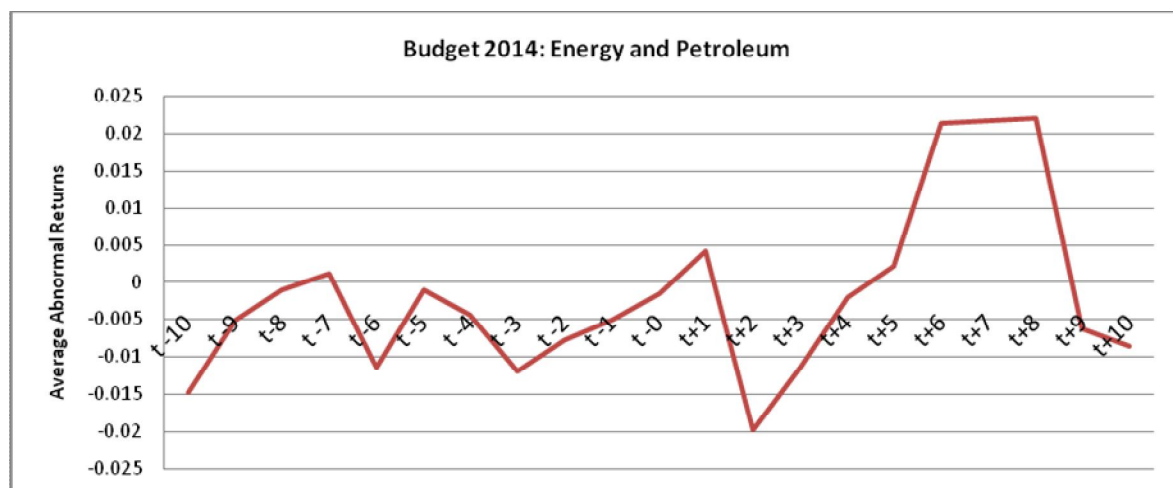
One sample t test for CARs during this event period indicated a positive mean difference of 0.0293 which was not statistically significant from the hypothesized mean ($p=0.406$). This means that though the 2012 budget had a positive impact on this sector, cumulative abnormal returns increased though not significantly from the hypothesized mean.

Figure 4.17 Energy and Petroleum Sector 2012 and 2013 CAAR



The results of the paired samples test indicate no significant difference in pre and post budget means for the 2013 and 2014 budget period. Overall no statistical difference is observed over the budget period, except on day 4 and day 9 after the 2013 budget day ($p=0.024$; 0.048) where significant decline in abnormal returns was noted. Significant dips in average abnormal returns were observed on day 10, 6 and 3 prior to the 2014 budget day.

Figure 4.18 Energy and Petroleum Sector 2014 CAAR

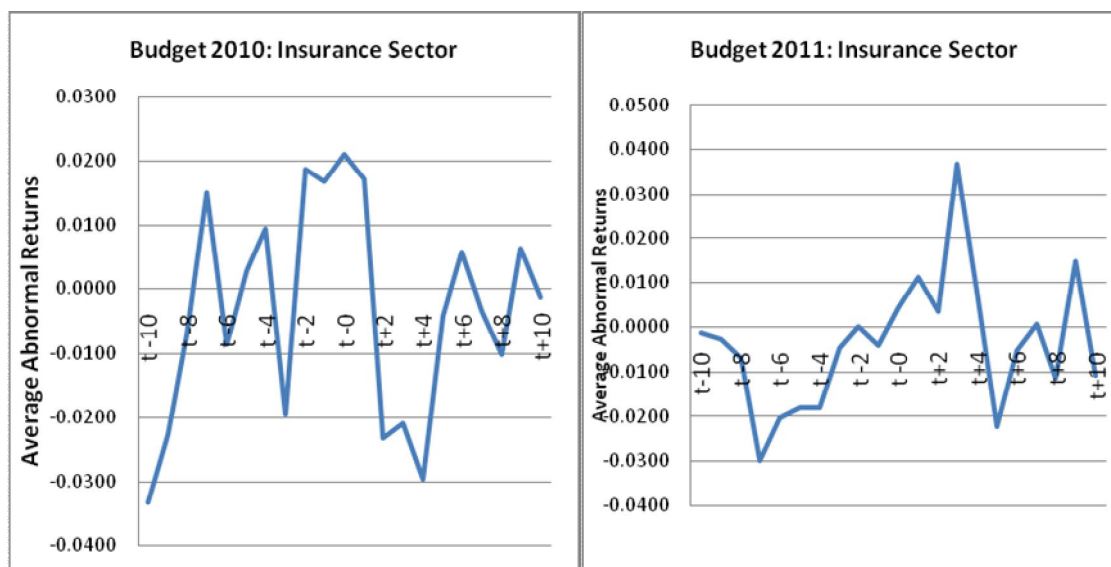


4.3.7 Insurance Sector

The results of the paired samples test indicate p values equal to 0.141 and 0.075 the 2010 and 2011 budget period showing no significant difference in pre and post budget means. Significant drops in average abnormal returns were observed 9 days prior to the 2010 budget day and 10 days after the budget day at $p=0.048$ and 0.032 respectively. A significant gain is noted on the 2011 budget day at $p=0.039$. Despite these significant fluctuations, overall no statistical difference is observed between the pre and post budget average abnormal over both budget periods in this sector.

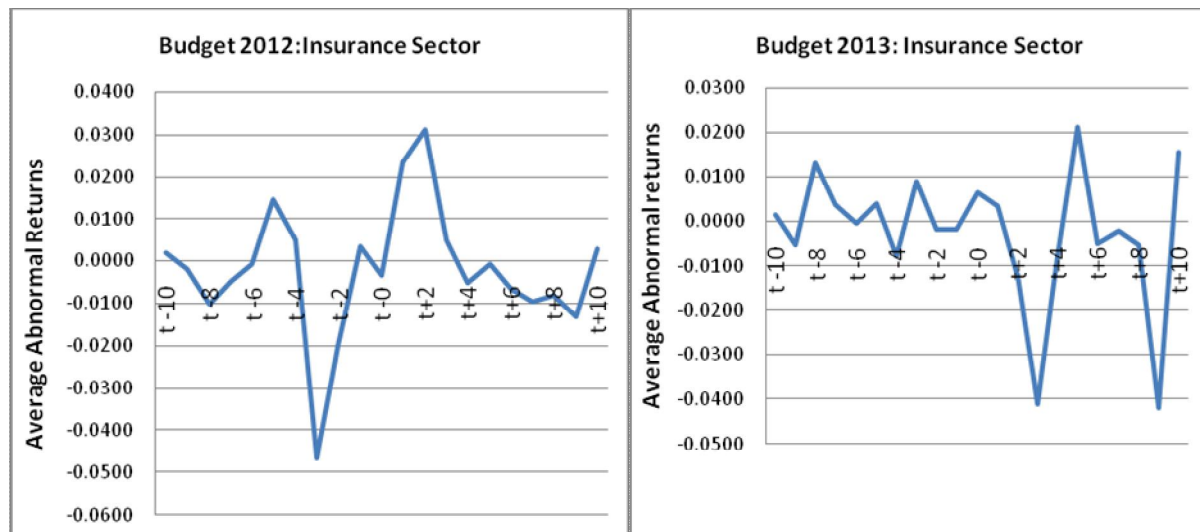
These statistics are shown in the graph below:

Figure 4.19 Insurance Sector 2010 and 2011 CAAR



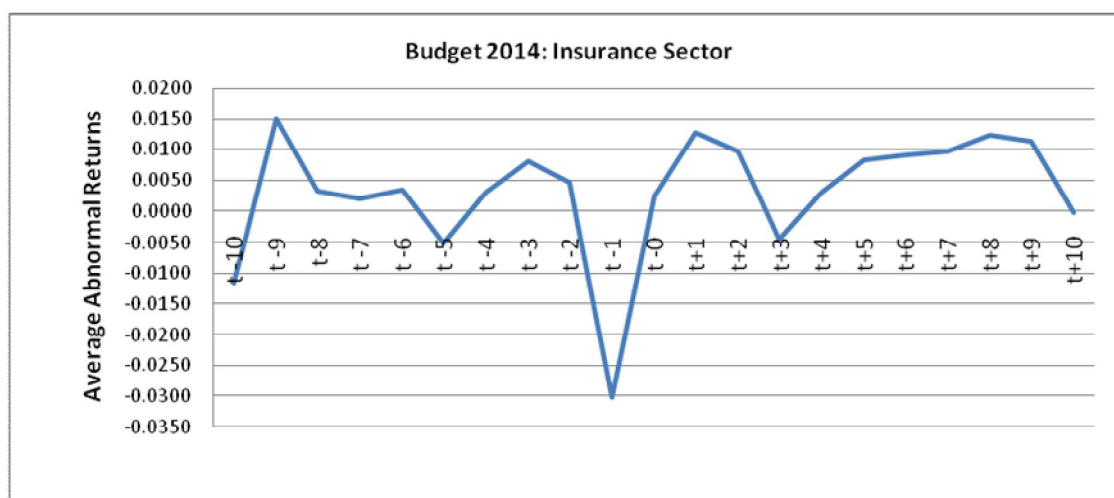
A significant average gain ($p=0.048$) was observed on day t+1 after the 2012 budget speech by the Cabinet Secretary in this sector. Overall, on average no significant abnormal returns were observed over the event period. The results of the one sample test showed a significant abnormal gain ($p=0.02$) 8 days prior to the 2013 budget speech and a significant drop ($p=0.015$) in abnormal returns on day 3 after the budget day. Overall, on average no significant abnormal returns were observed over the event period ($p=0.067$).

Figure 4.20 Insurance Sector 2012 and 2013 CAAR



Results of the one sample test indicate significant abnormal returns on day t+6 after the 2014 budget speech at $p=0.08$. The drop depicted in the graph below on day t-1 (pre 1) was found to be statistically insignificant. However the paired samples tests indicate on average that no significant difference exists between the pre and post budget means and the hypothesized mean value. The null hypothesis of statistical insignificance is accepted.

Figure 4.21 Insurance Sector 2014 CAAR

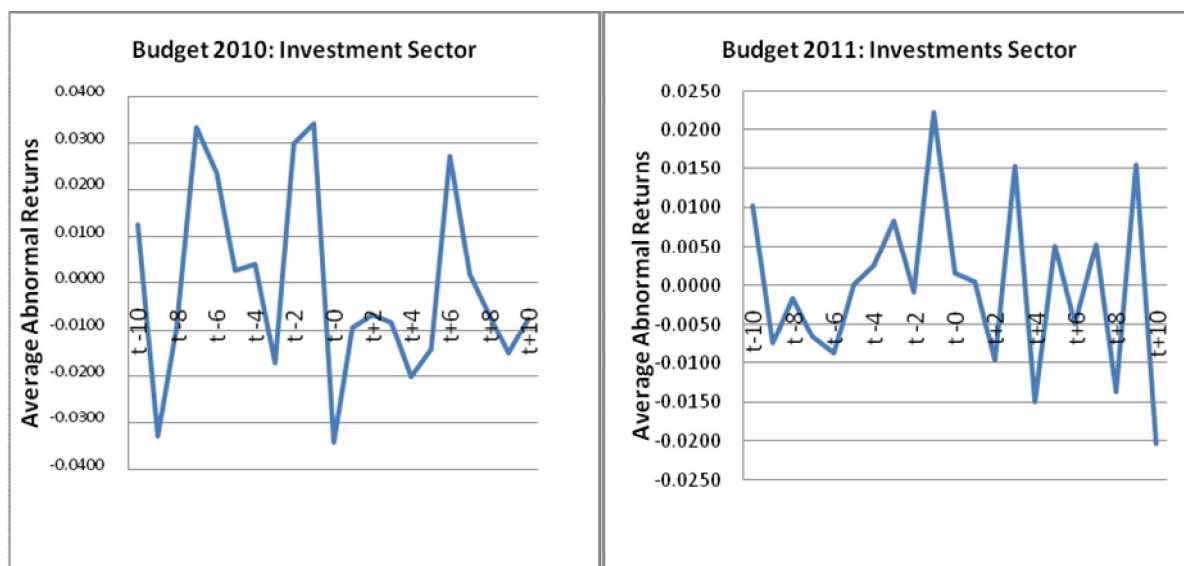


4.3.8 Investment Sector

The research findings revealed that the sector's average abnormal returns before the 2010 budget were 0.0053 and -0.0040 after the budget. While this illustrates a decline in average abnormal returns, the results of the paired samples test showed no statistical significance between the two means hence failing to reject the null hypothesis of no statistical difference. Further, there was no significant abnormal return over the budget period. In 2011, the pre and post budget means were 0.0013 and -0.0014 respectively. These were found to be statistically insignificant over the budget period. The one sample test showed no significant average abnormal returns over the budget period. Null hypothesis was accepted.

These statistics are shown in the graphs below:

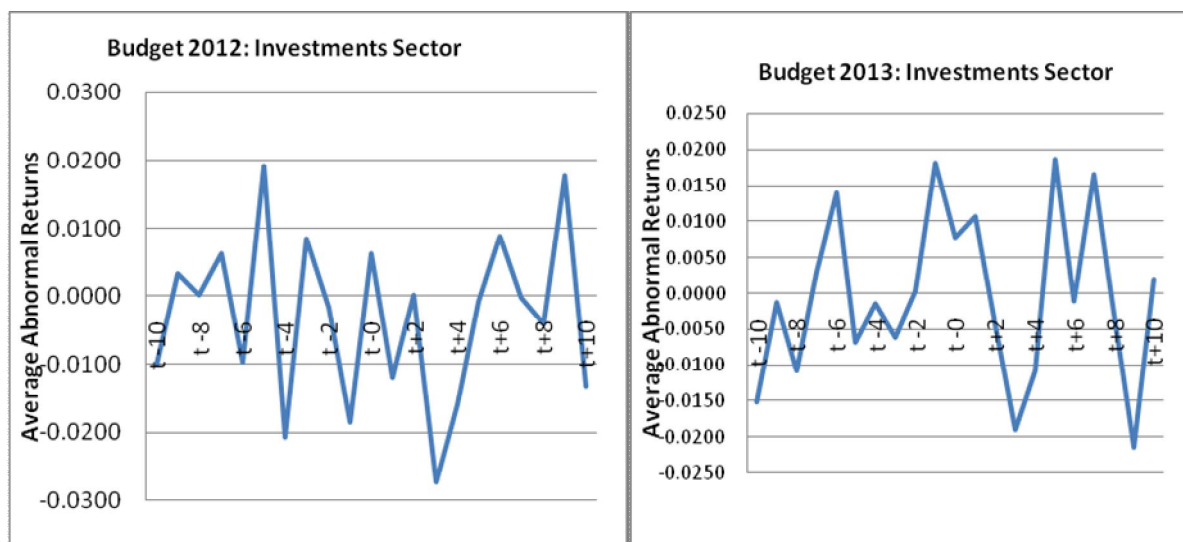
Figure 4.22 Investment Sector 2010 and 2011 CAAR



The research findings revealed that the sector's average abnormal returns before the 2012 budget were -0.0025 and -0.0050 after the budget. These means were found to be insignificant with p value =0.536. No significant abnormal returns were observed over the event period in this sector as they were not statistically significantly different from the hypothesized zero mean. In 2013, a

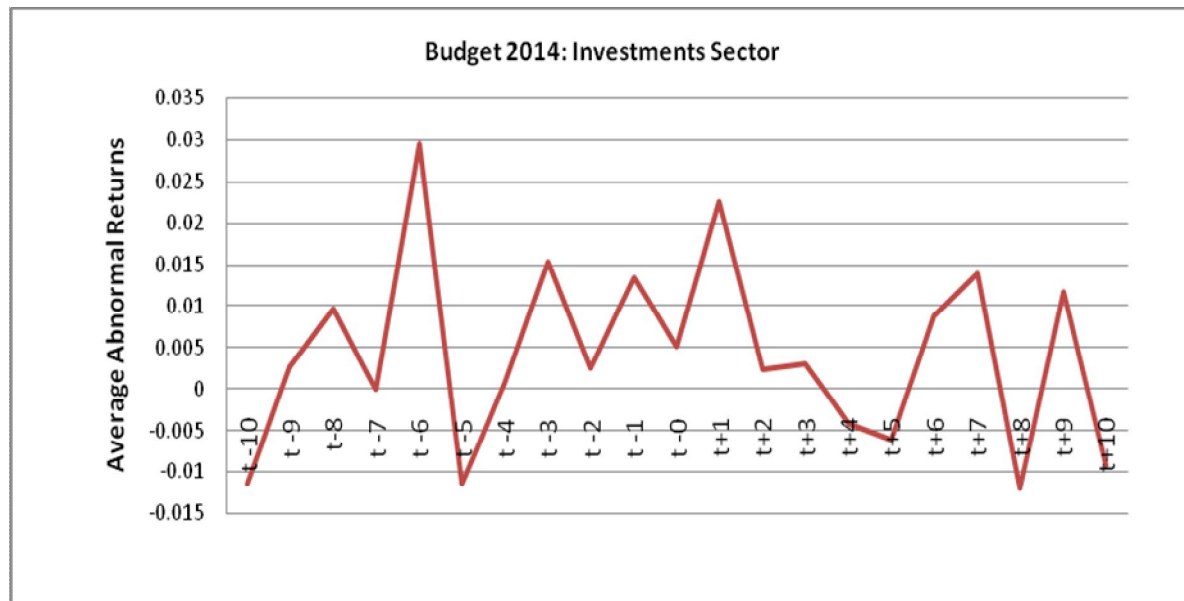
significant drop in abnormal returns was observed on day 3 after the budget, $t+3(p=0.026)$. However, the results of the paired samples statistics indicate pre and post budget means of -0.0006 and -0.0019 respectively during this budget period. These means were not significant as indicated by t-test statistic at 0.784. The alternate hypothesis is rejected, and null hypothesis accepted.

Figure 4.23 Investment Sector 2012 and 2013 CAAR



Results of the paired samples statistics indicate pre and post budget means of 0.0050 and 0.0031 respectively during the 2014 budget period. The difference was found not to be statistically significant at p value equal to 0.858. The one sample test indicates no significant abnormal returns before and after the budget in this sector. The rise in abnormal returns at t-6 was found to be insignificant. The null hypothesis was thus accepted and the alternate hypothesis rejected. Below is the graphical representation:

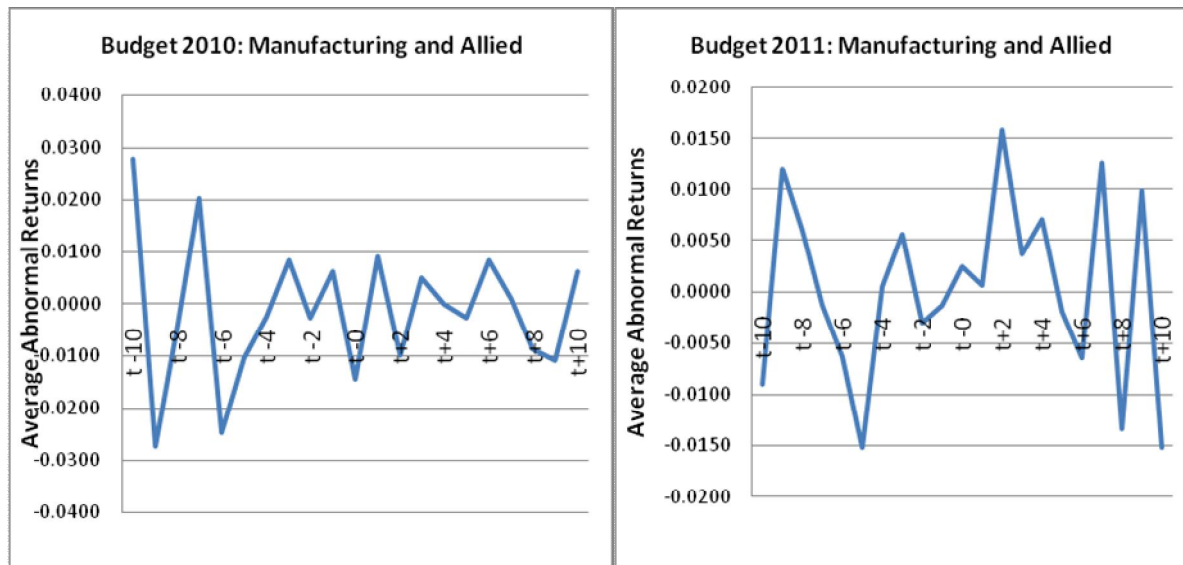
Figure 4.24 Investment Sector 2014 CAAR



4.3.9 Manufacturing and Allied Sector

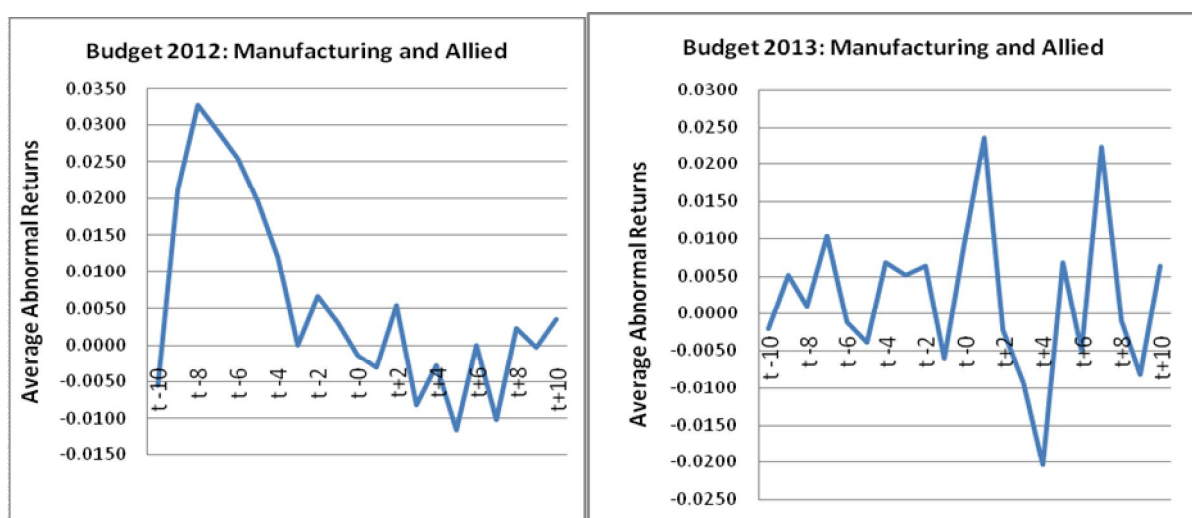
The one sample test indicates significant abnormal returns before the 2010 budget speech on day t-9($p=0.018$), t-7($p=0.014$), t-6($p=0.049$), t-5($p=0.013$), t-3($p=0.009$) and on the budget day($p=0.014$). The research findings further revealed average pre budget and post budget means of -0.0013 and -0.0005 respectively over the budget period. Paired samples test indicate that the means are not statistically significant at 95% confidence level. The results findings therefore accept the null hypothesis and reject the alternative hypothesis. In 2011, a significant drop in abnormal returns was observed 5 days before the budget speech ($p=0.025$). However, results of the paired samples statistics reveal no significant difference between the pre budget mean and post budget mean. The null hypothesis is therefore accepted. The graphical results are represented below:

Figure 4.25 Manufacturing and Allied Sector 2010 and 2011 CAAR



During the 2012 budget period, significant gains($p=0.033$) and dips($p=0.052$) in the abnormal returns were observed after the budget day, at day $t+6$ and $t+7$ respectively. The paired samples test showed pre and post budget means at -0.0002 and 0.0024 respectively. At 95% confidence level, the difference between the two means were found to be insignificant at $p=0.438$. The null hypothesis was accepted and the alternate hypothesis rejected. The results are as follows:

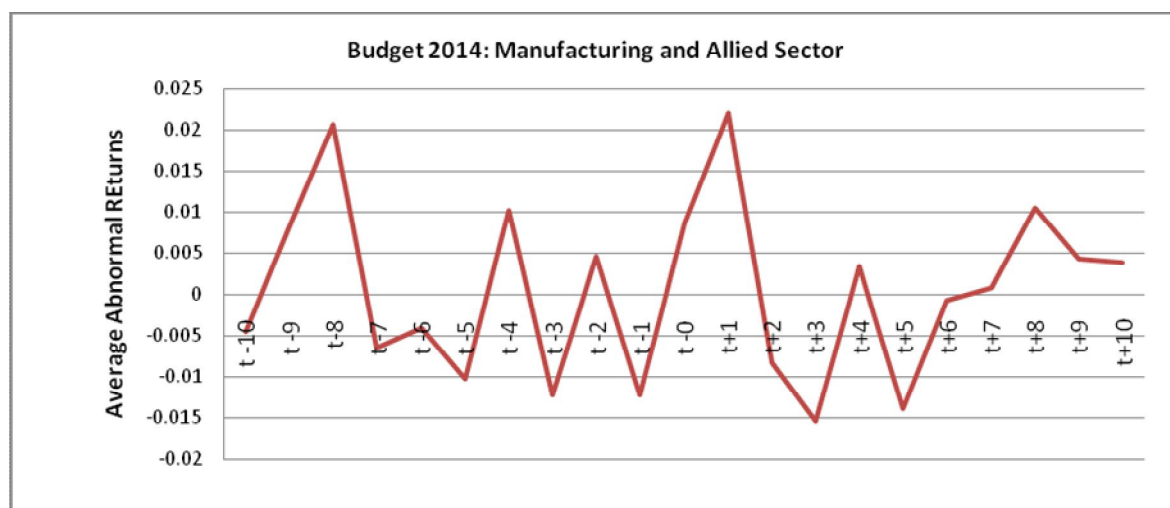
Figure 4.26 Manufacturing and Allied Sector 2012 and 2013 CAAR



For the budget period 2013, significant decline in mean abnormal returns was observed after the budget day, on day 4 (t+4) and a significant rise day 7(t+7). The spike on the budget day as depicted by the graph above, was found to be statistically insignificant ($p=0.099$). Results of the paired samples test revealed pre and post budget means of 0.0022 and 0.0016 respectively over the event period. At 95% confidence level, the difference between the two means were found not to be statistically significant with $p=0.798$. The null hypothesis was accepted and the alternate hypothesis rejected and results depicted graphically above.

In 2014, the one sample test indicates statistically significant mean abnormal returns after the budget day. On t+1 ($p=0.044$), significant gain is observed while in t+3($p=0.005$) and t+5($p=0.043$) significant dips in abnormal returns are noted. The pre and post budget means were -0.0004 and 0.0009 respectively. Results of the paired samples test indicates no statistical significance between the two means, $p=0.690$. The null hypothesis was accepted and the alternate hypothesis rejected and results depicted graphically above. The mean abnormal returns are illustrated in the graph below:

Figure 4.27 Manufacturing and Allied Sector 2014 CAAR



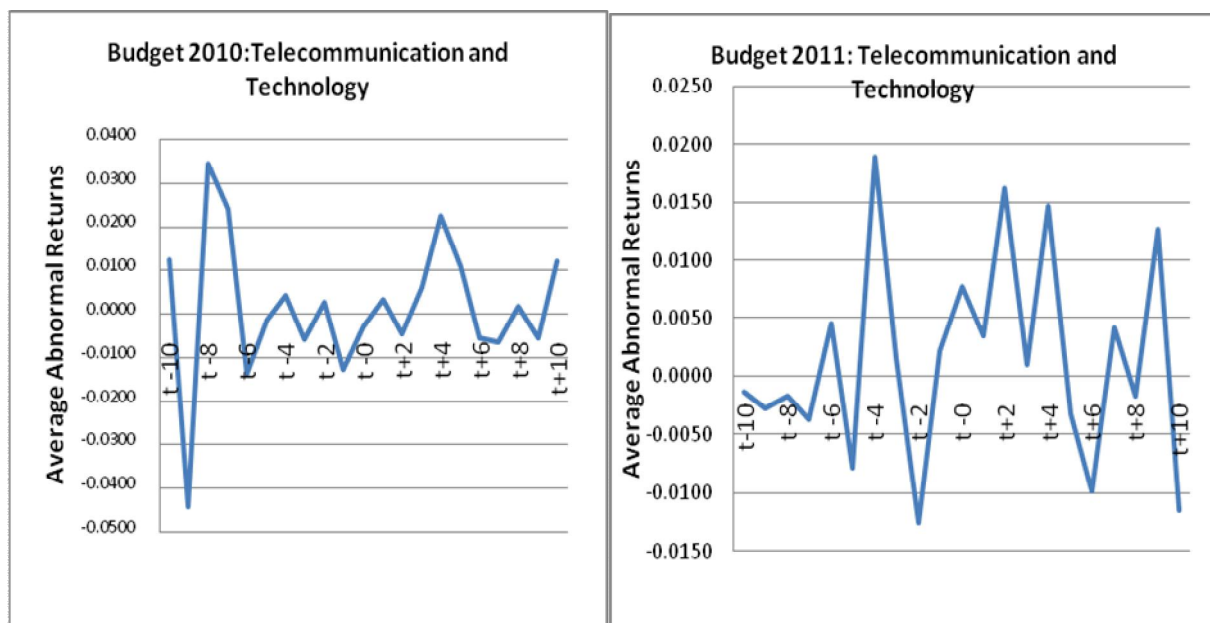
4.3.10 Telecommunication and Technology Sector

This segment consists of 1 stock. The research findings revealed pre and post budget means of -0.001 and -0.0038 in 2013, 0.0002 and 0.0037 in 2010, -0.0003 and 0.0026 in 2011, 0.0032 and -0.0011 in 2012 and -0.001 and -0.0038 in 2014. T-test paired two sample for means did not reveal any significant difference between the pre and post budgets mean except in 2012.

These results show that the null hypothesis is accepted and it is concluded that abnormal returns were not statistically significant.

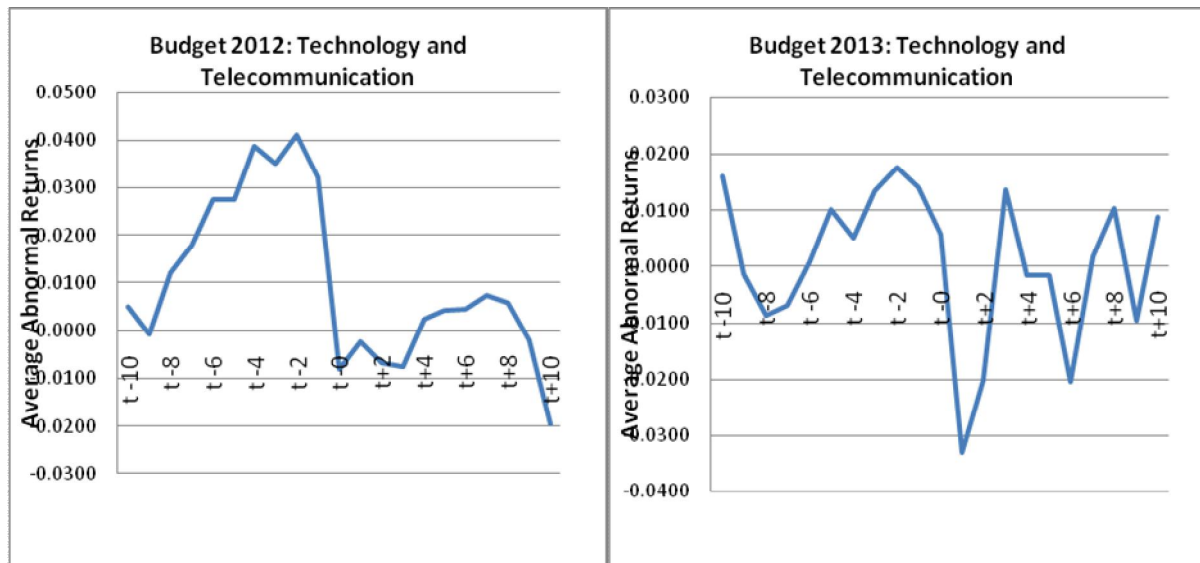
These statistics are shown in the figure below:

Figure 4.28 Telecommunication and Technology Sector 2010 and 2011 CAAR



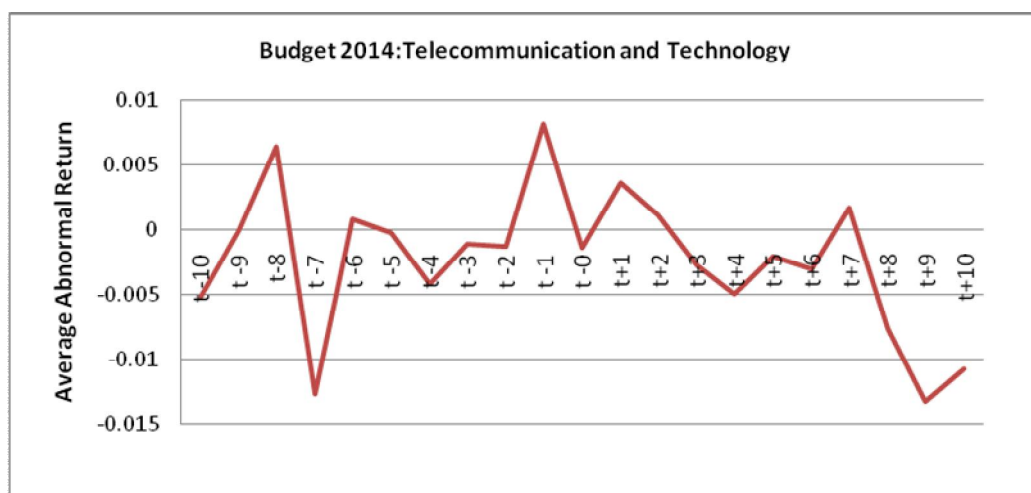
The 2010 and 2011 budget events had positive impact on this sector posting increase in post budget mean abnormal returns from 0.0002 to 0.0037 and -0.0003 to 0.003 respectively. However, an analysis of the paired two sample for means showed that the 2010 and 2011 budget events did not have a significant impact on this sector with $p=0.608$ and 0.532 respectively.

Figure 4.29 Telecommunication and Technology Sector 2012 and 2013 CAAR



Results of the paired two sample for means indicated decline in post budget mean abnormal returns from 0.0237 to -0.0013 and 0.0061 to -0.0051 in 2012 and 2013 respectively. The decline in 2012 was found to be significant at $p=0.0004$ while this was insignificant in 2013. The 2012 budget event was observed to have had a significant negative impact on this sector at 95% confidence level. No significant deviation was observed in the 2014 budget period with $p=0.347$.

Figure 4.30 Telecommunication and Technology Sector 2014 CAAR



4.4 Effect of National Budget Reading on Market Sectors

4.4.1 Tests of Significance CAAR and CAR 2010

Notably, the manufacturing sector had significant declines days before the budget day and on the budget day. The analysis shows higher post budget average abnormal returns in six out of ten sectors namely, banking, commercial and services sector, construction and allied, energy and petroleum, manufacturing and telecommunication sectors. This increase shows positive impact of budget reading however it was found to be insignificant. The agricultural, automobiles, insurance and investments sectors posted decline in post budget abnormal returns. The difference between the pre budget and post budget means was found not to be statistically significant over the sectors in this budget period. The mean differences are illustrated below:

Table 4.1 Test of significance pre and post budget mean abnormal returns 2010

Sector	Pre mean	Post mean	Sig. (2-tailed)	Decision
AGRI	.0016	.0009	.897	Retain the null hypothesis
AUTO	-.0040	-.0048	.827	Retain the null hypothesis
BANK	-.0014	-.0000	.457	Retain the null hypothesis
COMM&SVS	-.0065	-.0017	.254	Retain the null hypothesis
CONSTR	-.0073	.0017	.273	Retain the null hypothesis
ENER&PETR	-.0233	-.0027	.431	Retain the null hypothesis
INSUR	-.0019	-.0064	.141	Retain the null hypothesis
INVEST	.0053	.0040	.191	Retain the null hypothesis
MANUF	-.0013	-.0005	.833	Retain the null hypothesis
TELECOMM	.0002	.0037	.608	Retain the null hypothesis

The significance level is 0.05

The descriptive statistics for the variables is presented as number of observations (N), the mean and the standard deviation for the ten sectors for the budget period 2010 in table 4.2 below. The p values CAR in agricultural, automobiles and accessories, banking, commercial and services, energy and petroleum, insurance, investments and manufacturing sectors are more than 0.05,

thus the null hypothesis is accepted as the sector returns did not deviate significantly from their means on budget reading. This means that the cumulative abnormal returns of the sectors did not have statistical significance to the budget reading. However, p value for construction sector was below 0.05 indicating the sector return significantly deviated from the mean on budget reading.

Table 4.2 Test of significance Cumulative Abnormal Returns 2010

					Test Value = 0					
									95% Confidence Interval of the Difference	
	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2010										
AGRI	7	.0167	.0509	.0193	.869	6	.418	.0167	-.0304	.0638
AUTO	4	-.0476	.0427	.0214	-2.228	3	.112	-.0476	-.1155	.0204
BANK	10	-.0202	.0932	.0295	-.685	9	.511	-.0202	-.0868	.0465
COMMER&SVS	9	-.0295	.1036	.0345	-.855	8	.417	-.0295	-.1091	.0501
CONSTR	5	-.0431	.0109	.0049	-8.807	4	.001	-.0431	-.0567	-.0295
ENER &PETR	4	-.2750	.4591	.2295	-1.198	3	.317	-.2750	-1.0055	.4554
INSUR	4	-.0454	.0837	.0418	-1.085	3	.357	-.0454	-.1785	.0877
INVEST	2	.0227	.0161	.0114	1.996	1	.296	.0227	-.1216	.1669
MANUF	7	-.0079	.0859	.0325	-.243	6	.816	-.0079	-.0874	.0716
TELECOM M	1 ^b	.0313								

One-Sample Statistics and Test^a

4.4.2 Tests of Significance CAAR and CAR 2011

During the event period in 2011, seven sectors showed higher post budget mean abnormal returns while three sectors reflected a decline in the post budget mean abnormal returns indicating positive impact of budget on most sectors. Specifically, the agricultural sector, banking sector, commercial and services sector, energy and petroleum, insurance, manufacturing and allied and telecommunications sectors indicated higher mean abnormal returns post budget. Of these, the banking, commercial and services, energy and petroleum and manufacturing sectors posted significant declines in average abnormal returns before the budget reading. The insurance

sector marked significant mean abnormal gains on the day of the budget reading. The difference between the pre budget and post budget means was found not to be statistically significant over the sectors in this budget period. The null hypothesis was therefore retained.

Table 4.3 Test of significance pre and post budget mean abnormal returns 2011

Sector	Pre mean	Post mean	Sig. (2-tailed)	Decision
AGRI	-.0067	.0094	.132	Retain the null hypothesis
AUTO	.0063	-.0032	.433	Retain the null hypothesis
BANK	-.0094	.0006	.137	Retain the null hypothesis
COMM&SVS	-.0068	.0030	.228	Retain the null hypothesis
CONSTR	.0050	.0003	.199	Retain the null hypothesis
ENER&PETR	-.0005	.0035	.398	Retain the null hypothesis
INSUR	-.0088	.0032	.075	Retain the null hypothesis
INVEST	.0013	.0014	.193	Retain the null hypothesis
MANUF	-.0021	.0014	.404	Retain the null hypothesis
TELECOMM	-.0003	.0026	.532	Retain the null hypothesis

The significance level is 0.05

The descriptive statistics for the variables is presented as number of observations (N), the mean and the standard deviation for the ten sectors for the budget period 2011 in table 4.4 below. The p values CAR in agricultural, automobiles and accessories, banking, commercial and services, construction and allied, energy and petroleum, insurance, investments and manufacturing sectors are more than 0.05, thus the null hypothesis is accepted as the sector returns did not deviate significantly from their means on budget reading. This means that the cumulative abnormal returns of the sectors did not have statistical significance to the budget reading.

Table 4.4 Test of significance Cumulative Abnormal Returns 2011

					Test Value = 0					
									95% Confidence Interval of the Difference	
	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2011										
AGRI	7	.0632	.0840	.0317	1.991	6	.094	.0632	-.0145	.1409
AUTO	4	.0093	.0508	.0254	.366	3	.739	.0093	-.0716	.0902
BANK	10	-.0993	.2163	.0684	-1.451	9	.181	-.0993	-.2540	.0555
COMMER&SVS	9	-.0144	.0809	.0270	-.533	8	.609	-.0144	-.0765	.0478
CONSTR	5	.0423	.0535	.0239	1.768	4	.152	.0423	-.0241	.1086
ENER&PETR	4	.0323	.0932	.0466	.692	3	.538	.0323	-.1161	.1806
INSUR	4	-.0768	.0614	.0307	-2.502	3	.088	-.0768	-.1745	.0209
INVEST	2	-.0002	.0754	.0534	-.003	1	.998	-.0002	-.6780	.6777
MANUF	7	.0043	.0861	.0325	.133	6	.898	.0043	-.0753	.0840

One-Sample Statistics and Test

4.4.3 Tests of Significance CAAR and CAR 2012

Six sectors, namely, agricultural, banking, commercial and services, construction, investments and telecommunications sectors posted higher pre budget mean abnormal returns over the event period. This shows a decline in the mean abnormal returns after the budget for a majority of the sectors. A statistically significant decline in mean abnormal returns was observed in the commercial and services sector and statistically significant gain in mean abnormal returns was noted in the energy and petroleum sector after the budget reading. The difference in the pre budget and post budget means were found to be statistically insignificant for the other sectors as illustrated in the table below:

Table 4.5 Test of Significance pre and post budget mean abnormal returns 2012

Sector	Pre means	Post Means	Sig. (2-tailed)	Decision
AGRI	.0025	-.0129	.261	Retain the null hypothesis
AUTO	-.0059	.0031	.330	Retain the null hypothesis
BANK	.0004	-.0009	.550	Retain the null hypothesis
COMM&SVS	.0025	-.0037	.048	Reject the null hypothesis
CONSTR	.0010	-.0001	.817	Retain the null hypothesis
ENER&PETR	-.0022	.0072	.011	Reject the null hypothesis
INSUR	-.0059	.0020	.336	Retain the null hypothesis
INVEST	-.0025	-.0050	.536	Retain the null hypothesis
MANUF	-.0002	.0024	.438	Retain the null hypothesis
TELECOMM	.0032	-.0011	.0004	Reject the null hypothesis

The significance level is 0.05

The descriptive statistics for the variables is presented as number of observations (N), the mean and the standard deviation for the ten sectors for the budget period 2011 in table 4.6 below. The p values CAR in automobiles and accessories, banking, commercial and services, construction and allied, energy and petroleum, insurance, investments and manufacturing sectors are more than 0.05, thus the null hypothesis is accepted as the sector returns did not deviate significantly from their means on budget reading. This means that the cumulative abnormal returns of the sectors did not have statistical significance after the budget reading. However, the p value of the agricultural sector was less than 0.05 indicating statistical significance from the mean on budget reading.

Table 4.6 Test of Significance Cumulative Abnormal Returns 2012

					Test Value = 0					
							Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
			Std. Deviation	Std. Error Mean						
2012	N	Mean			t	df			Lower	Upper
AGRI	7	-.0390	.0389	.0147	-2.648	6	.038	-.0390	-.0750	-.0030
AUTO	4	-.0448	.0736	.0368	-1.216	3	.311	-.0448	-.1620	.0724
BANK	10	-.0142	.0814	.0258	-.553	9	.594	-.0142	-.0725	.0440
COMMER&SVS	10	-.0196	.0691	.0218	-.898	9	.392	-.0196	-.0690	.0298
CONSTR	5	.0103	.0726	.0325	.316	4	.768	.0103	-.0799	.1005
ENER&PETR	4	.0293	.0608	.0304	.964	3	.406	.0293	-.0675	.1261
INSUR	5	-.0433	.1034	.0463	-.936	4	.402	-.0433	-.1718	.0851
INVEST	3	-.0634	.0746	.0431	-1.470	2	.279	-.0634	-.2488	.1221
MANUF	7	.0064	.0907	.0343	.187	6	.857	.0064	-.0775	.0903

One-Sample Statistics and Test

4.4.4 Tests of Significance CAAR and CAR 2013

Negative abnormal returns were observed during this event period as eight of the ten sectors experienced a decline in mean abnormal returns after the budget. Higher pre budget mean abnormal returns were observed in the automobiles, banking, commercial and services, energy and petroleum, insurance, investments, manufacturing and telecommunications sectors over the 2013 event period. The agricultural and construction sectors posted higher post budget mean abnormal returns. The agricultural sector, automobiles and accessories sector and commercial and services sector, posted significant gains a day after, and on the budget reading day respectively. Significant declines in the mean abnormal returns were noted in the insurance, investments and energy and petroleum sectors after the budget reading day. Despite these significant observations, there was no statistically significant difference in the post and pre budget mean abnormal returns as shown below:

Table 4.7 Test of Significance pre and post budget mean abnormal returns 2013

Sector	Pre means	Post means	Sig. (2-tailed)	Decision
AGRI	.0061	.0076	.919	Retain the null hypothesis
AUTO	.0119	.0005	.206	Retain the null hypothesis
BANK	.0021	-.0015	.090	Retain the null hypothesis
COMM&SVS	.0017	-.0027	.169	Retain the null hypothesis
CONSTR	.0018	.0036	.641	Retain the null hypothesis
ENER&PETR	.0036	-.0048	.163	Retain the null hypothesis
INSUR	.0015	-.0080	.067	Retain the null hypothesis
INVEST	-.0006	-.0019	.784	Retain the null hypothesis
MANUF	.0022	.0016	.798	Retain the null hypothesis
TELECOMM	.0061	-.0051	.117	Retain the null hypothesis

The significance level is 0.05

Results of the one sample test provides descriptive statistics for the variables is presented as number of observations (N), the mean and the standard deviation for the ten sectors for the budget period 2013 in the table 4.8 below. The p values CAR in agricultural, banking, commercial and services, energy and petroleum, insurance and investments sectors are more than 0.05, thus the null hypothesis is accepted as the sector returns did not deviate significantly from their means on budget reading. This means that the cumulative abnormal returns of the sectors did not have statistical significance to the budget reading. However, p value for automobiles and accessories, construction and manufacturing sectors were below 0.05 indicating the sector return significantly deviated from the mean on budget reading.

Table 4.8 Test of Significance Cumulative Abnormal Returns 2013

					Test Value = 0					
									95% Confidence Interval of the Difference	
	N	Mean	Std. Deviation	Std. Error Mean	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2013										
AGRI	7	.0503	.0644	.0243	2.0663	6	.084	.0503	-.0093	.1099
AUTO	3	.0608	.0225	.0130	4.6748	2	.043	.0608	.0048	.1168
BANK	12	.0122	.0610	.0176	.6922	11	.503	.0122	-.0266	.0509
COMMER&SVS	10	.0058	.0663	.0210	.2768	9	.788	.0058	-.0416	.0532
CONSTR	5	.0571	.0435	.0194	2.9371	4	.043	.0571	.0031	.1110
ENER&PETR	4	-.0007	.0855	.0428	-.0164	3	.988	-.0007	-.1368	.1354
INSUR	5	-.0528	.0485	.0217	-2.4348	4	.072	-.0528	-.1131	.0074
INVEST	3	-.0098	.0678	.0392	-.2502	2	.826	-.0098	-.1783	.1587
MANUF	7	.0445	.0316	.0119	3.7294	6	.010	.0445	.0153	.0738
TELECOMM	1 ^b	.0148								

4.4.5 Tests of Significance CAAR and CAR 2014

On average, an increase in mean abnormal returns was observed after the budget day with seven out of the ten sectors posting gains in the mean abnormal returns after the budget day. Specifically, these are: the agricultural, automobiles and accessories, banking, construction, energy and petroleum, insurance and manufacturing sectors. The mean abnormal returns in the commercial and services sector, investments and telecommunication sectors were found to have declined after the budget reading. The energy and petroleum sector posted significant declines in average abnormal returns before the budget day while the same was noted in the construction and allied sector on the budget day. Significant gains were noted in the banking sector a day after the budget was read.

Table 4.9 Test of Significance pre and post budget mean abnormal returns 2014

Sector	Pre means	Post means	Sig. (2-tailed)	Decision
AGRI	.0001	.0019	.658	Retain the null hypothesis
AUTO	-.0034	.0024	.511	Retain the null hypothesis
BANK	-.0002	.0009	.308	Retain the null hypothesis
COMM&SVS	.0016	-.0029	.338	Retain the null hypothesis
CONSTR	-.0040	.0020	.056	Retain the null hypothesis
ENER&PETR	-.0061	.0023	.194	Retain the null hypothesis
INSUR	-.0004	.0072	.056	Retain the null hypothesis
INVEST	.0050	.0031	.858	Retain the null hypothesis
MANUF	-.0004	.0009	.690	Retain the null hypothesis
TELECOMM	-.0010	-.0038	.347	Retain the null hypothesis

The significance level is 0.05

Results of the one sample test indicates descriptive statistics for the variables is presented as number of observations (N), the mean and the standard deviation for the ten sectors for the budget period 2013 in table 4.10 below. The p values CAR in agricultural, automobiles and accessories, banking, commercial and services, construction and allied, energy and petroleum, insurance and investments sectors was more than 0.05, thus the null hypothesis is accepted as the sector returns did not deviate significantly from their means on budget reading. This means that the cumulative abnormal returns of all the sectors did not have statistical significance to the budget reading.

Table 4.10 Test of Significance Cumulative Abnormal Returns 2014

					Test Value = 0					
									95% Confidence Interval of the Difference	
			Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2014	N	Mean								
AGRI	7	.0009	.0307	.0116	.0739	6	.9435	.0009	-.0275	.0292
AUTO	3	.0059	.1089	.0629	.0938	2	.9338	.0059	-.2646	.2764
BANK	1 2	.0025	.0740	.0214	.1182	11	.9081	.0025	-.0445	.0496
COMMER&S VS	1 0	-.0005	.0902	.0285	-.0182	9	.9858	-.0005	-.0650	.0640
CONSTR	5	-.0269	.0618	.0276	-.9745	4	.3850	-.0269	-.1036	.0498
ENER&PETR	4	-.0396	.0473	.0237	-1.6720	3	.1931	-.0396	-.1149	.0358
INSUR	5	.0708	.0984	.0440	1.6091	4	.1829	.0708	-.0514	.1930
INVEST	3	.0832	.0964	.0557	1.4938	2	.2738	.0832	-.1564	.3227
MANUF	7	.0134	.0683	.0258	.5190	6	.6223	.0134	-.0498	.0766
TELECOMM	1 ^b	-.0490								

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The findings of the research are summarized and discussed in this Chapter. The Chapter also highlights the limitations of the study, recommendations for further research.

5.2 Summary of Findings

The objective of the study was to examine sector returns at the Nairobi Securities Exchange before and after the annual national budget reading. The analysis of each sector over the five budget events indicates the positive or negative abnormal returns on different dates within the event period. This largely depends on the informational content of the budget at hand. For instance, in the 2010 budget, the manufacturing sector experienced high volatility before the budget with significant negative abnormal returns prior to and on the budget day. Results of the cumulative abnormal returns after the budget indicate significant negative CAR in the construction sector. However, analysis of pre and post budget mean abnormal returns indicated no significant difference in these sectors.

Over the 2011 budget, the banking sector exhibited high standard deviations in its pre budget mean abnormal returns reflecting significant negative abnormal returns before the budget speech. One sample statistics of cumulative abnormal returns over this year did not indicate any significant deviation from the mean after the budget reading. Pre and post budget abnormal returns also did not exhibit significant differences. It was noted that the Insurance sector indicated significant positive abnormal returns on the day of the 2011 budget reading.

During the 2013 budget period, the agricultural, commercial and services sector, automobiles and accessories sector on average recorded positive abnormal returns a day after the budget day. Investors who held stocks in companies in these respective sectors appeared to have made abnormal returns on this day. The insurance and investment sector on average experienced significant negative abnormal returns three days after the budget reading. Significant CARs were experienced in the automobiles and accessories, construction, and manufacturing sectors over the event period. There was however no significant difference in the pre and post budget mean abnormal returns in these sectors.

The 2014 event period indicated significant negative abnormal returns on the budget day in the construction and allied sector and significant positive abnormal returns a day after the budget in the banking sector. During this event period the energy and petroleum sectors showed significant negative abnormal returns on several dates before the budget day. Overall, results of the average abnormal returns and CARs do not indicate significant deviations over the event period in all sectors.

Results further show that in every budget period, the null hypothesis was retained for each sector indicating no significant difference in the pre budget and post budget means. An exception is noted in the 2012 budget period, where significant drops in average abnormal returns were observed in the commercial and services sector and telecommunication sector whereas, a significant increase in abnormal returns was noted in the energy and petroleum sectors. The study hereby confirms that the effect of budget reading on sector returns is not universal, but dependent on the informational content of the budget and the affected sector.

5.3 Conclusions

The budget was found to have an impact on sector returns with each sector reacting uniquely to the budget at hand. Generally, the trend of cross sectional averages varies in each budget reading across the various sectors. Instances have been noted where investors are likely to make abnormal returns before, on the day of and after the budget speech and the impact of budget seems to be specific to the sectors. Statistical tests however showed that on average there exists no statistically significant difference between the pre budget and post budget means in each sector.

5.4 Limitations of the Study

Several limitations were encountered during the study and are highlighted as below:

The major limitation was type of data. The type of data that was used was secondary. The study did not consider any primary data. Therefore the findings are based on the assumptions made from the analyzed secondary data.

The period of the study was limited to 20 days i.e. 10 days before and 10 days after the reading of the national budget. Better results would be possible where the study period is longer with a stock market that has been in existence for a long time.

This study did not consider other micro and macroeconomic factors that may affect the performance of the stock market other than the budget reading. Other factors that may have affected in the study are cashflows, gearing ratio, asset base, growth opportunities, liquidity which were not considered when estimating the returns.

5.5 Recommendations for further study

The result of this study are not conclusive, therefore what the researcher of this study has achieved can only be considered to be little hence requiring further research work. The researcher offers the following recommendations for further study which should act as a direction to future researchers in order to discover more facts concerning this area of study and shed more light.

A replication of this study should be done over a longer time to find out if there are any significant changes over time in comparison with the current. This would look at short, medium and long term periods to isolate effects of the budget and verify whether opportunities for abnormal returns persist into the long term.

A research can also be done to find out the reason why the response to security prices is not uniform across all the market segments. This will help understand why some segments are worse hit than others when it comes to the impact of a major political event on stock market securities.

A replication of this study can be done using more sophisticated methods such as the GARCH-EVT method and compared with the results of market adjusted model. Non-parametric methodology can be considered to analyze the effect of annual national budget readings on the securities market performance regarding market returns. GARCH-EVT approach though computationally intensive, enables one to study the event-day effect only.

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APPENDICES

Appendix I: Companies Listed on the NSE by Market Sector

Agricultural

1. Eaagads Ltd
2. Kakuzi Ltd
3. Kapchorua Tea Co. Ltd
4. The Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini Ltd
7. Williamson Tea Kenya Ltd

Automobiles and Accessories

8. Car and General (K) Ltd
9. Marshalls (E.A.) Ltd
10. Sameer Africa Ltd

Banking

11. Barclays Bank of Kenya Ltd
12. CFC Stanbic of Kenya Holdings Ltd
13. Diamond Trust Bank Kenya Ltd
14. Equity Bank Ltd
15. Housing Finance Co. Kenya Ltd
16. IandM Holdings Ltd
17. Kenya Commercial Bank Ltd
18. National Bank of Kenya Ltd
19. NIC Bank Ltd
20. Standard Chartered Bank Kenya Ltd
21. The Co-operative Bank of Kenya Ltd

Commercial and Services

22. Express Kenya Ltd
23. Hutchings Biemer Ltd
24. Kenya Airways Ltd
25. Longhorn Kenya Ltd
26. Nation Media Group Ltd
27. Scangroup Ltd
28. Standard Group Ltd
29. TPS Eastern Africa Ltd
30. Uchumi Supermarket Ltd

Construction and Allied

- 31. ARM Cement Ltd
- 32. Bamburi Cement Ltd
- 33. Crown Paints Kenya Ltd
- 34. E.A.Cables Ltd
- 35. E.A.Portland Cement Co. Ltd

Energy and Petroleum

- 36. KenGen Co. Ltd
- 37. KenolKobil Ltd
- 38. Kenya Power and Lighting Co Ltd
- 39. Total Kenya Ltd

Insurance

- 40. British-American Investments Co.(Kenya) Ltd
- 41. CIC Insurance Group Ltd
- 42. Jubilee Holdings Ltd
- 43. Kenya Re Insurance Corporation Ltd
- 44. Liberty Kenya Holdings Ltd
- 45. Pan Africa Insurance Holdings Ltd

Investment

- 46. Centum Investment Co Ltd
- 47. Olympia Capital Holdings Ltd
- 48. Trans-Century Ltd

Manufacturing and Allied

- 49. A.Baumann and Co Ltd
- 50. B.O.C Kenya Ltd
- 51. British American Tobacco Kenya Ltd
- 52. Carbacid Investments Ltd
- 53. East African Breweries Ltd
- 54. Eveready East Africa Ltd
- 55. Kenya Orchards Ltd
- 56. Mumias Sugar Co. Ltd
- 57. Unga Group Ltd

Telecommunication and Technology

- 58. Safaricom Ltd

Source: NSE Website (www.nse.co.ke)