THE EFFECT OF INTEREST RATE CAPPING ON STOCK RETURNS OF COMMERCIAL BANKS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

YVONNE NYAMBURA KAMAU

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DECLARATION

I the undersigned declare that this is my original work and has not been presented for any award to any institution or university other than the University of Nairobi.

Signed: …………………… Date: ……………………… …………….

YVONNE NYAMBURA KAMAU

D63/19545/2019

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

Signed: ……………………………… Date: ………………………………

Dr. Winnie Nyamute

Lecturer, Department of Finance and Accounting

School of Business, University of Nairobi

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DEDICATION

This project is dedicated to my wonderful husband and family for the love and support, the faith they had in me and the prayers they made for me. I remain forever indebted to them.

TABLE OF CONTENTS

LIST OF CHARTS

LIST OF TABLES

LIST OF ABBREVIATIONS

ADF   Augmented Dickey Fuller

APT   Arbitrage Pricing Theory

AR   Abnormal Returns

ASPI All Share Price Index

CAPM Capital Asset Pricing Model

CAR   Cumulative Abnormal Returns

CBK   Central Bank of Kenya

CBR   Central Bank Rate

EMH   Efficient Market Hypothesis

GDP   Gross Domestic Product

NASI NSE All Share Index

NSE   Nairobi Securities Exchange

SCAR Standardized Cumulative Abnormal Return

USA   United States of America

ABSTRACT

Interest rates are among the crucial macroeconomic variables that the Central Bank may use to control variables such as inflation and investments. Interest rates are among the macroeconomic variables that influence banks' profitability and also affect stock returns of listed commercial banks. In 2015 members of parliament made a proposal to introduce the interest rate cap. The bill was later assented by the president into law on 24th August, 2016 with the lending rate cap set at no more than four percent above the Central Bank Rate and a floor of seventy percent of the base rate set for deposits. The government can use this as a tool to uplift certain sectors in the economy but in the study caping of interest was done to restrict lenders from offering credit facilities at exploitative rates that make credit too expensive thus unaffordable. The study carried out an analysis on the 11 commercial banks listed at the Nairobi Securities Exchange over a period of 101 days with an event estimation window of +/-15 days before and after the event. Data was collected from the NSE with the NSE 25 index utilized in the study. The study shows that on the day of the announcement, the news had a significant effect on the bank stock returns as it was detrimental to the stock prices and stock returns and within 6 days after the event all banks had reflected negative CARs. Housing Finance had the most negative impact on its stock returns. T test was computed to test for 95% level of significance of the news on stock returns. The study concluded that the interest rate capping law had a negative effect on commercial bank stocks listed at the NSE. The researcher recommended the banks to construct a much diversified portfolio to ensure stability of the stock as it adjust to any new information. The government should have considered offering the banks a grace period to work out a plan to enable adjust much smoothly to the new law. Further research on interest rate capping and other stock return determinants should be studied using a model other than the market model.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The equity market serves as a platform made available to investors to buy and sell shares of listed companies. The share price is determined by forces of demand and supply in the equity market. The movement of share prices and stock returns is therefore of great importance to investors as it is what informs their decision making. Information on factors that lead to changes in the stock prices is also crucial to speculators. There are various macro-economic factors that influence changes in stock prices and stock returns, among them being, interest rate. According to research done by (Amarasinghe M. , 2015), interest rates have a strong effect on stock prices and stock returns. A negative relationship exists between the interest rate and the stock returns. Changes in the interest rate impact the stock market immediately. The impact, however, may take a while, maybe a year, to be felt in the general economy. According to (Ali, 2014) the higher the interest rates the lower the demand for stocks hence a lower efficiency in the stock market. This is so because investors would rather enjoy high returns from the high yields hence less demand for stocks.

The Traditional Asset Pricing theories state that an asset's cost is equivalent to the present value of future cash flows (Lumby & Jones, 2003). Change in interest has been found to have an influence to changes in the future payoffs, therefore affecting present stock returns (Liu & Shrestha, 2008). Changes in interest rates may impact investors as well as businesses (Aggrawal, 2010). This may also lead to change in price of commodities in the economy and therefore influence a change in the stock prices as well. Higher interest rates result in increased demand for fixed securities like treasury bills and deposits and therefore a lower demand for the stock market.

In 2015 members of parliament made a proposal to introduce the interest rate cap. The bill was later assented by the president on 24th August, 2016. Kenya officially introduced the interest rate capping law on 14th September 2016 with the lending rate cap set at no more than four percent above the Central Bank Rate and a floor of seventy percent of the base rate set for deposits. The law was implemented to address concerns by the public on high credit costs which made this market hardly accessible to a larger fraction of the population. This meant that most businesses would not fully bloom due to little or no access to the credit facilities. With the interest rate capping law enforced, it was expected that there

would be increased access to credit facilities by borrowers and the private sector and that this would greatly affect the stock prices in the stock market with the greater impact felt in the banking sector for listed commercial banks.

1.1.1 Interest Rate Capping

Interest rate cap is defined as a ceiling set for interest rates (Villegas, 1982). It is the maximum rate chargeable by banks to its clients on credit facilities offered. The government uses this as a form of control. Interest rate cap also refers to a case where the interest can fluctuate but not exceed a given cap set (Ariemba, Kiweu, & Riro, 2015).Capping of interest was therefore done to restrict lenders from offering credit facilities at exploitative rates that make credit too expensive thus unaffordable. Interest rate capping is done in the interest of the borrower to protect them from exploitation through excessive credit interest charge by financial institutions. Other benefits of interest rate capping include improved accessibility to loan facilities. Seeing that lending institutions cannot charge high rates taking note of the rate cap there is increased affordability for borrowers.

There are several reasons the government may opt to impose an interest rate cap (Miller, 2013). There is increased liquidity in the economy with more loan facilities granted to the public. The government can use this as a tool to uplift certain sectors in the economy. A lower cap can ensure healthy competition amongst lenders as well. There are, however, disadvantages of interest rate capping among them being that lending to individuals and small enterprises being deemed high risk therefore reduced borrowing ability by such. Lending institutions prefer to lend to more established firms as they are deemed to be low risk. Low returns are experienced by financial institutions given that credit charge is reduced. Financial institutions' profits are choked and therefore they opt to increase their commission and fees on loans to remedy for the shortfall caused by the low returns. The cost of borrowing therefore in return is quite high. Capping of interest rates also leads to fewer credit products which are good for the economy as they serve different sectors. This further leads to lack of innovation by the financial institutions as there is no incentive for the same.

1.1.2 Stock returns

Share returns refers to the profit or loss generated from shares over a given period of time. It is equivalent to the stock price difference that is, a decrease or increase of the same and can be measured on a daily basis. The total stock return is inclusive of dividends and capital gains (Mugambi & Oketch, 2016). Applying the traditional investment analysis, the future expected dividend stream are forecasted and future cash flows are discounted back to the present value. This intrinsic value is then contrasted to the actual price of the share; if it lower, then the stock is overvalued and vice versa. They defined stock returns as a function of two factors, periodic cash receipts and capital gain or loss of a share depending on the share price appreciation or depreciation.

According to (Linn, 2019), when investors purchase shares, they expect it to increase in value. They also expect periodic receipt of their share of profit from the company they own a share of. These two make up the stock return due to the investors. It can however be negative in the case of a loss, whereby one may get back less than they expected. This translates to negative returns. Stock returns and stock prices are a good indicator of market efficiency. For efficient markets, all relevant information pertaining to that stock is available and reflected in the stock price (Fama E. F., 1981). Stocks are measured in batches by use of an index. Investors use indexes to track stock performance. The NSE share 25 index is most commonly used as the benchmark in measuring the stock performance.

1.1.3 Interest Rate Capping and Stock Returns

Interest and share price movements are imperative economic factors closely monitored by investors, CBK and policy makers. Change in the interest rate by CBK results in changes in the stock prices and stock returns. A higher interest rate translates to a higher demand for fixed securities and a lower demand for the stock market. This therefore means a general impact on the market stock returns. This impact is however, felt more by the interest bearing stocks in the market. Most of the research done in the United States shows that bank stocks are more sensitive to interest rate changes unlike other stocks in the market a large.

According to research by (Amarasinghe A. , 2015) on the dynamic relationship between interest rates and stock prices in the Colombo Stock Exchange, indeed a significant relation

between these two variables. He found out that interest rates movement negatively correlate with stock prices and stock market returns measured by a stock market index, the ASPI.

Traditional asset pricing theories state that the value of an asset is equivalent to discounting forecasted cash flows to the present. Changes in the interest charged by the Central Bank therefore can affect stock returns by affecting the expected future cash flows' required rate of return (Ying & Yang, 2013). They argued that a decrease in the Central bank rates results in a decrease in the shareholder's expected stock returns. A rise in central bank rate is expected to have the opposite effect (Uddin & Alam, 2010).It would also lead to increased demand for fixed securities as investors would not want to miss out on the high yields and therefore leading to less demand for stocks in the stock market. Interest rate capping therefore chocked bank stock profits and therefore led to a lower demand for bank stocks which translated to lower stock returns for listed banks. This is because bank stock investors anticipated reduced future returns for banking institutions and therefore preferred liquidating their bank stock holdings.

1.1.4 Commercial Banks listed at the Nairobi Securities Exchange

The total number of the banks was forty four in 2016 before the closure of Chase Bank, Dubai Bank and Imperial Bank. Out of these, thirty-one are locally owned with the other thirteen being foreign owned. The government owns shares in three locally owned banks, twenty-seven are commercial banks while one is a mortgage financial institution. Kenya currently has forty registered banks, twelve of which are listed with Nairobi Securities Exchange.

Kenya's banking sector contributes greatly to a country's economic activity and therefore very critical to a country's economy. Performance of commercial banks consequently influences the economy's performance. Negative interference in the financial sector therefore translates to an undesirable impact to an economy's general performance and vice versa. Interest rates are among the macroeconomic variables that influence banks' profitability and also affect stock returns of listed commercial banks.

The interest rate capping law came into being on 14th September, 2016. Following the president's move of assenting the bill on 24th August, 2016, there was a fall in prices for

all commercial banks' stock. Upon announcement, the next day, the NSE 20 share index immediately lost 152.92 points closing at 3,309.76 points, the NSE 25 share index lost 209.25 points closing at 3,704.68 points with NASI losing 7.34 points and closing at 139.14. This was so because the bank profits were expected to be negatively affected making the listed bank stocks less attractive to investors.

1.2 Research problem

The question as to whether interest rates impact stock prices has been studied at large academically with supporters and rivals of the same. Supporters argue that the interest rate capping helps protect borrowers from exploitation by lenders high interest rate charges on borrowings. A bigger fraction of the population cannot access credit facilities charging very high interest making it unaffordable. Interest rate capping would therefore improve accessibility to credit facilities by borrowers and businesses. Rivals on the other hand argue that interest rate capping translate to reduced bank performance. All in all, interest rate capping and stock prices are factors of great interest to investors as the interest changes impact stock returns and have a greater impact on bank stocks and hence the need to study the two variables together. According to research by (Humpe & Macmillan, 2009) on the correlation between interest rates and stock prices using stocks listed in the USA, a negative relationship exists.

In Kenya, the interest rate capping law came into being on 14th September 2016. Stock prices react spontaneously to any new information. Upon announcement, the impact of this information was detrimental to the stock prices. This was evidenced by the drop in the major indices immediately after the announcement. Concerns were raised by stakeholders and investors of the banking sector as they did not expect the move made by the president. A study on this impact and response to the news is of great importance therefore. Investors are out to gain and therefore would only hold on to stocks with promising future returns.

Locally, (Nyamute, 1998) carried out a research on variables that may affect stock prices such as interest rates, exchange rates in the country and money supply and found that interest rates had no significant impact on stock prices. (Chirchir, 2013) Investigated how interest rates changes impact stock prices and found no significant causal relationship between the two variables. (Muriuki, 2014), however, found an important relation between

interest rates and stock prices and therefore contradicting findings by Chirchir. Lack of consensus among scholars gives room for further research in the area of study. Most existing studies have evaluated the relationship between interest rates and stock prices but not much study has been done on interest rate capping effect. Interest rate capping in fact has an opposite effect on bank stocks since the capping of interest meant that banks were required to charge lower interest rates which in turn would directly choke the banks' profit levels adversely. This would make the bank stocks less attractive and therefore lower the listed banks' stock demand instantaneously which translates into lower stock returns for the listed banks. There is very little research on the influence of interest rate cap on bank share returns which is crucial to policy makers as well as investors. This study therefore is crucial in addressing the existing research gap and contributing to additional knowledge on the body of existing findings in this area of study and also analyzes a longer period to detect the level of effect felt as compared to previous studies done. Despite various studies done on interest rate capping, the question as to whether its implementation affects stock returns remains unresolved.

As with any new regulation, a number of stakeholders are affected in the process. Some of those that are greatly affected are shareholders of bank stocks, that is, both potential and existing shareholders. Commercial banks listed at the NSE constitute up to 30% of market capitalization with fund manager, insurance firms and pensioners heavily investing in these stocks. There was therefore great need for this research to investigate the extent to which these stakeholders were affected by the passing of the new law. The research attempts to answer the question, what is the effect of interest rate capping on stock returns of commercial banks listed with the Nairobi Securities Exchange.

1.3 Objective of the study
To determine the effect of the interest rate capping announcement on stock returns of commercial banks listed with the Nairobi Securities Exchange.

1.4 Value of the study
The research shall add to existing body of literature and hence of great value to academic researchers.

It shall also be of great significance to individuals and investors that are keen to understand factors that affect stock returns as it informs their decisions as to when to buy or sell a stock to gain positive output.

It shall be of great significance to regulators; government, Capital Markets Authority and the Central Bank of Kenya as it would inform their decision making in future matters regulation of banks and financial institutions.

Policy makers shall benefit from the research as it is considered as a guide in implementation of policies governing interest rates to ensure it promotes economic growth.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter is mainly about documentation of comprehensive assessment of existing publications off the subject, both published and unpublished literature. It is about a review of the research done relating to the study. It is a presentation of the hypothetical structure that is applied in the study and is composed of; the theoretical review, various determinants of commercial bank stock returns, the empirical studies, the conceptual framework and a summary of the literature review.

2.2 Theoretical Review

This is the assessment of the existing theories relevant to the study. It comprises theories that evaluate the relationship between interest rate capping and stock returns. Theoretical reviews covered are; the Efficient Market Hypothesis, the Classical Theory, Arbitrage Pricing Theory.

2.2.1 Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH) proposes, current stock prices reflect all available information about the firm's value and that one cannot outdo the market and make abnormal profit using this information. It implies that no investor therefore can make excess gains or outdo the market. It therefore beats the purpose of hiring fund managers or investment market stock investment experts seeing that no one at any point in time can outperform the market given that the shares trade at the intrinsic value. It deals with one of the fundamental issues existing in finance on the question as to why the stock prices keep changing and how the changes take place. The Random Walk Hypothesis being consistent with EMH states that stock prices are independent and follow a random pattern such that they cannot be forecasted using historical information on the market. (Fama & Roll, 1969) Stated that in an efficient market, due to competition, full effects of any new information instantaneously syncs with the intrinsic value to reflect the actual prices.

Further, EMH asserts the actual price should reflect all the available information on the firm. However, different types of information affect stock prices. Consequently, (Fama E. , 1991) classified EMH further into three categories. These levels are in three different forms, the weak form efficiency, the semi-strong form efficiency and the strong form

efficiency. The weak form of EMH holds that, current prices reflect all information in the past. Therefore, no investor can make abnormal profits by using historical market information. In semi-strong form efficiency, the current prices reflect all information openly available to the public including the information contained in the past. Therefore, no one can out beat the market through detecting mispriced stocks by analyzing published data and information in the past. The strong form efficiency holds that current prices incorporate all available information public and private. The rationale is that prices anticipated future developments and therefore have objectively incorporated this.

This may sound great, however, despite the theory being the backbone of the financial market space, it has a number of criticism. First, the theory assumes that investors perceive information and analyze stock value fairly the same way. While in fact some investors determine the fair value of the stock by analyzing prospective growth of the firm, as others look for opportunities in undervalued stock markets. One argument therefore is that, if investors in fact value the stocks differently, then it may be impossible to determine a stock's worth in an efficient market. Secondly, EMH postulates that in efficient markets, no investor can be attaining greater return gains than the other. Therefore, given the same amount of investment funds investors with different portfolios strategies should end up earning the similar profits. This, however, given investments across the entire universe is far from the truth. This theory is therefore related to this study in that, if at all markets are efficient, then, the interest rate capping event would be anticipated and therefore incorporated in the stock prices instantaneously.

2.2.2 Arbitrage Pricing Theory
The theory by (Ross S. , 1976), explains more about portfolio returns. It has grown popular for the relative simplicity of its assumptions. Taking arbitrage is whereby one takes advantage of a market that is selling similar products at different prices so that one can buy from one vendor, sell in another market and make profit. Investors mainly benefit from the APT theory by spotting mispriced assets and making gains from the same before the price corrects itself. This theory normally weighs the impact of various macroeconomic variables on an asset's return, stock returns in this case. If the price is any different from the model's projection, then opportunistic investors take advantage of this opportunity to buy and sell for a profit. As a factor changes, so does the asset's price and value thereof. The theory

presumes that these economic variables affect stock returns by influencing discount rate as well as the future dividends (Shrestha & Subedi, 2015).

Inherent to APT therefore, is the perception that mispriced stocks may make room for short term and risk free return gains. This theory requires the investor to identify these determinant factors which may be the hardest part. The theory assumes no arbitrage opportunities exist among portfolios that are well diversified and if any exist, they are immediately exploited away by opportunistic investors. APT as explained above is a multifactor model and most empirical literature therefore argue that it proposes much better results as compared to Capital Asset Pricing Model. This is said to be so because it uses multiple factors to explain systematic risks as well as shared risks (Shrestha & Subedi, 2015). It therefore states that various macro-economic variables besides systematic risk influence stock returns (Waqar & Mustabsar, 2015).

Some of these macro-economic variables are; inflation, exchange rates, investor confidence level, the Gross National Product(GNP) and the various changes in the interest yield curve (Amarasinghe M. , 2015)The theory has however, faced criticism over time. First, it is not supported by CAPM theoretical foundations, which explain the behavior of investors. According to (Cheng, 1996) , when a researcher tests the APT, a factor may be found to be significant in a given multivariate analysis yet when the same factor is tested in a univariate model, it may not be found to be insignificant. This theory is significant to this study as it recognizes that various macro-economic variables that affect stock prices.

2.2.3 Signaling Theory
This concept is mainly concerned with reduction of information asymmetry between two parties. It is whereby, different people have access to different information. It is a situation whereby the signaler decides whether to relay information and how to relay the information in the firms favor. The other party also has to decide what the signal might mean (Connelly, Ireland, & Reutzel, 2011). Scholars have adopted the theory as a mechanism determining how firms objectively disseminate information. Signaling theory holds that the signaler being the firm sending the signal, will engage in a purposeful behavior to reduce the information asymmetry in a manner that is in fact beneficial to the firm. The theory aids researchers understand communication better in conditions of information asymmetry.

Signaling may occur when an insider releases information that is crucial enough to influence buying or selling of a stock by players that may not ordinarily be predisposed to the insider information. The theory postulates, firm's corporate financial decisions are signals sent by the company managers to investors to distort these asymmetries.

The CBR is a measure used by the Central Bank to signal the direct the expected cost of money should take. Due to the random valuation of firm by various investors, the public capital market and fund managers, the company managers release the information not publicly available but only known by then, to correct the wrong valuations seeing that share prices are reliant on data (Bagherpour & Arabsalehi, 2008). Being the earliest to apply the concept, (Ross S. , 1932) claimed that expected earnings are considered more imperative compared to actual earnings. Signals may take various forms such as; dividend announcements, monetary policies, mergers and acquisitions, company announcements among others. As much as application of the theory has gained great momentum over time, its central tenets have become blurred over time as it has been applied to organizational concerns. This theory is important to the study since interest rate capping event is a form of a signal and may therefore have an impact on the stock returns.

2.3 Determinants of Stock Returns
Investors have been keen to note factors that influence stock returns as this determine their gain or loss on returns of their stock holding. These factors are of great significance to investors therefore.

2.3.1 Exchange Rates
It is the cost a country's currency against that of another country. It is the value a given country's currency. It therefore entails the domestic and foreign aspect pegged to it. When there is an appreciation of a given country's currency, then the currency's cost is higher than the foreign currency. This then leads to a reduction in the local products demand level along with reduced exports and increased demand for foreign goods, imports. A depreciation of a country's currency therefore leads to demand for domestic goods and therefore increased exportation of goods. This in turn leads to an increase in the foreign currencies supply. Exchange rates therefore affect the economy on a macro level but may in turn affect firm's returns on a micro level.

Empirical findings as well as theories show that exchange rate have an impact on prices of stocks. Change in the exchanges rates spark competition among companies as these changes influence the cost of operations seeing that many firms borrow in form of foreign currencies for their day to day investments (Dornbusch & Fischer, 1980). A fall on domestic currency results in increased demand for exports by foreigners and therefore increased company profits and stock prices. An appreciation of domestic currencies therefore produces result in an opposite effect.

2.3.2 Inflation Rate

Inflation measures changes in price. It is expressed as an annual percentage rate. It is the rise in price level (Johnson & Nobay, 1972). Inflation rise affect various sectors of the economy among them being; a rise in unemployment, exchange rates, stock market prices, interest rate charges among others. CPI and GDP deflator are the most used in measuring inflation levels.

A relationship has been found to exist between inflation and stock returns both in theories and empirical research findings. When there is an increase in the inflation levels, firms experience decreased profits which in turn affect the firm's stock prices and sock returns. Stock markets perform well in periods of high growth in the economy and under seasons of low inflation.

2.3.3 Money Supply

The Central Bank controls money supply in an economy to achieve desired macroeconomic goals of the country in order to achieve eventual economic growth. An increase in the money supply. Theory as well as empirical study findings have shown that a clear relationship exists between money supply and stock returns.

When the monetary authority opts for an expansionary policy to stimulate economic activity, it will reduce interest rates to discourage people from saving and encourage increased borrowings as this is made more affordable. This is intended to increase spending to promote increased economic activity. With savings made less attractive with the low interest rate returns, there is an increased demand for stocks in the stock market. This therefore directly affects stock returns. In the case of a contractionary monetary policy meaning reduced levels of money supply, contrary results are achieved.

2.3.4 Interest Rates

It is the rent one pays for borrowed funds. It is a charge for borrowing funds. It is also the price for savings. Empirical studies and theory have been found to show that a relationship exists between interest rates and stock returns which is indirect. Increased interest rates translate to a rise in demand for fixed securities for the attractive high returns enjoyed. This therefore leads to a decreased demand for the equity market. Decreased interest levels lead to lower returns for deposit investors who would opt for the stock market and therefore a high demand for stock. However, for this study, interest rate capping event would mean a lower interest chargeable by banks and therefore this would translate to lower profitability levels for banks and therefore a decrease in demand for the listed bank stocks as lower returns are anticipated from them in the periods to follow.

2.3.5 Company Earnings Announcement

Listed companies are required to publish the company's financial reports periodically. Announcement of a company's earnings would directly influence investor's reaction in the stock market. If the earnings are lower than the expected earnings, investors would ideally liquidate their holding for that particular firm and vice versa.

2.3.6 Private Sector Credit

This is the access to bank credit facilities by the private sector. If there is growth in the private sector credit it would mean that more individuals in the private sector can access credit and therefore afford to invest in the stock market. If people, however, have less access to the credit facilities, they would have less money in their hands to afford investing in equities.

2.4 Empirical Review

Over time, several empirical studies on the relationship between interest rate capping and stock returns have been carried out both globally and locally. Most of the findings on the matter have produced conflicting results. There really isn't much research that has been done to evaluate the effect of interest rate capping.

(Mehwish, 2013) Carried out a study on the effect of interest rates on commercial bank profitability. The research was based on commercial banks in Pakistan. The sample size the study utilized was the 20 operational Pakistan banks listed in Karachi stock. The research design used was cross sectional. The data was sourced from Karachi shares based

on returns, press release publications, audited bank reports, the State Bank of Pakistan publications and media reports. The research findings show that interest rates in fact affect deposit taking with other banks, investments done and loan take up. Interest rates therefore have a very clear and great impact on bank profitability. Increased interests result in much higher lending rates as compared to deposit rate. This translates to higher profit levels as the bank spread is quite high. A reduction in interest rates cause an opposite effect. The researcher focuses on interest rate change effects only. This study however focuses on the impact of capping of interest rates on bank stock returns.

(Liu & Shrestha, 2008) Investigated the relationship between a number of macro-economic variables and the Chinese stock market indices. The macroeconomic variables tested were; exchange rates, money supply and interest rates. The study was conducted by applying heteroskedastic co-integration analysis. Detailed analysis revealed that stock market performance had a cumulative long term effect on the macro economy. Results stipulated, investors would enjoy much better returns in the long run as well as benefit from portfolio diversification seeing that there is perceived growth in the Chinese economy. The findings held that there is a negative relation between stock prices and interest rates as well as exchange rates while a positive relationship existed between money supply and stock prices. The researcher however does not explain why the findings are different for the effect felt in bank stock returns with the capping of interest rates but study will seek to explain this concept much clearly.

(Brahmasrene & Jiranyakul, 2007) Thailand, carried out an investigation on the stock market to evaluate the effect of selected macroeconomic variables and the share price index. The macroeconomic variables being; industrial production, exchange rates, oil prices and money supply. The study was done for the period before and after the financial crisis in Thailand. The analysis was done by performing time series analysis. The conclusion made was that money supply had a positive effect on stock prices. Whereas industry production index, exchange rates and oil prices negatively affect market stock prices in the post financial liberalization period. This research however was based on a unique context in a particular period that may not explain a similar concept outside of that context.

(Mayasami & Koh, 2000) Explored the relationship selected macroeconomic variables and the Singapore stock index as well as with a number of Singapore exchange sector indices such as; hotel, finance and property indices and also with indices of Japan and the United States. The study was done over a period of seven years beginning 1988 until 1995. After testing appropriate vector error correction models, changes that were detected in trade and industrial production are not integrated similar to the changes in Singapore stock market levels. Changes in Singapore's stock market do not form a cointergrating   relation with inflation, money supply, interest rates and exchange rates. Whereas changes in interest rates and exchange rates contribute majorly to the cointergrating relationship that those in money supply and inflation do not. This implies that the Singapore stock market is sensitive to changes in interest and exchange rate changes. Findings therefore concluded that a positive relationship existed between stock returns and money supply changes. A negative relationship, however, exists between stock market returns and exchange rates and short term interest rates. The context of this research is however different from the current study.

(Amarasinghe M. , 2015), carried out research on the association between stock prices and interest rates. The study used monthly data for the period between January, 2007 to December, 2013 by utilizing the all share price index and share prices in Colombo Stock Exchange. Details on interest rates were sourced from the Central Bank of Sri Lanka. Regression analysis and the Granger Causality tests were done using the Augmented Dickey Fuller Test. The ADF test was done in order to find the stationary of the data series and the test results revealed that ASPI data and interest was stationary at first difference. The granger causality test showed there is one way causal relation between the variables; that is ,interest rates does Granger cause stock returns and not the vice versa. A regression was then run and showed interest rates are a critical factor to stock return movement. A negative relationship was found to exist between stock returns and interest rates. This research however does not explain the impact of interest rate capping on bank stocks which the current study intends to explore on.

(Muriuki, 2014) In a study about influence of interest rate together with inflation on the stock returns of NSE quoted firms, carried out an analysis by using data on 91 day treasury

bills on a monthly basis and stock prices. He used the Ordinary Least Square regression analysis to evaluate the relationship existing between Treasury bill rates and the share prices. His findings showed that a positive relationship existed between interest rates level and stock prices for listed firms. According to his findings, the interest rates and inflation contributed up to 66.9% of the stock prices change. The study focuses on interest rate changes while the current research focuses on the interest rate capping effect on stock market returns of listed commercial banks.

(Mugambi & Oketch, 2016), researched on the effect of selected macro-economic variables on the bank stock output. The research utilized secondary data from Central Bank between 2000 and 2015. Analysis was done using unit root test, the linear regression model and correlation analysis to evaluated the impact of the variables. A multiple regression of APT style was done utilizing the EViews software 9th edition. The research results indicated, a direct relationship actually existed between all predator variables jointly influence movement of the NSE 20 share index. They explain up to 11.97% of changes in the NSE 20 share index. Interest rates, inflation and exchange rate variables all had a negative impact on the NSE 20 share index. An insignificant relationship, however, existed between GDP and the bank stock returns. The study should incorporate other variables that may explain the remaining 88.03% of changes in the NSE 20 share index. The current study focuses on other variables that were not incorporated in the study. The study also focuses on interest rate capping effect on stock returns.

(Evusa, Kitati, & Maithya, 2015) Analyzed the impact of macro-economic variables on stock market prices for companies listed with the NSE. The macro economic variables being; inflation, foreign exchange rate on hard currencies and interest rate. Data on exchange was analyzed for the period between the beginning of 2008 and 22nd December 2012 for listed companies in Kenya at the NSE. The research was done using regression analysis. The study showed that interest rates had the most predominant effect on the stock market indices for listed firms. . Interest rates had an impact on the NSE 20 share index and the NASI. The findings showed that a negative relationship existed between exchange and interest rates and stock market prices. When the Kenyan currency depreciates the stock indices appreciate in points. The research was done based on interest rates effect on stock

prices among other macroeconomic variables while the current study focuses on the impact of interest rate capping on stock returns.

(Kimunge, 2017) Researched on the influence of the interest rate cap on equity returns. Event analysis was carried out on the interest rate capping law that was enforced on 14th September 2016. The sample used was the 11 NSE listed banks. An analysis was done 30 days prior announcement date, the event date and 30 days post event date. A t-test was done to evaluate the implication of the announcement event upon stock returns. The study concluded that none of the abnormal returns recorded were found to be statistically significant. The study period of 61 days however was a short time to reflect the long term effects. The current study focuses on a longer period in order to establish both short term and long term effect.

(Mbua, 2017) Investigated the impact of the very recent capping of interest rates by the Central Bank on the bank shares listed on the Nairobi Securities Exchange. The research was done by use of checklists and observational design. The study focused on the 11 NSE listed banks with a census carried out seeing that these were all the banks listed at the NSE therefore the entire population was used. A negative relation was found to exist between the lending rate and the stock prices in third and fourth quarter of 2015 prior the interest rate capping event. It was then found that, upon enforcement of the interest rate capping law, the listed bank stock prices went down in the third and fourth quarter of 2016, showing that this policy significantly influenced the investors' decision making as to whether to buy or sell the stocks to make return gains. This study however focuses on the effect of lending rate while the current study focuses on the interest rate capping effect on stock returns.

2.5 Conceptual Framework
This illustrates the relationship existing between the independent variable and the dependent variable, in this case being interest rate capping and stock returns respectively. Upon announcement of the interest rate capping law, it is anticipated that there was a change in stock prices that resulted to abnormal returns being realized by investors. The study therefore intends to evaluate the size of abnormal returns.

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┌────────────────────────────────────────────────────┐
│        ┌───────────────────────────────┐            │
│        │ Independent variable:         │            │
│        │ Interest rate capping         │            │
│        └───────────────────────────────┘            │
│                       │                              │
│                       ▼                              │
│        ┌───────────────────────────────┐            │
│        │ Dependent Variable:           │            │
│        │ Stock Returns                 │            │
│        │                               │            │
│        └───────────────────────────────┘            │
│                                                      │
└────────────────────────────────────────────────────┘
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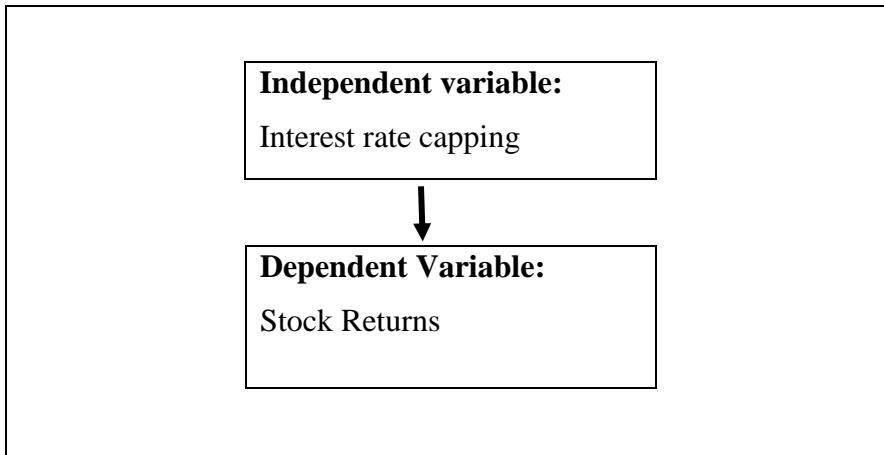
Source: Researcher (2018)

2.6 Summary of Literature Review

This chapter has covered a number of theories and empirical findings relating to the study. Though most exploration has been done on the relationship of interest rates and stock returns, there still exists conflicting findings on the same. There is however not much research yet done on the relationship of interest rate capping on stock returns. This study will therefore focus on the latter using a longer period and analyzing more control variables as well compared to the existing studies done.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter mainly covers the research method implemented to cover the research objectives. It outlines the research design, population, data collection and analysis applied.

3.2 Research Design

This is the method used to carry out research. The event study methodology was adopted for this study to establish whether the interest rate cap announcement had any influence on market stock returns. The theory is premised on the Efficient Market Hypothesis. Event studies evaluate the effect on stock returns to explore the impact of announcements on mergers and acquisitions, earnings announcements, stock splits, new stock issues among others, on stock returns. The announcement about enforcement of the interest rate capping law is treated as an event and therefore the event study method applied. Financial markets are allowed and expected to therefore make use of available market data to predict the outcome of certain events (MacKinlay, 1977). When analyzing the effect of the interest rate capping on stock returns, event study analyzes changes in the stock prices in the periods prior to the event and after the event. The impact was then evaluated by assessing the abnormal returns surrounding the event day.

3.3 Population

The research population is basically the members of a specified group that is the target focus for the study, (Burns & Burns, 2008). The population is a group that despite having different characteristics, it has a number of similar factors of significant interest to the study. In this research the focus group is the 11 listed commercial banks. The study therefore employed the census approach and analyzed all eleven listed banks. The banks are CFC Stanbic Bank holdings, HF Group Ltd, Kenya Commercial Bank, Equity Bank, Co-operative Bank of Kenya, Barclays Bank of Kenya ltd, Standard Chartered Bank, NIC Bank ltd, Diamond Trust Bank Kenya ltd, I&M holdings ltd and National Bank of Kenya ltd.

3.4 Data Collection

Data collection is a very significant stage as it is what determines the validity of the results. The study utilized secondary information seeing that listed firms are all required to report their values to the Capital Markets Authority, as the regulatory body. The stock prices and index figures being the main data were collected from the Nairobi Securities Exchange as it is released daily. Data was collected over a 101 day period; 50 days before the announcement, the announcement date, that is, 24th August 2016 and the 50 days that followed ending 13th October, 2020.

3.5 Data Analysis

Data analyzed was quantitative in nature and was stored in an order that allows for statistical analysis. The dependent variable was best measured by use of stock prices. The effect of the event was measured using the abnormal returns to gauge the impact of the event which is the deviation of actual returns from expected returns. Normal returns are returns expected in the market without any influence from an event (MacKinlay, 1977). Abnormal returns are returns over and above the expected returns which are returns expected in the market if the event does not occur. The Market Model will be used over the Capital Asset Pricing Model. This is because it has a much better fit and has an expected value of zero for abnormal returns. CAPM is not preferred seeing that the systematic failure of CAPM to predict returns resulting in a non-zero expectation value makes it much less useful a tool.

The event study window period will be 101 days, that is, 50 days prior, the day of the event (24th August,2016) and 50 days post the event date. Abnormal returns were computed using the statistical method from the analysis of the data collected daily from which the findings were analyzed to get the cumulative abnormal returns. Prior to analysis of the data, linearity tests were done so as to ensure a multiple regression model is suitable for data analysis.

3.5.1 Analytical Model

The objective of the research was addressed by applying an event study methodology using the market model that is; Risk Adjusted Return Model.

Event study procedure
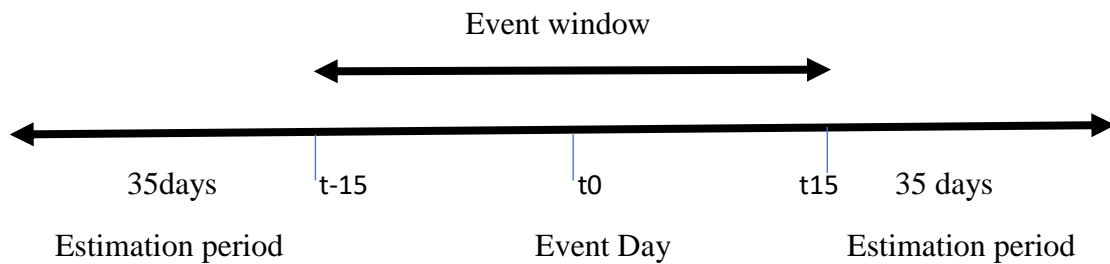
The event took place on 16th August 2016 when the bill was signed into law that is t0. The data will be collected over a period of 101 days that is 50 days before the event, the event date and 50 days after the event, that is, t-50 through t0 to t50. The estimation period will consist of 35 days before the event, the event date and 35 days after the event with the event window consisting of 30 days that is, t-15 through t0 to t15.

3.5.2 Measurement of Daily Returns.

The daily stock return or output is measured by the difference between the current price and the previous prices divided by the previous price. That is;

Stock output = (Current stock price – Previous stock price)/Previous stock prices.

The current or actual price is normally the average of the highest price reported that date and the lowest price reported on the same day on the trading platform. NSE 25 share index will be the main benchmark utilized in the study and therefore the Risk adjusted return model was the best to use. The abnormal returns were calculated by use of the market model to give the CAR. This indicates how these firm's stock returns were influenced by the news of the interest rate capping law announcement overall.

Expected Returns

$$E\ (R_{i,t}) = \alpha i + \beta IRm_t$$

The model's parameters α(y intercept) and β(x intercept) are estimated by use of the Ordinary Least Square regression.

3.5.3 Abnormal Returns

$ARi_t = Ri_t - (\alpha i + \beta IRm_t)$

ARi_t – Abnormal return on stock *i* at time *t* (event window),

Ri_t – Return of stock at time *t*,

Rm_t – Market return at time *t*

α and β – Constants

The AR of each stock aggregated over the event window will be the Cumulative Abnormal Return.

3.5.4 Cumulative Abnormal Return

This measures the total effect of the event. It indicates how the firms had their returns influenced by the news.

$\textbf{CAR}_{i,t} = \Sigma \, \textbf{AR}_{it}$

$SCAR \; it = CAR \; it \, / \, \delta \; CAR \; it$

$\delta CAR \; it$ - The standard deviation of CAR's adjusted for the forecast error

3.5.5 Significance Tests

The T-test statistic was used at a 95% level of significance seeing that the population size was small. It follows a normal data distribution. The *null hypothesis (H₀)* suggests absence of AR within the event window while the *alternative hypothesis (H₁)* signifies the presence of AR within the event window as below: $H_0{:}\mu = 0$

$$H_1{:}\mu \neq 0$$

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

This chapter is mainly about data analysis and interpretation of the results. The data was analyzed to meet the objective of the study as to whether the interest rate capping event had an effect on listed bank stock returns.

4.2 Descriptive statistics

This study was done based on analysis of the 11 listed banks with the event date set as at 24th August, 2016. This was the date the president assented the interest rate capping bill. At the time, there was a total of 44 commercial banks in Kenya. The data analysis was anchored on the Efficient Market Hypothesis by (Fama & Roll, 1969). It was done to link to the semi-strong form of EMH that implies that prices reflect both historical data and any new information. Based on EMH, NSE stock prices should be able to adjust instantaneously to any new information. The event study methodology was deemed best for this study being the most consistent and valid method to measure any corporate event (Woolridge & Snow, 1990). The event day according to research is best picked as the day of the public announcement in order to gauge the effect of the news most appropriately. Abnormal returns may set in a few days before the event date seeing there could be chances of insider information leaking or simply anticipation of the news by investors.

To test for abnormal returns, an appropriate benchmark is selected for the study. According to (Brown S.J. & Warner, 1985) a parameter estimation period is used to determine the slope which the Beta as well as the intercept being the Alpha or constant. They concluded that the methods based on OLS are well specified under a variety of conditions including the use of daily prices. The intercepts are then used to measure the expected return by utilizing the market return. The difference between the actual returns and the expected returns make for the abnormal returns used in this study. The event date is 24th August 2016 with the event window period being +/- 15days. The study utilized the Microsoft Excel analysis software to measure show how the Abnormal Returns, Cumulative Abnormal Returns, the t-test test statistic were arrived at. The study made use of the NSE

25 index seeing that incorporates all the listed banks in Kenya and therefore deemed most appropriate.

Barclays Bank of Kenya
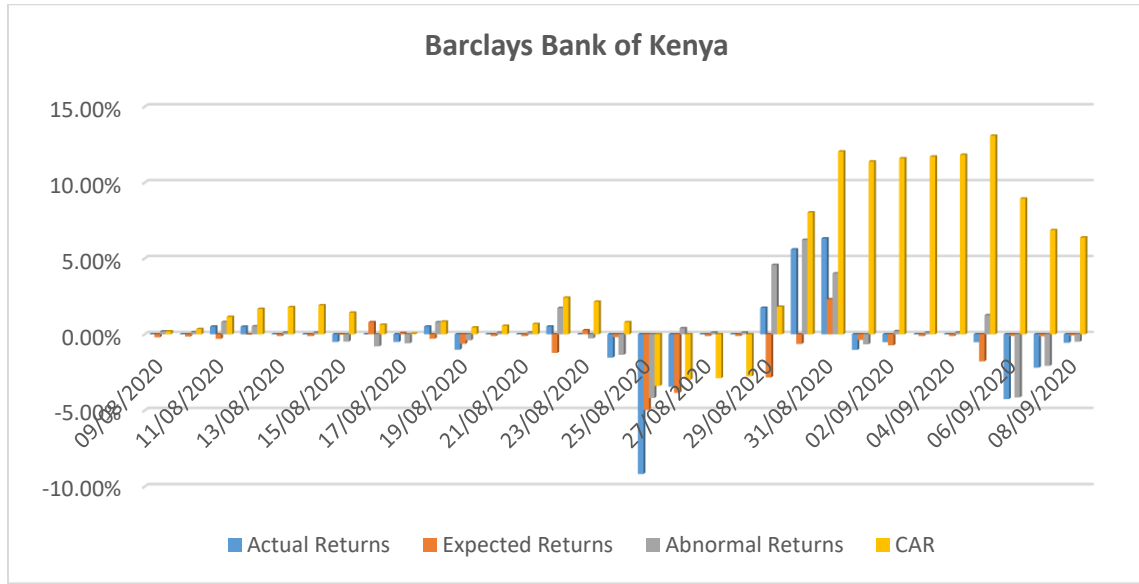
Sources: Research findings

Chart 1: Returns Barclays Bank

On the 24th of August, 2020 being the event day, Barclays Bank stock closed at the price of Ksh.9.70 with the NSE 25 closing at 3,913.93 points. The next day (t1) after the announcement the stock price dropped to close at Ksh.8.85 with the market index dropping by 209 points and closing at 3,704.68 points. The actual returns were at -9.17% compared to the expected returns of -4.68% and therefore bringing the abnormal returns to -4.19%. This meant that there was a negative effect on returns following the president's move on assenting to the bill on interest rate capping. It was noted that he CAR had started falling prior to the event date and the days to follow post event date seeing that on day –t1 it had dropped from 2.41% to 2.14% and further dropped to -3.40% on day t1 which was the lowest during the event window. The highest CAR was 13.09% on day t12. This is evidence to show that the news was detrimental to both stock prices and the returns thereof. This goes to show that investor's reaction to the news was negative with the observed reduction in demand for the stock leading to the drop in price and returns. The stock however as observed seems to continue to decline in price as it was seen that it never rose

above the event day price of Ksh.9.60 within the 51days observed post event date. It is worth noting that the t-value was -2.64 which is greater that t statistic to show that the effect was actually significant.

CFC Stanbic Bank
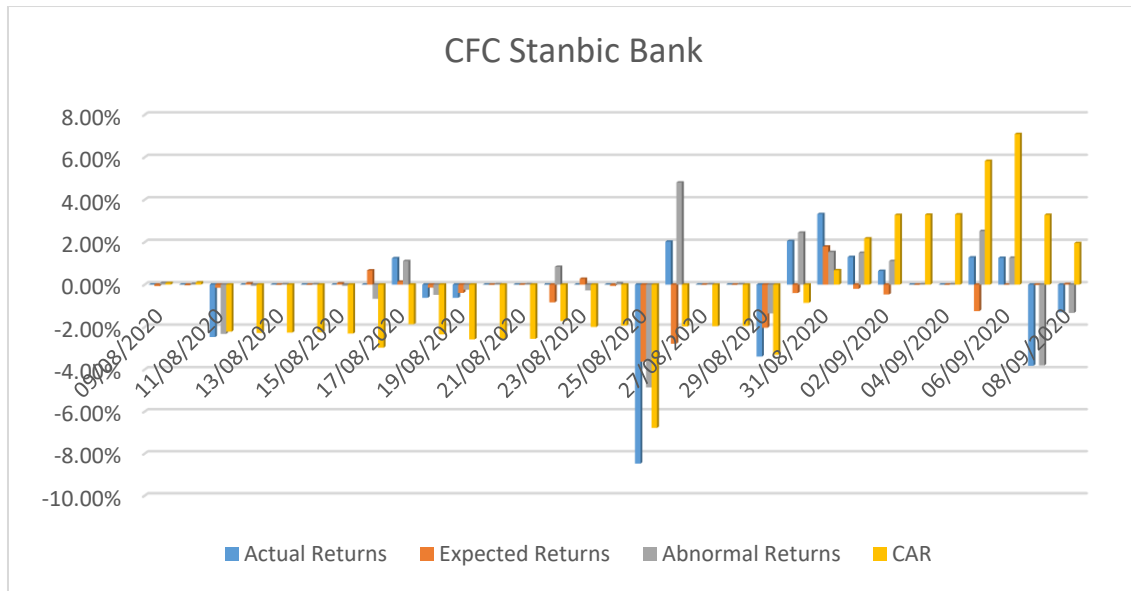
Sources: Research findings

Chart 2: Returns CFC Stanbic Bank

On the event day the CFC Stanbic Bank stock price closed at Ksh.82.00 and later dropped to Ksh.73.50 the following day (t1). After the announcement, the market index also dropped by 209 points closing at 3,704.68 points. The actual returns closed at 0% and dropped to -8.47% on day t1 while expected returns closed at -0.06% on the event day and dropped to -3.63% on day t1 bringing the abnormal returns from 0.06% on the event day down to -4.85% on day t1. This goes to show that investors reacted quite negatively to the move by the president on assenting to the bill on introduction of interest rate caps. The CAR was at -1.93% on the 24th August, 2020 and dropped to -6.78% on day t1 which was the lowest from 30day observations within the event window with the highest CAR at 7.09% on day t13. This is evidence that there was a negative effect to the prices and returns following the news. The negative effect was highest on day t1. The t value on day t1 was -

3.18 which is greater than the t statistic to mean that there was a significant effect of the news on stock prices and returns.

Diamond Trust Bank
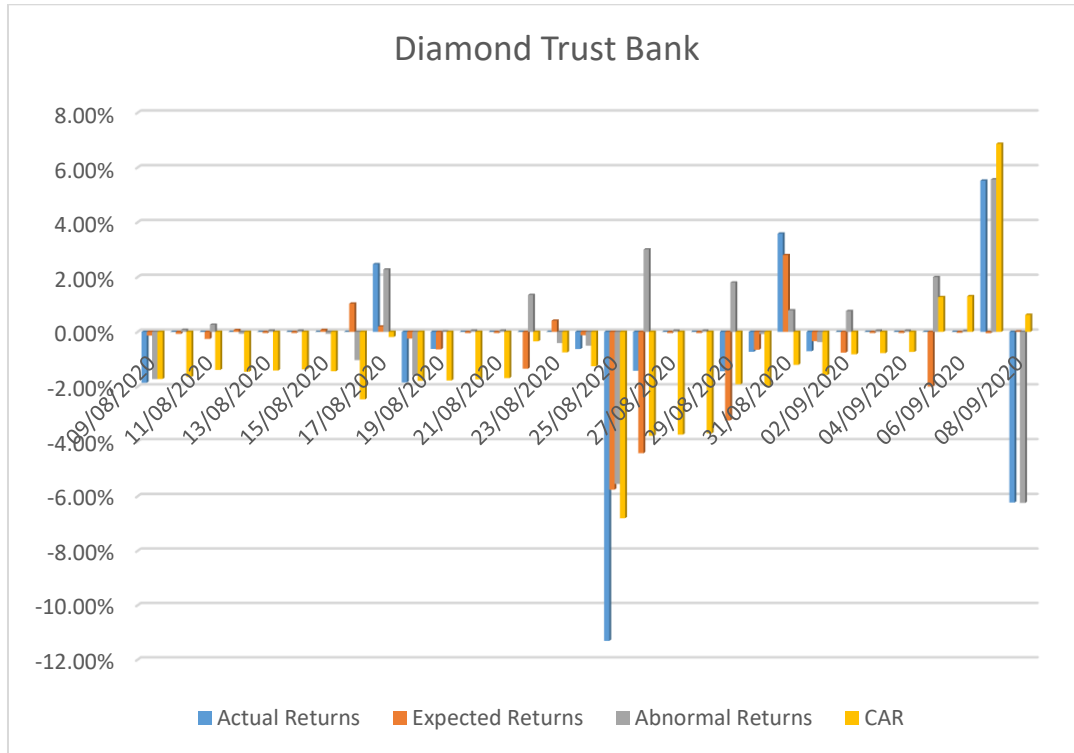
Sources: Research findings

Chart 3: Returns Diamond Trust Bank

Diamond Trust Bank was observed to have the second highest stock price after Stanchart Bank as compared to the other bank stocks. On the event day, its stock price dropped from Ksh.160.00 closing at Ksh.159.00. This price dropped to Ksh.142.00 on day t1 and seen to generally drop as it closes at Ksh.140 on day t51. The actual returns are seen to have declined from -0.63% to close at -11.31% on day t1 with the market return dropping from -0.12% to -5.76% causing the abnormal return to drop from -0.50% on the event day to -5.55% on day t1. This is evidence to show that the news negatively affected the stock's prices and returns. The CAR is seen to have dropped from -1.25% to -6.80% on day t1 being the lowest observed within the event window with highest being 6.87% o day t14. With the highest effect of the news observed on the day after the announcement, the t value was -3.69 on day t1. These observations show that the news had a significant effect on the stock returns.

Equity Bank

Chart titled "Equity Bank" showing Actual Returns, Expected Returns, Abnormal Returns, and CAR from 09/08/2020 to 08/09/2020.
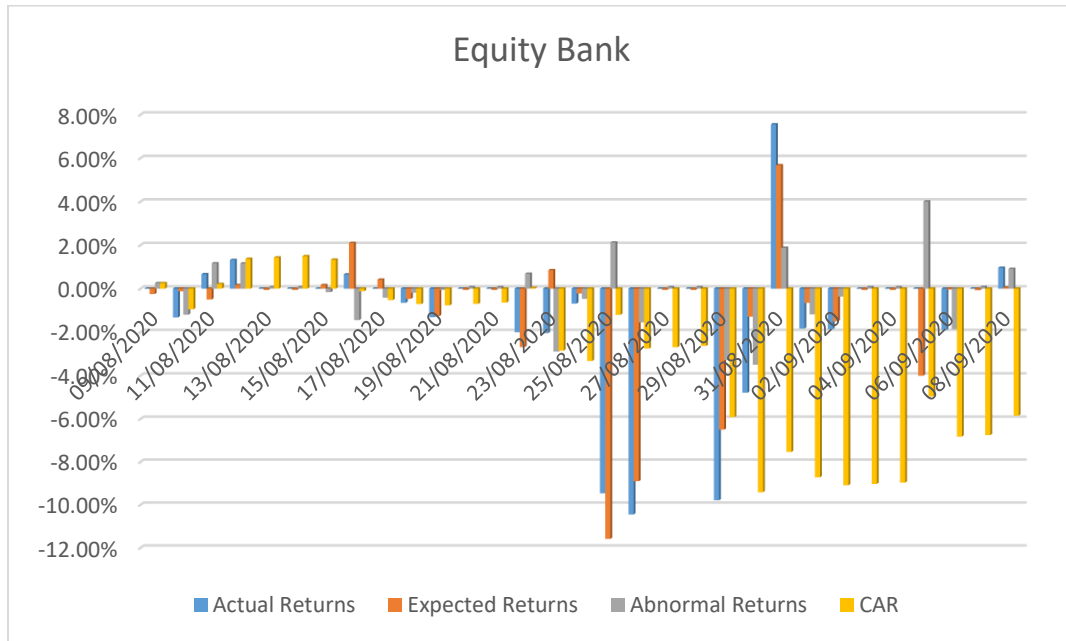
Sources: Research findings

Chart 4: Returns Equity Bank

Equity Bank is a locally owned institution. On the event day Equity Bank's stock price dropped by 25 cents closing at Ksh.36.00. The next day, the stock price dropped to Ksh.32.75. This shows that as much there wasn't much effect on the day on the event, there was a spillover effect. The actual returns dropped from -0.69% to -9.46% on day t1 with the expected returns dropping from -0.22% to -11.58% on day t1. This led to the abnormal return rise from -0.47% to 2.12% on day t1 since the actual returns were seen to have declined by smaller margin compared to the expected returns. The impact on the stock returns seem to have been delayed and felt a few days late with the abnormal returns declining to -3.50% on day t6 being the lowest observed and the CAR at -9.42% on the same day being the lowest observed within the event window. The t value on day t6 was -2.65. It is important to note that Equity bank stock is one of the most traded stock and therefore was adversely affected by the news and was on a bear a run.

Housing Finance Bank
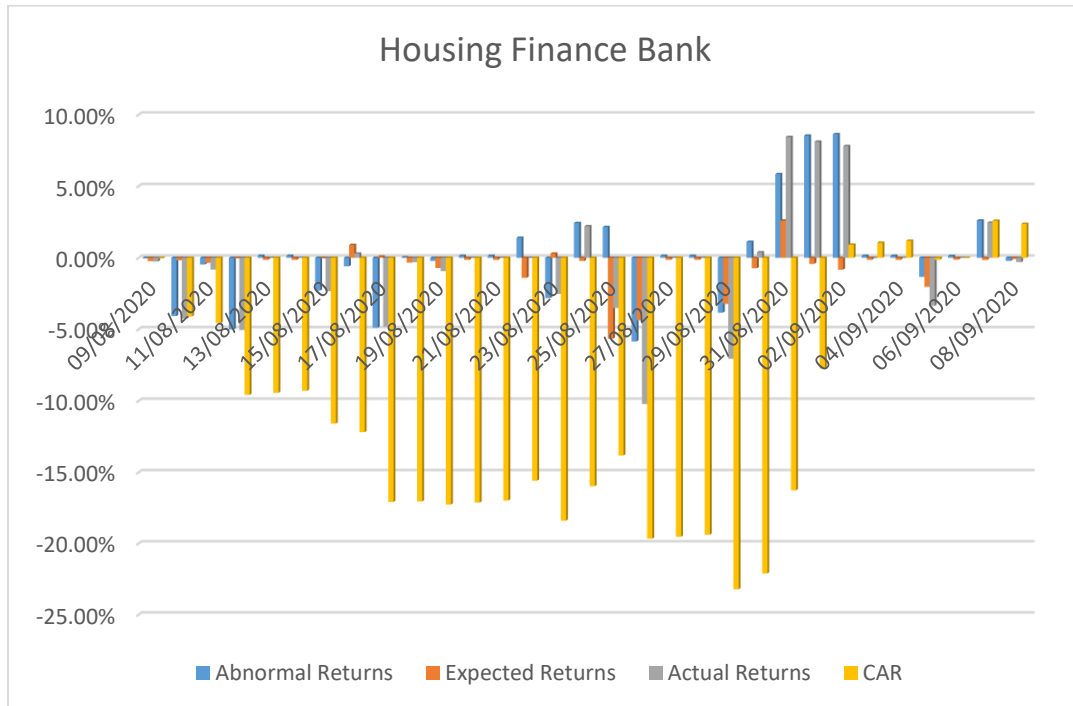
Sources: Research findings

Chart 5: Returns Housing Finance Bank

Housing Finance Bank is seen to have been experiencing negative returns within the event window days before news. This goes to show that rumors of the new bill affected the stock returns significantly. The CAR is seen to be on for most within the event window with the highest decline at -23.22% on day t5 after the news. The highest CAR however is at 2.59% on day t14. The abnormal returns were observed to be on a decline before the announcement with the lowest before the event recorded at -4.89% 7 days before the event but the lowest within the event window was -5.85% on day t2 to show that there was a spillover effect after the announcement. The highest abnormal return was at 8.63% 9 days after the event to show that the stock effect had slowly started to wear off faster than the effect on the expected returns.

I & M Bank

I & M Bank

Chart legend: ■ Actual Returns ■ Expected Returns ■ Abnormal Returns ■ CAR
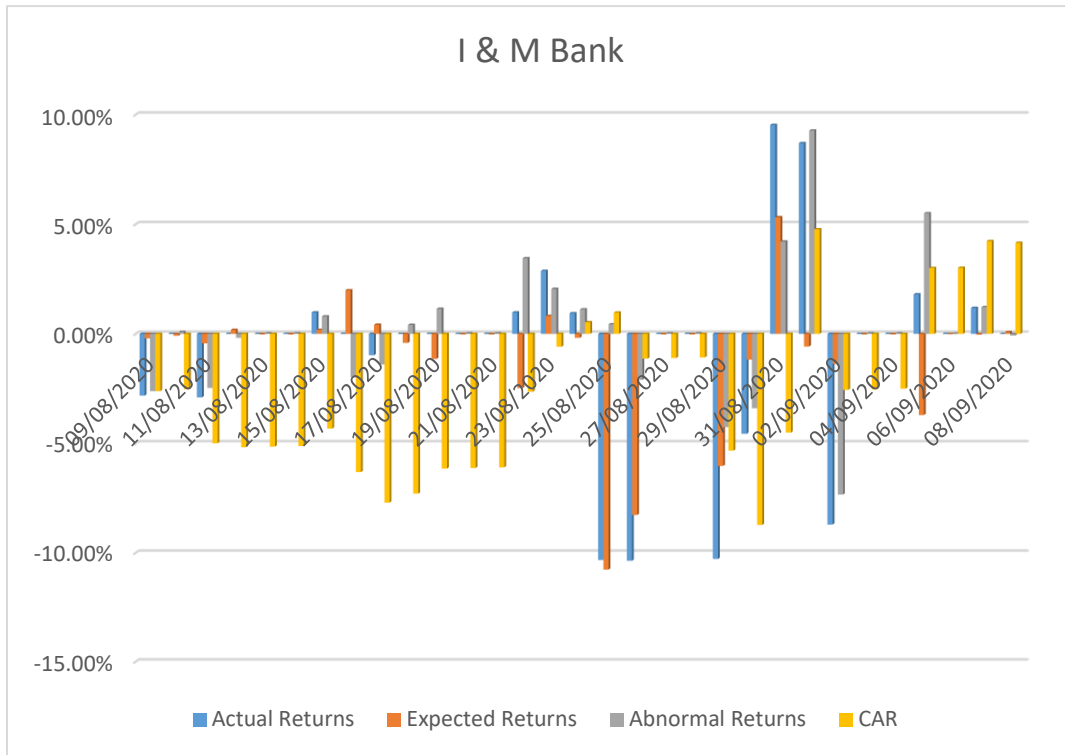
Sources: Research findings

Chart 6: Returns I & M Bank

On the event day the I & M Bank stock price at Ksh.170.00 was highest within the event window but immediately dropped to Ksh.96.00 on day t1. It further dropped to Ksh.87.00 on day t2 and was on a decline the days to follow with the lowest price Ksh.75.00 6 days after the news. It then started to pick up on the days to follow closing at Ksh.89.00 on day t51. The lowest abnormal return was recorded at -7.33% 9 days after the event day with the t-value at -3.47 to show that most significant effect on the stock had a delay. The actual return dropped from 2.87% to 0.94% on the event day and further declined to -10.33% the day after the event. The CAR gained from -0.59% to 0.97% on the event day but had the lowest observed at -8.72% 6days after the event. The highest CAR was however at 4.23% on day t14 seeing that the stock price had started recovering from the effect of the news.

Kenya Commercial Bank.
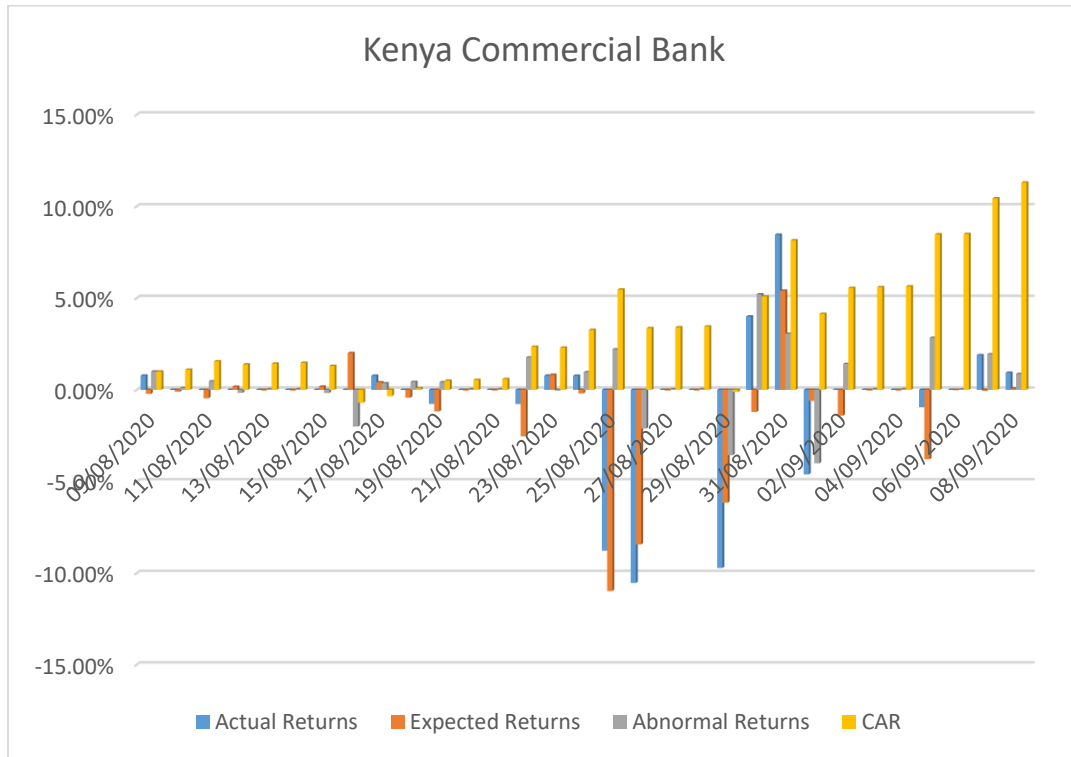
Sources: Research findings

Chart 7: Returns Kenya Commercial Bank

Being the largest lender in Kenya as in terms of its asset base and capitalization, Kenya Commercial Bank was fairly affected by the news of the new regulation. On the day of the announcement, the share price gained 25cents to close at Ksh.32.75 which further declined with the lowest price within the event window closing at Ksh.24.50 but later fairly recovered as it closed at Ksh.27.00 on day t50. The actual return did not change on the event day but dropped to -8.77% on day t1 and further dropped to -10.54% on day t2 with expected return dropping from -0.20% to -10.98% on day t1 causing the abnormal return to rise from 0.96% to 2.21% on day t1 but dropped to -2.11% on day t2 with the lowest abnormal return recorded at -4.01% on day t8 with the t value at -2.73 the same day. This goes to show that there was a significant negative effect on the stock price and returns following the news on the new regulation. The CAR is observed to be positive for most days after the event with the lowest CAR at -0.12% on day t5 when the actual return was

quite low too at -9.72%. This is evidence that the significant negative effect on the stock following the news had started wearing off slightly.

National Bank of Kenya
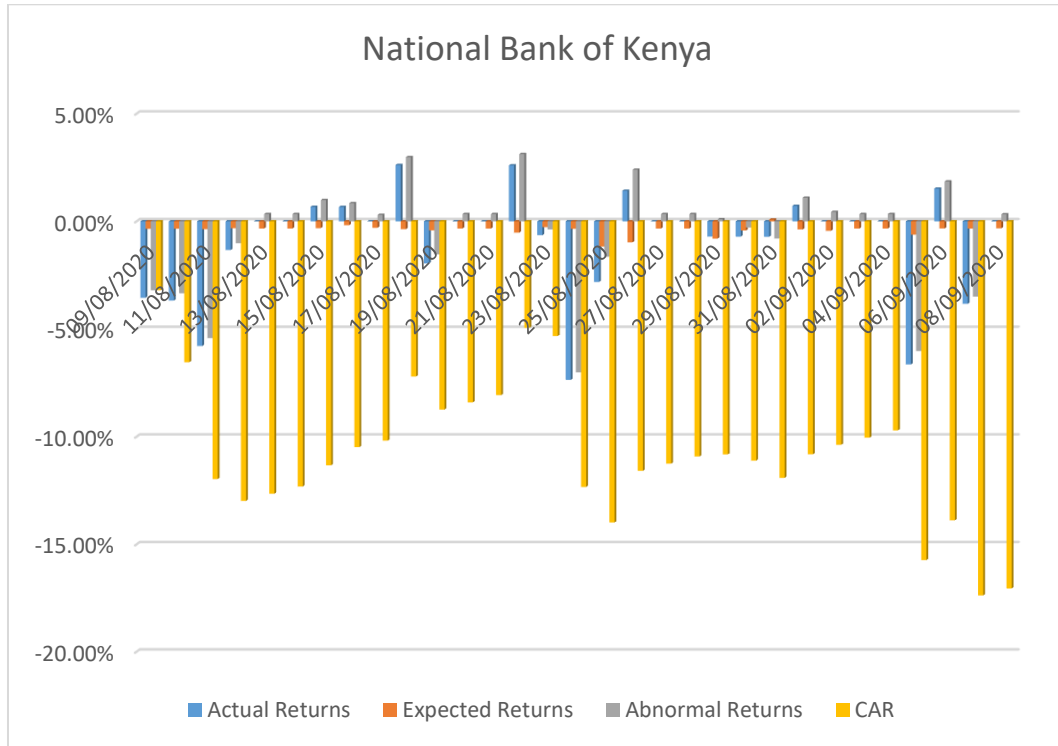
Sources: Research findings

Chart 8: Returns National Bank of Kenya

The bank was among the few listed at the NSE with government participation at the time. On the day of the event, NBK's stock price lost 55cents closing at Ksh.7.20 and it continued declining generally with the lowest price at Ksh.6.40 on day t14. The actual return had dropped from 2.60% to -0.64% the day before the event and further dropped to -7.36% on the day of the event with the abnormal return dropping from 3.12% to -0.37 a day before the event and further declined to -7.02% on the day of the event. The t value on the event day was at -2.83. This is evidence that rumors of the new bill had affected the stock returns

and the news had a significant effect on the stock return on the day of the event with the CAR being at -12.34% on the day of the event.

National Industrial Credit Bank
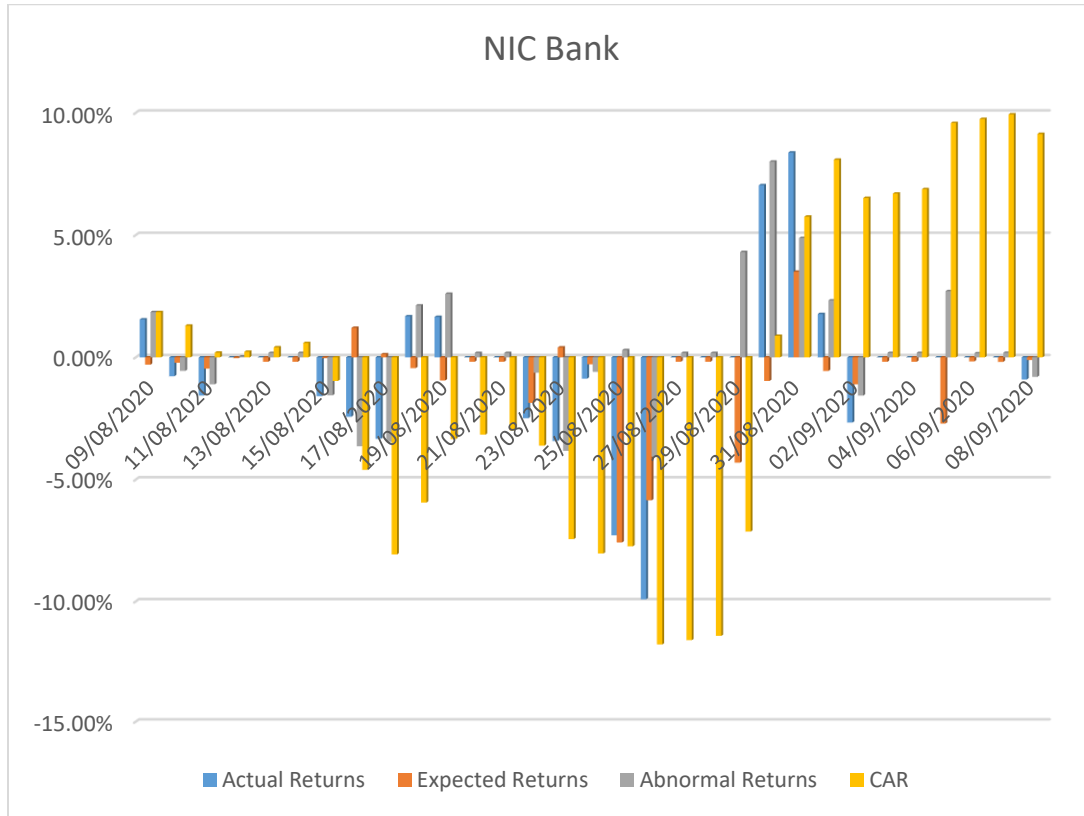
Sources: Research findings

Chart 9: Returns National Industrial Credit Bank

NIC Bank one the locally owned banks. The bank's stock price started declining 3 days before the event day. It is seen declining from Ksh.30.50 to Ksh29.75 on day t-2 with a further drop to Ksh.28.75 on day t-1 and further lost 25cent to close at Ksh.28.50 on the event day. The price dropped by 2shillings closing at Ksh.26.50 on day t1 and further dropped to Ksh.24 on day t2.The abnormal returns are seen declining days before the event from 0.18% to -0.63% on day t-2 and further dropped to -3.82% on day t-1. It picked up to -0.59% on the day of the event but later dropped to -4.06% on day t2 with the t value at -2.16 and the CAR at its lowest at -11.79% on day t2 as well. This is evidence that rumors on the new bill had affected the stock returns before the event and the news had a significant spillover effect on the stock returns.

Standard Chartered Bank
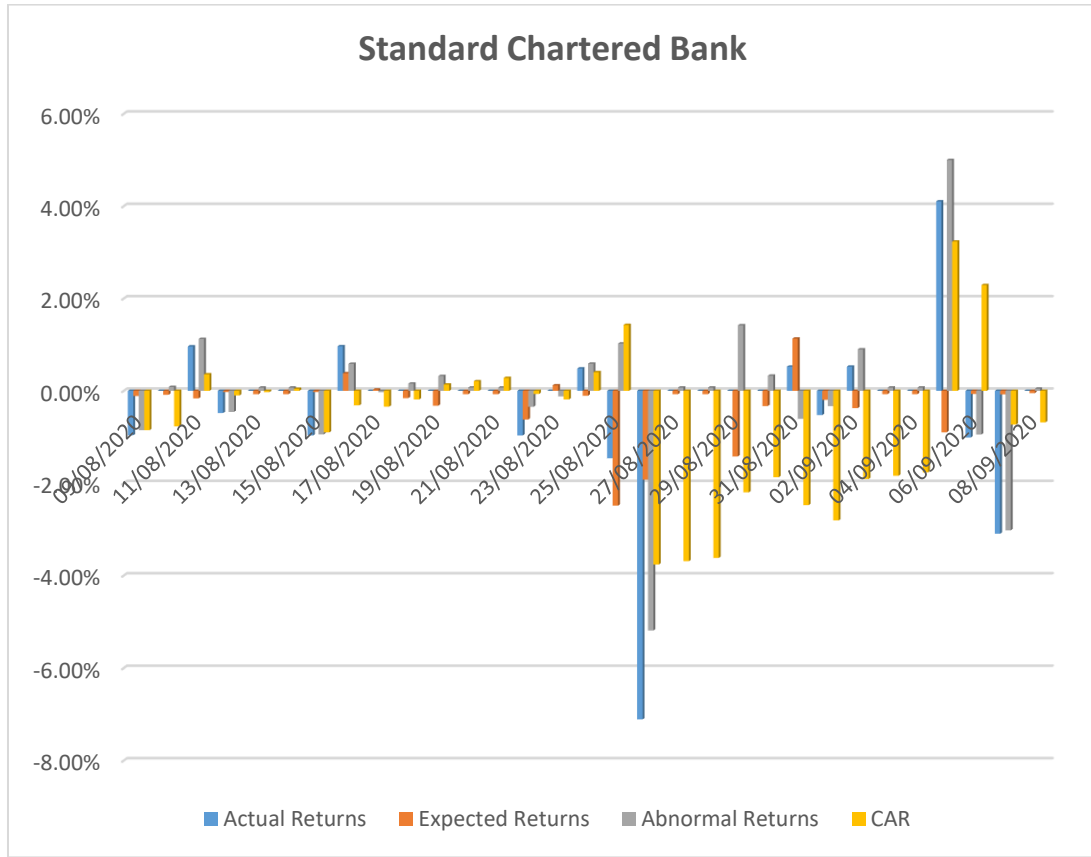
Sources: Research findings

Chart 10: Returns Standard Chartered Bank

Standard Chartered Bank stock prices were seen to have started declining before the event date seeing that the price dropped from Ksh.208.00 to Ksh.206.00 on day t-2 but gained shilling on the event day which dropped to Ksh.204.00 on day t1 and further dropped to Ksh.190.00 on day t2. The abnormal returns went up from 0.59% on the event date to1.02% but dropped to -5.19% on day t2 with the t value at -3.33 on the day t2.The was lowest on day t2 at -3.76%. This goes to show that as much as the effect was not there on the event day, the significant negative effect of the news to the stock returns was experienced 2 days

after the event. This is evidence that investors reacted negatively to the news and that there was a spillover of the effect to day t2.

The Co-operative Bank of Kenya
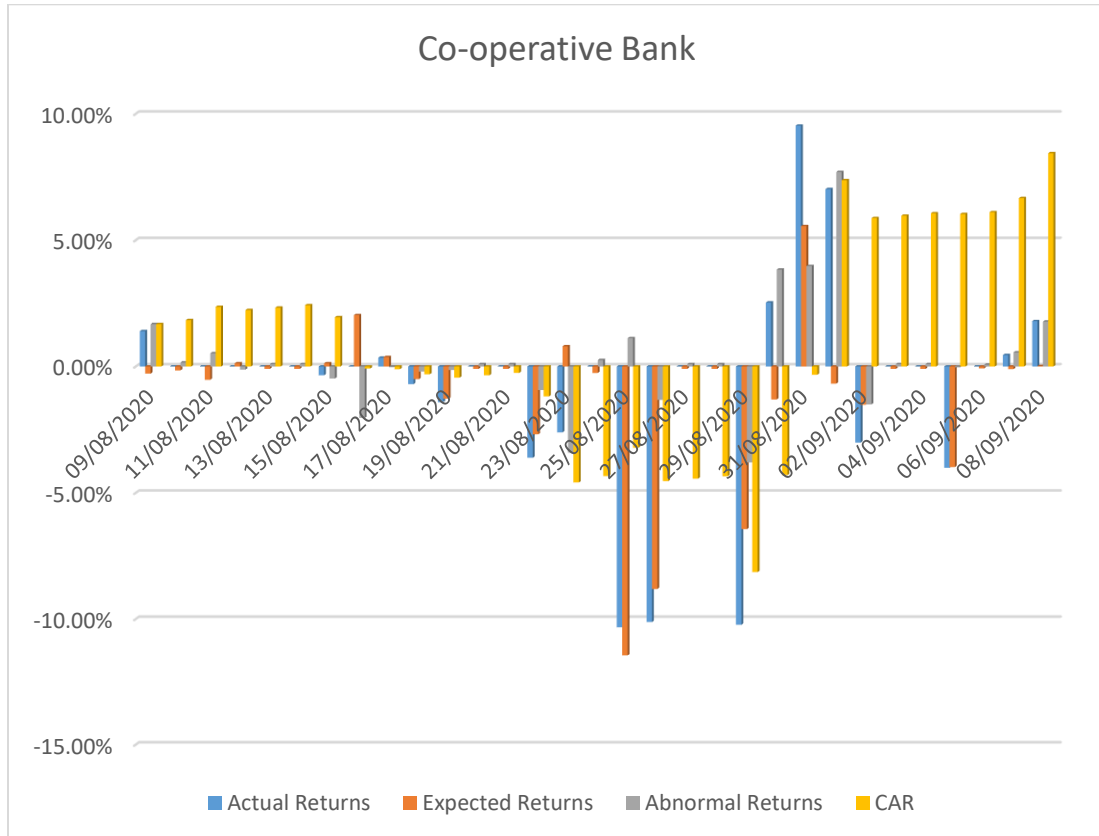
Sources: Research findings

Chart 11: Returns The Co-operative Bank of Kenya

The Co-operative Bank stock price actual returns rose from -2.61% to 0% on the event day but dropped to its lowest within the event window at -10.33% the day after the event with the expected returns at -11.45%.The abnormal returns rose from -3.41% to 0.25% on the event day but dropped to its lowest at -3.79% on day t5 with the CAR also at its lowest of -8.13% and the t value on this day stood at -2.72. This goes to show that the although the stock was not affected by the news on the event day, the negative significant yet negative

effect came in later showing that there was a spillover. The CAR is seen to be positive much later within the event period as the stock slightly recovered with CAR closing at 8.44% on day t15.

4.3 Analysis Abnormal Returns

The CAR was the tabulated within the event window to show the overall impact the news regarding the new bill had on the stock returns of commercial banks listed at the NSE. It is the aggregated of abnormal returns over the event window period. The abnormal returns were tested at a 95% level significance and the resulting computations in Table 1 below. In order to comprehend the overall effect of the event on the stock returns, the cumulative abnormal returns for all 11 banks were calculated with the overall average CAR as -3.84% and was at -4.46% the day after the event with the lowest overall average CAR at -6.02% 5 days after the event. This leads to the conclusion that the news of the new regulation being assented to by the president had a significant effect on the stock prices and returns of commercial banks listed at the NSE.

Table 1: Results of Abnormal Returns

Bank	Intercept(α)	Slope(β)	R2	Standard error	t-test(t1)	CAR(t1)
Barclays	-0.0011682	0.8853858	0.2163	0.015863	-2.64	-3.40%
CFC Stanbic	-0.0001244	0.6578617	0.1416	0.015244	-3.18	-6.78%
DTB	-0.0004319	1.0402720	0.2974	0.015048	-3.69	-6.80%
Equity	-0.0006220	2.0968970	0.6916	0.013178	1.61	-1.20%
HF	-0.0014135	1.0025770	0.1591	0.021694	0.99	-13.82%
I & M	-0.0002788	1.9547900	0.4307	0.021153	0.21	0.97%
KCB	-0.0004328	1.9900340	0.6191	0.014690	1.50	5.47%
NBK	-0.0033434	0.1525157	0.0033	0.024805	-0.66	-13.98%
NIC	-0.0017893	1.3452270	0.3117	0.018812	0.16	-7.73%
Standard Chartered	-0.0007110	0.4392392	0.0657	0.015591	0.66	1.43%
Co-op	-0.0009492	2.0660070	0.6601	0.013953	0.80	-3.22%

4.4 Interpretation of findings

The bank stocks are among the most liquid stocks seeing that they are the most traded counters at the NSE platform. Upon the realization that the president had assented to the

bill to introduce interest rate cap and that the monetary policy was about to change with interest rate caps, investors were left thinking of their next move. It was perceived that with the reduced interest rates, bank profits would decline significantly affecting bank stock returns therefore. When the day of this announcement, the CAR's of 8 of the 11 listed banks were negative and even the 2 that were positive were negative two days after the event with other 1 negative on day t5. T values computed on the days after the announcement were significant to this study at a 95% significance level. Housing Finance was the most affected with a CAR of -15.97% followed closely by the National Bank of Kenya at a CAR of -12.34% on the event date. Kenya Commercial Bank, I & M Bank and Standard Chartered Bank were the only banks that recorded a gain on the event day closing at a CAR of 3.26%, 0.53% and 0.40% respectively. Some stocks were seen to be declining prior the event date, they gained slightly some days around the event but decline shortly after by day t6 after the event wind. This is evidence that the Efficient Market Hypothesis by (Fama & Roll, 1969) is true seeing that indeed when prices are distorted by external factors such as event, the prices quickly adjust to the new information. The event window of estimation was set at 15 days prior and 15 days after the event date in order to get the real effect of the new information on the stock prices and returns. The data analysis also reflected on the level of efficiency of the NSE market. The study therefore concluded that interest rate capping resulted in negative cumulative abnormal returns for commercial bank listed at the NSE.

CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter mainly entails a summary of the findings, conclusion and recommendations derived from the study. It also reflects the challenges encountered during the study as well as suggestions for further research.

5.2. Summary of Findings

The study was mainly based on the effect the interest rate capping bill signed into law had on stock returns of commercial banks listed at the NSE. The event window was for a period totaling to 101 days, that is, 50 days before the event date, the event day and 50 days after. The study analyzed focused on an event estimation period of 31days, that is 15 days before the event day, the event day and 15 days after the event in order to get more real effects of the announcement on listed bank stock returns. The event date was 24th August 2016. This is the day the president signed into law the bill that capped interest rates for bank lending and deposits. The new amendment capped the rate to no more than 4 percentage points above the CBR which was at 10.5% then. The population for the study was made up of the 11 commercial banks listed at the NSE and seeing that the population size was small, it was also the sample size for the study. Data was collected from NSE as it is published daily once the market is closed. The preferred share index used in the study was the NSE 25 index. Data analysis was the carried out by use of the market model and all statistics were computed using Stata/SE 13.0 as well as the Excel software. The prices were used to compute actual returns for each bank stock as well as the market return. Then the intercept and slope were computed to aid in calculating the expected returns. The actual returns and expected returns were then used to obtain the abnormal return which then was used to compute the CAR. The CAR was used to evaluate the effect the new information had on bank stock prices and returns.

Bank interest rates are the key bank profit drivers. Any alterations made on the interest rates would definitely alter the banks' profits. A reduction of these rates would therefore result in a direct significant reduction in the bank's profits and this would most likely affect

the bank stock prices and returns thereof. In the study, it is demonstrated that anticipation of this news negatively affected some stock and the negative CAR on the event day show that the announcement of the new bill had a negative effect on the bank stock prices and returns. Majority of the banks in the study demonstrated negative abnormal returns on the event day. Only Kenya Commercial Bank, I & M Bank and Standard Chartered Bank were the banks recorded a gain on the event day but recorded negative abnormal returns by day t6 to mean that the effect though delayed still occurred and it was negative. This goes to demonstrate the spillover effect. Housing Finance Bank was the most negatively affected stock closing at a CAR of -15.97% and was at -23.22% 6 days after the event. National Bank of Kenya followed closely behind at CAR -12.34% on the day of the event.

In relation to the study being an event study, most banks recorded a decline on the day of the announcement up to 6days days after the event with most stock losing quite severely on the day after the event. This demonstrates the rational behavior of investors as well as the herding mentality that exists among investors. Herding mentality is seen when most investors make a decision to move with the crowd or the majority with doing a one's analysis to inform one's decision making. This mentality could ideally lead to a change in demand and supply for stock without any fundamental reason. The study therefore supports existing literature on how investors may react to signals or new information dependent on the crowd and cause an overall effect on stock returns.

5.3. Conclusions

New information affects the stock returns. Bad news for that matter affects the stock returns negatively. In this study, the news about the bill being signed into law was bad news for banks and bank stock investors therefore seeing that it was expected that the low rates would result in direct reduction of profits for banks and would therefore affect the stock prices and returns. This caused investors and fund managers among other stakeholder to go back to the books and forecast the effect this would have on cash flow and find out whether it affects the future cash flows which would result in affecting the stock valuation. The new law had it that the lending rate cap was set at no more than four percent above the Central Bank Rate and a floor of seventy percent of the base rate set for deposits with the

CBR then at 10%. At this, investors saw that the bank profit would be significantly reduced. This study therefore supports existing literature stating that new information coming to the market affects stock prices and returns thereof. It also demonstrates the semi strong form of EMH which postulates that the current stock prices incorporate any public information. One cannot make any extra-ordinary profits with information that out in the public.

The study shows that indeed show that any information affects stock prices and if it perceived to be bad news then the stock would be negatively affected. The study shows that all banks were eventually negatively affected by the changes made in the monetary policy by day t6 after the event. For those that were not affected on the event day there was a spill over effect in the days after the event. The study shows that towards the end of the event window prices begin to pick up to show that investors may have started familiarizing with the new prices or that the prices had by now incorporated the new information. (DeBondt & Richard, 1984) In their article, "do investors over react?" demonstrate that investors over react on receiving new information for fear that it may not incorporate in the price. The drop in prices and CAR for some stocks prior the event implies that investors anticipated the new.

5.4.   Recommendations
The announcement of the new law meant a change in the monetary policy and was bad news for bank stock investors among other stakeholders. This new law therefore was the driver and catalyst leading to the drop in stock prices and returns for that short period. A catalyst is defined as the observable characteristic that leads to stock liquidation. The news is seen to have a significant effect that was negative on the bank stock returns. Banks should therefore consider much further diversification of the cash flow to increase stability of the stocks upon introduction of any regulations or so. This regulation also meant that SME's would be locked out from being beneficiaries to bank lending as they are deemed high risk clientele. This is the case for retail investors too. Seeing that this also means the banks would therefore miss out on profits from interest spreads with these clientele, the study therefore recommends the bank to lend to the government by investing in treasury bonds and treasury bills as the government is deemed low risk.

The government should also ensure that the new regulations are not politically influenced as the regulations as in the study were detrimental to the profit generated from banks in Kenya. This is so because the following year was an election year and therefore the move might have been interpreted a move made to push an agenda to win elections. The study recommends other financial institutions to be wary of new regulations and find methods of adjusting to such situations when needful. The banks should have responded better if they would have been given a grace period to find ways means to adjust to the new regulations. The study also recommends investors to have well diversified portfolio on investments such as property, treasury bills and bonds as well as mutual funds to avoid having panic sales upon receiving negative news.

5.5. Limitations to the study

Data from the NSE is quite costly and therefore hard to obtain without financial resources which could be a discouragement to engage in such a study. There is also very little research done in the country on event studies and interest capping in particular and the effect events have on stock prices and returns, the researcher did not have as much data to go back to understand the phenomenal under study. It is quite difficult to isolate an event from other determinants of stock returns and therefore one may not be sure if there could have been any other contributing factor within the event window. The study was entirely dependent on secondary data and therefore the researcher had no control to determine the level of accuracy which is usually the problem when dealing with secondary data. The data obtained from NSE was rather raw and required a lot of compilation, editing and manipulation and computations for it to be eligible for analysis.

5.6. Suggestions for Further Research

The study particularly focused on the 11 listed banks at the NSE, further research should be carried to find out whether interest rate capping law had an effect on stock returns for other institutions and whether the effect was negative or positive. This study focused on 101 days -/+ 50 day event window. A much longer period should be studied to demonstrate how long the effect lasted. Further studies should employ the use of different models besides the market model to gauge the consistency of the findings. Further research should be carried out on other stock return determinants seeing that this study mainly focused on

the effect of interest rate capping on stock returns. The study employed secondary data and therefore further studies should be done by use of primary data by use of sources such as in depth questionnaires and structured interviews with the market players to gauge the correspondence level with the current study findings.

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APPENDICES

1. Appendix 1: List of listed banks in the NSE

Barclays Bank

CFC Stanbic Bank

Diamond Trust Bank

Equity Group Holdings

Housing Finance Bank

I & M Bank

KCB Group

National Bank of Kenya

National Industrial Credit Bank

Standard Chartered Bank

The Co-operative Bank of Kenya

2. Appendix 2: Raw data for the study

t	Date	Barclays	CFC	DTB	Equity	HF	I&M	KCB	NBK	NIC	SCB	Co-op	NSE 25
-50	05/Jul/2016	10.00	82.50	165.00	39.50	19.95	109.00	33.75	9.65	35.50	203.00	16.60	3,969.89
-49	06/Jul/2016	10.00	80.00	170.00	39.75	19.90	109.00	33.50	9.55	35.75	204.00	16.40	3,978.48
-48	07/Jul/2016	10.00	80.00	170.00	39.75	19.90	109.00	33.50	9.55	35.75	204.00	16.40	3,978.48
-47	08/Jul/2016	10.00	80.00	170.00	39.75	19.90	109.00	33.50	9.60	35.75	205.00	16.40	3,984.88
-46	09/Jul/2016	10.00	80.00	170.00	39.75	19.90	109.00	33.50	9.60	35.75	205.00	16.40	3,984.88
-45	10/Jul/2016	10.00	80.00	170.00	39.75	19.90	109.00	33.50	9.60	35.75	205.00	16.40	3,984.88
-44	11/Jul/2016	10.05	80.00	170.00	39.50	19.90	109.00	33.00	9.50	36.00	205.00	16.25	3,964.31
-43	12/Jul/2016	10.00	80.00	168.00	39.50	19.90	104.00	32.00	9.45	35.50	205.00	16.00	3,919.61
-42	13/Jul/2016	10.00	80.00	168.00	39.25	19.85	109.00	32.75	9.50	35.50	218.00	15.80	3,926.26
-41	14/Jul/2016	10.00	80.00	170.00	38.50	19.70	109.00	32.25	9.55	35.00	210.00	15.45	3,901.32
-40	15/Jul/2016	10.05	80.00	167.00	38.25	19.60	109.00	32.25	9.50	34.00	210.00	15.20	3,886.94
-39	16/Jul/2016	10.05	80.00	167.00	38.25	19.60	109.00	32.25	9.50	34.00	210.00	15.20	3,886.94
-38	17/Jul/2016	10.05	80.00	167.00	38.25	19.60	109.00	32.25	9.50	34.00	210.00	15.20	3,886.94
-37	18/Jul/2016	10.00	81.00	163.00	37.50	19.60	109.00	32.00	9.00	34.75	207.00	15.15	3,856.59
-36	19/Jul/2016	9.95	81.00	163.00	37.00	19.60	108.00	32.25	9.65	34.00	209.00	15.05	3,837.20
-35	20/Jul/2016	9.80	81.00	159.00	36.75	19.60	108.00	32.25	8.85	32.00	210.00	15.10	3,849.77
-34	21/Jul/2016	10.00	81.00	160.00	36.75	19.50	108.00	32.25	8.65	32.00	208.00	15.00	3,848.99
-33	22/Jul/2016	10.00	82.50	160.00	36.75	19.90	108.00	32.50	9.00	31.75	208.00	14.90	3,839.95
-32	23/Jul/2016	10.00	82.50	160.00	36.75	19.90	108.00	32.50	9.00	31.75	208.00	14.90	3,839.95
-31	24/Jul/2016	10.00	82.50	160.00	36.75	19.90	108.00	32.50	9.00	31.75	208.00	14.90	3,839.95
-30	25/Jul/2016	10.00	81.50	160.00	37.25	19.95	105.00	32.25	8.50	32.00	207.00	14.75	3,846.75
-29	26/Jul/2016	10.00	82.00	160.00	37.50	19.70	106.00	32.75	8.20	32.25	205.00	14.60	3,881.35
-28	27/Jul/2016	9.95	82.50	161.00	38.75	19.50	105.00	32.50	8.20	32.75	205.00	14.60	3,910.90
-27	28/Jul/2016	10.00	82.50	160.00	39.00	19.05	105.00	32.25	8.55	32.75	208.00	14.45	3,935.31
-26	29/Jul/2016	10.05	82.50	156.00	38.00	19.00	101.00	32.00	8.85	32.25	209.00	14.50	3,936.64
-25	30/Jul/2016	10.05	82.50	156.00	38.00	19.00	101.00	32.00	8.85	32.25	209.00	14.50	3,936.64
-24	31/Jul/2016	10.05	82.50	156.00	38.00	19.00	101.00	32.00	8.85	32.25	209.00	14.50	3,936.64
-23	01/Aug/2016	10.05	82.00	158.00	37.50	19.00	105.00	32.00	8.70	32.00	209.00	14.50	3,935.83
-22	02/Aug/2016	10.00	82.00	160.00	37.50	19.15	102.00	32.00	8.65	32.25	208.00	14.55	3,961.47
-21	03/Aug/2016	10.00	82.50	159.00	38.00	19.45	107.00	31.50	8.65	31.75	209.00	14.45	3,972.54
-20	04/Aug/2016	10.00	82.00	161.00	38.00	19.15	108.00	31.50	8.75	31.25	209.00	14.40	3,937.55
-19	05/Aug/2016	10.00	82.00	161.00	38.00	19.15	108.00	31.50	8.75	31.25	209.00	14.40	3,937.55
-18	06/Aug/2016	10.00	82.00	161.00	38.00	19.15	108.00	31.50	8.75	31.25	209.00	14.40	3,937.55
-17	07/Aug/2016	9.85	82.50	163.00	38.00	19.05	108.00	32.00	8.70	32.25	209.00	14.35	3,943.96
-16	08/Aug/2016	9.85	82.00	163.00	38.00	19.30	108.00	32.25	8.60	32.00	209.00	14.20	3,934.26
-15	09/Aug/2016	9.85	82.00	160.00	38.00	19.25	105.00	32.50	8.30	32.50	207.00	14.40	3,930.75
-14	10/Aug/2016	9.85	82.00	160.00	37.50	18.45	105.00	32.50	8.00	32.25	207.00	14.40	3,929.57
-13	11/Aug/2016	9.90	80.00	160.00	37.75	18.30	102.00	32.50	7.55	31.75	209.00	14.40	3,921.41
-12	12/Aug/2016	9.95	80.00	160.00	38.25	17.40	102.00	32.50	7.45	31.75	208.00	14.40	3,925.58
-11	13/Aug/2016	9.95	80.00	160.00	38.25	17.40	102.00	32.50	7.45	31.75	208.00	14.40	3,925.58
-10	14/Aug/2016	9.95	80.00	160.00	38.25	17.40	102.00	32.50	7.45	31.75	208.00	14.40	3,925.58

-9	15/Aug/2016	9.90	80.00	160.00	38.25	17.00	103.00	32.50	7.50	31.25	206.00	14.35	3,929.79
-8	16/Aug/2016	9.90	80.00	160.00	38.50	17.05	103.00	32.50	7.55	30.50	208.00	14.35	3,970.46
-7	17/Aug/2016	9.85	81.00	164.00	38.50	16.25	102.00	32.75	7.55	29.50	208.00	14.40	3,979.47
-6	18/Aug/2016	9.90	80.50	161.00	38.25	16.20	102.00	32.75	7.75	30.00	208.00	14.30	3,971.74
-5	19/Aug/2016	9.80	80.00	160.00	37.75	16.05	102.00	32.50	7.60	30.50	208.00	14.10	3,949.14
-4	20/Aug/2016	9.80	80.00	160.00	37.75	16.05	102.00	32.50	7.60	30.50	208.00	14.10	3,949.14
-3	21/Aug/2016	9.80	80.00	160.00	37.75	16.05	102.00	32.50	7.60	30.50	208.00	14.10	3,949.14
-2	22/Aug/2016	9.85	80.00	160.00	37.00	16.05	103.00	32.25	7.80	29.75	206.00	13.60	3,900.01
-1	23/Aug/2016	9.85	80.00	160.00	36.25	15.65	106.00	32.50	7.75	28.75	206.00	13.25	3,916.93
0	24/Aug/2016	9.70	80.00	159.00	36.00	16.00	107.00	32.75	7.20	28.50	207.00	13.25	3,913.93
1	25/Aug/2016	8.85	73.50	142.00	32.75	15.45	96.50	30.00	7.00	26.50	204.00	11.95	3,704.68
2	26/Aug/2016	8.55	75.00	140.00	29.50	13.95	87.00	27.00	7.10	24.00	190.00	10.80	3,551.80
3	27/Aug/2016	8.55	75.00	140.00	29.50	13.95	87.00	27.00	7.10	24.00	190.00	10.80	3,551.80
4	28/Aug/2016	8.55	75.00	140.00	29.50	13.95	87.00	27.00	7.10	24.00	190.00	10.80	3,551.80
5	29/Aug/2016	8.70	72.50	138.00	26.75	13.00	78.50	24.50	7.05	24.00	190.00	9.75	3,444.44
6	30/Aug/2016	9.20	74.00	137.00	25.50	13.05	75.00	25.50	7.00	25.75	190.00	10.00	3,424.36
7	31/Aug/2016	9.80	76.50	142.00	27.50	14.20	82.50	27.75	6.95	28.00	191.00	11.00	3,519.32
8	01/Sep/2016	9.70	77.50	141.00	27.00	15.40	90.00	26.50	7.00	28.50	190.00	11.80	3,509.43
9	02/Sep/2016	9.65	78.00	141.00	26.50	16.65	82.50	26.50	7.00	27.75	191.00	11.45	3,485.42
10	03/Sep/2016	9.65	78.00	141.00	26.50	16.65	82.50	26.50	7.00	27.75	191.00	11.45	3,485.42
11	04/Sep/2016	9.65	78.00	141.00	26.50	16.65	82.50	26.50	7.00	27.75	191.00	11.45	3,485.42
12	05/Sep/2016	9.60	79.00	141.00	26.50	16.10	84.00	26.25	6.55	27.75	199.00	11.00	3,420.52
13	06/Sep/2016	9.20	80.00	141.00	26.00	16.10	84.00	26.25	6.65	27.75	197.00	11.00	3,420.86
14	07/Sep/2016	9.00	77.00	149.00	26.00	16.50	85.00	26.75	6.40	27.75	191.00	11.05	3,420.70
15	08/Sep/2016	8.95	76.00	140.00	26.25	16.45	85.00	27.00	6.40	27.50	191.00	11.25	3,422.56
16	09/Sep/2016	8.75	77.00	139.00	26.25	16.40	86.50	28.25	6.40	27.75	190.00	11.50	3,444.51
17	10/Sep/2016	8.75	77.00	139.00	26.25	16.40	86.50	28.25	6.40	27.75	190.00	11.50	3,444.51
18	11/Sep/2016	8.75	77.00	139.00	26.25	16.40	86.50	28.25	6.40	27.75	190.00	11.50	3,444.51
19	12/Sep/2016	8.75	77.00	139.00	26.25	16.40	86.50	28.25	6.40	27.75	190.00	11.50	3,444.51
20	13/Sep/2016	8.75	77.00	139.00	26.00	15.90	89.50	27.50	6.85	27.75	179.00	11.80	3,456.05
21	14/Sep/2016	8.75	76.00	140.00	25.50	16.00	89.50	27.50	6.95	27.00	186.00	11.90	3,447.72
22	15/Sep/2016	8.90	76.50	140.00	25.50	16.00	89.50	26.50	6.90	26.25	189.00	11.85	3,461.71
23	16/Sep/2016	8.70	79.00	138.00	25.50	16.00	87.50	26.25	6.75	25.75	189.00	11.85	3,458.79
24	17/Sep/2016	8.70	79.00	138.00	25.50	16.00	87.50	26.25	6.75	25.75	189.00	11.85	3,458.79
25	18/Sep/2016	8.70	79.00	138.00	25.50	16.00	87.50	26.25	6.75	25.75	189.00	11.85	3,458.79
26	19/Sep/2016	8.75	77.00	140.00	25.50	16.00	89.50	26.50	6.95	25.75	183.00	11.85	3,487.42
27	20/Sep/2016	8.65	77.00	139.00	25.75	16.00	88.00	26.00	6.80	24.75	181.00	11.85	3,487.88
28	21/Sep/2016	8.00	77.00	139.00	26.00	15.85	88.00	25.75	6.80	25.00	181.00	11.85	3,494.36
29	22/Sep/2016	8.10	76.00	139.00	26.50	15.90	88.00	25.75	6.50	25.50	185.00	11.90	3,517.19
30	23/Sep/2016	8.10	73.50	135.00	26.75	15.85	87.00	25.75	6.45	25.75	186.00	12.10	3,537.61
31	24/Sep/2016	8.10	73.50	135.00	26.75	15.85	87.00	25.75	6.45	25.75	186.00	12.10	3,537.61
32	25/Sep/2016	8.10	73.50	135.00	26.75	15.85	87.00	25.75	6.45	25.75	186.00	12.10	3,537.61
33	26/Sep/2016	8.05	75.50	139.00	26.75	15.75	85.50	25.25	6.45	25.75	185.00	12.00	3,542.78
34	27/Sep/2016	8.00	73.00	139.00	27.50	15.95	86.50	25.25	6.50	25.75	180.00	12.10	3,549.46
35	28/Sep/2016	7.90	73.00	135.00	28.50	15.90	86.00	25.50	6.85	25.50	175.00	12.00	3,535.01

36	29/Sep/2016	7.90	71.50	139.00	29.75	15.90	89.00	27.00	6.55	25.75	182.00	12.10	3,591.42
37	30/Sep/2016	8.15	71.50	139.00	30.75	15.95	88.00	28.00	6.65	25.75	180.00	12.35	3,623.23
38	01/Oct/2016	8.15	71.50	139.00	30.75	15.95	88.00	28.00	6.65	25.75	180.00	12.35	3,623.23
39	02/Oct/2016	8.15	71.50	139.00	30.75	15.95	88.00	28.00	6.65	25.75	180.00	12.35	3,623.23
40	03/Oct/2016	8.30	75.50	139.00	32.50	15.25	87.50	29.25	6.90	27.25	180.00	12.60	3,684.06
41	04/Oct/2016	8.50	75.50	140.00	31.00	15.90	88.00	29.00	6.95	26.75	180.00	12.50	3,660.56
42	05/Oct/2016	8.30	75.50	140.00	30.75	15.35	88.00	28.75	7.00	27.25	180.00	12.55	3,658.90
43	06/Oct/2016	8.20	76.00	140.00	30.00	15.60	88.00	28.25	6.95	26.50	180.00	12.45	3,644.92
44	07/Oct/2016	8.05	76.00	140.00	30.00	15.90	89.00	27.75	6.95	26.25	184.00	12.40	3,642.68
45	08/Oct/2016	8.05	76.00	140.00	30.00	15.90	89.00	27.75	6.95	26.25	184.00	12.40	3,642.68
46	09/Oct/2016	8.05	76.00	140.00	30.00	15.90	89.00	27.75	6.95	26.25	184.00	12.40	3,642.68
47	10/Oct/2016	8.05	79.00	139.00	29.75	15.75	89.00	27.75	6.95	26.50	180.00	12.65	3,648.71
48	11/Oct/2016	8.05	76.00	139.00	30.25	15.85	89.00	27.00	6.90	26.25	180.00	12.40	3,630.58
49	12/Oct/2016	8.10	76.50	139.00	30.25	15.95	89.00	27.00	6.95	26.00	181.00	12.40	3,627.43
50	13/Oct/2016	8.15	76.50	140.00	30.75	15.90	89.50	27.00	6.90	26.75	181.00	12.35	3,630.42

3. Appendix 3: Analysis of Abnormal Returns for Barclays Bank of Kenya

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.20%	0.20%	0.20%	0.12
-14	10/Aug/2020	-0.03%	-0.14%	0.14%	0.34%	0.09
-13	11/Aug/2020	-0.21%	-0.30%	0.81%	1.15%	0.51
-12	12/Aug/2020	0.11%	-0.02%	0.53%	1.67%	0.33
-11	13/Aug/2020	0.00%	-0.12%	0.12%	1.79%	0.07
-10	14/Aug/2020	0.00%	-0.12%	0.12%	1.91%	0.07
-9	15/Aug/2020	0.11%	-0.02%	-0.48%	1.42%	(0.30)
-8	16/Aug/2020	1.03%	0.79%	-0.79%	0.63%	(0.50)
-7	17/Aug/2020	0.23%	0.08%	-0.59%	0.04%	(0.37)
-6	18/Aug/2020	-0.19%	-0.29%	0.80%	0.84%	0.50
-5	19/Aug/2020	-0.57%	-0.62%	-0.39%	0.44%	(0.25)
-4	20/Aug/2020	0.00%	-0.12%	0.12%	0.56%	0.07
-3	21/Aug/2020	0.00%	-0.12%	0.12%	0.68%	0.07
-2	22/Aug/2020	-1.25%	-1.23%	1.73%	2.41%	1.09
-1	23/Aug/2020	0.43%	0.27%	-0.27%	2.14%	(0.17)
0	24/Aug/2020	-0.08%	-0.18%	-1.35%	0.79%	(0.85)
1	25/Aug/2020	-5.49%	-4.98%	-4.19%	-3.40%	(2.64)
2	26/Aug/2020	-4.21%	-3.85%	0.40%	-3.00%	0.25
3	27/Aug/2020	0.00%	-0.12%	0.12%	-2.88%	0.07
4	28/Aug/2020	0.00%	-0.12%	0.12%	-2.76%	0.07
5	29/Aug/2020	-3.07%	-2.83%	4.57%	1.81%	2.88
6	30/Aug/2020	-0.58%	-0.63%	6.22%	8.03%	3.92
7	31/Aug/2020	2.74%	2.30%	4.01%	12.05%	2.53
8	01/Sep/2020	-0.28%	-0.37%	-0.66%	11.39%	(0.42)
9	02/Sep/2020	-0.69%	-0.72%	0.21%	11.59%	0.13
10	03/Sep/2020	0.00%	-0.12%	0.12%	11.71%	0.07
11	04/Sep/2020	0.00%	-0.12%	0.12%	11.83%	0.07
12	05/Sep/2020	-1.88%	-1.78%	1.26%	13.09%	0.80
13	06/Sep/2020	0.01%	-0.11%	-4.15%	8.94%	(2.61)
14	07/Sep/2020	0.00%	-0.12%	-2.08%	6.86%	(1.31)
15	08/Sep/2020	0.05%	-0.07%	-0.49%	6.38%	(0.31)

4. Appendix 4: Analysis of Abnormal Returns for CFC Stanbic Bank

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.07%	0.07%	0.07%	0.05
-14	10/Aug/2020	-0.03%	-0.03%	0.03%	0.10%	0.02
-13	11/Aug/2020	-0.21%	-0.15%	-2.32%	-2.22%	(1.52)
-12	12/Aug/2020	0.11%	0.06%	-0.06%	-2.27%	(0.04)
-11	13/Aug/2020	0.00%	-0.01%	0.01%	-2.26%	0.01
-10	14/Aug/2020	0.00%	-0.01%	0.01%	-2.25%	0.01
-9	15/Aug/2020	0.11%	0.06%	-0.06%	-2.31%	(0.04)
-8	16/Aug/2020	1.03%	0.66%	-0.66%	-2.97%	(0.44)
-7	17/Aug/2020	0.23%	0.14%	1.11%	-1.87%	0.73
-6	18/Aug/2020	-0.19%	-0.14%	-0.48%	-2.35%	(0.31)
-5	19/Aug/2020	-0.57%	-0.39%	-0.24%	-2.58%	(0.15)
-4	20/Aug/2020	0.00%	-0.01%	0.01%	-2.57%	0.01
-3	21/Aug/2020	0.00%	-0.01%	0.01%	-2.56%	0.01
-2	22/Aug/2020	-1.25%	-0.84%	0.84%	-1.72%	0.55
-1	23/Aug/2020	0.43%	0.27%	-0.27%	-1.99%	(0.18)
0	24/Aug/2020	-0.08%	-0.06%	0.06%	-1.93%	0.04
1	25/Aug/2020	-5.49%	-3.63%	-4.85%	-6.78%	(3.18)
2	26/Aug/2020	-4.21%	-2.78%	4.81%	-1.97%	3.15
3	27/Aug/2020	0.00%	-0.01%	0.01%	-1.96%	0.01
4	28/Aug/2020	0.00%	-0.01%	0.01%	-1.95%	0.01
5	29/Aug/2020	-3.07%	-2.03%	-1.36%	-3.30%	(0.89)
6	30/Aug/2020	-0.58%	-0.40%	2.44%	-0.86%	1.60
7	31/Aug/2020	2.74%	1.79%	1.54%	0.68%	1.01
8	01/Sep/2020	-0.28%	-0.20%	1.50%	2.17%	0.98
9	02/Sep/2020	-0.69%	-0.46%	1.11%	3.28%	0.73
10	03/Sep/2020	0.00%	-0.01%	0.01%	3.29%	0.01
11	04/Sep/2020	0.00%	-0.01%	0.01%	3.30%	0.01
12	05/Sep/2020	-1.88%	-1.25%	2.52%	5.83%	1.66
13	06/Sep/2020	0.01%	-0.01%	1.26%	7.09%	0.83
14	07/Sep/2020	0.00%	-0.02%	-3.81%	3.28%	(2.50)
15	08/Sep/2020	0.05%	0.02%	-1.33%	1.95%	(0.87)

5. Appendix 5: Analysis of Abnormal Returns for DTB Bank of Kenya

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.14%	-1.72%	-1.72%	(1.14)
-14	10/Aug/2020	-0.03%	-0.07%	0.07%	-1.65%	0.05
-13	11/Aug/2020	-0.21%	-0.26%	0.26%	-1.39%	0.17
-12	12/Aug/2020	0.11%	0.07%	-0.07%	-1.46%	(0.04)
-11	13/Aug/2020	0.00%	-0.04%	0.04%	-1.41%	0.03
-10	14/Aug/2020	0.00%	-0.04%	0.04%	-1.37%	0.03
-9	15/Aug/2020	0.11%	0.07%	-0.07%	-1.44%	(0.05)
-8	16/Aug/2020	1.03%	1.03%	-1.03%	-2.46%	(0.68)
-7	17/Aug/2020	0.23%	0.19%	2.28%	-0.19%	1.51
-6	18/Aug/2020	-0.19%	-0.25%	-1.60%	-1.79%	(1.06)
-5	19/Aug/2020	-0.57%	-0.64%	0.01%	-1.78%	0.01
-4	20/Aug/2020	0.00%	-0.04%	0.04%	-1.73%	0.03
-3	21/Aug/2020	0.00%	-0.04%	0.04%	-1.69%	0.03
-2	22/Aug/2020	-1.25%	-1.35%	1.35%	-0.34%	0.89
-1	23/Aug/2020	0.43%	0.41%	-0.41%	-0.75%	(0.27)
0	24/Aug/2020	-0.08%	-0.12%	-0.50%	-1.25%	(0.33)
1	25/Aug/2020	-5.49%	-5.76%	-5.55%	-6.80%	(3.69)
2	26/Aug/2020	-4.21%	-4.43%	3.01%	-3.79%	2.00
3	27/Aug/2020	0.00%	-0.04%	0.04%	-3.75%	0.03
4	28/Aug/2020	0.00%	-0.04%	0.04%	-3.71%	0.03
5	29/Aug/2020	-3.07%	-3.24%	1.80%	-1.91%	1.19
6	30/Aug/2020	-0.58%	-0.65%	-0.08%	-1.99%	(0.05)
7	31/Aug/2020	2.74%	2.80%	0.78%	-1.20%	0.52
8	01/Sep/2020	-0.28%	-0.34%	-0.37%	-1.58%	(0.25)
9	02/Sep/2020	-0.69%	-0.76%	0.76%	-0.82%	0.50
10	03/Sep/2020	0.00%	-0.04%	0.04%	-0.77%	0.03
11	04/Sep/2020	0.00%	-0.04%	0.04%	-0.73%	0.03
12	05/Sep/2020	-1.88%	-2.00%	2.00%	1.27%	1.33
13	06/Sep/2020	0.01%	-0.03%	0.03%	1.30%	0.02
14	07/Sep/2020	0.00%	-0.05%	5.57%	6.87%	3.70
15	08/Sep/2020	0.05%	0.01%	-6.24%	0.62%	(4.15)

6. Appendix 6: Analysis of Abnormal Returns for Equity Bank of Kenya

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.25%	0.25%	0.25%	0.19
-14	10/Aug/2020	-0.03%	-0.13%	-1.20%	-0.95%	(0.91)
-13	11/Aug/2020	-0.21%	-0.50%	1.16%	0.21%	0.88
-12	12/Aug/2020	0.11%	0.16%	1.16%	1.37%	0.88
-11	13/Aug/2020	0.00%	-0.06%	0.06%	1.43%	0.05
-10	14/Aug/2020	0.00%	-0.06%	0.06%	1.49%	0.05
-9	15/Aug/2020	0.11%	0.16%	-0.16%	1.33%	(0.12)
-8	16/Aug/2020	1.03%	2.10%	-1.45%	-0.12%	(1.10)
-7	17/Aug/2020	0.23%	0.41%	-0.41%	-0.53%	(0.31)
-6	18/Aug/2020	-0.19%	-0.47%	-0.18%	-0.71%	(0.14)
-5	19/Aug/2020	-0.57%	-1.26%	-0.06%	-0.77%	(0.04)
-4	20/Aug/2020	0.00%	-0.06%	0.06%	-0.71%	0.05
-3	21/Aug/2020	0.00%	-0.06%	0.06%	-0.64%	0.05
-2	22/Aug/2020	-1.25%	-2.69%	0.68%	0.04%	0.52
-1	23/Aug/2020	0.43%	0.85%	-2.89%	-2.86%	(2.20)
0	24/Aug/2020	-0.08%	-0.22%	-0.47%	-3.33%	(0.36)
1	25/Aug/2020	-5.49%	-11.58%	2.12%	-1.20%	1.61
2	26/Aug/2020	-4.21%	-8.90%	-1.55%	-2.76%	(1.18)
3	27/Aug/2020	0.00%	-0.06%	0.06%	-2.69%	0.05
4	28/Aug/2020	0.00%	-0.06%	0.06%	-2.63%	0.05
5	29/Aug/2020	-3.07%	-6.50%	-3.29%	-5.92%	(2.49)
6	30/Aug/2020	-0.58%	-1.29%	-3.50%	-9.42%	(2.65)
7	31/Aug/2020	2.74%	5.67%	1.88%	-7.54%	1.42
8	01/Sep/2020	-0.28%	-0.65%	-1.18%	-8.72%	(0.90)
9	02/Sep/2020	-0.69%	-1.50%	-0.37%	-9.09%	(0.28)
10	03/Sep/2020	0.00%	-0.06%	0.06%	-9.03%	0.05
11	04/Sep/2020	0.00%	-0.06%	0.06%	-8.96%	0.05
12	05/Sep/2020	-1.88%	-4.00%	4.00%	-4.96%	3.04
13	06/Sep/2020	0.01%	-0.04%	-1.86%	-6.82%	(1.41)
14	07/Sep/2020	0.00%	-0.07%	0.07%	-6.75%	0.05
15	08/Sep/2020	0.05%	0.05%	0.91%	-5.85%	0.69

7. Appendix 7: Analysis of Abnormal Returns for HF Bank of Kenya

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.23%	-0.03%	-0.03%	(0.01)
-14	10/Aug/2020	-0.03%	-0.17%	-4.07%	-4.10%	(1.88)
-13	11/Aug/2020	-0.21%	-0.35%	-0.47%	-4.57%	(0.22)
-12	12/Aug/2020	0.11%	-0.03%	-5.01%	-9.58%	(2.31)
-11	13/Aug/2020	0.00%	-0.14%	0.14%	-9.44%	0.07
-10	14/Aug/2020	0.00%	-0.14%	0.14%	-9.29%	0.07
-9	15/Aug/2020	0.11%	-0.03%	-2.29%	-11.59%	(1.06)
-8	16/Aug/2020	1.03%	0.89%	-0.60%	-12.18%	(0.28)
-7	17/Aug/2020	0.23%	0.09%	-4.89%	-17.07%	(2.25)
-6	18/Aug/2020	-0.19%	-0.34%	0.03%	-17.05%	0.01
-5	19/Aug/2020	-0.57%	-0.71%	-0.22%	-17.26%	(0.10)
-4	20/Aug/2020	0.00%	-0.14%	0.14%	-17.12%	0.07
-3	21/Aug/2020	0.00%	-0.14%	0.14%	-16.98%	0.07
-2	22/Aug/2020	-1.25%	-1.40%	1.40%	-15.58%	0.64
-1	23/Aug/2020	0.43%	0.29%	-2.82%	-18.40%	(1.30)
0	24/Aug/2020	-0.08%	-0.22%	2.43%	-15.97%	1.12
1	25/Aug/2020	-5.49%	-5.65%	2.15%	-13.82%	0.99
2	26/Aug/2020	-4.21%	-4.37%	-5.85%	-19.67%	(2.70)
3	27/Aug/2020	0.00%	-0.14%	0.14%	-19.52%	0.07
4	28/Aug/2020	0.00%	-0.14%	0.14%	-19.38%	0.07
5	29/Aug/2020	-3.07%	-3.22%	-3.83%	-23.22%	(1.77)
6	30/Aug/2020	-0.58%	-0.73%	1.11%	-22.11%	0.51
7	31/Aug/2020	2.74%	2.60%	5.84%	-16.26%	2.69
8	01/Sep/2020	-0.28%	-0.42%	8.54%	-7.73%	3.93
9	02/Sep/2020	-0.69%	-0.83%	8.63%	0.91%	3.98
10	03/Sep/2020	0.00%	-0.14%	0.14%	1.05%	0.07
11	04/Sep/2020	0.00%	-0.14%	0.14%	1.19%	0.07
12	05/Sep/2020	-1.88%	-2.03%	-1.33%	-0.14%	(0.61)
13	06/Sep/2020	0.01%	-0.13%	0.13%	-0.01%	0.06
14	07/Sep/2020	0.00%	-0.15%	2.60%	2.59%	1.20
15	08/Sep/2020	0.05%	-0.09%	-0.22%	2.37%	(0.10)

8. Appendix 8: Analysis of Abnormal Returns for I & M Bank of Kenya

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.20%	-2.61%	-2.61%	(1.24)
-14	10/Aug/2020	-0.03%	-0.09%	0.09%	-2.53%	0.04
-13	11/Aug/2020	-0.21%	-0.43%	-2.46%	-4.99%	(1.17)
-12	12/Aug/2020	0.11%	0.18%	-0.18%	-5.17%	(0.09)
-11	13/Aug/2020	0.00%	-0.03%	0.03%	-5.14%	0.01
-10	14/Aug/2020	0.00%	-0.03%	0.03%	-5.12%	0.01
-9	15/Aug/2020	0.11%	0.18%	0.79%	-4.32%	0.38
-8	16/Aug/2020	1.03%	1.98%	-1.98%	-6.31%	(0.94)
-7	17/Aug/2020	0.23%	0.42%	-1.39%	-7.70%	(0.66)
-6	18/Aug/2020	-0.19%	-0.41%	0.41%	-7.29%	0.19
-5	19/Aug/2020	-0.57%	-1.14%	1.14%	-6.15%	0.54
-4	20/Aug/2020	0.00%	-0.03%	0.03%	-6.12%	0.01
-3	21/Aug/2020	0.00%	-0.03%	0.03%	-6.09%	0.01
-2	22/Aug/2020	-1.25%	-2.48%	3.45%	-2.64%	1.63
-1	23/Aug/2020	0.43%	0.82%	2.05%	-0.59%	0.97
0	24/Aug/2020	-0.08%	-0.18%	1.12%	0.53%	0.53
1	25/Aug/2020	-5.49%	-10.77%	0.44%	0.97%	0.21
2	26/Aug/2020	-4.21%	-8.27%	-2.10%	-1.13%	(0.99)
3	27/Aug/2020	0.00%	-0.03%	0.03%	-1.10%	0.01
4	28/Aug/2020	0.00%	-0.03%	0.03%	-1.07%	0.01
5	29/Aug/2020	-3.07%	-6.03%	-4.25%	-5.33%	(2.01)
6	30/Aug/2020	-0.58%	-1.17%	-3.39%	-8.72%	(1.60)
7	31/Aug/2020	2.74%	5.32%	4.21%	-4.51%	1.99
8	01/Sep/2020	-0.28%	-0.58%	9.28%	4.77%	4.39
9	02/Sep/2020	-0.69%	-1.37%	-7.33%	-2.56%	(3.47)
10	03/Sep/2020	0.00%	-0.03%	0.03%	-2.53%	0.01
11	04/Sep/2020	0.00%	-0.03%	0.03%	-2.50%	0.01
12	05/Sep/2020	-1.88%	-3.70%	5.50%	3.00%	2.60
13	06/Sep/2020	0.01%	-0.01%	0.01%	3.01%	0.00
14	07/Sep/2020	0.00%	-0.04%	1.22%	4.23%	0.58
15	08/Sep/2020	0.05%	0.08%	-0.08%	4.15%	(0.04)

9. Appendix 9: Analysis of Abnormal Returns for KCB

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.22%	0.99%	0.99%	0.68
-14	10/Aug/2020	-0.03%	-0.10%	0.10%	1.10%	0.07
-13	11/Aug/2020	-0.21%	-0.46%	0.46%	1.55%	0.31
-12	12/Aug/2020	0.11%	0.17%	-0.17%	1.38%	(0.11)
-11	13/Aug/2020	0.00%	-0.04%	0.04%	1.43%	0.03
-10	14/Aug/2020	0.00%	-0.04%	0.04%	1.47%	0.03
-9	15/Aug/2020	0.11%	0.17%	-0.17%	1.30%	(0.12)
-8	16/Aug/2020	1.03%	2.01%	-2.01%	-0.70%	(1.37)
-7	17/Aug/2020	0.23%	0.41%	0.36%	-0.35%	0.24
-6	18/Aug/2020	-0.19%	-0.43%	0.43%	0.08%	0.29
-5	19/Aug/2020	-0.57%	-1.18%	0.41%	0.50%	0.28
-4	20/Aug/2020	0.00%	-0.04%	0.04%	0.54%	0.03
-3	21/Aug/2020	0.00%	-0.04%	0.04%	0.58%	0.03
-2	22/Aug/2020	-1.25%	-2.53%	1.76%	2.35%	1.20
-1	23/Aug/2020	0.43%	0.82%	-0.05%	2.30%	(0.03)
0	24/Aug/2020	-0.08%	-0.20%	0.96%	3.26%	0.65
1	25/Aug/2020	-5.49%	-10.98%	2.21%	5.47%	1.50
2	26/Aug/2020	-4.21%	-8.43%	-2.11%	3.36%	(1.43)
3	27/Aug/2020	0.00%	-0.04%	0.04%	3.41%	0.03
4	28/Aug/2020	0.00%	-0.04%	0.04%	3.45%	0.03
5	29/Aug/2020	-3.07%	-6.15%	-3.57%	-0.12%	(2.43)
6	30/Aug/2020	-0.58%	-1.21%	5.21%	5.09%	3.54
7	31/Aug/2020	2.74%	5.40%	3.06%	8.15%	2.08
8	01/Sep/2020	-0.28%	-0.60%	-4.01%	4.14%	(2.73)
9	02/Sep/2020	-0.69%	-1.41%	1.41%	5.55%	0.96
10	03/Sep/2020	0.00%	-0.04%	0.04%	5.59%	0.03
11	04/Sep/2020	0.00%	-0.04%	0.04%	5.64%	0.03
12	05/Sep/2020	-1.88%	-3.78%	2.84%	8.47%	1.93
13	06/Sep/2020	0.01%	-0.02%	0.02%	8.50%	0.02
14	07/Sep/2020	0.00%	-0.05%	1.94%	10.44%	1.32
15	08/Sep/2020	0.05%	0.06%	0.87%	11.30%	0.59

10. Appendix 10: Analysis of Abnormal Returns for National Bank of Kenya

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.35%	-3.20%	-3.20%	(1.29)
-14	10/Aug/2020	-0.03%	-0.34%	-3.34%	-6.55%	(1.35)
-13	11/Aug/2020	-0.21%	-0.37%	-5.42%	-11.97%	(2.19)
-12	12/Aug/2020	0.11%	-0.32%	-1.02%	-12.98%	(0.41)
-11	13/Aug/2020	0.00%	-0.33%	0.33%	-12.65%	0.13
-10	14/Aug/2020	0.00%	-0.33%	0.33%	-12.32%	0.13
-9	15/Aug/2020	0.11%	-0.32%	0.99%	-11.33%	0.40
-8	16/Aug/2020	1.03%	-0.18%	0.84%	-10.49%	0.34
-7	17/Aug/2020	0.23%	-0.30%	0.30%	-10.19%	0.12
-6	18/Aug/2020	-0.19%	-0.36%	2.98%	-7.21%	1.20
-5	19/Aug/2020	-0.57%	-0.42%	-1.53%	-8.74%	(0.62)
-4	20/Aug/2020	0.00%	-0.33%	0.33%	-8.41%	0.13
-3	21/Aug/2020	0.00%	-0.33%	0.33%	-8.07%	0.13
-2	22/Aug/2020	-1.25%	-0.53%	3.12%	-4.95%	1.26
-1	23/Aug/2020	0.43%	-0.27%	-0.37%	-5.32%	(0.15)
0	24/Aug/2020	-0.08%	-0.35%	-7.02%	-12.34%	(2.83)
1	25/Aug/2020	-5.49%	-1.17%	-1.64%	-13.98%	(0.66)
2	26/Aug/2020	-4.21%	-0.98%	2.40%	-11.59%	0.97
3	27/Aug/2020	0.00%	-0.33%	0.33%	-11.25%	0.13
4	28/Aug/2020	0.00%	-0.33%	0.33%	-10.92%	0.13
5	29/Aug/2020	-3.07%	-0.80%	0.10%	-10.82%	0.04
6	30/Aug/2020	-0.58%	-0.42%	-0.29%	-11.11%	(0.12)
7	31/Aug/2020	2.74%	0.08%	-0.80%	-11.91%	(0.32)
8	01/Sep/2020	-0.28%	-0.38%	1.09%	-10.82%	0.44
9	02/Sep/2020	-0.69%	-0.44%	0.44%	-10.38%	0.18
10	03/Sep/2020	0.00%	-0.33%	0.33%	-10.04%	0.13
11	04/Sep/2020	0.00%	-0.33%	0.33%	-9.71%	0.13
12	05/Sep/2020	-1.88%	-0.62%	-6.02%	-15.73%	(2.43)
13	06/Sep/2020	0.01%	-0.33%	1.85%	-13.89%	0.75
14	07/Sep/2020	0.00%	-0.34%	-3.50%	-17.38%	(1.41)
15	08/Sep/2020	0.05%	-0.33%	0.33%	-17.06%	0.13

11. Appendix 11: Analysis of Abnormal Returns for NIC Bank

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.30%	1.85%	1.85%	0.98
-14	10/Aug/2020	-0.03%	-0.22%	-0.55%	1.30%	(0.29)
-13	11/Aug/2020	-0.21%	-0.46%	-1.10%	0.19%	(0.59)
-12	12/Aug/2020	0.11%	-0.04%	0.04%	0.23%	0.02
-11	13/Aug/2020	0.00%	-0.18%	0.18%	0.41%	0.10
-10	14/Aug/2020	0.00%	-0.18%	0.18%	0.59%	0.10
-9	15/Aug/2020	0.11%	-0.03%	-1.55%	-0.97%	(0.83)
-8	16/Aug/2020	1.03%	1.21%	-3.64%	-4.60%	(1.93)
-7	17/Aug/2020	0.23%	0.13%	-3.46%	-8.06%	(1.84)
-6	18/Aug/2020	-0.19%	-0.44%	2.12%	-5.94%	1.13
-5	19/Aug/2020	-0.57%	-0.95%	2.60%	-3.34%	1.38
-4	20/Aug/2020	0.00%	-0.18%	0.18%	-3.16%	0.10
-3	21/Aug/2020	0.00%	-0.18%	0.18%	-2.98%	0.10
-2	22/Aug/2020	-1.25%	-1.86%	-0.63%	-3.61%	(0.33)
-1	23/Aug/2020	0.43%	0.40%	-3.82%	-7.43%	(2.03)
0	24/Aug/2020	-0.08%	-0.28%	-0.59%	-8.02%	(0.31)
1	25/Aug/2020	-5.49%	-7.57%	0.29%	-7.73%	0.16
2	26/Aug/2020	-4.21%	-5.85%	-4.06%	-11.79%	(2.16)
3	27/Aug/2020	0.00%	-0.18%	0.18%	-11.61%	0.10
4	28/Aug/2020	0.00%	-0.18%	0.18%	-11.43%	0.10
5	29/Aug/2020	-3.07%	-4.31%	4.31%	-7.12%	2.29
6	30/Aug/2020	-0.58%	-0.97%	8.00%	0.88%	4.25
7	31/Aug/2020	2.74%	3.50%	4.88%	5.76%	2.59
8	01/Sep/2020	-0.28%	-0.56%	2.33%	8.08%	1.24
9	02/Sep/2020	-0.69%	-1.10%	-1.56%	6.52%	(0.83)
10	03/Sep/2020	0.00%	-0.18%	0.18%	6.70%	0.10
11	04/Sep/2020	0.00%	-0.18%	0.18%	6.88%	0.10
12	05/Sep/2020	-1.88%	-2.71%	2.71%	9.58%	1.44
13	06/Sep/2020	0.01%	-0.17%	0.17%	9.75%	0.09
14	07/Sep/2020	0.00%	-0.19%	0.19%	9.93%	0.10
15	08/Sep/2020	0.05%	-0.11%	-0.80%	9.14%	(0.42)

12. Appendix 12: Analysis of Abnormal Returns for Standard Chartered Bank

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.11%	-0.85%	-0.85%	(0.55)
-14	10/Aug/2020	-0.03%	-0.08%	0.08%	-0.77%	0.05
-13	11/Aug/2020	-0.21%	-0.16%	1.12%	0.36%	0.72
-12	12/Aug/2020	0.11%	-0.02%	-0.46%	-0.10%	(0.29)
-11	13/Aug/2020	0.00%	-0.07%	0.07%	-0.03%	0.05
-10	14/Aug/2020	0.00%	-0.07%	0.07%	0.04%	0.05
-9	15/Aug/2020	0.11%	-0.02%	-0.94%	-0.90%	(0.60)
-8	16/Aug/2020	1.03%	0.38%	0.59%	-0.31%	0.38
-7	17/Aug/2020	0.23%	0.03%	-0.03%	-0.34%	(0.02)
-6	18/Aug/2020	-0.19%	-0.16%	0.16%	-0.19%	0.10
-5	19/Aug/2020	-0.57%	-0.32%	0.32%	0.14%	0.21
-4	20/Aug/2020	0.00%	-0.07%	0.07%	0.21%	0.05
-3	21/Aug/2020	0.00%	-0.07%	0.07%	0.28%	0.05
-2	22/Aug/2020	-1.25%	-0.62%	-0.35%	-0.07%	(0.22)
-1	23/Aug/2020	0.43%	0.12%	-0.12%	-0.19%	(0.08)
0	24/Aug/2020	-0.08%	-0.10%	0.59%	0.40%	0.38
1	25/Aug/2020	-5.49%	-2.48%	1.02%	1.43%	0.66
2	26/Aug/2020	-4.21%	-1.92%	-5.19%	-3.76%	(3.33)
3	27/Aug/2020	0.00%	-0.07%	0.07%	-3.69%	0.05
4	28/Aug/2020	0.00%	-0.07%	0.07%	-3.62%	0.05
5	29/Aug/2020	-3.07%	-1.42%	1.42%	-2.20%	0.91
6	30/Aug/2020	-0.58%	-0.33%	0.33%	-1.87%	0.21
7	31/Aug/2020	2.74%	1.13%	-0.61%	-2.48%	(0.39)
8	01/Sep/2020	-0.28%	-0.19%	-0.33%	-2.81%	(0.21)
9	02/Sep/2020	-0.69%	-0.37%	0.90%	-1.91%	0.58
10	03/Sep/2020	0.00%	-0.07%	0.07%	-1.84%	0.05
11	04/Sep/2020	0.00%	-0.07%	0.07%	-1.77%	0.05
12	05/Sep/2020	-1.88%	-0.90%	5.00%	3.23%	3.21
13	06/Sep/2020	0.01%	-0.07%	-0.94%	2.29%	(0.61)
14	07/Sep/2020	0.00%	-0.07%	-3.02%	-0.73%	(1.94)
15	08/Sep/2020	0.05%	-0.05%	0.05%	-0.68%	0.03

13. Appendix 13: Analysis of Abnormal Returns for Co-operative Bank of Kenya

Period	Date	R[m]	E[r]	AR	CAR	T-test
-15	09/Aug/2020	-0.09%	-0.28%	1.68%	1.68%	1.20
-14	10/Aug/2020	-0.03%	-0.16%	0.16%	1.83%	0.11
-13	11/Aug/2020	-0.21%	-0.52%	0.52%	2.36%	0.38
-12	12/Aug/2020	0.11%	0.12%	-0.12%	2.23%	(0.09)
-11	13/Aug/2020	0.00%	-0.09%	0.09%	2.33%	0.07
-10	14/Aug/2020	0.00%	-0.09%	0.09%	2.42%	0.07
-9	15/Aug/2020	0.11%	0.13%	-0.47%	1.95%	(0.34)
-8	16/Aug/2020	1.03%	2.03%	-2.03%	-0.08%	(1.46)
-7	17/Aug/2020	0.23%	0.37%	-0.03%	-0.11%	(0.02)
-6	18/Aug/2020	-0.19%	-0.50%	-0.20%	-0.31%	(0.14)
-5	19/Aug/2020	-0.57%	-1.27%	-0.13%	-0.44%	(0.10)
-4	20/Aug/2020	0.00%	-0.09%	0.09%	-0.35%	0.07
-3	21/Aug/2020	0.00%	-0.09%	0.09%	-0.25%	0.07
-2	22/Aug/2020	-1.25%	-2.68%	-0.93%	-1.18%	(0.67)
-1	23/Aug/2020	0.43%	0.80%	-3.41%	-4.59%	(2.44)
0	24/Aug/2020	-0.08%	-0.25%	0.25%	-4.34%	0.18
1	25/Aug/2020	-5.49%	-11.45%	1.12%	-3.22%	0.80
2	26/Aug/2020	-4.21%	-8.80%	-1.32%	-4.53%	(0.94)
3	27/Aug/2020	0.00%	-0.09%	0.09%	-4.44%	0.07
4	28/Aug/2020	0.00%	-0.09%	0.09%	-4.34%	0.07
5	29/Aug/2020	-3.07%	-6.44%	-3.79%	-8.13%	(2.72)
6	30/Aug/2020	-0.58%	-1.30%	3.83%	-4.30%	2.75
7	31/Aug/2020	2.74%	5.56%	3.97%	-0.32%	2.85
8	01/Sep/2020	-0.28%	-0.68%	7.70%	7.37%	5.52
9	02/Sep/2020	-0.69%	-1.51%	-1.50%	5.87%	(1.07)
10	03/Sep/2020	0.00%	-0.09%	0.09%	5.97%	0.07
11	04/Sep/2020	0.00%	-0.09%	0.09%	6.06%	0.07
12	05/Sep/2020	-1.88%	-3.98%	-0.03%	6.03%	(0.02)
13	06/Sep/2020	0.01%	-0.07%	0.07%	6.11%	0.05
14	07/Sep/2020	0.00%	-0.10%	0.56%	6.67%	0.40
15	08/Sep/2020	0.05%	0.02%	1.78%	8.44%	1.27