

**THE EFFECTS OF INTEREST RATE CAPPING ON SHARE
RETURNS OF COMMERCIAL BANKS AT THE NAIROBI
SECURITIES EXCHANGE**

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DECLARATION

This research project is my original work and has been not presented for a degree in any other university.

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DEDICATION

This work is dedicated to my family who has been very understanding and supportive throughout my studies. To my fellow classmates for their constructive contribution and to my supervisor Dan Chirchir for his consistent guidance and mentorship

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ABBREVIATIONS AND ACRONYMS

EPS Earnings per Share

FEM Fixed Effect Model

GDP Gross Domestic Product

NASI Nairobi Securities Exchange All-Share Index

NSE Nairobi Securities Exchange

PCSEs Panel Corelated Standard Errors

REM Random Effect Model

SPSS Statistical Package for Social Studies

ABSTRACT

The study evaluated whether returns to stocks of commercial banks trading at the Nairobi Securities Exchange were majorly impacted by interest cap law. The study is based on asset pricing traditional theories such as; Arbitrage Pricing theory, Efficient Market Hypothesis theory and Rational Expectation theory. Observational study type was adopted with study's target population involving commercial banks trading shares at the NSE. The listed commercial banks are 11 in total. This paper utilized secondary data. Secondary data gathered comprised of daily share prices, Nairobi Securities Exchange All Share Index for. The information covered a period of fifteen days, that is, seven days before and seven days after the event. The data was sourced from Nairobi Securities Exchange. Data collected was evaluated using measures of central tendency and dispersal, trend analysis, paired t-test and fixed effect regression model using STATA. The paired t-test test showed that the returns of stocks of concerned commercial banks was significant given that there was a major difference in the mean AR pre and post interest cap. The ANOVA also showed that returns of stocks of commercial banks that were trading at the NSE were strongly explained by interest cap event in the events window of seven days before and seven days after the interest cap. Finally, the regression coefficients showed that the returns of the concerned commercial banks were majorly affected by the introduction of interest cap. The study thus concluded that the returns of stock of concerned commercial banks as measured by absolute returns had changed significantly from the time the news was announced of the president signing the bill into law. The returns of stock of commercial banks trading at the NSE were majorly explained by interest cap and that the returns of individual stocks deviated more away from the market returns in the post interest cap days than pre-interest cap days. The study recommended that commercial banks should lend more to the government through purchase of treasury bills and bonds that are not affected by the interest cap. Further, the investing public who hold stocks of commercial banks trading at the NSE should consider offloading such stock. Finally, the government through the legislature should avoid introducing interest caps in Kenya given that such regulations affect the business environment by discouraging commercial banks to lending to the SMEs.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Information has been the key driving factor for investors as they are able to analysis market patterns in order to make valuable decision on the investment options for maximum returns. The rise and fall of share prices in the stock market will be key for investors in measuring their returns based on a particular market index. This is often call volatility and riskier securities will have higher volatility. The contributing factors of share price volatility may include the following; changes in inflation patterns, news on profits of the company or dividends, earnings predictions, product recall, and introduction of latest commodities, signing of new contracts, mergers and takeovers, structural changes in management as well as scandals. Amarasighe (2015), and Bernard, Boyle, and Gornall (2011) were in agreement that lack of interest cap ends up in higher interest rates, consequently reducing the returns of investors in the stock market; inflicting higher volatility of share prices. However, different scholars such as Hoffmann (2014) and Nkwoma (2014) argue that an introduction n of interest caps reduces interest rates, consequently increasing lending rates and returns; inflicting lower volatility of the share market price.

The study is based on asset pricing traditional theories such as; Efficient Market Hypothesis theory, Rational Expectation theory and the Arbitrage Pricing theory. The Efficient Market Hypothesis theory by Eugen Fama in the 1960s regards stocks as trading in their fair value in the securities markets; consequently, creating it tough for investors

.to trade stocks at overstated prices. John F. Muth in the 1960s come up with Rational Expectation theory in which he proposed that individuals are making their financial decisions based on their rationality, available information as well as their previous experiences. The theory of arbitrage pricing proposed by Stephen Ross in the 1970s is an asset pricing model that argues that returns on assets are often estimated through the assessment of the relationship of the expected returns. The model is vital to the concept of volatility of share price since investors can apply the models in the pursuing of value investing to select single out securities that might have been mistakenly labelled with wrong prices.

Several occasions of interest rate capping in Kenya have been tried but have received different results. The difficulty of capping interest officially began in 2000, when Donda Bill attempted to inquire into interest rates (Kavwele, Ariemba & Evusa, 2018). He, however, failed to receive strong support from financial institution and other major stakeholders. Despite this trial, a fresh attempt was made through the parliament bill in 2015, which was assented by the president and signed a law in August 2016 (Mbua, 2017). The bill granted an upper limit and cautions the borrowers to grasp the interest they are given for their deposits. The provision led to the setting of interest rates ceiling for lending at 4 percent above that of the Central Bank and the floor interest rates of deposits at 70 percent that of Central Bank Rate (Mbua, 2017). Despite all the efforts to formulate and implement interest rate capping regulations, there was limited research to display the relationship the impact of interest capping on share returns. The paper sought to provide valuable empirical information on interest rate capping as well as how it affects the returns of the share prices of commercial banks listed at Nairobi Securities

Exchange.

1.1.1 Interest Rate Capping

The capping of interest rate was defined by Goldsmith and Martin (2014) as the setting of a limit on the extent to which an interest rate can go up. Drew and Dollery (2015) view it as allowing interest rates to fluctuate but setting levels to which they cannot surpass. Moreover, Delbecque (2011) describes it as setting an interest rate ceiling as a regulatory precaution that limits financial charging interests beyond a stated level. Capping of interest rates are set by the state as an intervention either political or economic to supply support to a selected industry following the identification of what could be thought-about to be a market failure.

In keeping with Goldsmith and Martin (2014), interest caps are set on the notion that financial institutions make excessively high returns by imposing outrageous interest to the customers. The four indicators of interest rate cap include; the cost of fund, overheads, non-performing loans as well as the profit (Drew & Dollery, 2015). Interest caps ensure that the minimum cost based on the above indicators are met, at the same time protecting clients from unnecessary exploitation. As a major challenge, interest capping is perceived to bring disruption in the market; consequently, limiting banks and other financial entities from providing the low-income population with credit facilities (Goldsmith & Martin, 2014).

1.1.2 Share Price Returns

Prices of shares generally will rise or fall. Hussainey, Mgbame & Chijoke-Mgbame (2011) regards it as the statistical measure of dispersion in the returns of a given market

or security index Proffitt (2013) merely puts it as the massive swings in share prices that may occur in each direction.

Therefore, stock returns can be thought of being the dispersion in share price either a plus or a minus from the initial price. It is generally expressed as a percentage of the changes in the price of stocks from stocks inception price. In a strong market hypothesis, all news whether private or public is incorporated in prices of shares (Mwangi & Mwiti, 2015). The returns in the securities market enables ones to predict the stock performance since they are forward-looking and investors can speculate changes in future cash flows and discount rates. Share price volatility drives several parties with various financial background to engage in investing in the market given that their return needs are met by weighted average cost of capital WACC (Wang, 2012).

Determination of the stock returns is dependent on how investors execute trades based on information in the securities market to maximize their returns. The uncertainty in the market affects the market price which in turn impact on uptake of shares (Ibrahim and Omosola, 2013). Prices of shares can be either overpriced or under-priced and thus, the investors buy stock that is undervalued with belief that in the near future the prices of the stock will surge up hence paving way for the realization of capital gains. There will be selling of stock that is overvalued where there is a speculation that there will be a surge in market prices in the future with an effort to evade losses in the future. Applying the efficient market hypothesis, stock prices mirror all available data regarding the shares and furnishes an impartial estimation share returns (Robert and Mizik, 2009). The stock value

is roughly calculated based on psychological, technical and fundamental analysis by stock traders and investors. While focusing on fundamental analysis, Gottwald (2012) noted that the market price of shares reveals their actual value. This paper utilized abnormal returns to measure stock returns.

1.1.3 Interest Rate Capping and Share Price Returns

Xia and Zhou (2007) view share prices as an absolute reflection of the available information. Financial assets tend to trade with low costs in the liquid wholesale market. In this market, share prices represent the instant market perception, hence any investor purchasing a stock share should expect to have a stable rate of return. However, the EMH theory generally holds on the existence of an efficient market with stock prices that represent every available information (Dedi & Yavas, 2016). An efficient market has several smart investors with the sole intention of maximizing profits. An immediate fluctuation in the stock prices without bias to any new information indicates an efficient market; hence, the security prices would be an appropriate estimation of the intrinsic value, and therefore, there would be no ambiguous returns. In many countries such as Nicaragua, interest capping made financial institutions reduce their frequencies of giving out credit facility especially to the rural areas.

Interest rates directly affect the exercises of banks in view of the solid conviction that they influence the monetary exhibition banks which thusly sway on share prices of a company (Priti, 2016). The bank assets valuation is the main factor with regards to the bank stocks valuation ensued by the ascent and falling of rates of interest (Rosenbaum,

2015). Generally, retail banks bring in cash by depending on the relation connecting financing costs, deposits and the credits provided to customers. Subsequently, It is a good idea for the monetary examiners to zero in on the stocks of banks because the rates of interest increase or decrease. Many bank disappointments were documented from 1970 to 1980s in the United States, taking into consideration sky-high interest rates and the interest rate sensitivity (Priti, 2016).

Interest rate changes are an important factor for financial backers and investors because of its effects on the general bank stocks valuation. Likewise, it characterizes the degree of dangers which the bank is confronting. A far-reaching comprehension of what loan cost means for the bank stocks valuation and also the general exchange rates is vital where one thinks about that because certain commercial banks have unfamiliar activities (Zaman, et al., 2013). The interest spread captured by the difference between average deposit rates and average lending rates forms the income of the commercial banks. A lofty yield bend implies the business generated by banks exorbitant interests (Tran, 2013).The performance of business banks relies upon a wide scope of business; however, interest rates actually assume a critical part in deciding the financial performance of banks (Tran, 2013).

The stock market is touchy to changes in loan fees and rates of interest since it is the apparent reason for any valuation of value. This is due to the way that stock qualities are assessed to the determined cash flow, and the loan cost is utilized to get the forecasted value to the current worth. The basic effect of financing costs in deciding the commercial

banks performance clarifies why regulation by the government is one of the variables that influence the profit from bank stocks (Nkwoma, 2014). Different elements that influence the profit from bank stocks incorporate monetary dangers, market financing costs, and affectability to other investors' decisions

1.1.4 Nairobi Securities Exchange

According to Kithinji, Oluoch, and Mugo (2014), Nairobi Securities Exchange (NSE) was self-listed and demutualized in 2014. The stock exchange carries out its activities with the Capital Markets of Kenya jurisdictions to provide world-class trading space for investors in search of exposure in the nation's rapidly developing economy. It has and continues to take part in a major role in the economic development and growth of a country by inculcating the investing and saving culture and by providing both local and foreign institutions with cost-effective capital (Omondi & Muturi, 2013).

Nairobi Securities Exchange is situated in Nairobi; and since its establishment in 1954 (Kithinji, Oluoch, and Mugo, 2014). It began its operation as a non-mandatory assembly of stockbrokers within the community of Europeans that was registered as had been provided for by the Societies Act during the colonial era. NSE is governed by an eleven-member Board of Directors and has opened its ownership to investors; with Standard Chartered Kenya Nominees as the major shareholders followed by Cfc Stanbic, Investor Compensation Fund Board, and Cabinet Secretary Treasury of Kenya respectively (Omondi&Muturi, 2013).

Since its establishment, Nairobi Securities Exchange has implemented several developments to provide an all-inclusive measure of the stock market performance. For

instance, in 2008 the entity came up with the Nairobi Securities Exchange All-Share Index of 100, not only as of the market capitalization-weighted index but also as the Kenyan stock market base value (Kithinji, Oluoch, & Mugo 2014). Similarly, in 2014 Nairobi Securities Exchange became part of the United Nations Sustainable Stock Exchanges Initiative; in which it agreed to educate its stakeholders on the need for implementing the aspect of sustainability within their capital market (Omondi & Muturi, 2013).

1.2 Research Problem

In the recent past, there has been an increasing concern on the effects of rates of interest on the stock market among scholars, supporters of interest capping as well as among its rivals. On the one hand, the supporters of interest capping have viewed interest ceilings as a means of protecting the interest of the general public by promoting reasonably fair charges on loan. Similarly, they regard interest capping as a way of opening access for credit facilities to small-income populations whereas protecting them from being exploited by their lenders. Moreover, capping interests provides financial firms with the space to operate without imposing anticompetitive and random charges on credit facilities. However, opponents regard the removal of caps on interest as a way of enhancing the effectiveness of saving (Goldsmith & Martin, 2014).

Seventeen countries located in Sub Saharan Africa by 2013 had instituted caps on the rates of interest. The West Africa Economic and Monetary Union, which encompass eight francophone African countries, reduced ceiling on the rate of interest, which was at first established in the year 1997, by a percentage of three. In accordance with the

Council of Ministers, the recently developed maximum interest rate which is effective that banks are allowed to charge was a percentage of fifteen, whereas Microfinance institutions (MFIs) were allowed to charge a percentage of twenty-four.

Narrowing down to Kenya, interest capping was first enforced as a law in Kenya in August 2016. The cap only allowed lenders to provide credit facility at an interest rate that is 4 percent higher than the Central Bank (CBK) rate. Similarly, the minimum deposit rates could only be at 70% of Central Bank (CBK) Rate. There are highly inconsistent empirical findings on the effects of capping interest rates on share price values. Several studies conducted since introduction of interest capping are majorly concerned with short term effect of capping of interest rate. Amarasignhe (2018) focused on the whether stock prices were explained by interest rate at Nairobi Stock Exchange. The results indicated a negative association between interest rates and share prices. Munguti (2017) study about the relationship between interest rates fluctuation on the share prices observed a nonexistence of a noticeable causal link between interest rates and the stock prices. Kibet (2017) evaluated the macroeconomic variables effect on output of stock and he found out that rates of interest were not essential in explaining returns at NSE in short run.

Kimunge (2017) study on the correlation between capping of interests share values found that only 18.18 percent commercial banking floated at the NSE responded negatively to the law on interest cap; whereas the remaining majority of banks reacting in a positive way to the phenomenon. Similarly, according to the findings, 63.64 percent of banks

displayed ambiguous negative returns, with the other 36.36 percent recording ambiguous positive returns following the enactment of the interest rate ceiling regulation. The results of studies done by various researchers on the correlation between interest rates and the share price value provides a basis for further study in this area because share volatility have not been captured in the studies. In our endeavour addressing this research gap, the researcher used the most recent high frequency daily data series covering one month before and one month after the event period and therefore, to provide empirical data on this area, the study would focus on answering how the share returns of commercial banks trading at the NSE were explained by interest cap event.

1.3 Research Objective

The objective of the research is to establish the effects of interest rate capping on share price volatility of commercial banks at the Nairobi Securities Exchange.

1.4 Value of Study

The research hoped to contribute to the knowledge of the Efficient Market Hypothesis theory; especially on the interest rate capping. These findings would hopefully be used as future references in the related disciplines as well as become a basis for future researches. Similarly, the study sought make available valuable data on efficient market factors to the investors; consequently, helping them in coming up with sound investment choices while assessing possible investment portfolios. As a result, investors might alter their portfolio while considering the impacts of interest rate capping; thus, maximizing returns. The study sought to provide valuable empirical data that might inform the government, Central Bank, the Capital Market Authority as well as other relevant entities in their formulation of regulations and policies that dictate financial practices as well as interest

rates. Formulation and implementation of sufficiently informed laws and regulation dictating monetary practices would result in steady interest rates; consequently, promoting the growth of the economy and reducing its spiral effect.

Moreover, the study findings would provide future researchers with useful information; hence, functioning as a valuable piece of reference for their respective studies. Similarly, by analyzing the results of this study and other related studies, scholars will be able to highlight research gaps in similar study areas; hence, encouraging further research for more accurate and up-to-date findings.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This segment of the paper provides an extensive review theories and empirical studies on determinants of share volatility. It additionally examines factors that impact stock prices.

2.2 Theoretical Review

The rise of Central Bank Rate (CBR) affects the volume of money circulating and the stock prices. The commercial banks have embraced the interest rate capping laws aimed at setting interest rates to reduce the production costs of goods and reduce the poverty edge in different nations. Various theories in are discussed to show the effects of capping of interest rates influences volatility of stocks. The study examined the Efficient Market Hypothesis, Arbitrage Pricing Model and the Rational Expectations theory.

2.2.1 Efficient Market Hypothesis Theory

It states that stocks usually trade at fair value in the stock market (Eugene, 1960). According to the approach, an investor can't sell or buy shares at inflated or undervalued prices. The investor can get higher returns through risky investments rather than expert market timing or stock selection (Tîţan, 2015). The theory implies that it is perverse to subdue the markets because market prices cannot be predicted, and they can get adjusted by reacting to new information.

The theory had been modified by proponents such as Philip Pilkington to outline that market efficiency is efficient for investment purposes rather than having uncertainties regarding the future (Lošonc, 2018). The efficient market hypothesis theory is essential in

guiding investors on decision making. Investors in different markets can make above-average profits by taking advantage of weaknesses when they occur by exploiting and finding solutions to them. The economists can invest in a low-cost and perform better because the market is random.

The limitations associated with the theory include failure to predict future prices by analyzing the past rates in the market due to the unavailability of market patterns and criticizes from other economists. The prices are random as the participants profit from inefficiencies in the market (Hamid et al., 2017). The share prices adjust rapidly making it impossible to earn excess returns. Technical analysis cannot help in generating more profits. The behavioral economists have disputed the theory by stating that cognitive biases and human errors lead to the changes in the financial markets. The approach lacks a quantitative methodology to measure and test the idea of market efficiency. It only provides studies that cannot provide quantitative measures, and they are open to different interpretations.

2.2.2 The Rational Expectation Theory

It was proposed in the 1960s by John F Muth, who suggests that individuals base their financial choices on three primary aspects: available information, human reasonableness, and past involvements. Economists use it in explaining the expected inflation rates. It means that individuals base their decisions on past trends and the available information.

It was modified by the cobweb theory, which proposes that prices are volatile. High rates lead to low supply, while a high amount increases the costs. When the prices are high, people tend to increase their supply. The people base their decisions on past years' prices

resulting in unstable equilibrium and fluctuating prices (Karle et al., 2015). The theory is relevant as it guides the investors in the capital market hypothesis. Individuals have access to information which facilitates optimal decisions.

The limitation of the theory is its assumption that humans learn from past mistakes. It has weak versions in cases where people access limited information, thus making irrational choices due to inadequate knowledge. The behavioural economists challenge the theory by stating that humans as irrational as they are subject to prejudice and biases (Wilkinson & Klau, 2017). Many ordinary people lack awareness of the importance of economic policies. The theory tends not to be necessary for the 21st century, as the inflationary environment is different. People also get carried away by the past performance rather than learning from it, which is known as irrational exuberance.

2.2.3 Arbitrage Pricing Theory

It is a theory proposed in the 1970s by Stephen Ross. States that asset returns can be speculated by the link between the macroeconomic covariates and market returns that may present certain risks (Burzoni et al., 2019). It estimates a fair market value of financial assets by assuming that the expected returns of the assets can be predicted based on the relationship or linear pattern of macroeconomic patterns. They are determinants of risks to specific assets. It exploits the price differences of financial assets in different markets, enabling the investors to make profits.

The approach is vital in share price vitality as the investors can apply the model in value investing in pinning out the goods that may be labelled with wrong prices by mistake.

The model is used by investors whereby they purchase shares at low prices in a particular market and sell them at higher prices in another market. The approach is modified to by capital asset pricing model which gives complete answers on what influences the returns from an asset (Elbannan, 2015). The theory can be utilized by individual investors as well as financial companies as an asset can be individualized without outlining the other available assets.

Its limitations are based on its assumptions. It assumes that all investors have similar efficient frontiers and hold homogenous expectations on the variance of assets and mean returns, which is not the case. The arbitrage opportunities have a likelihood of disappearing after being discovered due to the actions taken, thus adjusting the situation leading to the disappearance of mispricing (Bozhkov and Stanislav, 2017). The nature of the macroeconomic factors may change over time, giving varying results to different investors.

2.3 Determinant of Share Returns

The market investors are concerned about the stock market returns because they affect the company's wealth directly. The behaviour of stock returns and prices gives the investor's information, which makes them sell, buy, or hold their shares to maximize their profits. The asset pricing theories that are traditional claim that the present value of an item is the same as the cash flow at the moment. Central bank changes in interest rates can directly influence interest rate charged commercial bank, required rate of returns and future expectations of cash flows. A rise in interest rates is needed by the shareholders as it increases profits and interest rates (Adjei & Adjei, 2017). Different variables associated with economic growth are believed to play a role in stock markets. This section seeks to

identify various determinants of share volatility and how they affect it.

2.3.1 Stock Exchange Rates

A stock exchange rates refer to the value of a currency concerning another nation's currency. It quantifies profits in investment within the stock ownership period. The returns may be in the form of capital gain and dividends earned by an investor. Jordan and Fischer (2002) define stock returns as a benefit resulting from the investment process. Stock market indexing is used to measure the stock performance in terms of the capability of the investors to trade at ease, market size, and stock liquidity. When there is heavy trading, it results in an imbalance of trade orders due to infatuations in the market. An increase in consumer prices increases stock market volatility. The foreigners increase their exports to get the local currency, which increases the foreign currency value and decreases the local currency the value. The exchange rates reduce when the economy pulls back.

2.3.2 Company News

Market security is affected by news such as employee layoffs, obtaining a large contract, releases of new earnings, accounting scandals, and change of management. The report can affect the performance of corporations and the investor's prospect negatively or positively. Some news creates a positive impact as a good report makes the company trend by going public, thus increasing the stock prices (Moussa et al., 2019). Negative news also makes the company go public in a negative way causing a drop in the share prices whereby the supply increases and the demand decreases.

The company news has a direct effect on share volatility. They determine the supply and demand of the stocks. The stock prices of the company change daily due to supply and

demand rates. When there is a demand in shares, its price raises up, as the order is high, resulting in a decrease in supply because many people are willing to buy a commodity than selling it (Shi et al., 2018). Positive news encourages individuals to purchase stocks, for example, new products, favorable economic indicators, and fair prices. The buying pressure leads to an increase in stock prices. Creating a positive company image maximizes profitability because there is a demand for the shares which are sold at higher prices. Company news affects stock volatility by controlling the demand and supply of shares.

2.3.3 Inflation

This is an unforeseen increase in the general prices of goods as well as services. It leads to a decline in value or purchasing power of money (Kumar, 2014). It decreases supply of money which will negatively affect the stocks returns. If there is a high rate of inflation, there will be an adverse effect to the securities market. There will be a deficit in ability of investors to purchase stocks by a great number of participants. This will lead to low market capitalization. Where there is a low number of investors in the stock markets there will reduce demand of stocks hence fall in share prices. Reduced stock prices are disinteresting to shareholders to participating (Brandt and Wang, 2003). When consumer price index is high it would then lead to making the investment expensive hence giving rise to low trading of volumes in stocks.

2.4 Empirical Review

Amarasinghe (2018) examined causal association concerning share prices and interest

rates, with monthly information between January 2007 and December 2013 in Colombo Stock Exchange. The causality relationship between the variables was checked by Granger Causality which disclosed that there was a relationship that was one-way causal. It showed that returns on stock did not explain while interest rate explained stock returns. A regression analysis was therefore performed to analyse the result of the Granger Causality Test. The study revealed that interest was an important element for returns on stock and the rate of interest had an important negative relationship with Colombo Stock Exchange All Share Price Index (ASPI).

In Kenya, Chirchir (2012) study on the correlation between the fluctuation of rates of interest on the share prices in Kenya. The variables were measured via a weighted average lending rate and the NSE 20 share Index. Check data used for the study was for the period between October 2002 to September 2012. The findings revealed that there was a nonexistence of a noticeable causal correlation between rate of interest and the share prices.

Kimunge (2017) research on the relationship concerning interest capping and share values. He used an event study. The population of the study was eleven commercial banks. Found that only 18.18 percent of the banks at the NSE responded negatively to capping of interest rate; whereas the other 81.82 percent of the banks reacting positively to the phenomenon. Similarly, according to the findings, 63.64 percent of banks displayed ambiguous negative returns, with the other 36.36 percent recoding ambiguous positive returns following the operation of the interest capping regulation.

2.5 Summary of Literature

The investors should be keen on the stock returns and price behaviour as it provided the information relevant in decision making. It enabled the trader to decide on whether to hold, sell, or buy the shares for profit maximization. Interest rates in an example of a macroeconomic variable associated with economic growth that directly affects the stock returns. Interest rates capping affects commodity prices, which affect the economy. When the central bank interest rates increase, it results in less volume of the circulating money while a decrease of the interest rates increases the amount of the circulating cash.

According to Jensen (1978), efficient market theory investors can only get higher returns through risky investments rather than expert market timing or stock selection because the stock exchange market cannot be predicted (Lošonc, 2018). Its relevance was evident in interest rates capping, which affects stock prices and later the stock exchange, thus encouraging the investors to maximize the opportunities. The rational expectation theory by John insists on making a decision based on human rationality, past experiences, and available data to get a basis for a capital market hypothesis (Seyrich & Sornette, 2016). Arbitrage pricing theory by Stephen Ross coins the asset pricing system, which was relevant in share price vitality (Burzoni et al., 2019). The investors are expected to single out securities that have been labeled mistakenly.

The study narrowed its scope on interest capping and stock volatility. It was a short duration of time for the investigation to find out the impact of laws in capping of interest rates and their effects on the stock exchange rates. In the future, researchers should consider taking more extended periods to accomplish the short- and long-term effects of

the study. Further research should be carried out on the effectiveness of interest rate ceiling laws. Other studies should be done in the future to find out if any events interfered with the conclusion of the study.

2.6 Conceptual Framework

The framework sets out all the variables to be studied. These variables are classified into independent and dependent variables. Figure 2.1 shows the independent variables and the dependent variable.

Independent variables

Dependent variables

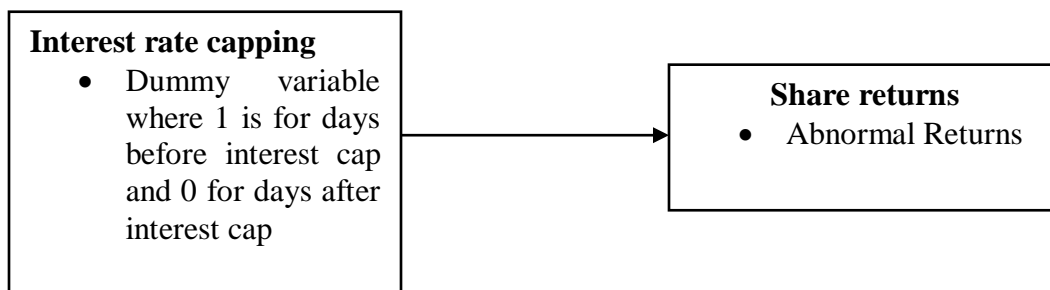


Figure 2. 1: Conceptual framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter presents the methods that were adopted to source needed data and analyse it. The methodology section included the design that the study adopted; the population that the study focused on, the techniques adopted to source and analyse data.

3.2research Design

Research design relates to real procedure and structure of examination used to come up with solutions to the research questions and control irregularity. The goal of research design is to act as a blue print on how the researcher will proceed in sourcing and analysing relevant data (DeVaus, 2001). The study adopted observational design that qualifies as logical exploration when directed explicitly to respond to an exploration question, efficiently arranged and executed; appropriate controls have been utilized and give a solid legitimate record of what occurred.

Observational overview centres on the checking of both the behavioural and the non-behavioural events and conditions. Behavioural observations incorporate non-verbal examination, etymological and extra semantic investigation and spatial examination. Non-behavioural observations incorporate record investigation, state of being examination and actual cycle investigation. This study focused on non-behavioural observational study including record investigation where I will evaluate movements of banking industry share prices and volumes recorded on the NSE.

3.3 Population of The Study

The study's target population involved listed commercial banks. The listed commercial banks are 11 in total (Appendix 1). A population is the entire enumeration of all elements in the universe that has a given set of characteristics that is of interest to the research and to which collusion and generalization is made after the study (Mugenda & Mugenda, 2008). The study adopted the 11 commercial banks that had their shares floated at the NSE given that they have their shares traded daily and hence availability of secondary data. Further, the study was a census where all the 11 commercial banks were part of the study hence no sampling was carried out. The census was informed by the small size of the population that could be studied easily.

3.4 Data Collection

The paper utilized secondary data gathered from various sources comprising of share prices, Nairobi Securities Exchange All Share Index. The information covered a period of 15 days split into half before and after the event of interest cap. The source of information was from Nairobi Securities Exchange (NSE).

3.5 Research Procedure

Research procedure refers to the actual performance of the research. The commencement included research proposal preparation which clearly describes the objectives of the research literature review, population of study population and the instruments used to collect data. There was preparation of a checklist and a pilot was tested on a small number of companies listed to check its validity. This was followed by accessing data on stock price movements, volumes traded and lending rates of the listed commercial banks in Kenya. This data was accessed from the NSE daily market report and the Central Bank of Kenya.

3.6 Data Analysis

This entailed evaluation of the data collected for the study and making conclusions. Data collected was evaluated using measures of dispersal, measures of central tendency, trend analysis, paired t-test and fixed effect regression model. Using STATA. The relationship between prices of stock and the rates of interest and volumes of stock and rates of interest was examined. The analysis included manipulation which is computer-aided and statistical. Built in the checklist were measures of variables which were important to the research problem. Each and every data collected will be put into the STATA and data cleaning for values that are missing and errors in entry of data will also be checked. Then analyzation of the quantitative data and an interpretation of the output of statistics was performed as well as discussions and presentation of results and findings.

3.6.1 Regression Model

The study adopted the regression Model as shown in equation 3.1

$$AR_t = \beta_0 + \beta_1 Cap + e \dots\dots\dots \text{Equation 3.1}$$

Where:

AR is absolute Returns

Cap is Interest Rate Cap

β_0 is the intercept term and e is the error term.

3.6.2 Diagnostic Tests

The study sought to examine the robustness of the regression model by examination of whether the model adopted for parameter estimation. The study specifically tested for serial correlation, group heteroskedasticity, and choice of appropriate model.

Multilinearity was not tested because the model was univariate in nature. The study examined the presence of serial correlation by adopting Wooldridge test for panel autocorrelation. The p-value generated in the model was expected to be greater than 0.05 to enable researcher establish that serial correlation was not a problem in the study. In the presence of correlation, the model would adopt clustered standard errors or panel correlated standard errors (PCSEs) in the presence of both autocorrelation and heteroskedasticity.

The study also examined the presence of group heteroskedasticity based on modified wald test for group heteroscedasticity. The test would conclude of absence of heteroskedasticity if the p-value generated would be greater than .05. In the presence of heteroscedasticity alone, the study would adopt robust standard errors, however the presence of both Heteroskedasticity and autocorrelation. The study would adopt PCSEs model. The research sought to evaluate the correct model to adopt between Random Effect Model (REM) and Fixed Effect Model (FEM). The study adopted Hausman test where p-value greater than 0.5 would imply no significant difference between the random and fixed effects hence fixed effect model would be appropriate. However, if the p-values would be less than 0.05, the study would adopt random effect model. The adopted Augmented Dickey fuller test (Levin-Chu variant) to examine the presence of unit roots. The presence of unit roots would be concluded if the p-value is greater than .05.

3.6.3 Event Study Process

The initial event study application are often copied to Fama, Fisher, Jensen, and Roll

(1969); their research are often thought of efficient market analysis. This is because they assessed the accuracy and speed of the reaction of the market to the split-up announcement. This method of event study employed by Fama, Fisher, Jensen and Roll (1969) come to be classic.

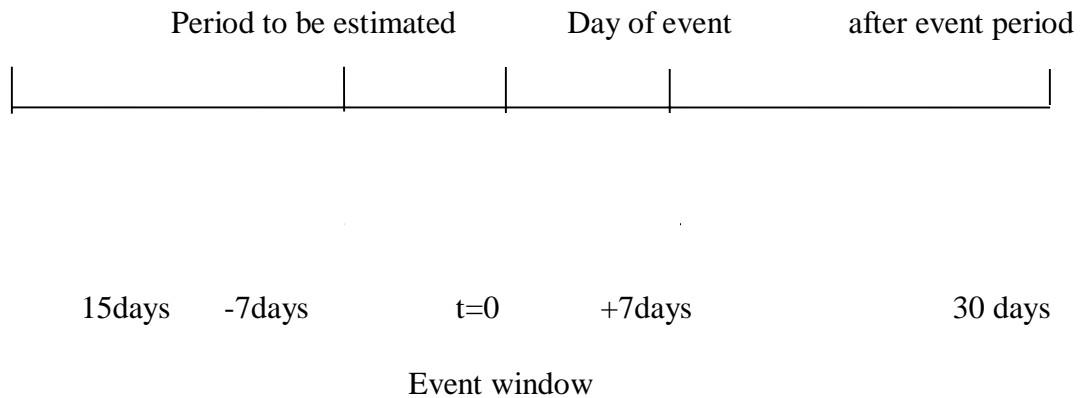
The procedure begin with the defining the date when the market is capable of receiving the news, and the individual firms returns are distinguished by nonexistence of the imminent news. Thirdly, the distinction between the ascertained returns and therefore there is measuring of the no-news returns for every firm, hence the step to be taken next is combination of the returns that are abnormal across time and companies. Eventually, there it testing of the aggregate returns in order to see whether the returns that are abnormal are vital and if affirmative then for how long (Sandler & Sandler,2014).

3.6.4 Outline Event Date

The event should be outlined, therefore the time it occurred is determined. It is relevant to acknowledge that the temporal order of an incident isn't simple even if it would appear obvious. The center of attention is on the time there was anticipation of the news by the market and not once there was happening of the event (Fama, Fisher, Jensen, & Roll, 1969). This study focused on the month of September 2016 as this was the event period.

3.6.5 Event Analysis Model

The nature of the data analysis was quantitative. By use of event methodology, interest cap was the event that was announced and is represented by the event day which is denoted as $t=0$. The period of estimation called event window was fifteen that was split into half, seven days before event and seven days after the even. The study observed the abnormal returns to stock within the event period.



The abnormal returns (AR) were adopted as a proxy for measuring the returns to stock of commercial banks that were trading their shares at the NSE. The study was interested to examine how the AR varied within the events window. In accordance with Mackinley (1997) a normal return is described as the expected returns in absence of considering the movement of stock which is brought about by the event. Abnormal returns is the difference between individual stock actual returns and market returns. The cumulative abnormal returns (CAR) is the sum of abnormal returns within the events window.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter expounds on the results that were generated after the analysis. The study had sought to examine whether interest cap explains the returns to stock of commercial banks trading at the NSE. The study had adopted secondary data collected from NSE for a period of fifteen days within the event window of interest cap. The study adopted descriptive statistics tools such as trend analysis, minimum, maximum, standard deviation and averages. Further, paired t-test and fixed effect panel regression model was used to analyse data. The chapter also expounds on discussion of results generated as well as their implications. All the listed commercial banks trading shares at the NSE were studied.

4.2 Descriptive Statistics

The descriptive analysis presents the elaborations on the study variables in isolation without relating independent to dependent variable. The descriptive analysis included summary of descriptive statistics, trend analysis and abnormal returns of individual banks.

4.2.1 Summary of descriptive Statistics

The summary of descriptive statistics included the examination of the measures of central tendency and dispersal. The measures of central tendency presented was mean while measures of dispersal were maximum, minimum, standard deviation and variance as presented in Table 4.1

Table 4. 1: Summary of descriptive Analysis

Days	Total AR	Mean	Maximum	minimum	Sd	variance
7	-0.0281	-0.0026	0.0847	-0.0824	0.0396	0.0016
6	-0.0621	-0.0056	0.0422	-0.0612	0.0287	0.0008
5	0.3408	0.0310	0.0482	-0.0038	0.0136	0.0002
4	-0.0768	-0.0070	0.0508	-0.0435	0.0294	0.0009
3	-0.0859	-0.0078	0.0156	-0.0629	0.0204	0.0004
2	0.0578	0.0053	0.0454	-0.0233	0.0188	0.0004
1	-0.0488	-0.0044	0.0656	-0.0650	0.0345	0.0012
	0.0205	0.0019	0.0391	-0.0287	0.0180	0.0003
-1	-0.0462	-0.0042	0.0181	-0.0370	0.0160	0.0003
-2	-0.0811	-0.0074	0.0323	-0.0227	0.0159	0.0003
-3	0.0274	0.0025	0.0300	-0.0314	0.0183	0.0003
-4	-0.1643	-0.0149	0.0048	-0.0400	0.0126	0.0002
-5	-0.0744	-0.0068	0.0101	-0.0751	0.0235	0.0006
-6	0.0136	0.0012	0.0213	-0.0449	0.0185	0.0003
-7	-0.1488	-0.0135	0.0084	-0.0413	0.0147	0.0002

The results [Table 4.1] presented the summary of statistics about study variables data. The abnormal returns are more negative in the days after the event of interest cap came into force. This is captured well at day two before (0.0578) and day two after (-0.0811) the commencement of interest rate. The finding imply that the deviation between actual stock returns and market returns became wider in the post interest cap period given that the announcement of the event sent a signal to the public that banks might soon report reduced profits hence the market reacted in a way that most people holding stock of the commercial banks trooped to offload them at the NSE leading to fall in their prices compared to overall stock market returns measured by NSE all share index. On the data

of the interest cap announcement, the abnormal returns tended to be closure to zero depicting that there was less deviation of actual stock returns from the market returns. The day of announcement depicted point of indifference among the investing public whether to offload or buy the concerned stock as they wait on the interpretation of the new law.

4.3.2 Trend of Abnormal Returns

The trend analysis [Figure 4] showed that abnormal returns of the stock of the commercial banks trading as the NSE registered fluctuating trend with AR falling as low as -0.0036 and rising as high as 0.3608 . On the interest cap announcement date, the AR stood at 0.0205 . Thereafter, the AR gradually declined as pointed out by trend line.

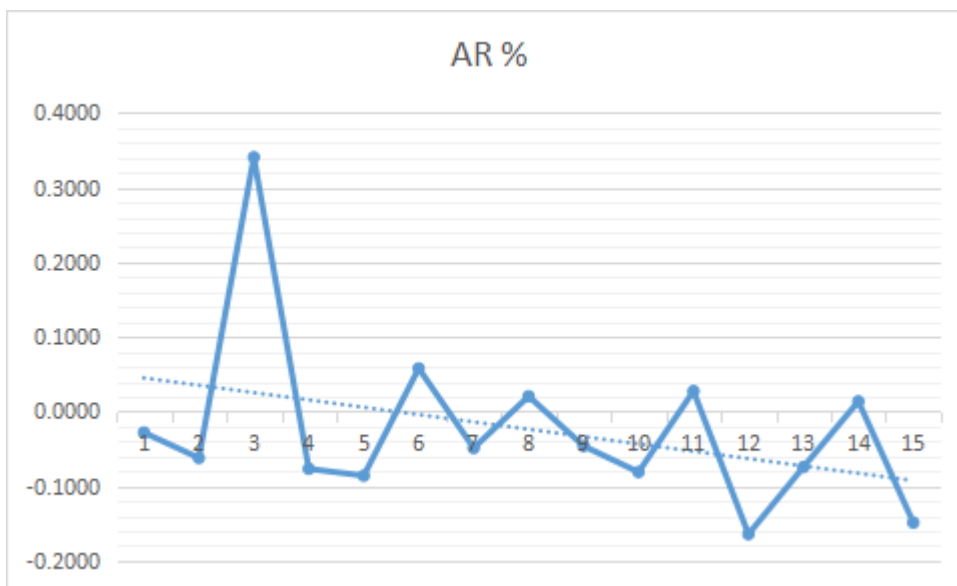


Figure 4. 1: Abnormal returns

4.3.3 Individual Bank Abnormal Returns

The findings [Appendix III] showed that with the exception of cooperative bank and Housing finance corporation, all the remaining commercial registered negative

cumulative AR. The negative AR implied that the market of the stocks of the commercial banks trading at the NSE was bearish with most traders and investors rushing to offload the stocks. This rush pushed the prices and returns of the stock downwards away from the NSE all share index hence the more negative AR.

4.3 Diagnostics Tests

The study sought to examine the robustness of the regression model by examination of whether the model adopted for parameter estimation. The study specifically tested for serial correlation, group heteroskedasticity, and choice of appropriate model.

4.3.1 Test for Serial Correlation

The study examined the presence of serial correlation by adopting Wooldridge test for panel autocorrelation. The p-value generated in the model was expected to be greater than 0.05 to conclude of absence of absence of serial correlation. In the presence of correlation, the model would adopt clustered standard errors or panel correlated standard errors (PCSEs) in the presence of both autocorrelation and heteroskedasticity. The finding presented in Table 4.2 showed than the p-value weas higher than .05 hence there was no problem of serial correlation.

Table 4. 2 Serial Correlation

Wooldridge test for autocorrelation in panel data			
H0: no first order autocorrelation			
F(1,	10) =	0.044
	Prob > F =		0.8379

4.3.2 test for Heteroskedasticity

The study also examined the presence of group heteroskedasticity based on modified wald test for group heteroscedasticity. The test would conclude of absence of

heteroskedasticity if the p-value generated would be greater than .05. In the presence of heteroscedasticity alone, the study would adopt robust standard errors, however the presence of both Heteroskedasticity and autocorrelation. The study would adopt PCSEs model. The finding presented in table 4.3 showed that the model suffered from heteroskedasticity hence robust standard errors will be adopted in the model for estimation.

Table 4. 3: Modified wald test

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: $\sigma(i)^2 = \sigma^2$ for all i

chi2 (11) = 122.86
Prob>chi2 = 0.0000

4.3.3 Hausman Test

The research sought to evaluate the correct model to adopt between Random Effect Model (REM) and Fixed Effect Model (FEM). The study adopted Hausman test where p-value greater than 0.5 would imply no significant difference between the random and fixed effects hence fixed effect model would be appropriate. However, if the p-values would be less than 0.05, the study would adopt random effect model. The finding in Table 4.4 showed that the level of significance (.05) was lower the p-value generated in the test hence fixed effect model with robust standard errors was more appropriate for parameter estimation.

Table 4. 4: Hausman Test

	—— Coefficients ——			
	(b) FEM	(B) REM	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
cap	.0074095	.0074095	-8.67e-19	.0008179

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$\chi^2(1) = (b-B)' [(V_b-V_B)^{-1}] (b-B)$
 = 0.00
 Prob>chi2 = 1.0000

4.3.4 Test Unit roots

The adopted Augmented Dickey fuller test (Levin-Chu variant) to examine the presence of unit roots as presented in Table 4.5. The presence of unit roots would be concluded if the p-value is greater than .05. In the presence of unit roots, linear panel data models would generate inefficient parameter estimates hence other models such as feasible generalised least squares model and PCSEs model would be appropriate. The findings revealed that the p-value associated with the test was lower than .05 hence it was concluded that the model did not suffer from autocorrelation hence linear panel data models were appropriate.

Table 4. 5: Augmented Dickey Fuller test

Levin-Lin-Chu unit-root test for ar

Ho: Panels contain unit roots	Number of panels =	11
Ha: Panels are stationary	Number of periods =	14
AR parameter: Common	Asymptotics: N/T ->	0
Panel means: Included		
Time trend: Not included		
ADF regressions: 1 lag		
LR variance: Bartlett kernel, 7.00 lags average (chosen by LLC)		

	Statistic	p-value
Unadjusted t	-11.2572	
Adjusted t*	-5.0156	0.0000

4.5 Inferential Analysis

The study adopted inferential analysis to examine whether interest rate cap had a significant effect on returns to stock of commercial banks trading at the NSE. The study paired t-test and panel regression analysis for inferential analysis. Paired t-test is an hypotheses test that examines id there is a difference between means before and after an event or exposure. This was useful to determine if the mean AR before and after interest cap were significantly different from each other.

4.5.1 Paired t-test

The study adopted pared t-test to examine the difference between the mean returns to shares of listed commercial banks in pre and post interest cap announcement. The study adopted paired t-test that is based on the null hypothesis that the difference mean AR in pre and post interest cap periods were not major as presented in Table 4.6.

Table 4. 6: Paired t-test for All banks

Paired t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
arb	77	.0012583	.0033744	.02961	-.0054623	.0079789
ara	77	-.0061512	.0020277	.017793	-.0101897	-.0021127
diff	77	.0074095	.0036863	.0323469	.0000676	.0147513

mean(diff) = mean(arb - ara) t = 2.0100
Ho: mean(diff) = 0 degrees of freedom = 76

Ha: mean(diff) < 0 Ha: mean(diff) != 0 Ha: mean(diff) > 0
Pr(T < t) = 0.9760 Pr(|T| > |t|) = 0.0480 Pr(T > t) = 0.0240

The finding [Table 4.6] revealed that the p-value associated with the test was lower than 0.05 for difference in mean being significantly greater than zero (mean>0) at p = .024 and difference between mean being different from zero at p= .0480. The study thus concluded that share returns for commercial banks trading at the NSE were significantly affected by interest cap event. The returns as measured by absolute returns had changed significantly from the time the news was announced of the president signing the bill.

4.5.2 Regression Analysis

The regression was adopted to examine the magnitude and sign of the effect of the regressor on the regressand as captured by parameter estimates. The study adopted fixed effect regression model with robust standard errors to eliminate the problem of heteroskedasticity. The dependent variable was returns to shares measured by abnormal returns while the independent variable was interest rate cap measured by a dummy

variable where 1 was for period before interest cap and 0 was for the period after interest cap. The regression output included is presented in Table 4.7.

Table 4. 7: Fixed Effect Regression Model

Fixed-effects (within) regression		Number of obs	=	154	
Group variable: id		Number of groups	=	11	
R-sq:		Obs per group:			
within	= 0.0234	min	=	14	
between	= .	avg	=	14.0	
overall	= 0.0228	max	=	14	
corr(u_i, Xb) = 0.0000		F(1,10)	=	11.02	
		Prob > F	=	0.0077	
(Std. Err. adjusted for 11 clusters in id)					
ar	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
cap	.0074095	.0022318	3.32	0.008	.0024368 .0123822
_cons	-.0061512	.0011159	-5.51	0.000	-.0086375 -.0036648
sigma_u	.00406188				
sigma_e	.02494839				
rho	.02582296	(fraction of variance due to u_i)			

From the model summary, the regressor and regressand were directly related as depicted by overall Pearson correlation coefficient. In addition, 2.28 % of the variation in the returns of shares of commercial banks that have offered their shares at the NSE was explained by interest rate capping for the window of seven days before interest cap regulation and seven days after interest cap regulation.

Further, the results of ANOVA revealed that returns of shares of commercial banks that have offered their shares at the NSE were majorly altered by interest cap during the event window of seven days before and seven days after the interest cap regulation (F= 11.02, P= 0.0077 < 0.05). Further, the parameter estimates and associated t-test statistic and p-

value showed that effect of interest cap on share returns commercial banks was significant ($\beta = .0074$, $t = 3.32$ and $p = .008 < .05$).

4.6 Discussion of Research Findings

The study had sought to examine whether the returns of stocks of commercial banks trading at the NSE were majorly explained by the announcement of interest cap in Kenya that happened in September 2016. The descriptive analysis revealed that the abnormal returns are more negative in the days after the event of interest cap came into force. This is captured well at day two before (0.0578) and day two after (-0.0811) the commencement of interest rate. The finding implies that the deviation between actual stock returns and market returns became wider in the post interest cap period given that the announcement of the event sent a signal to the public that banks might soon report reduced profits hence the market reacted in a way that most people holding stock of the commercial banks trooped to offload them at the NSE leading to fall in their prices compared to overall stock market returns measured by NSE all share index. On the data of the interest cap announcement, the abnormal returns tended to be closure to zero depicting that there was less deviation of actual stock returns from the market returns. The day of announcement depicted point of indifference among the investing public whether to offload or buy the concerned stock as they wait on the interpretation of the new law.

The trend analysis showed that abnormal returns of the stock of the commercial banks trading as the NSE registered fluctuating trend with AR falling as low as -.0036 and rising as high as 0.3608. On the interest cap announcement date, the AR stood at 0.0205.

Thereafter, the AR gradually declined as pointed out by trend line. Further, with the exception of cooperative bank and Housing finance corporation, all the remaining commercial registered negative cumulative AR. The negative AR implied that the market of the stocks of the commercial banks trading at the NSE was bearish with most traders and investors rushing to offload the stocks. This rush pushed the prices and returns of the stock downwards away from the NSE all share index hence the more negative AR.

Further, the paired t-test test showed that the returns to stock of listed commercial banks was majorly explained by interest cap given that there the mean AR pre and post the event were significantly different from zero. The study thus concluded that the returns as measured by absolute returns had changed significantly from the time the news was announced of the president signing the bill into law. The ANOVA revealed that returns of stock of commercial banks that have offered their shares at the NSE during the event window of seven days before and seven days after the interest cap regulation were significantly different ($F= 11.02$, $P\text{-value of } 0.0077 < 0.05$). Finally, the regression coefficients showed that the returns of stock of commercial banks trading at the NSE could be majorly be explained by interest cap ($\beta = .0074$, $t= 3.32$ and $p= .008 < .05$). The study thus concluded the returns of individual stocks deviated more away from the market returns in the post interest cap days than pre-interest cap days.

The finding agrees with Amarasinghe (2018) that examined the causal association concerning share prices and interest rates with findings showing that interest rate did Granger Cause the returns on stock. Further, Kimunge (2017) research on the relationship

concerning interest capping and share values found out that only 18.18 percent of the banks at the NSE responded negatively to capping of interest rate; whereas the other 81.82 percent of the banks reacting positively to the phenomenon. Similarly, according to the findings, 63.64 percent of banks displayed ambiguous negative returns, with the other 36.36 percent recoding ambiguous positive returns following the operation of the interest capping regulation. However, Chirchir (2012) study on the correlation between the fluctuation of rates of interest on the share prices in Kenya revealed that there was a nonexistence of a noticeable causal correlation between rate of interest and the share prices.

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

5.1 Introduction

This chapter expounds on the summary of findings based on descriptive and inferential analysis; the conclusions derived from findings of the study; the recommendations made to the concerned commercial banks, the regulator and the government; limitations of the study that informs gaps for future studies and finally the areas for further research.

5.2 Summary of Findings

The study had sought to examine whether the returns of stocks of commercial banks trading at the NSE were majorly explained by the announcement of interest cap in Kenya that happened in September 2016. The descriptive analysis revealed that the abnormal returns are more negative in the days after the event of interest cap came into force. This is captured well at day two before (0.0578) and day two after (-0.0811) the commencement of interest rate. On the data of the interest cap announcement, the abnormal returns tended to be closure to zero depicting that there was less deviation of actual stock returns from the market returns. The trend analysis showed that abnormal returns of the stock of the commercial banks trading as the NSE registered fluctuating trend with AR falling as low as -.0036 and rising as high as 0.3608. On the interest cap announcement date, the AR stood at 0.0205. Thereafter, the AR gradually declined as pointed out by trend line. Further, with the exception of cooperative bank and Housing finance corporation, all the remaining commercial registered negative cumulative AR.

The paired t-test test showed that the returns of stocks of concerned commercial banks was significant given that there was a major difference in the mean AR pre and post interest cap. The ANOVA also showed that returns of stocks of commercial banks that were trading at the NSE were strongly explained by interest cap event in the events window of seven days before and seven days after the interest cap regulation ($F= 11.02$, $P\text{-value of } 0.0077 < 0.05$). Finally, the regression coefficients showed that the returns of the concerned commercial banks were majorly affected by the introduction of interest cap ($\beta = .0074$, $t= 3.32$ and $p= .008 < .05$).

5.3 Conclusion

The study had sought to examine whether the returns of stocks of commercial banks trading at the NSE were majorly explained by the announcement of interest cap in Kenya that happened in September 2016. The study based on descriptive analysis concluded that the deviation between actual stock returns and market returns became wider in the post interest cap period given that the announcement of the event sent a signal to the public that banks might soon report reduced profits hence the market reacted in a way that most people holding stock of the commercial banks trooped to offload them at the NSE leading to fall in their prices compared to overall stock market returns measured by NSE all share index. On the data of the interest cap announcement, the abnormal returns tended to be closure to zero depicting that there was less deviation of actual stock returns from the market returns. The day of announcement depicted point of indifference among the investing public whether to offload or buy the concerned stock as they wait on the interpretation of the new law.

Further, based on paired t-test test, the study thus concluded that the returns as measured by absolute returns had changed significantly from the time the news was announced of the president signing the bill into law. The regression showed that the returns of stock of commercial banks trading at the NSE were majorly explained by interest cap and that the returns of individual stocks deviated more away from the market returns in the post interest cap days than pre-interest cap days.

5.4 Recommendations

The study finding on the significant impact of interest cap on returns of commercial banks trading at the NSE informs the recommendation that top management of commercial banks should consider diversifying their incomes. The commercial banks should lend more to the government through purchase of treasury bills and bonds that are not affected by the interest cap.

Further, the investing public who hold stocks of commercial banks trading at the NSE should consider offloading such stock. The proceeds of such sale should be invested in fixed income financial assets like treasury bills and bonds to protect their worth in the event that banks profitability and returns are affected majorly. The investing public can also invest in other investment areas like real estate and precious metals.

The study findings also have implications to the government. The government through the legislature should avoid introducing interest caps in Kenya given that such regulations affect the business environment by discouraging commercial banks to lending to the

SMEs. The regulation further leads to impairment of job creation in the informal sector given that businesses cannot get loans to expand their establishments and employ more employees. The CBK should also discourage the legislators in their efforts to amend the banking act to allow for interest caps

5.5 Limitations of The Study

The study model was limited to whether interest cap explains abnormal returns of concerned banks. The variation in abnormal returns could also be due to other factors that could impact on stock returns such as volume of stock traded, earning announcement, diaspora remittances, interest rates among other covariates. The application of parameter estimates in decision making should be done with caution given that inclusion of unobserved variables could alter the magnitude of the changes in returns in the events window.

The interest rate cap had a direct immediate impact on operation and expected returns of the listed commercial banks which may not be the same for other listed firms on non-listed firms. The parameter estimates generated in this study are therefore more relevant for decision making among listed banks in Kenya. The application of the findings may not be wholesomely possible in other contexts such as non-bank listed firms and non-listed firms.

Even with the noted limitations, the study was successfully done and the findings together with parameters estimates are valid. The limitation does not did not impair the conclusions and generalization made based on data collected and analysed. The

limitations help in identifying knowledge gaps for further studies. The limitations also inform the decision makers relying on the findings to have informed opinion based on the model limitations.

5.6 Suggestions for Further Research

The current study was successfully carried out, however gaps still exist that should be filled with future studies. First, this study was limited to one regressor explaining returns to stock of commercial banks trading at the NSE. Future researcher can should therefore consider introducing more variables in the causal effect link between stock returns and interest cap. Such factors such as income announcement, interest rate, volume of stock traded mong others should be added to the model building.

Secondly, this study focused on commercial banks trading at the NSE only hence findings may not be widely applicable in other contexts. The study suggests to future scholars to consider carrying out the same study in other non-bank firms that have floated their shares at the NSE. Such a study would enhance the application of the findings for decision making in non-banks contexts.

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APPENDICES

Appendix I: Commercial Banks Listed in the NSE

1. Barclays Bank Ltd
2. Cfc Stanbic Holdings Ltd
3. I&M Holdings Ltd
4. Diamond Trust Bank Kenya Ltd
5. HF Group Ltd
6. KCB Group Ltd
7. National Bank of Kenya
8. NIC Bank Ltd
9. Standard Chartered Bank Ltd
10. Equity Group Holdings
11. The Cooperative Bank of Kenya Ltd

Appendix II: Study Variables

ID	Bank	AR	CAP	Days
1	Absa	0.003483	1	1
1	Absa	-0.00731	1	2
1	Absa	-0.00375	1	3
1	Absa	-0.02768	1	4
1	Absa	-0.00809	1	5
1	Absa	-0.02326	1	6
1	Absa	-0.01045	1	7
1	Absa	0.010744	0	8
1	Absa	-0.01733	0	9
1	Absa	0.006127	0	10
1	Absa	-0.01644	0	11
1	Absa	-0.07514	0	12
1	Absa	0.011744	0	13
1	Absa	-0.00839	0	14
2	Coop	-0.02618	1	1
2	Coop	-0.03625	1	2
2	Coop	0.032896	1	3
2	Coop	-0.00139	1	4
2	Coop	0.015569	1	5
2	Coop	0.021304	1	6
2	Coop	0.021349	1	7
2	Coop	-0.00489	0	8
2	Coop	-0.00038	0	9
2	Coop	0.00038	0	10
2	Coop	-0.00502	0	11
2	Coop	0	0	12
2	Coop	0.003463	0	13
2	Coop	0.008419	0	14
3	DTB	0.003483	1	1
3	DTB	0.003049	1	2
3	DTB	0.032896	1	3
3	DTB	0.050799	1	4
3	DTB	-0.06293	1	5
3	DTB	-0.00806	1	6
3	DTB	-0.00474	1	7
3	DTB	-0.00068	0	8
3	DTB	-0.01467	0	9
3	DTB	0.014873	0	10
3	DTB	-0.01216	0	11
3	DTB	0	0	12
3	DTB	-0.00076	0	13
3	DTB	-0.03716	0	14
4	EQTY	-0.01504	1	1
4	EQTY	-0.00638	1	2
4	EQTY	0.023372	1	3
4	EQTY	-0.00594	1	4
4	EQTY	0.007085	1	5
4	EQTY	-0.01044	1	6
4	EQTY	-0.00474	1	7

ID	Bank	AR	CAP	Days
4	EQTY	-0.00068	0	8
4	EQTY	-0.00038	0	9
4	EQTY	0.00038	0	10
4	EQTY	0.004788	0	11
4	EQTY	0.009709	0	12
4	EQTY	0.018475	0	13
4	EQTY	-0.00839	0	14
5	I&M	-0.08239	1	1
5	I&M	0.021231	1	2
5	I&M	0.035872	1	3
5	I&M	0.00593	1	4
5	I&M	-0.00546	1	5
5	I&M	0.01967	1	6
5	I&M	0.026963	1	7
5	I&M	-0.00068	0	8
5	I&M	-0.02273	0	9
5	I&M	0.023237	0	10
5	I&M	-0.02178	0	11
5	I&M	0	0	12
5	I&M	-0.00076	0	13
5	I&M	-0.01975	0	14
6	KCB	0.003483	1	1
6	KCB	-0.00638	1	2
6	KCB	0.032896	1	3
6	KCB	0.013109	1	4
6	KCB	0.006816	1	5
6	KCB	0.045379	1	6
6	KCB	-0.03129	1	7
6	KCB	-0.03705	0	8
6	KCB	-0.00981	0	9
6	KCB	0.009904	0	10
6	KCB	-0.02388	0	11
6	KCB	-0.00962	0	12
6	KCB	-0.00076	0	13
6	KCB	-0.00839	0	14
7	NCBA	-0.02439	1	1
7	NCBA	0.003049	1	2
7	NCBA	0.034688	1	3
7	NCBA	-0.00594	1	4
7	NCBA	-0.01147	1	5
7	NCBA	0.008107	1	6
7	NCBA	-0.00653	1	7
7	NCBA	-0.02836	0	8
7	NCBA	-0.02125	0	9
7	NCBA	-0.00156	0	10
7	NCBA	-0.03997	0	11
7	NCBA	0.01006	0	12
7	NCBA	0.017172	0	13
7	NCBA	-0.00056	0	14

ID	Bank	AR	CAP	Days
8	SBIC	0.009935	1	1
8	SBIC	0.01587	1	2
8	SBIC	0.045554	1	3
8	SBIC	-0.04344	1	4
8	SBIC	-0.01552	1	5
8	SBIC	0.01224	1	6
8	SBIC	-0.00474	1	7
8	SBIC	0.005894	0	8
8	SBIC	0.0323	0	9
8	SBIC	-0.02494	0	10
8	SBIC	-0.00502	0	11
8	SBIC	0	0	12
8	SBIC	-0.01374	0	13
8	SBIC	-0.04128	0	14
9	SCBK	0.011378	1	1
9	SCBK	0.042213	1	2
9	SCBK	0.025358	1	3
9	SCBK	-0.03758	1	4
9	SCBK	-0.00384	1	5
9	SCBK	-0.00223	1	6
9	SCBK	-0.06503	1	7
9	SCBK	0.018107	0	8
9	SCBK	-0.00433	0	9
9	SCBK	-0.03137	0	10
9	SCBK	-0.01321	0	11
9	SCBK	0	0	12
9	SCBK	0.021282	0	13
9	SCBK	-0.00569	0	14
10	NBK	0.003483	1	1
10	NBK	-0.06124	1	2
10	NBK	0.048163	1	3
10	NBK	-0.04353	1	4
10	NBK	-0.00253	1	5
10	NBK	-0.00092	1	6
10	NBK	0.065575	1	7
10	NBK	-0.00788	0	8
10	NBK	-0.02212	0	9
10	NBK	0.030009	0	10
10	NBK	-0.0266	0	11
10	NBK	0	0	12
10	NBK	-0.04487	0	13
10	NBK	-0.01608	0	14
11	HFC	0.084652	1	1
11	HFC	-0.02998	1	2
11	HFC	0.032896	1	3
11	HFC	0.018906	1	4
11	HFC	-0.00556	1	5
11	HFC	-0.00396	1	6
11	HFC	-0.03523	1	7
11	HFC	-0.00068	0	8
11	HFC	-0.00038	0	9
11	HFC	0.00038	0	10
11	HFC	-0.00502	0	11
11	HFC	-0.00938	0	12
11	HFC	0.002398	0	13
11	HFC	-0.01153	0	14

Appendix III: Individual Bank Absolute Returns

	ABS A	CO OP	DT B	EQ T	I\$M	KC B	NC BA	SBI C	SCB K	NB K	HF CK	Total
7	0.35 % %	- 2.62 %	0.35 % %	- 1.50 %	- 8.24 %	0.35 % %	- 2.44 %	0.99 % %	1.14 % %	0.35 % %	8.47 % %	- 2.81 %
6	- 0.73 %	- 3.63 %	0.30 % %	- 0.64 %	2.12 % %	- 0.64 %	0.30 % %	1.59 % %	4.22 % %	- 6.12 %	- 3.00 %	- 6.21 %
5	- 0.38 %	3.29 % %	3.29 % %	2.34 % %	3.59 % %	3.29 % %	3.47 % %	4.56 % %	2.54 % %	4.82 % %	3.29 % %	34.0 8%
4	- 2.77 %	- 0.14 %	5.08 % %	- 0.59 %	0.59 % %	1.31 % %	- 0.59 %	- 4.34 %	- 3.76 %	- 4.35 %	1.89 % %	- 7.68 %
3	- 0.81 %	1.56 % %	- 6.29 %	0.71 % %	- 0.55 %	0.68 % %	- 1.15 %	- 1.55 %	- 0.38 %	- 0.25 %	- 0.56 %	- 8.59 %
2	- 2.33 %	2.13 % %	- 0.81 %	- 1.04 %	1.97 % %	4.54 % %	0.81 % %	1.22 % %	- 0.22 %	- 0.09 %	- 0.40 %	5.78 %
1	- 1.05 %	2.13 % %	- 0.47 %	- 0.47 %	2.70 % %	- 3.13 %	- 0.65 %	- 0.47 %	- 6.50 %	6.56 % %	- 3.52 %	- 4.88 %
	0.57 % %	0.85 % %	0.72 % %	- 1.92 %	0.00 % %	0.00 % %	- 2.87 %	- 1.30 %	3.91 % %	1.46 % %	0.63 % %	2.05 %
-1	1.07 % %	- 0.49 %	- 0.07 %	- 0.07 %	- 0.07 %	- 3.70 %	- 2.84 %	0.59 % %	1.81 % %	- 0.79 %	- 0.07 %	- 4.62 %

		%	%	%	%	%	%			%	%	%
-2	-	-	-	-	-	-	-	3.23	-	-	-	-
	1.73	0.04	1.47	0.04	2.27	0.98	2.13	%	0.43	2.21	0.04	8.11
	%	%	%	%	%	%	%		%	%	%	%
-3	0.61	0.04	1.49	0.04	2.32	0.99	-	-	-	3.00	0.04	2.74
	%	%	%	%	%	%	0.16	2.49	3.14	%	%	%
							%	%	%			
-4	-	-	-	0.48	-	-	-	-	-	-	-	-
	1.64	0.50	1.22	%	2.18	2.39	4.00	0.50	1.32	2.66	0.50	16.4
	%	%	%		%	%	%	%	%	%	%	3%
-5	-	0.00	0.00	0.97	0.00	-	1.01	0.00	0.00	0.00	-	-
	7.51	%	%	%	%	0.96	%	%	%	%	0.94	7.44
	%					%					%	%
-6	1.17	0.35	-	1.85	-	-	1.72	-	2.13	-	0.24	1.36
	%	%	0.08	%	0.08	0.08	%	1.37	%	4.49	%	%
			%		%	%		%		%		
-7	-	0.84	-	-	-	-	-	-	-	-	-	-
	0.84	%	3.72	0.84	1.98	0.84	0.06	4.13	0.57	1.61	1.15	14.8
	%		%	%	%	%	%	%	%	%	%	8%
C	-	3.77	-	-	-	-	-	-	-	-	4.38	
A	16.00	%	2.89	0.74	2.06	1.56	9.56	3.99	0.59	6.39	%	
R	%		%	%	%	%	%	%	%	%		