STOCK PRICE REACTION TO CHANGES IN CAPITAL ADEQUACY REGULATION IN THE KENYAN BANKING SECTOR

BY

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DECLARATION

I declare that this project is my original work and no part of this paper has been written or published anywhere or presented for a degree in any university

FREDRICK ODHIAMBO ODONGO   SIGN**...................................**

This project has been submitted for examination with my approval as the university supervisor

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DEDICATION

To Mum and Dad, I would not have made it through my studies had it not been for your support. God bless you abundantly.

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I would like to acknowledge my Dad and Mom for the moral and financial support they have given me since I started my master's programme, for you it was always possible and nothing could stop me from achieving the goals I had set. I am also indebted to my supervisor Dr Wanjare, who has literally walked with me throughout this tireless journey. Your corrections advice and updates have played a key role in coming up with this report. Special mention of Collins Onyim, a continuing masters student at the University of Nairobi, Halima Maloba, Jane Christine Gundo and the entire MBA class of 2012. Finally it would be a remiss not to thank the almighty God who gave me the life, health and strength to solder on and successfully finish the course despite the numerous challenges I faced in my personal life.

ABSTRACT

The reaction of stock prices to changes in capital adequacy has been examined and surveyed in this research. Past studies have found out that the announcement of regulatory change is viewed by market participants as generally unfavorable. The objective of this study was to investigate the impact of stock price reaction to changes in capital adequacy regulation in the Kenyan banking sector. The study found out that capital adequacy announcements leads to underperformance of stocks in the market as they had negative cumulative abnormal return values especially in the post announcement dates. The negative performance of the stock is indicated by a mean AR value of -0.0062. In addition, the variability in stock prices increased erratically with time though there is more variability in the days preceding and after announcement. The study concludes that the market reacts negatively to the capital adequacy announcements as the market returns were negative in values though the magnitude of the abnormality was not high. This also implies investors dislike for capital adequacy regulations in the market. The study further concludes that the market does not regard individual stock market highly than another in their analysis of capital adequacy announcement as they all had positive and negative returns. The study recommends that investors should not solely use capital adequacy announcement to make investment decisions as that would not make them have an above normal returns since the market digest the same information in almost a similar way. The study recommends that, other studies should be done to determine the actual challenges and banks' annual performance in the year of capital adequacy announcements.

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LIST OF ABBREVIATIONS

AR   Abnormal returns

ASRV   Average Security Returns Variability

BIS   Bank for International settlements

CBK   Central Bank of Kenya

CAR   Cumulative Abnormal returns

CMA   Capital Markets Authority

DTB   Diamond trust Bank

IPO   Initial public offer

M&M   Modigliani and Miller

NSE   Nairobi Securities Exchange

SVR   Security Returns Variability

USA   United States of America

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Bank regulators in the recent years have shown an interest in the capital adequacy of banking institutions as a way of facilitating stability and competition in the banking sector. Nzioki (2011) defined capital adequacy regulation as a bank regulation that sets a framework on how banks are supposed to handle their capital. According to the moral hazard theory, banks will have a tendency to take risks because the costs that could incur will be felt by the regulators. The theory also postulates that financial bailouts of lending institutions by governments, central banks or other institutions can encourage risky lending in the future if banks that take the risks come to believe that they will not have to carry the full burden of potential losses. Banks need to take risks by making loans, and usually the most risky loans have the potential for making the highest return. They can make risky loans that will pay handsomely if the investment turns out well but be bailed out by the taxpayer if the investment turns out badly. This moral hazard problem created by deposit insurance has forced bank regulators to rely on increasing capital adequacy rules, so as to limit the extent by which bankers can pass their losses onto deposit insurance or a lender of last resort (Dowd, 1997).Capital Adequacy regulation is therefore key in creating a more resilient banking sector that can survive economic challenges like the recent global financial crisis of 2007-2009

1.1.1 Stock Price Reaction

Stock prices can react to public and private information, merger and take over announcements, earnings and dividend announcements, acquisitions mergers and takeovers and regulatory change. The efficient market hypothesis is the notion that Stock prices react to reflect any new information in the market. The reaction to news is always spontaneous and the prices jump on the day the information is made public. There is no further drift in stock price once the information is made public (Marcus,Bodie and Kane,2009).According to the above hypothesis ,there exist three versions of the efficient market hypothesis; the weak form where stock prices reflect only public information, The semi-strong form where stock prices reflect both private and public information and the strong form where stock prices reflect private, public and insider information.

Early financial literature have confirmed the hypothesis that asset price changes in response to unexpected fundamental information. Studies that have supported this educated guess include; Keown and Pinkerton (1981) on merger announcements, Aharony and Swary (1980) on dividend changes and Asquith and Mullins (1986) on common stock issuance, among many others, just to name but a few. Roll (1988) provided empirical evidence that showed little relationship between stock prices and news. Recent studies have however been done to give a novel approach to Rolls critique. Boudukh et-al (2010) in a study to determine which news moves stock prices, used a textual analysis to draw a conclusion that when information can be identified and that if the tone (i.e., positive versus negative) of this information can be determined, then is a much closer link between stock prices and information

The study further found out variance ratios of returns on identified news days almost double than those on no news and unidentified news days; and, conditional on extreme moves, stock price reversals occur on no news unidentified news days, while identified news days show continuation. A study done by Chan (2003) to determine the effect of stock price reaction to news and no-news drift and reversal after headlines, concluded that stocks that experienced negative returns concurrent with the incidence of a news story continued to underperform in their size, book-to-market, and event return matched peers. Stocks that experienced good news show less drift. Chan (2003) found out that, on the other hand, extreme return stocks that had no news headlines for a given month experienced reversal in the subsequent month and little abnormal performance after that. The post-event drift is mainly after bad news and is very robust. The conclusion of over reaction is somewhat weaker, since liquidity effects may drive the reversal of returns. However, the reversal continues to appear when one waits a week to pursue a no-news long-short strategy.These studies support the fact that one has to be smart enough to decode the news and quickly grasp whether it will affect his stocks in anyway and if yes, the degree to which the news can have an impact.

1.1.2 Capital Adequacy Regulation

Capital adequacy regulation is a set of standards set by regulators to ensure that financial institutions meet some set target capital. It may be grouped in two main categories. The first one is made up by all those provisions which simply set a limit to bank leverage, without making any distinction among the assets held in the bank portfolio. The second one consists of all types of risk-weighted capital plans, where bank assets are assigned

different risk-weights to be used in the calculation of the capital ratio, so that riskier assets must be backed by a larger amount of capital (Baglioni and Umberto,1990)

Deposit insurance systems have created the moral hazard problem and the existence of the lender of last resort. Consequently, bank regulators have been forced to rely on increasing capital adequacy rules, so as to limit the extent by which bankers can pass their losses onto deposit insurance or a lender of last resort (Dowd, 1997).Baglioni and Cherubini (1990) argue that capital is not only essential in protection of depositors from losses, but also acts as a signaling device that is able to convey information to the market about the quality of asset portfolio of the bank. Adequate capital requirements help lessen the chance that banks will become insolvent in the event of unforeseen crises(Nzioki,2011).From these arguments, capital adequacy is hence the most important regulatory concern for any modern central bank.

Following the 2007-2009 global financial crisis, mainly caused by credit default swaps and mortgage backed security markets, higher capital requirements have become more prominent as a move to stabilize and create a more resilient banking sector (financial service authority, 2009).A major step in this direction was the adoption of an international regulatory reform package known as Basel III,(an amendment to Basel I accord of 1988 and Basel II) whose rules were based on the conclusion that the financial crisis was as a result of low solvency levels on banks' balance sheet and hence recommended a tighter capital requirement.

In Kenya, the amendment of the banking act (which was passed as the finance act of 2008) saw the central bank of Kenya, in accordance with Basel III(an improvement of the

capital framework issued by the bank of international settlement, popularly known as the Basel accord of 1988), implement a requirement that all banks in Kenya need to build their core capital to ksh 1billion by December 2012.The second schedule of the banking act stipulates that all banks must have a minimum core capital of 350million Kenya shillings, which is to be adjusted to 1 billion by December 2012.Section 7(a) of the act sets a minimum capital requirement as at least 8% of the total risk adjusted asset plus risk adjusted off balance sheet items. Banks are also expected to maintain a capital buffer of at least 2.5%. The change in regulation has resulted to an increase capital levels from 240.1 billion in 2011 to 294 billion in 2012.It has led to a surge in profits in the sector from 40.8 billion ,as at June 2011, to 53.2 billion as at June 2012(see appendix II) (CBK report, 2012)

The enhanced regulatory framework will strengthen corporate governance and risk management frameworks to deal with cross border risks as Kenyan banks expand regionally. The new framework will also enable banks to boost their liquidity management, loans management and enhance their resilience to withstand macro-economic shocks. The capital management framework will be strengthened to ensure banks hold adequate capital in relation to their risk profile and have adequate buffers to ride out periodic macro-economic shocks (Central bank of Kenya report, 2012).These adequacy requirements are continuously monitored and reviewed by the central bank of Kenya. Failure to comply leads to loss of license, liquidation or merger of commercial banks.

1.1.3 Effect of Capital Adequacy Regulation on Stock Prices.

One major composition of a company's core capital (mostly tier one capital) is its common stock. This implies that a firm's policy on its stock price will have an impact on its capital structure. Financial literature has documented both positive and negative effects of regulation on stock prices. A study done by Dodwell, Govindraj and Chain (1992), to determine the impact of stringent packaging regulation on pharmaceutical share prices, concluded that companies experienced negative abnormal returns which were excess of anticipated costs related to packaging regulation alone. The study further supported investors dislike for regulation. The announcement of regulation of insurance companies in California resulted to decline in share prices. This is according to a study carried out by Fields, Gosh and Kidwell (1990).A study by Metta, Eisemann, Moses and Deschamps (1979) however argue that the probability of failure and the impact of leverage on unsystematic risks of banks is reflected in stock prices. Bank regulators can therefore obtain valuable information from banks share prices.

1.1.4 Commercial Banks in Kenya

The research targets commercial banks in Kenya because; The capital adequacy regulation framework directly affects The Banking sector. In addition, with increased financial deepening, the Banking sector has experienced a tremendous growth with banks engaging in both domestic and regional expansion.(FSD,2009).As a result of the new capital regulation by the central bank, some banks have merged so as to comply with the new regulation, for instance the merger CFC and Stanbic Bank.

According to the central bank of Kenya report (2012), as at June 2012, the banking sector comprised 43 commercial banks, The report further indicates that the banking sector

recorded performance as indicated by growth in bank customer's deposits and bank loans. The banking sector balance sheet grew by 15% with loans advances and government securities accounting for 56.5% of the asset side. Customer's deposits were the main components of the liabilities side (Central bank report, 2012).

1.2 Research Problem

Stock prices follow a random walk when reacting to new information in the market. Market information can be an earnings announcement, mergers and takeovers, stock splits or regulatory change for instance capital adequacy regulation. According to the Efficient Market hypothesis, Stock prices react spontaneously to announcement on capital regulation so as to reflect all the available information in the market. Once the information on regulation is made public, then there is no further drift in stock prices (Marcus,Bodie and Kane 2009)

According to the financial sector development report (2009), the banking sector in Kenya has taken advantage of the deregulation policies of the central bank to expand hence enhancing financial deepening. The increase in financial services in Kenya has made the central bank to put in place regulatory measures with regard to capital adequacy to ensure a more resilient banking sector and to protect depositors from losses that may arise incase their banks go under.

The arguments in favour of capital regulation of commercial banks have been well documented in finance literature. A Study done by Gilbert and Wheelock (2007) concluded that capital adequacy requirement facilitates the soundness and safety of the banking sector and by extension its profitability. Cooper, Kolari and Wagster (1991)

provided empirical evidence on the share market reaction of the perceived effects of risk based capital requirement proposed by Basel accord on large international banks in the USA, Japan and Canada. The study found significant declines in equity prices for the United States and Canada. Market reactions results for Japanese banks were however mixed, which may have been due to uncertainty among investors regarding handling of their hidden reserves under the new risk adjusted capital rules.

A study to determine market share reaction to the capital regulation at the Johannesburg Stock exchange by Bahna (1996), found out that the announcement of regulatory change was viewed by market participants as generally unfavourable. The results of the study noted that capital adequacy ratios are subjective and less effective in setting minimum capital requirement. Nzioki (2011) provided empirical evidence on the impact of capital adequacy on financial performance of commercial banks. The study concluded that the asset quality, capital adequacy, bank size and asset base are the major contributory factors to performance of commercial banks. Onchwari (2011), using the residual analysis model, investigated the impact of stock splits on stock prices of commercial banks listed at the NSE. The major finding for the study was that the Kenyan market reacts positively to stock splits as was indicated by the large volume of shares sold during 30 days surrounding the date of the stock split.

The capital adequacy framework entails three pillars; The first pillar deals with the maintenance of regulatory capital for three major risk components(credit, operational and market risks) More refined and specific requirements have been developed for each risk category by each individual bank. Banks that develop their own risk measurement will be rewarded with low risk capital requirement. The second pillar deals with supervisory

review. It's a regulatory response to the first pillar and provides framework for dealing with residual risks such as systematic risks, legal risk, reputational risk and concentration risk. The third pillar sets a set of disclosure requirements that allow market participants to gauge the capital adequacy of an institution. Sharing of information facilitates the assessment of bank by others hence good corporate governance (Basel II,2004)

Most event studies have dwelled on the effect of stock splits, merger or takeover announcements and dividend announcements as events that affect stock prices. Regulatory change event has however been investigated in other bourses, which operate on a different economic environment to that of the Nairobi stock exchange. The study will seek to answer the following question;What is the stock price reaction to changes in capital adequacy regulation within commercial banks in Kenya?

1.3 Research Objective

To investigate the impact of stock price reaction to changes in capital adequacy regulation in the Kenyan banking sector

1.4 Value of the Study

The findings of this study will benefit a number of interested parties as follows: Investors/Stock market players will be able to make informed investment decisions with regard to investing in the stock market and choosing of investment portfolio. Through the study, they will be able to predict stock price movements around the announcement of a major regulatory change. The research will also add, to the existing body of knowledge, arguments and findings which other academicians and business researchers will borrow

to support literary citations as well as develop themes hence opening an avenue to scholars and forming a basis for further research. Policy makers at various level of management of listed companies will have insights on the bearing of capital requirement regulatory change on stock prices. The study will also be effective in reforming of government officials decisions to accurate orientation of shares market.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to provide the readers with insight about the theory and scholarly work on bank capital regulation. The rest of the chapter is arranged as follows; Theories on the role of capital regulation, the 1988 Basel accord and the new framework, capital structure theories, and a summary of the chapter.

2.2 Moral Hazard Theory

A moral hazard is a situation where a party takes risk because the cost incurred won't be felt by the party taking the risk. It is a special case of information asymmetry (one party in a transaction has more information than the other). Financial bailouts of lending institutions by governments, central banks or other institutions can encourage risky lending in the future if those that take the risks come to believe that they will not have to carry the full burden of potential losses. Lending institutions need to take risks by making loans, and usually the most risky loans have the potential for making the highest return.(Krugman,2009) Lending institutions can make risky loans that will pay handsomely if the investment turns out well but be bailed out by the taxpayer if the investment turns out badly.

It can also arise in a principal agent problem, where the agent has more information about a particular action than the principal. If the interests of the two are not aligned, then the agent can act inappropriately.(Mcoy,2007).Mortgage securitization can also lead to the moral hazard because mortgage securitization enables mortgage originators to pass on the

risk that the mortgages they originate might default and not hold the mortgages on their balance sheets and assume the risk. In one kind of mortgage securitization, known as "agency securitizations", default risk is retained by the securitizing agency that buys the mortgages from originators. These agencies thus have an incentive to monitor originators and check loan quality. McCoy,(2006) proposed a raft of measures that can be undertaken to mitigate the moral hazard problem, that is majorly caused be deposit insurance systems and lender of last resort, they include;

Coverage limits which is commonly used by private insurers to control risk. It addresses what type of institution the deposit guarantees, the type of deposit to be guaranteed and caps the maximum amount of deposit to be guaranteed by the government. Risk adjusted returns can also be used as a tool to reduce the moral hazard problem. These returns force the insured institutions to internalize the costs of the risk that the take. They however can only gauge past and current risk than future risk(McCoy,2009)

A study by Morrison and White (2005) on crises and capital requirement found out that if banks don't have sufficient equity, they make investment decisions which though optimal for equity holders, are suboptimal from the point of view of the society as a whole. According to this theory, banks may be tempted to invest in negative net present value assets that maximize returns on equity at the expense of debt holders. Capital regulation hence, according to this theory, plays a crucial role in cushioning all stakeholders from the agency conflict.

In sum, the moral hazard dangers of explicit deposit insurance are constant and quite real. In addition, many financial innovations and deregulation serve to compound moral

hazard. As banks expand into new activities that expose a deposit insurance fund to uncharted risks, the limited resources and expertise of bank regulators are further taxed. Thus, there is reason to be concerned that the risk-enhancing influence of deposit insurance could motivate some financial. The moral hazard problem is the core reason that led to the drafting of the Basel accord.

2.2.1 The 1988 Basel Accord and the new framework

In 1988, a committee comprising of representatives of all Central banks in the G-10 countries, gathered in Basel, Switzerland and adopted the Basel accord of 1988.The accord sets out the details of the agreed framework for measuring capital adequacy and sets a minimum standard to be achieved(Basel committee on banking and supervision,2010)

The accord had two main objectives; to develop a framework that serves to strengthen the soundness and stability of international banking system, and to ensure that the framework developed was fair and had a high degree of consistency in its application to banks in different countries so as to diminish an existing source of competitive inequality among international banks. The framework provided for a transitional period so that existing circumstances in different countries could be reflected in a flexible arrangement that allowed time for adjustment.

Since the adoption of the Basel accord of 1988, there have been significant developments in the measurement and management of risks and new financial instruments have improved banks' ability to mitigate risks. Thus a revised framework for capital requirements was called for. The Basel Committee on Banking Supervision developed

the "International Convergence of Capital Measurement and Capital Standards – a Revised Framework" (commonly known as Basel II) in June 2004.

The change from Basel I to Basel II was necessitated by the fact that in most countries, the law requires banks to hold a certain amount of capital, primarily in the forms of share capital and some quasi-capital debt instruments. The history of capital requirements shows a step-wise development towards increasingly sophisticated approaches. The traditional requirement is that banks must hold a minimum amount of capital, both to provide a cushion against losses and to discipline the bank's owners. Some countries also apply a leverage capital ratio as a backstop to ensure that the amount of capital stays in line with the size of the balance sheet and thus with the risks. (Lind, 2005).Basel II is built on three pillars; Pillar 1 encompasses the capital requirements for credit risk, market risk and operational risk. Pillar 2 contains the "supervisory review process", which outlines the demands on banks' management of risks and capital and defines the roles and powers of the supervisors. Pillar 3 sets out demands on banks for public disclosures.

Following the global financial crisis of 2007-2009, the Basel committee on banking and supervision reviewed Basel II and came up with Basel III, whose major agenda was to strengthen global capital and liquidity rules with the goal of promoting a more resilient banking sector. The objective of the reforms was to improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source, thus reducing the risk of spillover from the financial sector to the real economy. The global capital framework was to be strengthened by; Raising the quality consistency and transparency of the capital base, enhancing risk coverage. Supplementing the risk based capital requirement and reducing procycliality while promoting counter cyclical buffers.

The Central bank of Kenya act 2009 is anchored on the Basel accord of 1988 and the consequent amendments (Basel II and Basel III).The central bank is mandated under the act to foresee the following regulations; Establishment, constitution and objects, regulation of capital reserves, management of financial institutions, currency regulation, regulation of foreign exchange dealings, currency, and relations with both specified banks as well as public entities.

2.3 Stock price reaction

As pointed out earlier, stock prices can react to public and private information, merger and take over announcements, earnings and dividend announcements, acquisitions mergers and takeovers and regulatory change. Kendall (1953) in a study to determine the behavior of stock prices overtime found out that stock price reaction tend to follow a random walk(the prices were likely to go down as they were likely to go up. The random stock price movement indicates an efficient market. This can be elaborated through the efficient market hypotheses

2.3.1 The Efficient Market Hypothesis

The Efficient Market Hypothesis is the notion that stocks already reflect all available information and that stock price reacts randomly to new information in the market. Suppose the Kendall study found out that stock prices are Predictable, then investors would place a great wave of immediate buy orders to cash in on the prospective increase in stock price. For instance, a model predicts that the current stock price of Company X will increase from 100 shillings to 150 shillings in one week. Virtually all investors

would want to purchase the shares of X so that they make profits when the stock prices rise. However, the investors holding the shares at that particular time will not be willing to sell them hence making the stock price of X immediately jump to 130 shillings. The efficient market hypothesis hence states that any information that could be used to predict stock performance should already be reflected in stock prices. As soon as there is any information indicating that a stock is underpriced and therefore offers a profit opportunity, investors flock to buy the stock and immediately bid up its price to a fair level, where only ordinary rates of return can be expected. These "ordinary rates" are simply rates of return commensurate with the risk of the stock (Marcus, Bodie & Kane, 2009)

According to the Efficient market hypothesis, there exist three forms of market efficiency; The weak-form hypothesis asserts that stock prices already reflect all information that can be derived by examining market trading data such as the history of past prices, trading volume, or short interest. This version of the hypothesis implies that trend analysis is fruitless. Past stock price data are publicly available and virtually costless to obtain. .(Marcus,Bodie & Kane,2009)

The semistrong-form hypothesis states that all publicly available information regarding the prospects of a firm must be reflected already in the stock price. Such information includes, in addition to past prices, fundamental data on the firm's product line and quality.If investors have access to such information from publicly available sources, one would expect it to be reflected in stock prices.Finally the strong-form version of the efficient market hypothesis states that stock

prices reflect all information relevant to the firm, even including information available only to company insiders. This version of the hypothesis is quite extreme.

2.4 Capital Adequacy Regulation

Capital adequacy regulations are prudential guidelines set by regulatory bodies (mostly central bank) on the amount of capital that financial institutions should hold. As earlier discussed, deposit insurance, when not fairly priced, gives banks an incentive to increase risk, which they can accomplish, for example, by increasing the risk of their assets or their leverage. This risk–shifting incentive, together with the potential externalities resulting from bank failures, has been one of the main justifications for regulating bank capital.(Santos,2000)

The justification for any regulation usually stems from a market failure such as externalities, market power or asymmetry of information between buyers and sellers. The banking sector needs to be regulated due to the following two reasons; One is the systematic risk argument where banks are exposed to runs due to the fact that they offer liquidity services.Runs can also be caused by Asymmetry of information. It is this risk of a system failure that forms the basis of the classical argument proposing mechanisms to insure banks against liquidity shocks despite their interference in the free functioning of markets.(Santos 2000).

Second is the agency conflict. Banks, like most businesses, are subject to moral hazard and adverse selection problems. Therefore, it is important that investors monitor them. Monitoring, however, is expensive and requires, among other things, access to information. Furthermore, it is wasteful when duplicated by several parties(Santos 2000).

In the case of banking, this is complicated by the fact that bank debt is mainly held by unsophisticated depositors without the necessary information to perform efficient monitoring. In addition, because most of them hold only a small deposit they have little incentive to perform any of the functions that monitoring a bank would require. This free–riding problem creates a need for a private or public representative of depositors. That need can be met by a regulation that mimics the control and monitoring that depositors would exert if they had the appropriate information, were sophisticated and fully coordinated.

The concept of capital regulation is well documented in finance literature. The earlier literature on bank capital regulation, such as Kahane (1977), Kareken and Wallace (1978) and Sharpe (1978), studies the effectiveness of capital standards in controlling banks' solvency in complete market, state preference models. This literature creates a role for capital regulation by introducing deposit insurance. Depositors are fully insured and, therefore, have no incentive to adjust the demanded returns for the risk undertaken by the bank. However, a key aspect of modern banking theory not considered in this literature is the existence of information asymmetry. This is evident especially when the markets are complete and the need for deposit insurance is unclear.

A study done by Furlong and Keely (1989) and Keely (1990) utilized the option model to show that higher capital requirements reduce the incentives for value- maximizing bank to increase asset risk.Bensako and Kantas (1993) and Boot and Greenbaum (1993) advanced Furlong and Keely's argument by concluding that a reduction in monitoring incentives reduces the quality of banks portfolio and by extension the share price. More stringent capital requirements have also been supported in studies done by Bolt and

Tieman (2004), Koehn and Santomero (1980) and Kim and Santomero (1988).A study by Cornett and Tehranian (1994) however provide evidence showing that share prices declines associated with voluntary capital issues (those that don't need to achieve capital standards i.e. are not regulated) are greater than involuntary capital issues.

Studies against higher and stringent capital requirements have also been documented in finance literature. Modigilliani and Miller (1958) proposed that a firm cannot change the total value of its outstanding security by changing the proportion of its capital structure. The implication here is that a firm's capital structure is irrelevant and its regulation doesn't add any value to the firm. Osterberg and Thompson (1989) provided empirical evidence against higher capital requirement. The study argued that higher capital requirement may limit growth due to the cost of issuing additional capital. A study done by Keely (1989) concluded that the issuance of equity capital so as to satisfy capital adequacy requirement in banking industry elicits a negative abnormal return.

A study "the stock market effects on the adoption of risk based capital requirement on international banks in different countries" carried out by Cooper, Kolari and Wagster, which was later published in the journal of banking and finance, revealed significant declines in equity prices for the united States, Canadian and united Kingdom in response to news announcement. Share reaction in Japanese banks was however mixed. This might have been because of investor uncertainty regarding the handling of their reserve under the new framework.

Bhana (1996) carried out a study to determine the share market reaction after the promulgation of new capital regulations for commercial banks in South Africa. Using a

standard event methodology, the findings of the study was that the announcement of regulatory change was viewed by market participants as generally unfavorable. In addition, results of the study divulged that capital adequacy ratios are subjective and less effective in setting minimum capital requirement.

2.7 Summary

One major milestone in bank capital regulation research was the Basel accords of 1988.Scholars have however not agreed unanimously on the optimal design of banks capital regulation. From the literature survey, different opinions emerge regarding market failures that justify bank regulation. There is also no clear consensus regarding the understanding of efficiencies of financial intermediaries in information processing and the optimal risk sharing among various stakeholders. The studies reviewed also offer varied opinion as to the stock market reaction to increased capital requirement.

Despite these varied opinions, one consistent insight into bank capital regulation among all studies is that raising the minimum requirement on capital may improve banks stability and soundness.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a description of the procedures and methods used in carrying out research. The methodology is guided by the research objective laid down in chapter one. The rest of the chapter is outlined as follows; Research design, population, sample design Data collection and data analysis

3.2 Research Design

The study used an Event study research design. An event study describes a technique of empirical financial research that enables an observer to assess the impact of a particular event on a firm's stock price (Marcus,Bodie and Kane,2009). An event can be defined as some change, development or announcement that may produce a relatively large change in the price of the asset over some period. Examples of events include; instance stock splits earning announcements merger or takeover announcement regulatory change. Value of asset that is commonly used is the firms' stock price. However, exchange rates and bond prices can also be used.

The first step towards an event study is to identify the date of the event (The time when the market first learns of the relevant new information).The definition should be accurately and narrowly defined, preferably one date. The event window, which is the number of trading days preceding and following the event date, is then defined to capture leakage and time needed for data to effectively reach the market place. The days must be

few to avoid multiple events within an event window. The measurement of the significance of an event depends on how certain the event date is and how smaller the event window is.

The estimation period (the period over which parameters are estimated) is then established. The event window and the estimation window should not overlap so that an unbiased estimate of normal stock returns is achieved errors due to contamination are avoided. The sample of firms listed at that stock exchange, having frequent trading activity returns is then carefully selected. Firms that have more than one event over the periods covering the estimation period and event window are excluded. The normal return is the computed using the market model. This model assumes that the mean of stock returns over the event window is expected to be the mean of the market return; hence it doesn't require an estimation period. The market model is represented by the equation (i) below.

$$r_t = a + br_{Mt} + e_t \dots\dots\dots\dots\dots\dots\dots\dots(i)$$

Where t = 1-30 days

Where a and b are parameters estimated through an ordinary least square regression of Firms return r_t and the market return r_{Mt}.

The return due to the event (abnormal return) is hence calculated by the equation (ii) below

$$e_t = r_t - (a + br_{Mt}) \dots\dots\dots\dots\dots\dots\dots(ii)$$

Where t = 1-30 days

The residual e_t is the stock return over and above what one would predict based on a broad market movement in that period given, given the stock sensitivity to the market (Marcus. Bodie and Kane, 2009).The cumulative abnormal return (CAR) which is the sum of the abnormal returns is calculated and a statistical significance test (z-test) done to determine the significance of the event.

The methodology entailed a retrieval of a match time series of financial returns of listed commercial banks and a reference/proxy index. The market returns included in the estimation window (which were 20 days prior to the event date) were then identified. The study period of 20 days has been successfully used by scholars for instance; Bhana (1996,) Onchwari (2011) and Chan (2003). A regression was then used to establish the parameters in the market model so as to get the relationship between stock and the reference index. Normal returns were then predicted for all days of the event window. The abnormal returns were computed by getting the difference between the normal returns and the actual returns. To specify if individual abnormal returns differ from zero with some statistical validity-test was applied at the different levels of analysis (abnormal returns or cumulative abnormal returns). Resulting t-values were compared with the critical values of the Student's t-distribution.

This empirical research design has been successfully used by a number of researchers for instance; Keown and Pinkerton (1981) in an empirical investigation of merger announcements and insider trading, used event study to determine the significance of information leakage during merger announcements. Onchwari (2011) also used event study to determine the impact of stock splits on stock prices.

The research design was effective in measuring the significance of the changes in capital regulation because only one event date has been chosen for the study hence limiting errors due to overlapping of events. This ensured that stock price movements are as a result of the regulatory change announcement and not other events or market forces that might affect stock prices. The design is also reliable because a short-horizon event study was used as opposed to the long-horizon

3.3 Study Population

The units of analysis were the individual commercial bank quoted at the NSE. A total of nine commercial banks listed at the NSE formed the population for the study. The banking sector comprises 43 commercial banks, 1 mortgage finance company, 6 deposit taking microfinance institutions, 2 credit reference bureaus, 5 representative offices and 115 foreign exchange bureaus (CBK report 2012)

3.4 Data collection

Secondary data from the NSE share index for the month of December 2008 was used in this study. Daily data on stock returns was used since this was a short term event study and the data collected comprised of share prices around the event date. Only share prices of commercial banks listed at the Nairobi Stock Exchange were considered. This method of data collection has been chosen because stock prices of commercial banks listed at the Nairobi stock exchange are readily available at the NSE library. In addition, seeking secondary data sources saves on time and cost of acquiring information and may become obsolete with time (Sekaran, 2003)

3.5 Data Analysis

The analysis of data obtained from the secondary source was analyzed with the following objectives in mind: to get a feel for the data, to test the goodness of the data and to test the hypothesis developed for the research. The market model is represented by the equation;

$$r_t = a + br_{Mt} + e_t$$

Where;

r_t is the normal return of the commercial banks listed at the Nairobi stock exchange

r_{mt} is the market return (the NSE was used as a proxy)

e_t is the abnormal return due to the event

The market model was used for estimation of parameters a and b because it is a highly flexible tool and can be generalized to include richer models of benchmark returns, for example, by including industry as well as broad market returns or returns on indexes constructed to match characteristic such as firm size (Marcus,Bodie and Kane,2009)

The event date (also day zero) was one day, 19th December 2008. Stock movements around these dates were analyzed to determine the impact of the event on the stock prices. A single day was used so as to avoid the overlapping of events, which may not portray the real impact of the event. The event window was 10 pre-event days and 10 post event days. The estimation period was 20 days before the event window.   A

regression model was used to estimate the parameters a and b. Using the market model equation, the daily stock returns of commercial banks were regressed against the market return(the NSE was used as a proxy for the market return).The return due to the event(abnormal returns) was calculated using the model

$$e_t = r_t - (a + br_{Mt})$$

Where the residual e_t represents the abnormal return due to the event

CHAPTER FOUR
DATA ANALYSIS, RESULTS AND DISCUSSION
4.1 Introduction

This chapter presents the data findings on stock price reaction to changes in capital adequacy in the Kenyan banking sector by analyzing the share/stock prices and market return around change in capital adequacy regulation announcement. These data were collected from the NSE and analyzed using Excel and SPSS (version 19). Analysis involved evaluation of abnormal return around capital adequacy issue.

4.2 Market Reaction to capital adequacy regulation announcement

The study sought to establish the market reaction to capital adequacy regulation announcement by analyzing the abnormal returns, if any, of the stocks. Abnormal Returns (AR) of the shares were calculated by computing the difference between price returns of the stocks listed and the NSE-20 share index returns at the same period in time. This was aimed at showing if the stocks for the listed banks listed had higher return than the market or vice versa. To analyze the market reaction to capital adequacy regulation announcement further, the study computed the average Security Return Variability (SRV) which generally shows how variable (fluctuations in returns) the returns were before and after announcements.

4.2.1 Abnormal Returns (AR)

Table 4.1: Descriptive Statistics for Abnormal Returns

	Mean	STDEV	AR at t_0	MIN	MAX	First Quartile	Second Quartile (Median)	Third Quartile
Barclays Bank Ltd	0.0005	0.0250	0.0134	-0.1544	0.0425	-0.0021	0.0031	0.0125
CFC-Stanbic Bank	0.0035	0.0335	0.0050	-0.1528	0.1182	-0.0025	0.0050	0.0145
Diamond Trust Bank Kenya	0.0021	0.0208	0.0278	-0.0763	0.0756	-0.0074	0.0007	0.0125
Equity Bank	-0.0155	0.1229	0.0058	-0.9071	0.0874	-0.0105	0.0023	0.0190
NIC Bank	-0.0011	0.0123	0.0030	-0.0350	0.0503	-0.0042	0.0000	0.0031
National Bank of Kenya	0.0019	0.0276	-0.0084	-0.0922	0.0825	-0.0089	0.0020	0.0118
KCB	0.0023	0.0217	-0.0468	-0.0531	0.0485	-0.0104	-0.0006	0.0185
Standard Chartered Bank	0.0001	0.0172	0.0025	-0.0565	0.0532	-0.0089	-0.0009	0.0049
Market Average	-0.0062	0.281	0.0023	-1.5274	0.5582	-0.0549	0.0116	0.0968

Source: Field Data

Table 4.1 shows that on average, 6 out of the 8 banks had positive abnormal returns while 2 had negative abnormal returns. However, the market average was negative depicting that capital adequacy regulation have lower returns (underperform with regards to share prices) than the market. The study also looked at the abnormal returns on the announcement date and established that the market reacted positively to 6 of the 8 stocks for the listed banks as shown by positive abnormal returns on the announcement day while the NSE market average was negative.

4.2.2 Security Returns Variability (SRV)

The study sought to establish the variability of the stock return following the announcements thus determine the market reaction.

Table 4.2: Average Security Returns Variability

Day	Mean (ASRV)	STDEV	T-stat	Sig
-30	0.0006	0.5234	2.047	0.096
-29	0.1056	0.8582	1.837	0.126
-28	0.1680	0.6349	2.267	0.073
-27	0.0010	0.5702	3.051	0.028
-26	0.0418	0.1117	2.320	0.068
-25	0.0426	0.4850	1.939	0.110
-24	0.0164	0.2629	2.434	0.059
-23	0.0802	0.4699	2.488	0.055
-22	0.0189	0.3010	3.009	0.030
-21	0.0323	0.5874	1.603	0.170
-20	0.4849	0.7380	2.057	0.095
-19	0.0000	0.5269	1.933	0.111
-18	0.0616	0.5936	1.494	0.195
-17	0.0004	0.5200	2.021	0.099
-16	0.2639	0.1282	3.932	0.011
-15	0.4314	0.1663	2.465	0.057
-14	0.0566	0.2111	2.058	0.095
-13	0.0170	0.4017	1.271	0.260
-12	1.3663	0.0187	1.559	0.180
-11	0.0154	0.6810	1.374	0.228
-10	0.0003	0.4394	1.861	0.122
-9	0.0128	0.5939	2.392	0.062
-8	0.1085	0.4331	2.446	0.058
-7	0.0249	0.5191	2.484	0.056
-6	1.9247	0.7801	1.754	0.140
-5	0.1626	0.3457	2.473	0.056
-4	0.4434	0.4164	1.586	0.174
-3	0.4609	0.7799	2.605	0.048
-2	0.2039	0.8281	3.222	0.023
-1	0.0322	0.7111	2.108	0.089
0	0.6954	0.9164	2.825	0.037
1	0.0944	0.1131	1.925	0.112
2	0.2830	0.5396	3.886	0.012
3	0.0406	0.1820	3.962	0.011
4	0.0242	0.2760	1.997	0.102
5	0.0579	0.2029	1.747	0.141
6	0.0426	0.0271	5.491	0.003
7	0.2303	0.0981	3.244	0.023
8	0.0005	0.0397	2.540	0.052
9	0.4351	0.1027	1.651	0.160
10	0.0518	0.1639	2.817	0.037
11	0.1620	0.8135	1.228	0.274
12	0.1149	0.3342	1.593	0.172
13	0.0286	0.1066	2.666	0.045
14	0.1269	0.3888	1.561	0.179
15	0.0088	0.5994	1.744	0.142
16	0.1727	0.4154	1.294	0.252
17	0.0125	0.6696	2.886	0.034
18	0.0013	0.3248	2.105	0.089
19	0.0745	0.2181	2.732	0.041
20	0.0060	0.5638	1.505	0.193
21	0.0000	0.0673	7.444	0.001
22	0.0825	0.0715	1.810	0.130
23	0.0000	0.0663	4.038	0.010
24	0.0354	0.5974	1.350	0.235
25	0.0004	0.0470	3.521	0.017

26	0.0198	0.5537	1.435	0.211
27	0.0977	0.4468	2.245	0.075
28	0.0252	0.3201	2.354	0.065
29	0.0760	0.5374	1.259	0.264
30	0.0287	0.2115	2.546	0.052

Source: Field Data

Table 4.2 above shows that the variability in stock prices increases erratically with time though there is more variability in the days preceding and after announcement. However, the t-significance shows 15 of the statistics were significant; 10 of which were in the post-announcement period. 6 out of the 10 were between t0 and t15. Most of the days had ASVR of less than 1. Results support the semi-strong form efficient market hypothesis since stock prices adjust so fast to public information that no investor can earn an above normal return by trading on the announcement day and period thereafter.

Table 4.3: Average Value of ASRV for capital adequacy regulation Announcement

Estimation Period	Security Return Variability
From day -15 to day +15	0.255
From day -15 to day -1	0.351
From day 0 to day +15	0.159
From day 0 to day +1	0.395
From day -1 to day 1	0.274
Form day -3 to day +3	0.302
From day -7 to day +7	0.337

Source: Field Data

To analyze the rate at which the stock market absorbs the capital adequacy regulation announcement in its prices, the study presented the average security return variability across the announcement periods as shown in table 4.3. As indicated by the table, stock variability was more in pre-announcement period than post announcement period; while t-15 to t-1 had ASRV of 0.351, t0 to t15 had ASRV of 0.159. Between t0 and t1 the ASRV was 0.395, t-1 to t1 had a variability of 0.274. Day t-3 to t3 had ASRV of 0.302 and t-7 to t7 had ASRV of 0.337. Therefore, the stock market positively absorbed stock capital adequacy regulation information positively.

Table 4.4 Market Reaction across the Event Period

	Mean CAR	**STDEV**
From day -0 to day +0	-0.0019	0.0173
From day -15 to day +15	-.00481	0.0234
From day -15 to day -1	-.01055	0.0319
From day 0 to day +15	.00057	0.0092
From day 0 to day +1	-.01290	0.0104
From day -1 to day 1	-.00995	0.0078
Form day -3 to day +3	-.00555	0.0109
From day -7 to day +7	-.00828	0.0261

Source: Field Data

The study further analyzed the data with regards to time intervals within the event window. Table 4.3 shows that while the average AR for t_{-15} to t_{+1} -0.01055, the average AR for t_0 to t_{+15} time period was 0.00057 signifying better performance of the stocks for the same period of time of pre and post-announcement. However, the average AR for t_0 to t_{+1} was -0.01290, t_{-1} to t_{+1} was -0.00995, t_{-3} to t_{+3} was -0.00555 signifies that the stocks performed poorly than the market in period near announcement than periods far from t_0.

**Figure 4.1: Average Abnormal Returns**
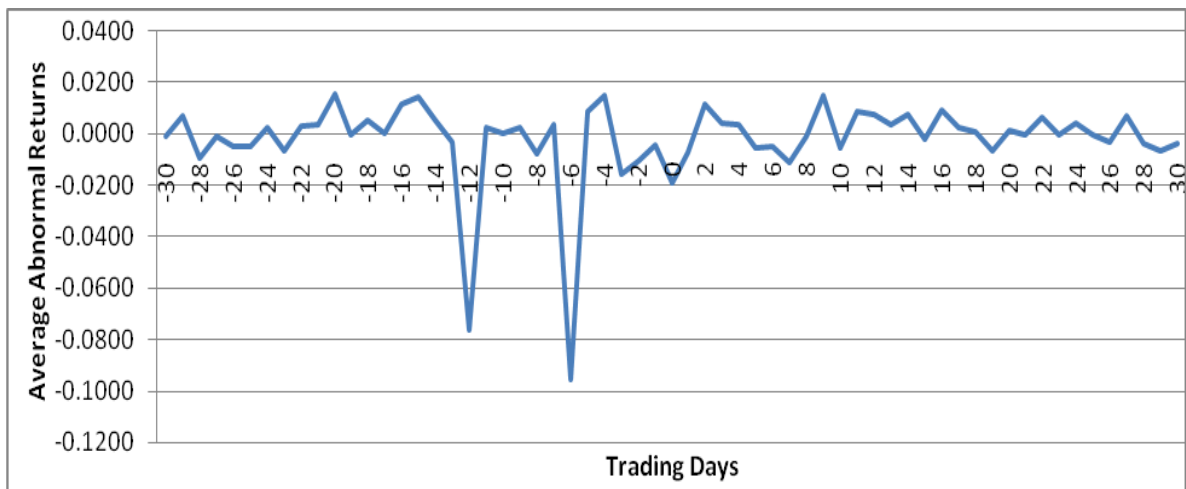
Source: Field Data

Figure 4.1 presents the trend line of average abnormal returns on capital adequacy regulation announcement. The findings also show that post announcement had positive abnormal returns than the pre-announcement period. The t_{-12} and t_{-6} had the highest negative abnormal returns, while the SRV for other trading days were below 0.5. The post-announcement period has lower variability - distributed about AR value of 0 - than the pre-announcement period indicating that the investors did not benefit much from trading in shares than they would have before the announcement (pre-event period). This is in

line with the semi-strong market efficiency which posits that no investor would have above normal returns (abnormal returns) by trading on already publicly available information.

4.3 Cumulative Abnormal Return

The Cumulative Abnormal Returns (CAR) presented shows that the Cumulative Abnormal Return reduced from positive to negative with time from day t_{-30} to t_{30}. Figure 4.2 shows that the listed stock performed poorly than the market a few days before announcement to the 30th day as they have negative values, though there is a subsequent rise.

Figure 4.2: Overall Cumulative Abnormal Returns (CAR)
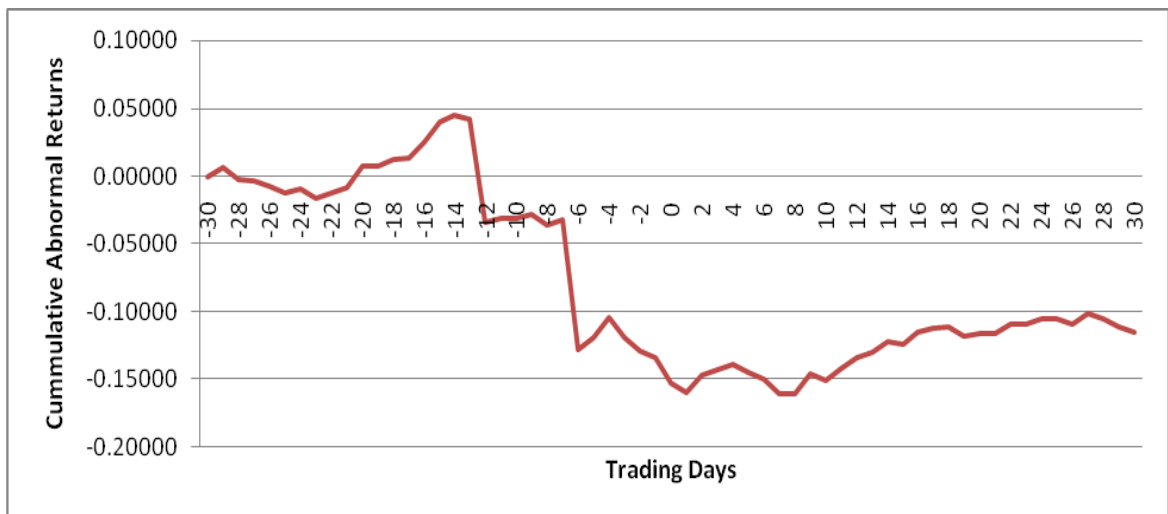
Source: Field Data

4.4 Discussion of findings

The objective of this study was to investigate the impact stock price reaction to changes in capital adequacy regulation in the Kenyan banking sector. The amendment of the banking act (which was passed as the finance act of 2008) saw the central bank of Kenya, in accordance with Basel III (an improvement of the capital framework issued by the bank of international settlement, popularly known as the Basel accord of 1988), implement a requirement that all banks in Kenya need to build their core capital to ksh 1billion by December 2012.

In this study, 8 listed banks in total were analyzed out of which 6 banks, had positive abnormal returns. In 30 days period the t-significance shows 15 of the statistics on average security returns variability being significant 10 of which were in the post-announcement period. The other affiliates did not show any significant changes or even moved in the opposite direction. Sironi's (2003) analyses of the European banking industry, for instance, provide evidence that subordinated investors are sensitive to any regulation on bank and would tend to hold their stocks in a speculative motive. A study by Cornett and Tehranian (1994) provided evidence showing that share prices declines associated with voluntary capital issues is greater than involuntary capital issues.

In the events, CARs were higher in the pre announcement and were significant. In addition, various banks were obviously unaffected by others' announcements, which can be interpreted by the fact that the Banks in a different, still not saturated, but growing market, and are, therefore, only marginally affected by events of the other affiliates.

From the findings, the average AR for t_{-15} to t_{+1} was -0.01055, the average AR for t_0 to t_{+15} time period was 0.00057 signifying better performance of the stocks for the same period of time of pre and post-announcement. However, the average AR for t_0 to t_{+1} was -0.01290, t_{-1} to t_{+1} was -0.00995, t_{-3} to t_{+3} was -0.00555 signifies that the stocks performed poorly than the market in period near announcement than periods far from t_0.

Past research findings show that during the announcement the market is still not entirely mature, i.e. it is quite thin and illiquid and, hence, does not allow for quite prospective trading. This fact results in more turnovers, as a result of trading of stocks a period near announcement than periods far from the event date (Fitch Ratings, 2004). Nonetheless, the market's illiquidity was still excessively high, especially during times of low trading volume in the whole financial market, e.g. during the Christmas holidays as captured in the event study. In almost every case the prices changes on this particular day, only to recover to normal levels, a few days after.

From an individual bank's point of view these products can contribute to the diversification of the portfolio and play an important role in management's risk-return-decisions due to the separation of default risk and interest rate risk based on the market. Furthermore, it may be a convenient means to take advantage of capital or regulatory arbitrage possibilities, by transferring highly rated credit risk to non-banks, because Basel II capital adequacy requirements are based only on the default risk of the contracting party without differentiating between the companies.

The results indicates that the market performance is significance since after the announcement Cumulative Abnormal Returns (CAR) reduced from positive to negative

with time from day t_{-30} to t_{30} though there is a subsequent rise. Companies stock performance tend to increase for a shorter period before the price reduce to the trend level it was before the announcement date . This has been shown by the increase in trading activity before and after the announcement. Mishra (2005) results found that stocks show abnormal return before eight or nine days of announcement, thereby supporting the evidence that Stock market is efficient in its semi-strong form.

The finding also shows that on days immediately around the announcement, the trading activity was are high. Kinyua (2011) found that announcements and financial performance are positively correlated with performance after announcements. The trading activity increases from around 15 days after the announcement.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings in the previous chapter, conclusions drawn from such findings and recommendations. The chapter's structure is organized into summary of findings, conclusions, recommendations and conclusions.

5.2 Summary of Findings

The study found out that, overall, capital adequacy announcements leads to underperformance of stocks in the market as they had negative cumulative abnormal return values especially in the post-announcement dates. Overall, negative performance of the stock is indicated by a mean AR value of -0.0062. However, the average performance of the banks indicates that 6 out of the 8 had positive average abnormal returns (AR). On the announcement day, most stocks (6 out of 8) had positive abnormal returns although the overall market return on the announcement date was negative. The study also shows that on average half of the trading days had values lying on the both sides of 0.0054 as indicated by the second quartile.

The minimum and the maximum values of AR for the entire market were between - 1.5274and 0.5582. This implies that the abnormality of returns were low and, therefore, none of the investors significantly used the information regarding capital adequacy announcement to have an above market returns. Therefore, the market absorbed the

information and incorporated the same into its share prices and the investors could not use the information to benefit much from trading on the stock.

5.2 Conclusions

The study concludes that the market reacts negatively to the capital adequacy announcements as the market returns were negative in values though the magnitude of the abnormality was not high as it ranged between -1.5274 and 0.5582. Although this points to little deviance from the normality of price returns making the market imperfectly efficient in the semi-strong form, negative infinitesimal abnormal returns contravenes the general belief that announcements would lead to positive returns as it enhances a company's reputation, prestige owing to media influence. This also depicted little variance in abnormal returns after announcement than in periods preceding the announcements.

The study also concludes that the market does not regard individual stock market highly than another in their analysis of capital adequacy announcement as they all had positive and negative returns.

5.4 Recommendations

The study recommends that investors should not sole use capital adequacy announcement to make investment decisions as that would not make them have an above normal returns since the market digest the same information in almost a similar way. However, given that the listed banks experienced negative cumulative abnormal returns in the post-announcement period, the study suggests that the Government should consider the

cumulative negative effect in the performance of the firms and the overall market performance. This will incorporate financial decisions from the firms before implementing such corporate actions.

5.3 Limitations of the Study

This study encountered various limitations; the limitation of time and financial constraint, limited an in-depth analysis of the data collected. In addition, the fact that perceptions are dynamic in nature and tend to fluctuate when other variables are introduced was subject to alterations in analysis. The announcements of capital adequacy results may have been affected by other market anomalies such as the weekend and Monday effect. The study also fell short of bringing out clearly the market reaction to capital adequacy with respect to regional market as the some banks have cross-listed in other stock exchanges within the region. This could have had an effect on how the market regards other subsequent cross-border listing.

5.4 Areas for Further Studies

The study suggests that, another study could be done to determine the actual challenges and banks' annual performance in the year of capital adequacy announcements.

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APPENDICES

Appendix I: Average Abnormal Returns and Average Stock Return Variability

Trading Day	AAR	ASRV
-30	-0.0006	0.0006
-29	0.0073	0.1056
-28	-0.0093	0.1680
-27	-0.0007	0.0010
-26	-0.0046	0.0418
-25	-0.0047	0.0426
-24	0.0029	0.0164
-23	-0.0064	0.0802
-22	0.0031	0.0189
-21	0.0041	0.0323
-20	0.0157	0.4849
-19	0.0001	0.0000
-18	0.0056	0.0616
-17	0.0005	0.0004
-16	0.0116	0.2639
-15	0.0149	0.4314
-14	0.0054	0.0566
-13	-0.0030	0.0170
-12	-0.0762	11.3663
-11	0.0028	0.0154
-10	0.0004	0.0003
-9	0.0026	0.0128
-8	-0.0074	0.1085
-7	0.0036	0.0249
-6	-0.0957	17.9247
-5	0.0091	0.1626
-4	0.0151	0.4434
-3	-0.0154	0.4609
-2	-0.0102	0.2039
-1	-0.0041	0.0322
0	-0.0189	0.6954
1	-0.0069	0.0944
2	0.0120	0.2830
3	0.0046	0.0406

Trading Day	AAR	ASRV
4	0.0035	0.0242
5	-0.0054	0.0579
6	-0.0047	0.0426
7	-0.0109	0.2303
8	-0.0005	0.0005
9	0.0149	0.4351
10	-0.0051	0.0518
11	0.0091	0.1620
12	0.0077	0.1149
13	0.0038	0.0286
14	0.0081	0.1269
15	-0.0021	0.0088
16	0.0094	0.1727
17	0.0025	0.0125
18	0.0008	0.0013
19	-0.0062	0.0745
20	0.0018	0.0060
21	0.0000	0.0000
22	0.0065	0.0825
23	0.0001	0.0000
24	0.0043	0.0354
25	-0.0004	0.0004
26	-0.0032	0.0198
27	0.0071	0.0977
28	-0.0036	0.0252
29	-0.0062	0.0760
30	-0.0038	0.0287

Source: Field Data

Appendix II: Table of commercial banks listed at the Nairobi Securities Exchange

Barclays bank of Kenya ltd
CFC Stanbic Bank of Kenya ltd
Diamond Trust Bank ltd
Equity bank of Kenya ltd
Housing Finance Co-Kenya ltd
Kenya commercial bank of Kenya ltd
National bank of Kenya ltd
NIC Bank ltd
Standard Chartered Bank of Kenya
The Co-operative Bank of Kenya ltd.

Source; Capital Markets Authority of Kenya Report,2012.Page 74

Appendix III; Banking industry Profits(KSH BILLION)

ITEM	JUN-12	JUN-11	% CHANGE
Total income	146.1	110.3	32.50
Expenses before provisions	102.3	65.6	55.60
Profit before provisions	57.9	43.8	32.20
Provision for Bad debts	4.7	3.9	20.50
Profit Before Tax	53.2	40.8	30.40

Source; Central bank of Kenya Report 2012.Page 47