

THE EFFECT OF LOCKUP EXPIRATION ON THE STOCK PRICES OF
COMPANIES LISTED ON THE NAIROBI SECURITIES EXCHANGE

ABDULAHI MOHAMED OMAR

D63/65870/2013

SUPERVISOR: DR. J. O. ADUDA

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF
SCIENCE IN FINANCE, SCHOOL OF BUSINESS, UNIVERSITY OF
NAIROBI

OCTOBER, 2014

DECLARATION

I declare that this research project is my original work and has not been presented for a degree in any other university or institution.

Signed: Date:

ABDULLAHI MOHAMED OMAR

Registration No: D63/65870/2013

SUPERVISOR'S DECLARATION

This Research Project has been submitted for examination with my approval as university Supervisor

Signed:Date:

DR. JOSIAH O. ADUDA

DEDICATION

I dedicate this research project to my family for their understanding and support during my study period. To my mother Dahabo, My Father Mohamed, My fiancée Nimo, My Sister Nisteho and My Brothers Mohamud and Musa whose words of encouragement and push for Pertinacity Prepared me well for the tough life of study and work.

ACKNOWLEDGEMENTS

Foremost, I would like to extend my sincere gratitude to the Energy Regulatory Commission for sponsoring my studies. I would also like to thank my family for their encouragement and support.

Special thanks go to My Supervisor, Dr. Josiah O. Aduda for his scholarly guidance, his dedication to perfection; encouragement and constructive criticism all of which made this project a reality. Dr Aduda Certainly made studying at the University of Nairobi and enhancing and developmental experience.

I am also very much grateful to the rest of the university fraternity especially my lecturers for their contribution in my acquisition of new knowledge in the area of finance which proved helpful when writing this Research Project.

I also wish to thank my moderator, Chairman of the department, the panel that seat in my proposal defense for their contribution to the success of this Research Project.

Thank you all

Most importantly, I would like to extend my humble gratitude to the Almighty Allah for providing me with the strength, patience, Knowledge and Wisdom to undertake this Research Project.

ABSTRACT

This Research Project examined the effect of lockup expiration on the stock prices of companies listed on the Nairobi Securities Exchange. The population of this study consisted of all sixty four companies listed on the Nairobi Securities Exchange. The study used purposive sampling method where companies that were listed on the NSE after 2002 when the Capital Markets Public Offer Listing and Disclosure Regulations of May 2002 which makes lockup contracts for a period of two years mandatory for IPO companies listed on the NSE came into effect. A total of five firms which cuts across five industries: The banking Industry, Insurance Industry, Energy Industry, Commercial and Services Industry and Technology and Telecommunications Industry, out of the sixty four listed companies were used as a sample. The study period was from 2008 to 2013. The secondary data for the five variables used was obtained from NSE information data base for the period 2008 to 2013

This Study used event study methodology to establish the relationship between lockup expiration and stock prices of IPO companies listed on the Nairobi Securities Exchange. The study sought to establish the abnormal return around the lockup expiration, additionally, the study investigated the statistically significant factors affecting the cumulative abnormal returns surrounding the lockup expiry period consisting of log of firm size, Firm age and ownership concentration.

The results show statistically significant negative abnormal returns at lockup expiration. The general results therefore indicate a negative relationship between lockup expiration and stock prices of companies listed on the Nairobi Securities Exchange. In terms of the results of the three independent variables: Log of firm size, firm age and ownership concentration used to investigate the statistically significant factors affecting the cumulative abnormal returns the study found that these independent variables have statistically insignificant effect on the cumulative abnormal returns for the sample considered in this study.

Contents

DECLARATION	i
DEDICATION	iii
ACKNOWLEDGEMENTS	iv
ABSTRACT	v
List of Tables	viii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study.....	1
1.1.1 Lockup Expiration.....	3
1.1.2. Stock Prices.....	4
1.1.3Lockup Expiration and Stock Prices	5
1.1.4 Nairobi Securities Exchange	6
1.2 Research Problem	7
1.3 Objectives of the study.....	10
1.4 Value of the Study	10
CHAPTER TWO	12
LITERATURE REVIEW	12
2.1 Introduction.....	12
2.2 Review of Theories	12
2.2.1 Diversification Hypothesis Theory	12
2.2.2 Demand curve Hypothesis Theory.....	13
2.2.3 Signaling effect Hypothesis Theory.....	13
2.2.4 Anticipation Hypothesis Theory	14
2.2.5The Random Walk Theory.....	14
2.3 Determinants of Stock Prices	15
2.4 Review of Empirical Studies	16
2.5 Chapter summary	19
CHAPTER THREE	20
RESEARCH METHODOLOGY	20
3.1 Introductions	20
3.2 Research Design.....	20

3.3 Target Population.....	20
3.4 Sampling Design.....	21
3.5 Data Collection Methods	21
3.6 Data Analysis.....	21
3.6.1 Test for abnormal returns: Market Model.....	22
CHAPTER FOUR	25
DATA PRESENTATION AND ANALYSIS	25
4.1 Introduction.....	25
4.2 Analysis and Interpretation	25
4.2.1 Abnormal Returns Test Results: Market Model	26
4.2.2 Hypothesis t-test statistic results.....	31
4.2.3 Cross-sectional test Results.....	32
CHAPTER FIVE	38
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	38
5.1 Summary	38
5.2 Conclusions.....	39
5.3 Recommendations.....	40
5.4 Limitations of the study	41
5.5 Areas for Further Studies	42
REFERENCES.....	43
APPENDIX 1 Population Size	45
APPENDIX 2 Independent Variables	49
APPENDIX 3 Lockup expiration dates.....	50
APPENDIX 4 Safaricom Abnormal Returns.....	50
APPENDIX 5 Scan Group Abnormal Returns	51
APPENDIX 6 KenGenAbnormal Returns.....	52
APPENDIX 7 Equity BankAbnormal Returns.....	53
APPENDIX 8 BritamAbnormal Returns.....	54

List of Figures

Figure 1: Period of Study around lockup expiration.....	21
Figure 2: Graph of Abnormal Returns for Safaricom at Lockup Expiration: 29th march 2010	26
Figure 3: Graph of Abnormal Returns for Scangroup at Lockup Expiration: 17th July 2008	28
Figure 4: Graph of Abnormal Returns for KenGen at Lockup Expiration: 19th May 2008	29
Figure 5: Graph of Abnormal Returns for Equity Bank at Lockup Expiration: 21th July 2008	30
Figure 6: Graph of abnormal returns for Britam: Lockup Expiration date is 28th June 2013	31

List of Tables

Table 1: Safaricom Statistics	26
Table 2: Scangroup Statistics.....	27
Table 3: Descriptive Statistics	28
Table 4: Equity Bank Statistics.....	29
Table 5: Britam Statistics.....	30
Table 6: T-Test Results.....	31
Table 7: Variables Entered/Removed	32
Table 8: ANOVA.....	32
Table 9: Coefficients.....	33
Table 10: Correlations.....	35

LIST OF ABBREVIATIONS

AIMS	Alternative Investment Market Segment
CMA	Capital Markets Authority
GEMS	Growth Enterprise Market Segment
IPO	Initial Public Offering
MIMS	Main Investment Market Segment
MSCI Index	Morgan Stanley Capital International Index
NASI	Nairobi Securities Exchange All Share Index
NSE	Nairobi Securities Exchange
REITs	Real Estate Investment Trusts

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

During the last decade global securities exchange markets—markets concerned with the trading of equity and debt instruments have grown tremendously becoming large and liquid, and with substantial depth. These markets perform an important function within the financial system. By facilitating the execution of orders it enhances the liquidity of securities markets, and therefore allows the efficient allocation of capital flows to investment opportunities. One such market in Africa that has experienced a phenomenal growth is the Nairobi Securities Exchange. Established in 1954, it is Africa's second securities market to list its own securities after South Africa's Johannesburg Stock Exchange.

Through an IPO, a firm can raise substantial capital from the stock market and become better known. At the same time, the firm becomes subject to more scrutiny from regulators and the investing public. An IPO is also a major exit mechanism for pre-IPO owners, including venture capitalists, entrepreneurs, and other significant shareholders. Most IPOs have a lockup provision, a contract between the underwriter and the issuer, which prohibits the issuer and its insiders from selling their holdings before a specific date – the lockup expiration date – usually two years after the offering in Kenya— without written permission from the underwriter.

Upon the lockup expiration, corporate insiders are allowed to liquidate their holdings. The IPO lockup expiration can have a significant impact on the market, because, when the lockup expires, corporate insiders enter the market and the number of public float shares increases dramatically – usually two or three times the number of floating shares right after the initial public offering. Researchers have documented a significant price drop and a permanent increase in trading volume around lockup expirations – see example Field and Hanka (2001), Bradley, Jordan, Roten, and Yi (2001), and Ofek and Richardson (2000).

At the time of floatation, outsiders usually have little information about the firm. In contrast, the incumbent shareholders, who are frequently involved in the management of the firm, tend to have a better and bigger picture about the firms' prospects. Typically, when an IPO takes effect, only a fraction of the shares outstanding is issued to the public, whereas insiders (e.g. Chief Executive officers, block shareholders, Directors and founders/promoters) own the remaining shares. Shares owned by insiders are subject to liquidity restrictions known as lockup agreement signed between the underwriters of IPOs and insiders within a specified period after an IPO. One of the reasons for lockups is to protect outside investors from being exploited by insiders acting on private information (Brav and Gompers 2003). Committing the incumbents' holdings over a certain time after an IPO makes it more likely that any private information becomes public.

Globally, there is no uniform rule regarding the length of lockups, volumes of shares locked up and regulatory provisions concerning lockups. In some countries lockups are mandatory while in other countries lockups are voluntary. In Kenya, the Capital Markets Public Offer Listing and Disclosure Regulations of May 2002 which was amended in June 2012 make lockups mandatory for companies listed on Alternative Investment Market Segment (AIMS), Main Investment Market Segment (MIMS) and Growth Enterprise Market Segment (GEMS) for a period of two years. (www.cma.go.ke). Real Estate Investment Trust or Collective Investment Scheme Regulations of June 2013 enforces lockups through Legal Notice Number 116 which requires Real Estate Investment Trusts (REITs) promoters, to hold twenty percent of the asset value listed at the Nairobi Securities Exchange, before being allowed to cut it to ten percent by the end of the second year and ultimately exiting (Ngigi, M., and Akeha, M., 2013).

Much of existing research has focused on the motives behind lockups and two main possible motives are proposed: Signaling and moral hazard, each of which receives abundant empirical evidence (For example, Brau et al, (2005); Brav and Gompers, (2003). Aggarwal et al. (2002) proposed that managers strategically under price IPOs to maximize personal wealth from selling shares at lockup expirations. Gao et al. (2012) found that firms with a longer lockup period have worse long run stock performance. These articles more or less refer to the impact of the length of lockup period on stock performance but do not examine the reaction of the stock price on lockup expiration. One contribution of this study is to combine the previous literature and investigate the

effect of lockup expiration on stock prices of companies quoted on the Nairobi Securities Exchange

1.1.1 Lockup Expiration

Most IPOs feature share lockup agreements, which prohibit insiders and other pre-IPO shareholders from selling any of their shares for a specified period after an IPO known as lockup period. The lapse of this period is called lockup expiration. The terms of the lockup, including the expiration or “unlock” date, are disclosed in the prospectus. Some recent findings (e.g. Mohan and Chen, 2001) suggest that the length of a lockup conveys material information that is pertinent to the risk of an IPO. Especially if information asymmetries are high, the IPO should have a longer lockup period because it allows for more time for private information to be transferred to the public. These studies have also reported that lockups have an impact on the financial markets.

Lockup contracts are agreements that prevent the initial shareholders of IPO firms from selling a specific percentage of their shares over a certain period following the admission of their firm to the stock exchange. Thus, at an IPO, pre-IPO shareholders can not only signal their commitment via the percentage of ownership retention after the IPO but also by locking up their share stakes for a specific period (Bau, Lambson and McQueen 2004). One of the interesting features of lockup contracts is that they are frequently voluntary arrangements. For example, although the UK and US stock markets do not impose any generally applicable minimum lockups; most firms that go public have lockups in place. Even for the markets that require minimum lockups, such as the Euro New Markets (EuroNM) of Continental Europe, the original shareholders often agree to a larger proportion of their shares being locked up and to lockup periods that exceed the minimum requirement.

Another interesting feature is the diversity of lockup contracts across countries and across firms in terms of their contractual characteristics. The US is at one extreme of the spectrum with very short lockup periods. Over the last decade, there has been an increasing trend in the US towards standardization in terms of the lockup duration which tends to be 180 days for most firms (see Bradley et al. 2000). Whereas the (voluntary) US lockup contracts are mostly standardized, the lockup contracts on the Continental European markets are frequently mandatory and the lockup

periods are also more varied and longer. At the other end of the spectrum are the lockup contracts of UK firms with an average duration of about 600 days and with an even greater diversity of expiry dates.

Espenlaub et al.(2001). The third interesting feature of lockup agreements is that the US studies have found evidence of a negative share price reaction on the day of their expiry (e.g., Bradley et al. 2000, Field and Hanka 2001, and Brav and Gompers 2003). This evidence contradicts the efficient market hypothesis (EMH) as the IPO prospectus contains all the details of the lockup agreement (including the expiry date) and there should therefore be no significant price change at the expiry. Contrary to the studies on US data, Espenlaub et al. (2001) did not find significant abnormal returns around lockup expiry date for a sample of UK IPOs. Since there appears to be price reaction differences across the developed countries, it would be interesting to examine price reactions to lockup expiry in developing countries, such as Kenya. This research project aims at establishing the relationship between lockup expiration and stock prices at the NSE.

1.1.2. Stock Prices

It is the cost of purchasing a security on an exchange. When one wishes to invest in a stock market then he/she should always make a good survey of the whole market. Since the stock market is dynamic and cannot be predicted with precision. There is need for investors and investment analysts to understand how the stock market functions and the factors that affect the stock price before making an investment decision.

One of the major factors affecting stock price is demand and supply of shares, the trend of stock market trading has a direct bearing on the stock price. When stock market participants are purchasing more stocks, then the price of that particular stock tends to increase. On the other hand if the stock market participants are selling more stocks then the price of that stock tends to decrease. So a market participant needs to critically analyze the demand and supply of the stock in which he/she intends to invest. All things being equal large capitalization stocks are considered safer than small capitalization stocks. Although market capitalization is important to consider it is not advisable for market participants to solely base their investment decisions on it, since it is just one measure of value.

A serious investor needs to look at numerous factors such as firm's stock price. Positive news about a company can increase the demand for a company's stock hence an increase in its stock price, while negative news can trigger panic among the market participants thus leading to high sales of the company's stock, therefore a decline in its stock price. Earning/Price Ratio is an important factor affecting stock price since it gives market participants a fair idea of the company's value. The stock becomes undervalued if the price of the share is much lower than the earnings of the company. And if this is the case then it has the potential to rise in the near future. The stock becomes over valued if the prices are much higher than the actual earning.

Seguin and Smoller (1997) provide evidence that an inverse relationship exists between the offering price of an IPO and subsequent market performance. Specifically, they find that lower priced stocks have higher mortality rates. This study extends their research to determine whether a similar relationship exists between lockup expiration and stock prices of IPO firms on the NSE. Relying upon the Seguin and Smoller (1997) logic and results, this study predicted a negative relationship between lockup expiration and stock prices.

1.1.3 Lockup Expiration and Stock Prices

When the lockup agreement expires, locked insiders become unlocked and are able to sell their shares. The price reaction around the lockup expiration on the markets has been spotted by several researchers. Brav and Compers (2000) plot the average abnormal buy and hold return between 1988 and 1996 over 21 event days commencing 10 days prior to the lockup expiry date to 10 days after, and find that from 10 days prior to, through 2 days prior to, abnormal returns appear to be quite small and that from one day prior to two days after, abnormal returns are large and negative. According to their study, prices dropped by 1.5% around lockup expiration. However, they did not explore the influence of firm size, firm age and ownership concentration on the cross-sectional differences in cumulative abnormal returns between the sample firms analysed.

At the lockup expiration date, there are strong information asymmetries between inside and outside shareholders because insiders hold more of the firm's information than the outside investors. Thus, insiders have an opportunity to sell all their shares, but the actual number that will be sold is unknown. This lead will to greater negative market-price reaction and higher

trading volume. The greater information asymmetries of the firms, the greater impact of abnormal return and abnormal volume at the end of the lockup date. In this study, the firm's asymmetric information proxies are observed by its size, age and ownership concentration.

Information asymmetry models developed by Welch (1989), Allen and Faulhaber (1989), and Grinblatta and Hwang (1989) state that informed issuers signal the intrinsic values of IPOs to uninformed investors by deliberately under pricing and retaining shares. Ritter, (1991), Krigman, Shaw and Womack, (1999) and Aggarwal, Krigman and Womack, (2002) generally documented the persistence of initial public offering under pricing. Some recent findings (e.g. Mohan and Chen, 2001) suggest that the length of a lockup conveys material information that is pertinent to the risk of an IPO. Especially if information asymmetries are high, the IPO should have a longer lockup period because it allows for more time for private information to be transferred to the public. These studies have also reported that lockups have an impact on the financial markets. Aggarwal et al. (2002) proposed that managers strategically under price IPOs to maximize personal wealth from selling shares at lockup expirations. Gao et al. (2012) found that firms with a longer lockup period have worse long run stock performance.

1.1.4 Nairobi Securities Exchange

The Nairobi Securities Exchange like any other securities exchange provides a venue where long term capital seekers and providers meet and transact. Although NSE is important it only provides information on stock price, and other information about a listed firm is highly asymmetric. Information asymmetry exists between regulatory authorities and listed companies, between listed companies and investors as well as between institutional investors and individual investors. Greenwald and Stiglitz (1993) pointed out that information is the cornerstone of stock market operations, and hence such information asymmetry would cause many problems for the market. For instance, due to prior information asymmetry products with bad quality will drive out those with good quality because of adverse selection, which will eventually result in the whole quality decline of the products traded in the market.

The MSCI Indices 2013 Performance Results ranked the NSE as the fourth best performing stock market in the world, with a 43.58 per cent return. NSE addresses the demands of two types of customers: issuers seeking finance at low cost of capital and investors wishing to trade bearing

low transaction costs at reliable prices. The utility functions of issuers and traders are tightly linked by cross-externalities which make their relationships resemble a typical feature of two sided platform. The interaction between these customers is facilitated by the Securities Exchange Markets such as NSE through Initial Public Offering (IPO) which is the first critical step in the life cycle of a listed firm.

In an efficient capital market, the possible effects of allowing the insiders to sell their holdings freely should be incorporated into the IPO performance prior to lockup expiration, since the non-restricted shareholders (i.e. non-insiders) can trade freely in anticipation of increased sell-offs at the lockup expiration. However, if any significant price reactions are observed at the lockup expiration, the semi-strong-form Efficient Market Hypothesis (EMH) may be violated, indicating that the stock market prices fail to reflect publicly anticipated events before its occurrence. This study will employ event study techniques to find out whether the IPO trading behaviors (Stock prices) are normal around the lockup expiration.

Lockups are used to prevent the company insiders from taking advantage of other investors by selling their shares soon after an IPO; this limits the significant decline of the firm's stock price, after the IPO date. In addition, lockups restrain the excessive supply in the market, and should also keep the insiders concentration on the execution of the company's strategy. Hence, the lockups would increase the marketability of the IPO, thereby increasing its likelihood of success.

1.2 Research Problem

Lockup expiration is usually associated with insider sell-out consistent with shareholders selling their position for varied reasons, which might lead to adverse market reaction hence a permanent drop in stock prices and an increase in the volume of shares traded. Firms issuing IPOs are faced with a variety of constraints imposed by asymmetric information regarding the value of assets-in-place and growth options. If the market is characterized by heterogeneously informed investors, then the offer prices must be discounted on average, either in order to compensate uninformed investors for the winner's curse (Rock, 1986) or to persuade informed investors to reveal their information (Benvensite and Spindt, 1989). Therefore, the share price at lockup expiration is of particular importance to insiders, as they tend to divest at this time. Indeed, Aggarwal, Kringman and Womack (2002) developed a model and show empirically how insiders

strategically underpriced IPOs in order to exit at favorable terms at lockup expiration. They argue that under pricing creates price momentum which supports and pushes the share price of IPO upwards until insiders are allowed to exit at lockup expiration.

Many researchers have tried to explain the significant stock price drop around lockup expiration, but have so far found no satisfactory explanation – Field and Hanka (2001) Ofek and Richardson (2000), (2003). For internet stocks, Ofek and Richardson (2003) argue that the stock price drop at lockup expiration is attributable to short selling constraint and investor heterogeneity. When market options are diverse and short selling constraints are in effect, pessimistic investors are kept out of the market. In contrast, optimistic investors may continue to buy. The asymmetric market friction may lead to optimistically biased stock prices, and the optimistic buyers lose when stock prices drop upon lockup expiration. However, significant stock price drop around lockup expiration is a general phenomenon and is not limited to internet stocks, Gaczy, Musto, and Reed (2002) find that even for IPO stocks that are cheap and easy to borrow – for short sale- the stock price drop around lockup expiration is still significant. This paper, attempted to provide further insights into why this significant stock price drop happens around lockup expiration.

Brav and Gompers Using a sample of 2,794 IPOs in the US over the period from 1988 to 1996, (2003) analyzed the role of lockups and found support for the notion that lockup is a commitment device to alleviate moral hazard problems subsequent to IPOs rather than a signaling solution to adverse selection. However, Brau et al (2005) challenged Brav and Gompers conclusions empirically and theoretically. By creating a signaling model and using a sample of 4,013 IPOs and 3,279 seasoned equity offerings between 1998 and 1999, found empirical support for their prediction of signaling without considerations of moral hazard factors.

Locally there are a number of studies carried on stock prices of companies listed on the NSE. For example Mohammed, (2010) in his studies on the effect of earnings announcements on the stock prices of companies listed on the NSE observed significant movements in returns at pre and post earnings announcements. He noted that most of the shares posted negative abnormal returns around earnings announcements which indicate how stock prices would react to earnings announcement event. Onyango, (2004) carried out similar studies on 16 of the then 42 listed companies on the NSE and using weekly cumulative averages of stock prices over a seventeen week period found out that earnings announcement contained information to investors which is

fully reflected in the prices prior to or almost instantly at the time of the announcement which shows a semi strong form of EMH at the NSE. Kamuruci, (2003) hypothesized that current prices do not capture future earnings. Using average prices he found that, on average, 60.35% of companies had their share prices moving on the same direction as the accounting earnings. The aforementioned studies focused on the relationship between earnings announcement and stock prices to establish the form of EMH at the NSE; on the other hand this study intends to probe the relationship between lockup expiration and stock prices to establish the form of EMH at the NSE.

Although there have been numerous studies on stock prices of companies listed on the NSE such as those above, there still exists a knowledge gap in the area of lockups and how their expiration effects on the stock prices of companies listed on the NSE since most published research on lockups this study came across have mainly focused on the US, European and Chinese markets and found no work done on lockups on the Eastern African markets particularly the Kenyan market. It is therefore, against this backdrop that this study attempted to answer the following questions: How do stock prices of companies listed at NSE behave at lockup expiration? ; What other determinants affect the degree of stock price reactions surrounding lockup expiration for companies listed at NSE?

1.3 Objectives of the study

The objective of this study is to investigate the effect of lockup expiration on stock prices of firms listed on the Nairobi Securities Exchange.

1.4 Value of the Study

The stability of stock prices is a very crucial element in the development of stock markets anywhere in the world since this boosts the confidence of Regulatory authority, investors, fund managers, financial analysts, academicians and researchers. This study intended to establish the effect of lock up expiration on stock prices of companies listed on the NSE and its findings is believed to be of immense benefit to the regulatory authority in this case CMA, investors, fund managers, financial analysts, academicians and researchers.:

The Capital Markets Authority will find the findings of this study beneficial because this study intends to establish the price stabilization effect of lockups after IPO as intended by CMA in its regulations. Solid stock price is a signal of economic stability of a country, hence as a regulator CMA through the findings of this study will know whether the stock prices at NSE are speculative proof and act accordingly to either introduce more regulations or enhance existing regulations.

Investors are keen on the day today performance of the stock prices of companies listed on NSE. The findings of this study will indicate to the investors whether the stock prices of companies listed on NSE behave in a similar fashion as those of efficient markets in the developed world around lockup expiration and if different what investment opportunities and obstacles this difference presents to them. Fund managers are entrusted with the responsibility of identifying and investing in viable projects on behalf of investors. They will therefore, find useful the findings of this study in measuring the performance of stock prices of companies listed on the NSE hence enabling them make a prudent sell or buy decision.

Financial analysts monitor the day to day changes of stock prices in order to give an expert investment advice to their clients and therefore, they will find useful the findings of this study since its findings will enable them establish one of the causes of stock price changes at lockup expiration. Students, Scholars and other researchers will also find the findings of this study

useful both as a literature on which to build a case on or see whether its conclusion is globally applicable.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

An important issue that is related to lockup is the stock price reaction to lockup expiration. The terms of lockups are public information; the number of locked up shares and the unlock date are reported in the IPO prospectus. The efficient market hypothesis suggests that investors will respond only to unexpected information; therefore no abnormal returns should be observed around the unlock date. However, the extant evidence does not support this hypothesis. Field and Hanka (2001), Bradley, Jordon, Roten, and Yi (2001) found significant negative returns around the unlock date for the U.S. industrial IPOs.

2.2 Review of Theories

2.2.1 Diversification Hypothesis Theory

Uncertainty is central to much of modern finance theory. According to most assets pricing theories the risk premium is determined by the covariance between the future return on the asset and one or more benchmark portfolios. In option pricing the uncertainty associated with the future price of the underlying asset is the most important determinant in the pricing function. The construction of hedge portfolio is the fundamental pillar on the notion of diversification.

The process of selecting a portfolio may be divided into two stages. The first stage starts with observation and experience and ends with beliefs about the future performances of available securities. The second stage starts with the relevant beliefs about future performances and ends with the choice of portfolio. This study is concerned with the first stage.

Leland and Pyle (1977) stated that if managers are risk averse, they would desire to diversify their portfolios. Subsequent to IPO listed on the marketplace, insiders are required to release part of their shares as soon as possible, especially when the lockups expire. Likewise, Ofek and Richardson (2000) suggest that diversification hypothesis is the main reason for insiders to sell

part of their stakes at lockup expiration. Although they often use IPOs as a first path to diversify their shares, they frequently maintain the remaining of their holdings to sell at the end of lockup.

2.2.2 Demand curve Hypothesis Theory

When general equilibrium models are used to make comparative static predictions they cease to be general. This is necessarily so. Without a specific structure of the demand and supply system one cannot expect any definite comparative static results. However, in most analysis, conclusions depend upon the structure imposed either by aggregating consumers in our case Firms listed in the NSE into a single representative, or by assuming restrictive forms of production functions in our case investors.

Field and Hanka (2001) proposed that only if the demand curves of shares are horizontal, different levels of supply will not affect the share price. However, similar to markets of common products, stocks have downward sloping demand curves, implying the demand curve hypothesis. Particularly, the firms facing high uncertainty and asymmetric information are likely to have downward sloping demand curves for their shares. A supply shocks shifts the equilibrium to a point where a higher quantity of shares are sold at a lower price.

2.2.3 Signaling effect Hypothesis Theory

Bhattacharya (1979), John and Williams (1985), and Miller and Rock (1985), developed the signaling theory classic models, showing that, in a world of asymmetric information, better informed insiders use the dividend policy as a costly signal to convey their firm's future prospect to less informed outsiders. So, a dividend increase signals an improvement on firm's performance, while a decrease suggests a worsening of its future profitability. Similarly, insider sell of shares after lockup expiration will signal bleak future prospect of the firm to uninformed outsiders.

Field and Hanka (2001) studied the signaling effect of insider sales after lockup expiration. They found that if insiders sell more shares at the lockup expiration than the market has anticipated, the market accordingly interprets that as a lack of insider confidence in the firm. In this case, investors would also sell lots of shares after the lockup expiration.

2.2.4 Anticipation Hypothesis Theory

One rule concerning the choice of portfolio is that investors do maximize the discounted (or capitalized) value of the future returns. Since the future returns are not known with certainty, it must be the anticipated returns which are discounted.

Angenendt, Goergen and Renneboog (2005) proposed that negative share price reactions usually occur before the lockup expiration. This is explained by the anticipation theory, stating that if abnormal returns are likely to occur after the lockup, investors should be motivated to de-escalate their shares prior to lockup expiration.

2.2.5 The Random Walk Theory

Random' here does not mean, neither should it be taken to imply, that the price movements are whimsical and chaotic. All it means is that period-to-period price changes should be statistically independent and predictable if they are properly anticipated. Price movements are a perfectly rational response to information but since there is no reason to expect new information to be

Non-random, price changes based on this information is supposed to be random and uncorrelated to any observable trend.

This theory was advocated by Fama, (1965) in the journal on stock prices. In his finding he postulated that the random walks in Stock prices is based on the premise that successive price changes are independent and the price changes conform to some form of probability distribution. He established that differences in stock prices follow stable parentian distributions.

Mehemet and Ayhan, (1990) compared the applicability of the random walk theory and overreaction hypothesis on the Indian Stock Exchange(ISE) where it was found that the random walk theory applied on the ISE.

Stock price reaction to IPO lockup expiration has always received much academic attention. Researchers in modern finance employ theories such as Information Asymmetry Theory and Signaling Theory to explain why stock prices react negatively to lockup expiration. On the other hand, researchers in behavioral finance resort to Expectancy Theory, Regret Theory, Over-reaction Hypothesis, Under-reaction Hypothesis and Self-attribution Hypothesis to explain the

phenomena of adverse stock price around IPO lockup expiration. These researches gave many conclusions, most of which, however, do not agree with each other. Here below this study highlights on some of these empirical studies.

2.3 Determinants of Stock Prices

Eita (2011) in investigating the macroeconomic determinants of stock market prices in Namibia used an estimation equation using time series properties of variables and concluded that stock market prices in Namibia were determined by economic activity, interest rates, inflation, money supply and exchange rates. The period under study was 1998 to 2009 and two measures of stock market development were used namely; market capitalisation to GDP and the Namibian stock exchange overall index. A positive relationship existed between stock prices on one hand and money supply and economic activity on the other hand while inflation and interest rates had a negative relationship with stock prices. More information is needed on the effect of exchange rates on the stock prices.

Sharma (2011) undertook a study to examine the empirical relationship between equity share prices and the explanatory variables; Book Value Per (BVP) share, Dividend Per Share (DPS), Earnings Per Share (EPS), price earnings ratio, dividend yield, dividend payout, size in terms of sale and net worth for the period 1993 to 1994 and 2008 to 2009 in India. Using correlation and a linear multiple regression model the results revealed that EPS, DPS and BVP had significant impact on the market price of shares with the former two being the strongest determinants. This was echoed by Nirmala et al (2011) when they conducted a study on the determinants of share prices in India wherein share price was modeled as a function of firm specific variables; dividend, profitability, price-earnings ratio and leverage for the period 2000 to 2009. Following the panel unit root, panel co integration, correlation and OLS tests the results revealed that dividend, price-earnings ratio and leverage are significant determinants of share prices for all sectors under consideration where dividend and price-earnings ratio bear a positive relation to share price while leverage bears a negative relation. Profitability was found to be positively related to share prices in the auto sector alone.

2.4 Review of Empirical Studies

Stock prices determined in exchanges, and other publically available information will help investors make an informed investment decisions. In efficient capital markets stock prices already reflect all available information, and this reduces the need for expensive and painstaking efforts to obtain additional information Stiglitz, (1994). Bhide, (1993), indicates that the volatility of stock market may reduce the ability of the public to supervise on a company's investment efficiency. In addition, the public may increase investment returns by speculating in the stock market; thus, the stock market development may be unfavorable to the economic growth. Obstfeld,(1994) indicates that high financial market liquidity may increase investment returns and thus decrease saving rate due to substitution and income effect, which is unfavorable to the economic growth.

Brav and Gompers (2000) employed a sample of 1,948 IPOs over the period from 1988 to 1996 and demonstrated that lockups in the US market showed little variation, the 25th, 50th and 75th percentiles lockups are all 180 days. Yung and Zender's study (2010) showed that from 1988 to 2006, the mean of the lockup length on the US markets gradually declined from around 240 days to 180 days, which indicated more firms turn to set a 180 day long lockup.

With hand collected data, Hoque (2011) analyzed lockups from the London stock market and showed that the length of lockups varied from 85 days to 1,650 days, which is distributed more widely than the US lockups. Hoque (2011) also recognized heterogeneity in lockup type. Unlike IPO companies in the US, most of which have a single lockup period, fifty percent of IPO firms on the UK markets set staggered lockups with more than one period. By this way, locked shares are released gradually over time.

When lockups expire, locked insiders become unlocked and are able to sell their shares. The price reaction around the lockup expiration on the markets has been spotted by several researchers. Brav and Gompers (2000) plotted the average abnormal buy and hold return between 1988 and 1996 over 21 days commencing 10 days prior to the lockup expiry to 10 days after and found out that from 10 days prior to 2 days prior to abnormal returns appear to be quite small and that from one day prior to, two days after, abnormal returns are large and negative, according to the study prices dropped by 1.5% around the lockup expiration. However, they did

not explore the influence of explanatory variables such as firm size, firm age and ownership concentration on cumulative abnormal returns.

Bradley et al. (2004) studied the correlation between venture capital backing and lockup expiration by examining stock price behavior around lockup expiration for a sample of 2,523 IPOs between 1988 and 1997 on the US markets. They demonstrated that the lockup expirations were on average associated with significantly negative abnormal returns. Their statistics showed that firms with lockups of 180 days and less had a significantly negative cumulative abnormal returns between -2(2 days before the lockup expiration) and +2(2 days after the lockup expiration), while firms with lockup longer than 180 days generally had insignificant abnormal returns both on the event day and over a five day window period (-5, +5).

There are many explanations developed for this general negative abnormal return. One explanation for the negative price reaction is that of downward sloping demand curve theory, which has been empirically supported by Field and Hanka (2001). In this case the public's demand for shares slopes downward, so that share price falls permanently. Another view is that insider's sells leads to an increase in the supply of shares and drives the price downward on the demand curve. Field and Hanka (2001) also found empirical evidence for the second view. Locally, Kuria(2001) found that the movement of stock prices in the NSE reflects the macroeconomic conditions of the country. Zaheer (2010) found that the stock returns behave differently at the firm and industry level.

Heterogeneity of lockups has recently inspired researchers to identify the motives behind the design of lockups. Signaling and moral hazard are proposed in the existing literature as the two ambitious motives behind the lockup provisions. Signaling is a situation in which with information asymmetry, the informed party can signal their type and transfer the information to the uninformed, decreasing information asymmetry. (Spence, 1973). In case of lockup length, managers that know more about the company can signal their quality with a longer lockup to the uninformed investors. Moral hazard is a special case of information asymmetry. Unlike managers that are assumed to signal for the case of company, in case of moral hazard, managers as the informed side are assumed to take advantage of information asymmetry at the cost of

shareholders. A lockup period is used to alleviate moral hazard problems because it forces managers to keep the shares for a period long enough.

In the existing literature, both signaling and moral hazard receive considerable empirical evidence using a sample of 2,794 IPOs in the US over the period from 1988 to 1996 Brav and Gompers (2003) analyzed the role of lockup agreements and found support for the notion that lockups are commitment device used to alleviate moral hazard problems subsequent to IPOs rather than a signaling solution to adverse selection. Their studies showed that insiders of firms that are associated with greater potential for moral hazard lock their shares for a longer period of time.

However, arguing that the variables that Brav and Gompers used to measure moral hazards are more closely represented as the severity of information asymmetry, Brau et al (2005) challenged Brav and Gompers' conclusion empirically and theoretically. By creating a signaling model and using a sample of 1,013 IPOs and 3,279 seasoned equity offerings between 1988 and 1999, Brau et al, found empirical support for the prediction of signaling without consideration of moral hazard factors.

Yung and Zender (2010) proposed that moral hazard and signaling do not have to be considered as mutually exclusive which is assumed both in the study of Brav and Gompers (2003) and in the study of Brau et al(2005). Instead, they hypothesized that each motive is dominant for a different set of firms and depending upon firm characteristics, length of lockup period in an IPO is chosen to alleviate either moral hazard problems or signal. Basing on underwriter reputation they separated firms that more likely use lockups to signal from the firms that tend to see moral hazards as motive. With a sample of 4,025 IPOs over the period of 1988 to 2006 on the US market they provided empirical support for their conjecture.

One common feature of the studies of Brav and Gompers (2003), Brau et al (2005) and Yung and Zender (2010) is that they all based their analysis on the homogenous US IPO lockups. Hoque (2011) chose the UK market as the research field and identified four major different types of lockups including absolute-date lockup, relative- date lockup, single lockup and staggered lockup. He found that higher information asymmetry leads to absolute-date lockups against relative-date lockups and single lockups against staggered lockups. This result suggested that

higher information asymmetry is related to stricter lockups. By separation and contrast of these four groups of lockups, he found strong evidence for signaling hypothesis and partial support for moral hazard explanation for the choices of lockups. To date it is still not possible to conclude with precision which motive, signaling or moral hazard is correct. In this thesis both signaling and moral hazard will be considered to help predict the impact of lockup expiration on the stock prices of firms listed on NSE.

2.5 Chapter summary

Chapter Two, sets out to describe the knowledge available in the literature about lockups and analyze it using theories, empirical studies. It also discusses determinants of stock prices.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introductions

This chapter presents the methodological approaches which were used in data collection and analysis to fulfill the objective of the study. Specifically it was used to present the research design, the study population, sampling, data collection and data analysis.

3.2 Research Design

The study adopted an event study method (Dolley, 1993; Fama, 1969) to study the effects of lockup expiration on stock prices of companies listed on the NSE. It found daily returns of the shares of firms whose lockup expired between 2008 and 2013 for a period of 10 days before the lockup expiration and 10 days after the lock up expiration. The event methodology was found to appropriate for this study since it can be used to elicit the effects of any type of event on the direction and magnitude of stock price changes (in the direction of 10 days before and 10 days after the lock up expiration) which is very versatile where the original data was in the form of average daily closing price. According to Kothari, *et al*, (2003), 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.

3.3 Target Population

The study population consisted of all 64 listed companies on the NSE that locked up in line with the Capital Markets Public Offer Listing and Disclosure Regulations of May 2002 which was amended in June 2012 to make lockups mandatory for companies listed on Alternative Investment Market Segment (AIMS), Main Investment Market Segment (MIMS) and Growth Enterprise Market Segment (GEMS). **See Appendix 1**

3.4 Sampling Design

The study used purposive sampling method where only listed companies that locked up as per the Capital Markets Public Offer Listing and Disclosure Regulations of May 2002 which was amended in June 2012 were selected for the study. The selected companies were further selected according to their dates of lock up expiration where companies that participated in IPO on and after 2012 were given priority for selection and those that participated on any other year were also selected provided the participation was on or after May 2002 when Capital Markets Public Offer Listing and Disclosure Regulations first came to force, hence a total of five companies were selected as a sample.

3.5 Data Collection Methods

The data collections used in this study were solely secondary data. The required data were primarily collected from the Nairobi Security Exchange files and databases after which it was sorted, and analyzed for quality and relevance to the study objectives. The researcher used the NSE 2013 handbook obtained from the CMA library at Upper hill. The collected data contained daily stock prices which were then tabulated into daily averages. The lockup expiration date was identified as day zero (0). The beta estimation period lies within of eighty (80) days before the event window period. The event window was given as (-10,+10) a period of ten days before and ten days after lockup expiration date. The period of the study around lockup expiration date could be demonstrated by Figure 1.

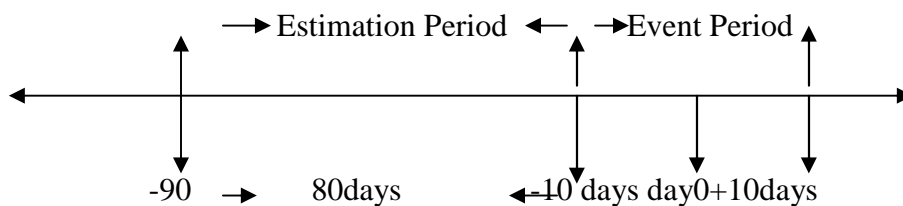


Figure 1: Period of Study around lockup expiration

3.6 Data Analysis

To study the effect of lockup expiration on stock prices, this study used event study as a methodology where the lockup expiration date was identified as day zero (0). The researcher first grouped the daily market data collected from the NSE in two window event classes to meet the objectives of the study i.e. -10 days before and +10days after for a period of 20 days. Since the

groupings were done into daily trading, the researcher then obtained the daily averages from the NSE based on the stated periods of the study. The data was then be analyzed using descriptive statistical measures i.e. means, standard deviations and inferential statistics of Pearson Correlation and regression Equation using SPSS and Excel as the main data analysis tools.

3.6.1 Test for abnormal returns: Market Model

This study estimated abnormal returns surrounding the expiration of lockup period using standard event-study methodology discussed in Brown and Warner (1980, 1985). The abnormal returns were examined from the estimated market model as follows:

$$R_{it} = \alpha_i + \beta_1 R_{mt} + \epsilon_t$$

Where:

R_{it} = Return of stock i during period t

$$= ((\text{Stock Price}_t - \text{Stock Price}_{t-1}) / \text{Stock Price}_{t-1})$$

R_{mt} = Return on market portfolio during period t

$$= ((\text{NSAI}_t - \text{NSAI}_{t-1}) / \text{NSAI}_{t-1})$$

NSAI-Nairobi Securities Exchange All Share Index

α_i, β_1 = Coefficient of the relevant variables of stock i

ϵ_t = Stochastic error term of stock i during period t

To ensure that the reported results are not affected by time variation, beta estimation obtained from regressing company daily stock returns within a period of 80 days prior to the event window period. Then, Abnormal Returns (AR), Cumulative Abnormal Returns (CARs) and Cumulative Average Abnormal Returns, for each firm; during the event period surrounding the lockup expiration date was calculated, respectively as follows:

$$AR_{it} = R_{it} - (\hat{\alpha} + \hat{\beta} R_{mt})$$

$$CAR_i = \sum AR_{it}$$

$$CAAR = 1/N \sum CAR_i$$

Where:

AR_{it} =Abnormal Returns

CAR_i =Cumulative Abnormal Returns

$CAAR$ =Cumulative Average Abnormal Returns

3.6.2 Hypothesis Testing

To test the null hypothesis that the CAAR is equal to zero for a sample of N firms, the hypothesis and t-test statistics are as follows:

$H_0: CAAR = 0$

$H_a: CAAR \neq 0$

$$t_{CAAR} = (1/N \sum CAR_i) / s(CAR_i) \sqrt{N}$$

Where the numerator is CAAR and $s(CAR_i)$ is the standard deviation of the sample's CARs. The t_{CAAR} test statistic is based on Barber and Lyon (1997). It is Student-t distributed with N-1 degree of freedom, with alpha of five percent (5%) which approaches the normal distribution as N increases.

3.6.3 Cross-sectional tests

This study investigated cross-sectional differences in cumulative abnormal returns (CAR) by regressing CAR for each firm against a variety of explanatory variables.

$$CAR_i = \beta_0 + \beta_1 \text{Logsize}_i + \beta_2 \text{Age}_i + \beta_3 \text{Ownership concentration}_i + \epsilon_{CAR,i}$$

Where:

CAR_i = Cumulative Abnormal Returns

Logsize_i = The natural logarithm of the firm's market capitalization at the end of lockup period.

Age_i = The difference between the year of incorporation and year of listing.

$\text{Ownership concentration}_i$ = The company's percentage of major shareholders (holding more than five percent each)

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents data collection, analysis and interpretation of the data collected on effects of lockup expiration on share prices.

4.2 Analysis and Interpretation

Data collected from NSE was analyzed using abnormal returns surrounding the expiration of lockup period using standard event study methodology discussed in *Brown and Warner* (1980, 1985). The abnormal returns were examined from the estimated market model. The study determined the effects of lockup expiration on stock prices by testing the statistical differences of mean daily return of the event period. The comparison period for this period comprised of 10 days before the event and 10 days after. The advantage of using this approach is that the event study method tests for short term movements in stocks prices that are outside the historical pattern, taking into account statistical errors and the estimates of the historical relationship. The NSE All share index daily return was calculated for the lockup expiration window and comparison periods for each day, t-statistics and test of significance was done using SPSS.

Empirical results

1. Abnormal returns

From the event study, the results from the market model in table 1 – 5 demonstrate that there are abnormal returns during lockup period. Evidenced by the abnormal returns exhibited by all the five firms that were used as samples in this study, the results illustrate a statistically significant abnormal return. Below, the study presents a firm by firm analysis of the abnormal returns around lockup expiration period.

4.2.1 Abnormal Returns Test Results: Market Model

Descriptive Statistics

Table 1: Safaricom Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Rit	21	-.0093	.0268	.002594	.0091405
Rmt	21	-.0110	.0106	.001959	.0052642
AR	21	-.0200	.0191	.000943	.0093857
CAR	21	-.0048	.0403	.017004	.0105448
Valid N (listwise)	21				

From the results in the table of statistics above the study found that the various measures of the market performance are sensitive to lockup expiration of Safaricom IPO, the daily mean return had a mean of .002594 and a not so strong standard deviation of 0.0091405. This information indicates that there is a negative relationship between Lockup expiration and stock price.

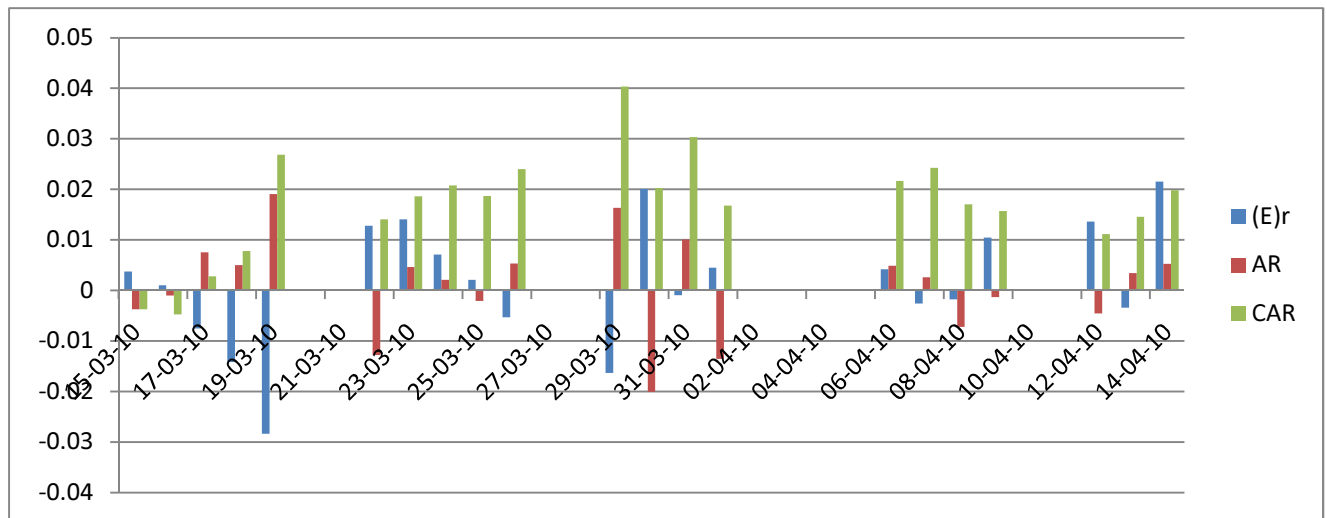


Figure 2: Graph of Abnormal Returns for Safaricom at Lockup Expiration: 29th march 2010 (appendix 4)

The results from the figure above show that safaricom share price has dropped 1.1% on the lockup expiration date. This result indicates a negative relationship between lockup expiration and stock prices.

Descriptive Statistics

Table 2: Scangroup Statistics

Performance Measure	N	Minimum	Maximum	Mean	Std. Deviation
Rit	21	-.0315	.0242	-.005296	.0121915
Rmt	21	-.0165	.0067	-.004083	.0062230
AR	21	-.0334	.0246	-.002745	.0126286
CAR	21	-.0671	.0004	-.025239	.0224882
Valid N (listwise)	21				

From the results in the table of statistics above the study found that the various measures of the market performance are sensitive to lockup expiration of Scangroup IPO, the daily mean return had a mean of $-.0005296$ and a not so strong standard deviation of 0.0121915 . This information indicates that there is a negative relationship between Lockup expiration and stock price

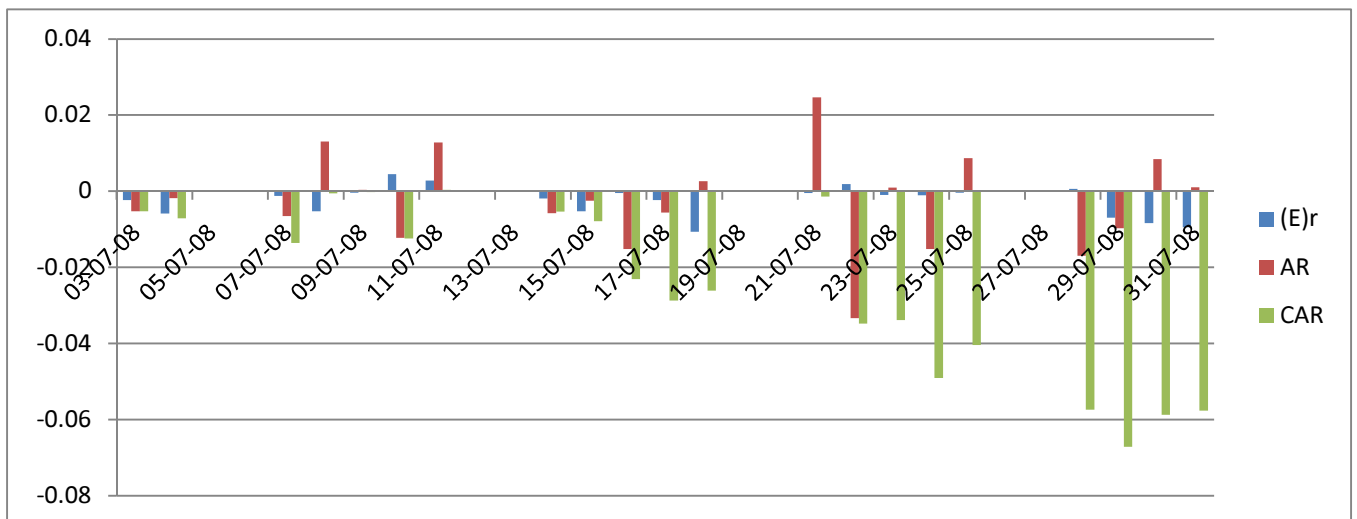


Figure 3: Graph of Abnormal Returns for Scan group at Lockup Expiration: 17th July 2008 (appendix 5)

The results from the figure above show that Scan Group share price has dropped 0.59% on the lockup expiration date. This result indicates a negative relationship between lockup expiration and stock prices

Descriptive Statistics

Table 3: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Rit	21	-.0392	.0300	.000555	.0140620
Rmt	21	-.0119	.0133	.000931	.0063715
AR	21	-.0360	.0288	.001789	.0133746
CAR	21	-.0346	.0376	-.002638	.0181700
Valid N (listwise)	21				

From the results in the table of statistics above the study found that the various measures of the market performance are sensitive to lockup expiration of KenGen IPO, the daily mean return had a mean of $-.000555$ and a not so strong standard deviation of 0.0140620 . This information indicates that there is a negative relationship between Lockup expiration and stock price.

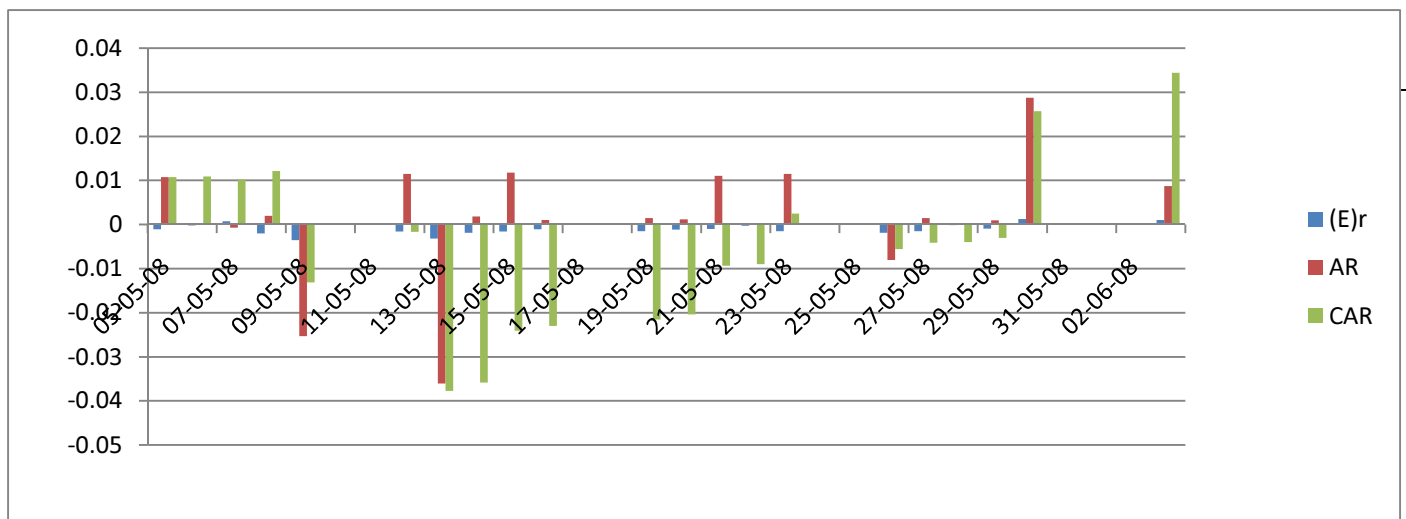


Figure 4: Graph of Abnormal Returns for KenGen at Lockup Expiration:19th May 2008 - (appendix 6)

The results from the figure above show that KenGen share price has dropped 0.95% on the lockup expiration date. This result indicates a negative relationship between lockup expiration and stock price.

Descriptive Statistics

Table 4: Equity Bank Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Rit	21	-.0596	.0574	-.001500	.0255766
Rmt	21	-.0165	.0067	-.003621	.0062892
AR	21	-.0476	.0435	-.003321	.0235052
CAR	21	-.137413	.021509	3.19766190E-2	.046623812
Valid N (listwise)	21				

From the results in the table of statistics above the study found that the various measures of the market performance are sensitive to lockup expiration of Equity Bank IPO, the daily mean return had a mean of -.00 1500 and a not so strong standard deviation of 0.0255766. This information indicates that there is a negative relationship between Lockup expiration and stock price.

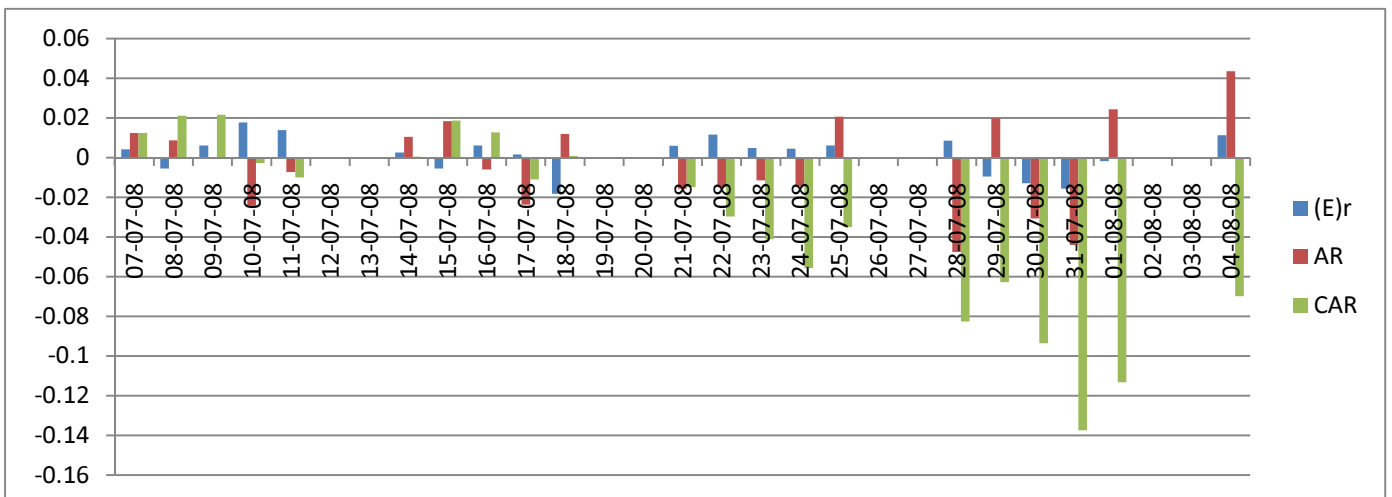


Figure 5: Graph of Abnormal Returns for Equity Bank at Lockup Expiration: 21th July 2008 - (appendix 7)

From the results in the above figure the study found that the Equity Bank share price dropped by 1.57 % on the lockup expiration date. This result indicates a negative relationship between lockup expiration and stock prices.

Descriptive Statistics

Table 5: Britam Statistics

Performance Measure	N	Minimum	Maximum	Mean	Std. Deviation
Rit	21	-.0741	.0458	-.000338	.0220337
Rmt	21	-.0075	.0115	.000341	.0041497
AR	21	-.0753	.0437	-.002688	.0216388
CAR	21	-.1211	-.0166	-.074664	.0210982
Valid N (listwise)	21				

From the findings in the table of statistics above the study found that the various measures of the market performance are sensitive to lockup expiration of Britam IPO, the daily mean return had a mean of -.000338 and a not so strong standard deviation of .0220337. This information indicates that there is a negative relationship between Lockup expiration and stock price.

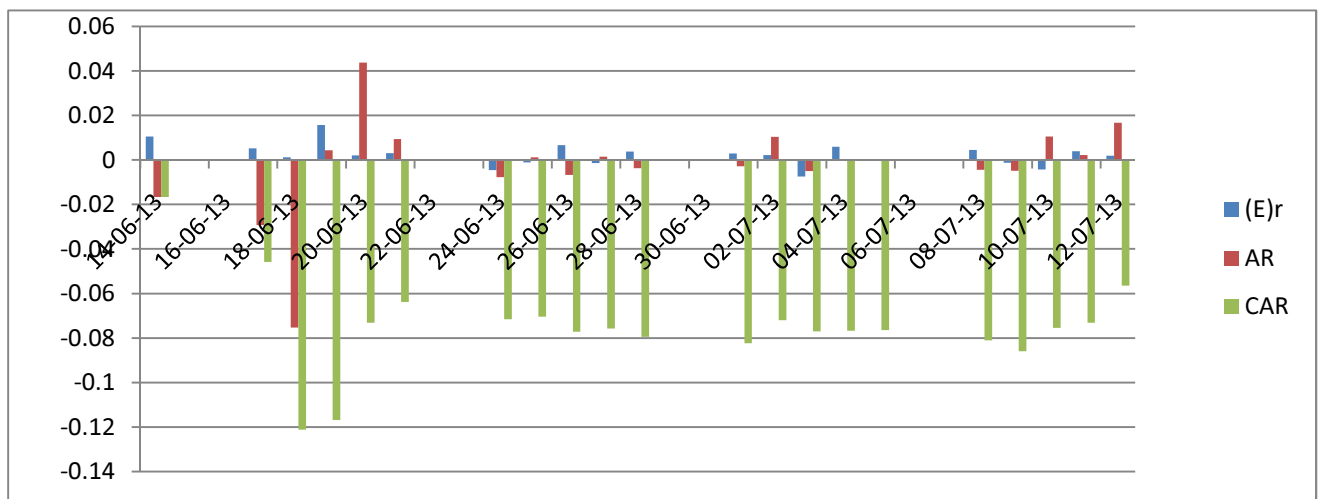


Figure 6: Graph of abnormal returns for Britam: Lockup Expiration date is 28th June 2013 -(appendix 8)

From the results in the above figure the study found that the Britam 0.5167% share price dropped by on the lockup expiration date. This result indicates a negative relationship between lockup expiration and stock prices.

4.2.2 Hypothesis t-test statistic results

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Values	5	-.025928	.0489721	.0219010

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Values	-1.184	4	.302	-.0259282	-.086735	.034879

Table 6: T-Test Results

The t-test results above show that the t-value is in the rejection Zone, implying that CAAR is not equal to zero.

4.2.3 Cross-sectional test Results

This study used regression command for running this regression. The **/dependent** subcommand indicates the dependent variable, and the variables following **/method=enter** are predictors (independent variables) in this model this is followed by the output of these SPSS commands

Model	Variables Entered	Variables Removed	Method
1	OwnershipConcentration, Log Size, Age ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: CAR

Table 7: Variables Entered/Removed

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.983 ^a	.967	.869	.0176140

a. Predictors: (Constant), Ownership Concentration, Log Size, Age

Table 8: ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.009	3	.003	9.829	.229 ^a
	Residual	.000	1	.000		
	Total	.009	4			

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.009	3	.003	9.829	.229 ^a
	Residual	.000	1	.000		
	Total	.009	4			

- a. Predictors: (Constant), Ownership Concentration, Log Size, Age
- b. Dependent Variable: CAR

Table 9: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.090	.086		1.043	.486
	Age	6.326E-5	.002	.013	.036	.977
	Log Size	.000	.003	-.051	-.159	.899
	Ownership Concentration	-.035	.014	-1.016	-2.480	.244

- a. Dependent Variable:

Output Explanation

1. Age

The coefficient of Age is $b = 0.00006326$ which indicates that age has a very minor influence to the value of CAR. The significance of age is $sig = 0.977$, and because it is greater than 0.05, that means the coefficient is not significantly different from zero. As a result it seems age is not related to the value of CAR.

2. Firm size

The coefficient of logSize is $b=0.004$ which indicates that firm size (*LogSize*) has a very minor influence on the value of Cumulative Abnormal Return (CAR). The significance of Firm size (*LogSize*) is $sig=0.453$, and because it is greater than significance level of 5%, which means that the coefficient of LogSize is not significantly different from zero. As a result, it seems that firm size is not related to the value of CAR.

3. Ownership Concentration

The coefficient of Ownership Concentration is $b=-0.035$ which indicates that ownership concentration has a very minor influence on the value of Cumulative Abnormal Return (CAR). The significance of Ownership concentration is $sig=0.244$ and because it is greater than significance level of 5%, which means that the coefficient of Ownership concentration is not significantly different from zero. As a result, it seems that Ownership concentration is not related to the value of CAR.

In table “ANOVA”, the significant value is 0.229, and because it is greater than 5% significance level the study used. This therefore indicates that the independent variables – Firm size, Age, Ownership Concentration do not show a significant relationship to the dependent variable.

In the table “Model Summary”, the value of R Square (0.967) and the value of adjusted R Square (0.869) are slightly different, which might have been caused by the input data for regression analysis.

Table “Coefficients”: this table quantifies the estimate of the coefficients and their corresponding statistical significance. **B**: is the estimate value of the coefficient. Using these values, the regression analysis model function can be formulated as follows:

$$CAR_i = 0.09 + 0.00006326 * Age + 0.00 * LogSize - 0.035 * OwnershipConcentration$$

Standardized coefficients: these are the standardized regression coefficients. Since all the independent variables are standardized, the study compared the strength that the independent variables affect the dependent variables. In the study’s regression analysis result, it shows that Ownership Concentration has the greatest influence to CAR.

Sig: this value is the P value associated with the S value. This can be used to answer the question “Do the independent variables reliably predict the dependent variable?” The P value is compared to the alpha level (typically 0.05) and, if smaller, it can be concluded “Yes”, the dependent variable reliably predict the dependent variable. In this study, all the dependent variables considered are greater than the alpha. Therefore, the independent variable does not reliably predict the dependent variable.

Correlations

Table 10: Correlations

		CAR	Firmsize	Age	OC
CAR	Pearson Correlation	1	.444	-.649	-.983**
	Sig. (2-tailed)		.453	.236	.003
	N	5	5	5	5
Firmsize	Pearson Correlation	.444	1	.200	-.485
	Sig. (2-tailed)	.453		.746	.408
	N	5	5	5	5
Age	Pearson Correlation	-.649	.200	1	.642
	Sig. (2-tailed)	.236	.746		.243
	N	5	5	5	5
OC	Pearson Correlation	-.983**	-.485	.642	1
	Sig. (2-tailed)	.003	.408	.243	
	N	5	5	5	5

** . Correlation is significant at the 0.01 level (2-tailed).

Pearson correlation of firm size, firm age and ownership concentration against cumulative abnormal returns are: .444, -.649, -.983 with p-Values: .453, .236 and .003 respectively.

4.2.4 Summary and Interpretation of the findings

The findings of this study show statistically significant negative abnormal returns at lockup expiration. The general results therefore indicate a negative relationship between lockup expiration and stock prices of companies listed on the Nairobi Securities Exchange. In terms of

the results of the three independent variables examined: Log of firm size, firm age and ownership concentration to investigate the statistically significant factors affecting the cross-sectional differences in cumulative abnormal returns for the sample firms, the study found that these factors have statistically insignificant effect on the cumulative abnormal returns. Another interesting finding is the positive cumulative abnormal returns in Safaricom and KenGen both of which the government has large shares unlike the other three private firms that showed negative cumulative abnormal returns. This can be interpreted that investors are confident in firms that the government has large shares as opposed to fully privately owned companies

The coefficients of the three variables: firm age, log of firm size and ownership concentration are; .00006326, .000 and -.035 respectively while their Sig. are .977, .899 and .244. These results indicate that for unit increase firm age it leads to an increase of 00006326 in cumulative abnormal returns, while a unit increase in firm size leads to a zero increase in cumulative abnormal returns and finally a unit increase in ownership concentration leads to a decrease of 0.035 units in cumulative abnormal returns. Therefore these results indicate direct relationship between firm age and cumulative abnormal returns while showing a zero relationship between firm size (Market Capitalization) and cumulative abnormal returns and finally an inverse relationship between ownership concentration and cumulative abnormal returns. Since their coefficients are not different from zero and their Sig. are greater than alpha equal to five percent (0.05) the cross-sectional difference in the cumulative abnormal returns are not determined by the three variables. Pearson Correlation indicates that the strength of association between Firm size and Cumulative Abnormal Return is very weak ($r=.444$) therefore, ($r^2=.197$) hence 19.7% of the variation in cumulative abnormal return is explained by firm size. It also shows that the strength of association between Firm age and Cumulative Abnormal Return is weak since 42% of the variation in Cumulative Abnormal Return is explained by firm age. The findings from Pearson Correlation further indicate that the strength of association between Ownership Concentration and Cumulative Abnormal Return is very strong since 96.6 % of the variation in variation in Cumulative Abnormal Return is explained by Ownership Concentration. Their p-values are greater than .001 therefore indicating how statistically insignificant these variables are.

In Summary, the study confirms that that lockup expiration has negative effect on the stock prices of companies listed on the NSE. The study also indicates that the three explanatory

variable selected cannot be used as determinants of the cross-sectional differences in the cumulative abnormal returns.

For internet stocks, Ofek and Richardson (2003) argue that the stock price drop at lockup expiration is attributable to short selling constraint and investor heterogeneity. When market options are diverse and short selling constraints are in effect, pessimistic investors are kept out of the market. In contrast, optimistic investors may continue to buy. The asymmetric market friction may lead to optimistically biased stock prices, and the optimistic buyers lose when stock prices drop upon lockup expiration. However, significant stock price drop around lockup expiration is a general phenomenon and is not limited to internet stocks as this study shows.

The results of this study are consistent with the negative abnormal returns found by most researchers in USA, UK, Germany and Italy. These studies are composed of *Brau et al. (1999)*, *Ofek and Richardson (2000)*, *Brav and Gompers (2000)*, *Bradley, Jordan and Yi (2001)*, *Field and Hanka (2001)*, *Gasper (2002)*, *Brau et al. (2004)* They claim that abnormal returns are large and significantly negative surrounding the lockup expiry date, explained by the possibility of misalignment of insider and outsider during that period. Such misalignment can decrease investors' demand for the shares and as a result increase the negative abnormal returns.

In terms of theoretical explanations, though all lockup information has already been provided in the prospectus since IPO date, the negative abnormal return results exist surrounding the lockup expiry date contrary to the Efficient Market Hypothesis proposed by *Ofek and Richardson (2000)*. As the public expects the insiders release their shares at the lockup expiry date following their diversification purposes, explained by *Leland and Pyle (1977)*: thus, the investors try to avoid such situations by selling their stock surrounding the lockup expiration period, supported by the Anticipation Hypothesis Theory. As such, the Anticipation Hypothesis Theory is accepted by this study.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This study examined the effect of lockup expiration on the stock prices of companies listed on the Nairobi Securities Exchange. The study also investigated cross-sectional differences in cumulative abnormal returns (CAR) for each firm against three explanatory variables: Log of firm size, firm age and ownership concentration.

To examine effect of lockup expiration on the stock prices of companies listed on the Nairobi Securities Exchange, the study employed event study methodology to find abnormal returns at lockup expiration. The study also regressed the three explanatory variables selected for analysis against cumulative abnormal returns of each firm.

The results of the study show statistically significant negative abnormal returns at lockup expiration. The general results therefore indicate a negative relationship between lockup expiration and stock prices of companies listed on the Nairobi Securities Exchange. In terms of the results of the three variables examined: Log of firm size, firm age and ownership concentration to investigate the statistically significant factors affecting the cumulative abnormal returns, the study found that these factors have statistically insignificant effect on the cumulative abnormal returns for the sample used.

The coefficients of the three variables: firm age, log of firm size and ownership concentration are; .00006326,.000 and -.035 respectively while their Sig. are .977,.899 and .244. Since their coefficients are not different from zero and their Sig. are greater than alpha equal to five percent (0.05) the cross-sectional difference in the cumulative abnormal returns are not determined by the three explanatory variables selected for analysis. In Summary, the study confirms that lockup

expiration has negative effect on the stock prices of companies listed on the NSE. The results also indicate that the three explanatory variable selected cannot be used as determinants of the cross-sectional differences in the cumulative abnormal returns.

5.2 Conclusions

This research project examined the effect of lockup expiration on stock prices of companies listed on the Nairobi Securities Exchange. The combination of theoretical, empirical and practical research methods gives a general framework to explore the effects of lockup expiration on stock prices, as such this study reviewed several theories and it is therefore imperative to draw conclusions on the theory the findings of this study conform to.

From its findings in chapter four that show negative abnormal returns at lockup expiration date, this study concludes that lockup expiration has negative effects on stock prices of companies listed on the Nairobi Securities Exchange.

These results are consistent with the negative abnormal returns found by most researchers in USA, UK, Germany and Italy. These studies are composed of *Brau et al. (1999)*, *Ofek and Richardson (2000)*, *Brav and Gompers (2000)*, *Bradley, Jordan and Yi (2001)*, *Field and Hanka (2001)*, *Gasper (2002)*, *Brau et al. (2004)* They claim that abnormal returns are large and significantly negative surrounding the lockup expiry date, explained by the possibility of misalignment of insider and outsider during that period. Such misalignment can decrease investors' demand for the shares and as a result increase the negative abnormal returns.

In terms of theoretical explanations, though all lockup information has already been provided in the prospectus since IPO date, the negative abnormal return results exist surrounding the lockup expiry date contrary to the Efficient Market Hypothesis proposed by *Ofek and Richardson (2000)*. As the public expects the insiders release their shares at the lockup expiry date following their diversification purposes, explained by *Leland and Pyle (1977)*: thus, the investors try to avoid such situations by selling their stock surrounding the lockup expiration period, supported by the Anticipation Hypothesis Theory. As such, the Anticipation Hypothesis Theory is accepted by this study.

5.3 Recommendations

This study provides number recommendations to policy makers and practitioners in the Kenya' capital markets as possible ways of improving the efficiency of the Nairobi Securities Exchange.

From the viewpoint of this study, the negative abnormal returns will have remarkable implications to investors and regulators in the Kenyan Capital Markets. In terms of investors, fund managers and financial analyst as the major practitioners, should foresee that there are negative abnormal returns to stock prices at lockup expiration. Thus, the investors and their investment analysts should deliberate whether they justify in an IPO until the lockup expiry or trade the stock surrounding lockup expiration date. If they are interested in investing in the stock, they should lessen the lockup expiration effect by investing in the stocks to counter the negative abnormal returns caused by low stock prices

In terms of regulators, they should weigh the rigidity of regulations and how that impact capital market performance. Should the lockup regulations be strict, insiders might take advantage from better inside information by accumulating the lower stock prices, created by investor anticipation, surrounding lockup expiration date. On the other hand should the lockup regulations be very flexible and free, it might create incentives for newly listed firms to exploit better information to the insiders' advantage and to the detriment of outsiders. As such, this study recommends an appropriate level of lockup regulations while at the same time bridging the information gap between the insiders and outsiders that might have negative effect on the capital market through availability of information to the outsiders to prevent panic caused by investor anticipation associating insider share sell caused by information asymmetry.

5.4 Limitations of the study

This study employed quantitative methods of data analysis and whilst these methods were useful to examine the effects of lockup expiration on stock prices in considerable depth, the collection and especially the analysis of data was time consuming.

Quantitative research especially the use of software such as SPSS requires adequate training and experience. Unfortunately, such training and experience was not gained from the Master of Science in finance course. The accessibility of the software was also a limiting factor.

The main limitation of this was the number of firms selected (five) for analysis, the study period and limited explanatory variables selected (3). The study for example dropped Eveready East Africa Ltd although it qualified for selection as a sample since it was listed after 2002 when the Capital Markets Public Offer Listing and Disclosure Regulations of May 2002 which made lockup contract mandatory came into effect because, some of its variables which were important for this study like market capitalization, shareholding of more than five percent were not available.

Another limitation was the availability of data for analysis as this required financial resource to obtain as well as the assumption that the firms used for analysis have equal weight since the Nairobi Securities Exchange all share index was used as a weight for all the sample firms.

5.5 Areas for Further Studies

The formulation of research problems determines research methods and resolute research results. The structure of this study is outlined from stock price and lockup expiration viewpoint, and the empirical analysis on stock price returns data has become the foundation to cope with theories, other empirical studies and practices. To continue with this research design, further statistical analysis on an expanded sample is optional.

This study recommends further studies to be done on Effects of lockup expiration on stock prices of firms listed on the Nairobi Securities Exchange to investigate whether factors such percentage of shares locked up, First day Return and underwriter reputation have effect on Cumulative Abnormal Returns and also analyse the volume of stock traded at lockup expiration date.

A study on the factors that affect stock price volatility of companies listed on the Nairobi Securities Exchange can also be carried out on the same firms that this study analysed on the same study period to determine whether the abnormal returns this study found are indeed attributable to lockup expiration

This study also recommends that further studies be done on the effects of share split on the performance of share prices of companies listed on the Nairobi Securities Exchange. This owes to the primary motive share split which is to increase the marketability of shares since share split lowers share price making them affordable.

REFERENCES

- Ngigi, M., and Akeha, M.(2013, March 11).CMA loosens golden handcuffs for developers: *Business daily*. Retrieved from <http://businessdailyafrica.com>
- Gao, F.Siddiqi, M., (2012). The rational for IPO lockup agreements: Agency or Signaling? *Review of Pacific Basin Financial Markets and Policies* Vol.15:pp.1-18
- Hoque,H.(2011). The choice and role of lockup in IPOs evidence from heterogeneous lockup agreements: *Financial Markets, Institutions and Instruments* Vol.20, pp.191-220
- Yung,C. and Zender,J.(2010).Moral hazard, asymmetric information and IPO lockups. *Journal of Corporate Finance* Vol.16, pp.320-332
- Zimmerman, M. (2008). The influence of top management team heterogeneity on the capital raised through an initial public offering. *Entrepreneurship Theory and Practice* Vol.32, pp.391-414
- Huyghebaert, N. and Hulle, C.(2006).Structuring the IPO: empirical evidence on the portions of primary and secondary shares. *Journal of Corporate Finance* Vol.12, pp. 296-320
- Beatty, R., and Ritter, J.(1986).Investment Banking, Reputation, and the underpricing of Initial Public Offerings. *Journal of Financial Economics* Vol.15, pp.213-232
- Ritter, J. and Welch, I.(2002) A Review of IPO Activity, Pricing and Allocations. *Journal of Finance* Vol.57, pp. 1795-1828
- Ofek, E., and Richardson, M.(2000) The IPO Lock-up Period: Implications for Market Efficiency and Downward Sloping Demand curves: *Finance department Working Paper Series* pp. 99-054
- Field, L., and Hanka, G.(2001)The expiration of IPO share Lockups. *Journal of Finance* Vol.56, pp. 471-500
- Bradley, D., Jordan, Roten, I., and Chin Yi(2001) Venture Capital and IPO lockup expiration: An empirical analysis. *Journal of Financial Research* Vol.24, pp.465-492
- Benvensite, Lawrence M., and Spint, A.(1989). How investment bankers determine the offer price and allocation of new issues. *Journal of Financial Economics* Vol.24, pp.343-362
- Sanford, J., and Millen, H., (2008) Liquidity and market structure”: *Journal of Finance* Vol.43, pp.617-633
- Bear, R., Curley, A.(1975).Unseasoned equity financing.*The Journal of Financial and Quantitative Analysis* Vol.10, pp.311-325.

Brau, J.C., Lambson, V.E., McQueen, G.(2005). Lockups revisited: *Journal of Financial & Quantitative Analysis* Vol. 40, pp.519-530. 41

Bradley, D., Jordon, B., Roten, I., Yi, H.(2004). Venture capital and IPO lockup expiration: an empirical analysis.*Journal of Financial Research* Vol.24, pp.465-493.

Ritter, J., Welch, I.(2002).‘ A review of IPO activity, pricing and allocations’, *The Journal of Finance* Vol.57, pp.1795-1828.

Baker, M., Gompers, P.(2003).The determinants of board structure at the initial public offering.*Journal of Law and Economics* Vol.46, pp569-598.

Allen, F. Faulhaber, G.(1989). Signaling by underpricing in the IPO market.*Journal of Financial Economics* Vol.23, pp.303-323.

Aggarwal, R., Krigman, L.Womack, K.(2002). Strategic IPO underpricing information momentum, and lockup expiration selling.*Journal of Financial Economics*, Vol.66, pp.105-137.

Brav, A., Gompers, P.(2003). The role of lockups in initial public offering.*Review of Financial Studies* Vol.16, pp.1-29.

Welch, I., (1989), ‘Seasoned Offerings, Imitation Costs, and the Underpricing of Initial Public Offerings.’*The Journal of Finance*, Vol. 44, pp.421-449.

APPENDIX 1 Population Size

Company	Symbol	Year of listing	Shares issued
AccessKenya Group Ltd	ACCS KE00000000596	2007	218,467,081
ARM Cement Ltd	ARM KE000000000340		495,275,000
Bamburi Cement Ltd	BAMB KE000000000591970	1970	362,959,275
British American Tobacco Ltd	BAT KE00000000075	1969	100,000,000
A Baumann &Co Ltd	BAUM KE000000000181	1948	3,840,066
Barclays of Kenta Ltd	BBK KE00000000067	1986	5,431,536,000
Crown Paints Kenya Ltd	BERG KE000000000141	1992	23,727,000
B.O.C Kenya Ltd	BOC KE00000000042	1969	19,525,446
British American Investments Co. (Kenya Ltd)	BRIT KE20000002192	2011	1,891,451,850
Car & General (K) Ltd	C&G KE00000000109	1940	33,419,424
East African Cables Ltd	CABL KE00000000174	1973	253,125,000
Carbacid Investments Ltd	CARB KE00000000117	1972	33,980,265
CFC Stanbic of Kenya Holdings Ltd	CFC KE00000000091	1970	395,321,638
Liberty Kenya Holdings Ltd	CFCI KE200000021680		515,270,364

CIC insurance Group Ltd	CIC KE20000023170		2,179,615,440
CMC Holdings Ltd	CMC KE0000000133	1950	582,709,440
Co-operative Bank of Kenta Ltd	COP KE10000015680		4,190,845,080
Diamond Trust Bank Kenta Ltd	DTK KE0000000158	1972	220,100,096
East African Breweries Ltd	EABL KE00000000216	1972	790,774,356
Eaagads Ltd	EGAD KE00000000208	1972	32,157,000
Equity Bank Ltd	EQTY KE00000000554	2006	3,702,777,020
Eveready East Africa Ltd	EVRD KE00000000588	2006	210,000,000
Sameer Africa Ltd	FIRE KE0000000232	1994	278,342,393
Home Afrika Ltd	HAFR KE10000072580		405,255,320
Hutchings Biemer Ltd	HBL KE000000002570		360,000
Housing Finance Co. Kenya Ltd	HFCK KE000000002400		235,750,000
I&M Holdings Ltd	I&M KE000000001250		392,362,035
Centum Investment Co. Ltd	ICDC KE00000000265	1967	665,441,775
Jubilee Holdings Ltd	JUB KE00000000273	1984	59,895,000
Kapchorua Tea Company Ltd	KAPC KE00000000229	1972	3,912,000

Kenya Commercial Bank Ltd	KCB KE0000000315	1989	2,984,137,017
KenGen Company Ltd	KEGN KE0000000547	2006	2,198,361,456
KenolKobil Ltd	KENO KE00000003230		1,471,761,200
Kenya Re Insurance Corporation Ltd	KNRE KE1000006040		700,000,000
Kenya Power & Lighting Co Ltd	KPLC KE0000000349	1972	1,951,467,045
Kenya Airways Ltd	KQ KE0000000307	1996	1,496,496,035
Kakuzi Ltd	KUKZ KE0000000281	1951	19,599,999
Longhorn Kenya Ltd	LKL KE20000022750		58,500,000
Marshalls East Africa Ltd	MASH KE0000000364	1969	14,393,106
Mumias Sugar Company Ltd	MSC KE0000000372	2001	1,530,000,000
National Bank of Kenya Ltd	NBK KE0000000398	1994	280,000,000
NIC Bank Ltd	NIC KE0000000406	1971	542,984,148
Nation Media Group Ltd	NMG KE 0000000380	1973	188,542,286

Nairobi Securities Exchange Ltd	NSE	2014	194,625,000
Olympia Capital Holdings Ltd	OCH KE0000000166	1974	40,000,000
Kenya Orchards Ltd	ORCH KE0000000331	1959	12,868,124
Pan African Insurance Holdings Ltd	PAFR KE0000000414	1963	96,000,000
East African Portland Cement Co. Ltd	PORT KE00000001900		90,000,000
Rea Vipingo Plantations Ltd	REA KE0000000422	1996	60,000,000
Sasini Ltd	SASN KE0000000430	1965	228,055,500
Scangroup Ltd	SCAN KE0000000562	2006	284,789,128
Standard Chartered Bank Kenya Ltd	SCBK KE0000000448	1988	309,159,514
Safaricom Ltd	SCOM KE1000001402	2008	40,000,000,000
Standard Group Ltd	SGL KE0000000455	1954	81,481,478
Trans-Century Ltd	TCL KE2000002184	2011	273,950,284

Total Kenya Ltd	TOTL KE0000000463	1988	175,028,706
TPS Eastern Africa Ltd	TPSE KE0000000539	1997	182,174,108
Uchumi Supermarket Ltd	UCHM KE0000000489	1992	265,426,614
Umeme Ltd	UMME KE20000058150		1,623,878,005
Unga Group Ltd	UNGA KE0000000497	1971	75,708,873
Williamson Tea Kenya Ltd	WTK KE0000000505	1972	8,756,320
Express Kenya Ltd	XPRS KE0000000224	1978	35,403,790

APPENDIX 2 Independent Variables

Company Name	Market Capitalization(Ksh '000')	Log of Market Capitalization	Year of Listing	Year of Incorporation	Firm Age(D-E)	Ownership Concentration
Britam	11348711100	23.15237001	2011	1979	32	4
Equity Bank Ltd	65168875552	24.90024782	2006	1984	22	4
KenGen Company Ltd	53859855672	24.70965124	2006	1998	8	1
Scangroup Ltd	1082250	13.89455277	2006	1996	10	4
Safaricom Ltd	222000000000	26.12594322	2008	1997	11	2

APPENDIX 3 Lockup expiration dates

Lockup Expiration date	Company Name
28th June 2013	British American Investments Co.(Kenya) Ltd
21th July 2008	Equity Bank Ltd
19th May 2008	KenGen Company Ltd
17th July 2008	Scangroup Ltd
29th march 2010	Safaricom Ltd

APPENDIX 4 Safaricom Abnormal Returns

Rit	Rmt	AR	CAR
0	0.002874	-0.00376	-0.00376
0	0.001671	-0.00099	-0.00475
0	-0.00203	0.007543	0.002793
-0.00917	-0.0049	0.00499	0.007783
-0.00926	-0.01104	0.019081	0.026864
0	0.006796	-0.01281	0.014054
0.018692	0.007353	0.004598	0.018652
0.009174	0.004308	0.002105	0.020757
0	0.002145	-0.00208	0.018677
0	-0.00107	0.005337	0.024014
0	-0.00583	0.016322	0.040336
0	0.009937	-0.02005	0.020286
0.009091	0.00083	0.010045	0.030331
-0.00901	0.003198	-0.01352	0.016811
0.009091	0.00307	0.004878	0.021689
0	0.000118	0.002597	0.024286
-0.00901	0.000471	-0.00723	0.017056
0.009091	0.005764	-0.00134	0.015716
0.009009	0.007135	-0.00458	0.011136
0	-0.00023	0.003404	0.01454
0.026786	0.01057	0.00527	0.01981

APPENDIX 5 Scan Group Abnormal Returns

Rit	Rmt	AR	CAR
-0.00763	-0.00379	-0.00527	-0.00527
-0.00769	-0.00923	-0.0018	-0.00707
-0.00775	-0.00201	-0.00655	-0.01362
0.007813	-0.00824	0.013059	-0.00056
0	-0.00074	0.000382	-0.00018
-0.00775	0.006742	-0.01222	-0.0124
0.015625	0.00422	0.01279	0.000391
-0.00769	-0.00311	-0.00577	-0.00538
-0.00775	-0.00825	-0.0025	-0.00788
-0.01563	-0.00083	-0.01518	-0.02306
-0.00794	-0.0037	-0.00563	-0.02869
-0.008	-0.01652	0.00262	-0.02607
0.024194	-0.00085	0.024647	-0.00142
-0.0315	0.002739	-0.03337	-0.03479
0	-0.0016	0.000941	-0.03385
-0.01626	-0.00179	-0.01519	-0.04904
0.008264	-0.00076	0.008658	-0.04038
-0.01639	0.000757	-0.01698	-0.05736
-0.01667	-0.01087	-0.00971	-0.06707
0	-0.01309	0.008395	-0.05868
-0.00847	-0.01482	0.001038	-0.05764

APPENDIX 6 KenGenAbnormal Returns

Rit	Rmt	AR	CAR
0.009709	0.001299	0.010745	0.010745
0	0.005837	0.000179	0.010924
0	0.010685	-0.00074	0.010184
0	-0.00374	0.001987	0.012171
-0.02885	-0.01189	-0.02532	-0.01315
0.009901	-0.00148	0.01462	0.001471
-0.03922	-0.01011	-0.03603	-0.03456
0	-0.00309	0.001865	-0.03269
0.010204	-0.0015	0.011769	-0.02093
0	-0.001223	0.00105	-0.01988
0	-0.00103	0.001476	-0.0184
0	0.000564	0.001175	-0.01722
0.010101	0.001693	0.011062	-0.00616
0	0.005163	0.000306	-0.00586
0.01	-0.00103	0.011475	0.005619
-0.0099	-0.00299	-0.00805	-0.00243
0	-0.00103	0.001476	-0.00095
0	0.006102	0.000129	-0.00083
0	0.001866	0.000929	0.000103
0.03	0.013316	0.028766	0.028869
0.009709	0.01213	0.008699	0.037568

APPENDIX 7 Equity BankAbnormal Returns

Rit	Rmt	AR	CAR
0.016611296	-0.002009683	0.012421	0.012421
0.003267974	-0.008237986	0.008735	0.02116
0.006514658	-0.000738348	0.000353	0.02151
-0.006472492	0.006742403	-0.02423	-0.00272
0.006514658	0.004220183	-0.00734	-0.01006
0.012944984	-0.003106158	0.010454	0.00039
0.012779553	-0.008247801	0.018262	0.01866
0	-0.000831639	-0.00602	0.01264
-0.022082019	-0.003699251	-0.02365	-0.01102
-0.006451613	-0.016522788	0.011862	0.00085
-0.00974026	-0.000849457	-0.01573	-0.01488
-0.003278689	0.002739467	-0.01483	-0.02971
-0.006578947	-0.001601507	-0.0114	-0.04111
-0.009933775	-0.001792791	-0.01446	-0.05557
0.026755853	-0.00075215	0.020621	-0.03495
-0.039087948	0.000756787	-0.04757	-0.08252
0.010169492	-0.010870593	0.019719	-0.06280
-0.043624161	-0.013092508	-0.03063	-0.09343
-0.059649123	-0.014815532	-0.04398	-0.13741
0.02238806	-0.005897385	0.024226	-0.11319
0.05744526	0.002570694	0.043451	-0.06974

APPENDIX 8 BritamAbnormal Returns

Rit	Rmt	AR	CAR
-0.00599	-0.00749	-0.01658	-0.01658
-0.0241	0.003257	-0.02927	-0.04585
-0.07407	0.000166	-0.07529	-0.12114
0.02	0.011484	0.004282	-0.11686
0.045752	0.000823	0.043697	-0.07316
0.0125	0.001644	0.009393	-0.06377
-0.01235	-0.00435	-0.00777	-0.07154
0	-0.00165	0.001113	-0.07043
0	0.004458	-0.00671	-0.07714
0	-0.00189	0.001423	-0.07571
0	0.002141	-0.00374	-0.07945
0	0.001479	-0.0029	-0.08235
0.0125	0.000903	0.010343	-0.07201
-0.01235	-0.00656	-0.00494	-0.07695
0.00625	0.003879	0.000279	-0.07667
0	-0.0009	0.000159	-0.07651
0	0.002715	-0.00448	-0.08099
-0.00621	-0.00181	-0.0049	-0.08589
0.00625	-0.00411	0.010518	-0.07537
0.006211	0.002311	0.002249	-0.07312
0.018519	0.000659	0.016674	-0.05645