LONG-TERM PERFORMANCE OF INITIAL PUBLIC OFFERINGS AT NAIROBI SECURITIES EXCHANGE MARKET, KENYA

BY

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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted in the same form or any other form elsewhere for award of a degree. I also declare that this work contains no materials written or published by other people except where due reference is made and author duly acknowledged.

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ABSTRACT

The empirical evidence accumulated during recent years for every capital market in the world is devious in its conclusion that initial Public Offering (IPO) provides significant abnormal returns on their first day of trading, which is then followed by a considerable underperformance that extends beyond one year. Various studies that underperformance of IPOs extends beyond the first year of trading. This paper investigates the long-term (from one year through to five years) returns of IPOs listed in the Nairobi Securities Exchange (NSE) market in order to provide a more recent case of performance of IPOs in Kenya. A total number of 7 IPOs listed and traded in the NSE for a period of five years starting from 2006 to 2013 were thoroughly analysed. The long-term performance of IPOs was estimated by computing the returns using the Cumulative Abnormal Return (CAR) on the 7 IPOs as individual stocks as well as a portfolio for a period of 60months after the IPO issue. Further computation was done using the Buy and Hold Abnormal Return (BHAR) over similar period. The NSE 20 Share Index was used as a benchmark to gauge the IPO performance in the same economic conditions environment. There are many factors that lead to the underperformance of IPOs. The literature provides theories which investors have continuously ignored and gone ahead to invest only for the issuers to take advantage of insider information. Future investment through IPOs is reduced due to the continued underperformance of such stocks, ending up being a hard lesson to the investors. The findings in this paper indicate that underperformance of IPOs undoubtedly continue beyond one year. However, underperformance is not evident in all IPOs but when taken as a portfolio, the underperformance is more discernible. IPOs issued during the hot period tend to have a too high first aftermarket pricing which then leads to continued underperformance several years after issue. The fads theory cannot be ignored since the benchmark performance appears to follow the long-term performance of IPO portfolio in the period covered by the study.

Keywords: IPO, Returns, Long-term performance, over performance, Underperformance, Returns, portfolio, benchmark

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DEDICATION

I dedicate this research project to my son Ethan to encourage him become a business minded individual.

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ACRONYMS AND ABBREVIATIONS

BHAR Buy and Hold Abnormal Returns

CAR Cumulative Abnormal Returns

CMA Capital Markets Authority

IPOs Initial Public Offerings

NSE Nairobi Securities Exchange

WAN Wide Area Network

TERMS AND DEFINITIONS

Flipping – Purchasing revenue generating asset (stock) and quickly reselling it for profit (Bash, 2001).

Impresario – Derived from Italian word '*impresa'* meaning an enterprise or undertaking i.e. investment banker (Ritter, 1998).

Long-run - Period of time relating to or extending relatively far away in the future (Ritter and Welch, 2002).

Long-term - Period between twelve to sixty months or more (Sun, 2004).

Market – Recognized exchange where trades of securities are conducted by licensed stock brokers (Ogum, Beer and Nouyrigat, 2005).

Performance - Measure of returns on shares over a period of time (Aggarwal and Rhee, 2008).

Return - Income and capital gain or loss of a stock in a particular period (Durukan, 2002).

Signaling - Strategic underpricing of IPOs to portray the quality of the issuer firm and send market feedback showing increased performance (Certo, 2001).

Stock – Tradable financial instrument that represent ownership position in a publicly traded firm (Mitchell and Stafford, 2000).

Underpricing - The pricing of an IPO below its market value (Loughran and Ritter, 2004).

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Initial Public Offerings (IPOs) refers to common stocks issued by a privately owned company, to a large number of diversified investors (public) for the first time through a primary market (Bodie, Kane and Marcus, 2010; Rudorfer, 2009). The issuance of new securities to the public is managed by Investment bankers who in this role are called underwriters. IPO is generally perceived as one of the most important milestones in a firm's lifecycle as it allows the firm to access public equity markets for additional capital necessary to fund future growth.

According to Allison, Hall and McShea (2008), benefits of going public include increased liquidity; access to public capital markets; catalyst for installing a solid corporate governance frame work; enhancing corporate image and reputation; as well as increased market value for the company. An IPO is the realization of a dream many entrepreneurs, executives, board members and stock holders achievement singularly, that demonstrates their success in building a strong business and creating value for owners, employees and customers.

Several theories have been advanced to explain the motive behind private firms going public. The lifecycle theory proposed by Zingales (1995) states that a firm moves from private ownership to public ownership as a process in its existence through IPO. The herds theory (Brahmana, Hooy and Ahmad, 2012; and Hirshleifer, Subramahnyam and Titan, 1994) portray that investors make the same choice irrespective of their own individual investment decision and end up flocking a subset of securities. The signaling effect theory is intended to communicate the inherent good quality of a firm portrayed through oversubscription (Allen and Faulhaber, 1989; Grinblatt and Hwang, 1989; and Welch, 1989). Ritter (1998) through the impresario hypothesis

argues that IPOs are underpriced by investment banks in order to create excess demand. Through flipping, the investment banks tend to reward their clients in the first day of trading (Aggarwal, 2002). Windows of opportunity hypothesis allows firms that go public during high volume periods to take advantage of investor sentiment on potential growth of the firm.

There are several factors that contribute to the long-term underperformance of IPOs. Such factors include: divergence of investor opinion (Miller, 1977); market timing (Ritter, 1991; and Loughran and Ritter, 1995); institutional flipping; underwriters reputation (Ritter, 1998); stock valuation; quality of the firm (Brav, Geczy and Gompers, 2000); market efficiency (Aggarwal and Rivoli, 1990); and managerial optimism (Ritter and Welch, 2002).

There are extensive debates with regard to the performance of IPOs in the long run through extensive financial economics research. Many researchers have documented a decline in company's post-IPO long-term performance. Loughran and Ritter (1995) and Jackiewicz et al. (2005) observed that IPO underperformance continues from between three to five years after listing. Sun (2004) carried a similar study on Canadian firms and concluded that IPOs under-performed their benchmark in five aftermarket years. Although the underperformance was not significant, he observed that the results depend on selection of return calculation method, choice of benchmarks, time span used and choice of portfolio weighting used. Aggarwal and Rivoli (1990) find negative aftermarket performance in the first year following the IPO. Similar studies have been carried out in Kenya by Jumba (2002), Karitie (2010) and Njoroge (2004). These studies ranging from the old ones as well as the recent ones tend to point out underperformance of IPOs in the long run.

The stock market in Kenya is known as the Nairobi Securities Exchange (NSE). The NSE was started in Kenya in the 1920's by the British. The market has had a remarkable development

to become the most vibrant emerging bourse in Africa. NSE is a model emerging market in view of its high returns, vibrancy and well developed market structure (Ogum et al., 2005). The NSE migrated from open outcry trading to achieve a complete electronic trading platform supported with wide area network (WAN) on 17th September 2007. Electronic trading has in no doubt led to efficiency in trading as stock brokers trade from the comfort of their offices.

IPO success is defined as the creation of market value that exceeds beyond the resources invested in the venture since inception. Some of the determinants of IPO success include information asymmetry, under-exploited market opportunity, organizational reputation, contractual alliances and partnerships. Studies indicate that there is inherent underpricing of IPOs (Bach, Judge, and Dean, 2008). Investment banks have self-interests when pricing IPOs (Baron and Holmstrom, 1980). Signaling is a major reason behind the underpricing of IPOs as observed by Grinbaltt and Hwang (1989); and Welch (1989).

This study intended to focus on the empirical investigation of long-term performance and survival patterns of Kenyan firms that issued their IPOs at the NSE Market in the period between 2006 and 2013, where IPO activity is significant. There are 7 firms that have issued IPOs within the period that shall be considered for the study. Although the NSE trading activity has increased tremendously, this does not correspond to IPO issuance and does not compare to developed markets. The signaling effect allows so much money to be left on the table while the corresponding returns on IPOs do not last long as expected.

1.2 Statement of the Problem

Despite the many benefits associated with IPOs, long-term performance and survival of the Kenyan IPO's is demoralizing to investors. While on average there are positive initial returns on IPO, the trend does not always hold in the long-term. The long-term period in this case is defined

to mean that an IPO has lasted between 12 to 60 months since the issue was made. Eveready Ltd listed in 2006, closed in April 2013 at Sh.2.70; 71.5% lower than the Sh. 9.50 IPO price 7 years ago. Access Kenya Ltd was listed in 2007; a takeover bid by Dimension Data Holdings Plc was announced through a public notice under the Capital Markets Act of the laws of Kenya. Access Kenya shares were suspended from trading since 7th May 2013 and eventually taken over at an offer price of Sh14 per ordinary share held on 6th May 2013 (CMA, 2013). The comparative market price was Sh 9.50.

The NSE over a number of years has issued IPOs that ended up being oversubscribed. Eveready recorded 830%, Scann Group 620% and Safaricom 532% among others (CMA, 2014). Sale of equity as a source of funding where stocks of shares end up being oversubscribed means that indeed the firm ends up collecting the maximum targeted funds. In such a case, the firm is expected to improve in terms of growth and profitability. Such growth should have a corresponding positive correlation with stock prices with a similar expectation on returns to the investors.

Previous studies carried out in Kenya reveal differing conclusions. Jumba (2002) and Njoroge (2004) studied the performance of IPOs in Kenya for the period 1992-2000 and 1984-2001 respectively using Mean Adjusted Buy and Hold Returns (MABHR) methodology and both concluded that IPOs over-perform the market in the short-run but underperform in the long-run. Karitie (2010) carried out a similar study on IPOs between the period 2000-2008 using both MABHR and Cumulative Abnormal Returns (CAR) method to analyse the performance and concluded that, while all IPOs in the study underperformed in the long-run under MABHR method, the position did not hold when CAR method was applied.

Detailed review of studies carried out in Kenya reveals one particular study by Karitie (2010) among others, which conclusively affirms the studies by Jumba (2002) and Njoroge (2004) that, generally there is an underperformance of IPOs in the long-run. Karitie (2010) however goes ahead to state that, depending on the method used to analyse the long-term performance, some IPOs reveal over-performance in the market.

A closer scrutiny on the data analysis details as presented by Karitie (2010) shows his conclusion is based on individual firm's analysis which is contrary to the study by Ritter (1991) where further analysis should be based on the total number of firms issuing IPOs within the same period. This study is intended to analyze the long-term performance of IPOs following the CAR and BHAR methods as laid out by Ritter (1991) and Drobetz, Kammermann and Walchli (2005) respectively.

The study contributes to the previous studies carried out in Kenya on IPOs, adding to the knowledge gap and thereby laying ground for further research. Specifically, the study focuses on both individual IPO performance as well as a portfolio of IPOs. Also notably, the study extends to a long-term period of 5years as opposed to 3years. This is not the case with the study done by Karitie (2010).

1.3 Objective of the Study

The general objective of the study is to analyse the long-term performance of a portfolio of IPOs in Kenya relative to the performance of the NSE. The specific objectives of the study are to:

i) Establish the long-term performance of stocks at the NSE market in Kenya.

ii) Evaluate the long-term performance of individual IPOs at the NSE market in Kenya.

iii) Determine the aggregate performance of IPOs at the NSE market in Kenya.

1.4 Research Questions

a) What is the long-term performance of stocks at the NSE market in Kenya?

b) What is the long-term performance of individual IPOs at the NSE market in Kenya?

c) What is the aggregate performance of IPOs at the NSE market in Kenya?

1.5 Significance of the Study

Shareholders are investors who own stocks in a firm. Once a company has gone public through the IPO, the owners change from a few investors to public investors. Shareholders main motive is to gain a return from their investment. The shareholders shall benefit from the study where they are able to tell how long they can hold on to investments done through IPO's or should they invest in other firm's whose stocks are not issued through IPO. Pre-IPO shareholders who continue with their shareholding after IPO issue shall be in a position to weigh the long term benefits of going public and the associated trend.

The senior management in the rank of the Chief Executive Officer, the Managing Director and members of steering committees in companies that have gone public through IPO issue shall be in a position to look ahead and ensure positive long-term performance of such firms. Survival tactics applied by the management shall be viewed to be a positive strategy for the benefit of the investors.

Potential investors shall be well informed to make a choice between whether to invest in primary or secondary markets and also how long they should hold on to the share stocks in order to compensate their investment. The general notion is an increasing trend of return on investment.

1.6 Scope of the Study

The study is intended to cover IPOs issued in Kenya between from 2006 to 2013 at the NSE market but have celebrated their 5th anniversary. The period selected makes the study to be on long-term basis. There are 7 IPOs in total that were issued within the period.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses literature on long-term performance of IPOs. The chapter is divided in two sections to discuss theoretical literature and empirical literature gathered from previous studies.

2.2 Theoretical Framework

There are several theories that have been put forward to explain the long-term performance of IPOs. These includes the herds theory; the signaling effect theory; the impresario hypothesis; the flipping of shares; the lifecycle theory; the divergence of opinion hypothesis and the windows of opportunity hypothesis among others.

2.2.1 The herds theory

Investors make the same choice depending on the behavior of others, independent of their own private signal. Brahmana et al. (2012) posit that herd behavior is a tendency that under certain conditions, investors only focus in a subset of securities by flocking, thereby neglecting other securities with identical exogenous characteristics (Hirshleifer et al. 1994).

The herd behaviour is related to the social psychology of regret aversion and cognitive dissonance. An individual being in a group abides by the group decision even when they perceive the group to be wrong. The individual ends up suppressing their own investment decision and jump on to the bandwagon solely due to the collective action of the group even when they disagree with the prediction. Psychologically, the individual avoids being regret if the group decision turns out to be true.

2.2.2 The signaling effect theory

Several studies (Allen and Faulhaber, 1989; Grinblatt and Hwang, 1989; and Welch, 1989) point out that IPO under-pricing may serve as a signaling device used by firms. Signaling is intended to communicate the inherent quality of a good firm. The lock-up period is used as a potential signal where the underwriter prohibits the current shareholders from selling any of their shares of stock for a period of time after the IPO, without the underwriter's approval. Lock-up acts as a signal to investors that key employees will remain with the firm for a period of time and that insiders are not seeking to cash out their shares of stock. In practice, sophisticated investors observe whether major shareholders are selling some of their stock in the IPO.

Signaling is also portrayed in oversubscription of IPOs. It is important to leave something on the table to participate in future projects (Welch, 1989). Ritter and Welch (2002) point out that the most appealing feature of the signaling hypothesis is that there are some issuers who voluntarily leave money on the table at IPOs in order to entice potential investors to pay higher prices at subsequent offerings.

IPO firm's managers strive to reveal the firms' value to outsiders through favourable information so as to maximize the share price (Certo, 2001). The value of the firm is revealed through the prospectus to show potential and growth stabilities. IPO firms attempt to induce institutional investors and investment banks that it has intrinsic worth in its shares during the book building process.

2.2.3 The impresario hypothesis

The "impresario" hypothesis argues that the market for IPOs is subject to fads and that IPOs are underpriced by investment bankers (*the impresarios*) to create the impression of excess demand, just as the promoter of a rock concert attempts to make it an "event". The hypothesis predicts

that companies with the highest initial returns subsequently should report low returns (Ritter, 1998). It is only a small number of investors who carry out fundamental analysis of the relation between the offer price and the firm's underlying value.

The "impresario" hypothesis establishes that the initial return and subsequent underperformance of the IPO firm move in the same direction. The more the magnitude of underperformance, the more is the frequency at which the subsequent correction takes place, resulting in lower returns for IPOs (Aggarwal and Rivoli, 1990; and Aggarwal and Rhee 2008).

2.2.4 Flipping of shares

Investors are allocated shares in the IPO. They sell the shares during the first day of trading. It is observable that investment banks rewards their clients through the first day trading. Flipping can be used to predict long-term returns on IPOs (Bash, 2001). Hot IPOs are commonly flipped by institutions (Aggarwal, 2002). Flipping of shares for a profit leads to significant gains for investors who have been allocated shares of the IPO at the offering price.

Ritter (1998) points out that investment banks may under-price IPOs to induce regular investors to reveal information during the pre-selling period which then assists in pricing the issue. The investors are rewarded in the first day of trading for revealing favorable information. The IPO whose issue price is adjusted upwards tends to be more underpriced.

2.2.5 The lifecycle theory

Zingales (1995) observes that it is easier for an acquirer to spot a potential take-over target when it is public. Firms go public in order to be able to fetch a higher price, better than it would have been if it was a direct sale. Pre-IPO investors usually hold undiversified portfolios and therefore are unwilling to pay a high price as public market investors who hold diversified portfolios. Also, firms realize that acquirers have chances to push for discounts on targets when they are

private rather than when they are public. Early in the lifecycle of a firm, it is privately held and only goes public when it is sufficiently large in the late stages of its lifecycle.

2.2.6 The divergence of opinion hypothesis

It is argued that investors who are most optimistic about an IPO will be the buyers. If there is a great deal of uncertainty about the value of an IPO, the valuations of optimistic investors will be much higher than those of pessimistic investors. As time goes on pessimistic investors will narrow and consequently the market price drops (Loughran and Ritter, 1995).

Uncertainty in quality and pricing of IPOs create a difference in opinion between pessimistic and optimistic investors. This results in overvaluation on the listing day. Subsequently as the information flows to the secondary market, divergence of expectation narrows down and corrections of market prices takes place (Houge et al., 2001).

2.2.7 Windows of opportunity hypothesis

The 'windows of opportunity' hypothesis predicts that firms going public in high volume periods are more likely to be overvalued than other IPOs (Ritter, 1991; and Loughran and Ritter; 1995). High volume periods should be associated with the lowest long-run returns. If there are periods when investors are especially optimistic about the growth potential of companies going public, the large cycles in volume may represent response by firms attempting to 'time' their IPOs to take advantage of these swings in investor sentiment. Due to normal business cycle activity, variations are expected to be seen through time in the volume of IPOs.

Marangu and Moronge (2013) put forward that even young firms without substantial growth prospects are able to raise capital from the market at exorbitant prices. Subsequently, the new issues fail to justify the valuation as the market quickly adjusts with real valuation (Loughran and Ritter, 1995).

2.3 Empirical Studies

A large number of studies have been carried out globally examining the long-term performance of IPOs. Some studies were carried out as early as done by Ritter (1991); one of the most commonly cited studies on long-term performance of IPOs. The study was carried out on U.S. stock market over the period 1975 to 1984 on 1,526 IPOs comparing to matching firms in terms of size and industry. The IPO firms significantly underperformed the market 3 years after going public. Loughran and Ritter (1995) as well show that investment in IPOs generates lower returns in the long-run than investing in the secondary market based on industry and market capitalization. IPOs that are issued during high valuation period end up being overpriced and therefore yield low returns in the long-run.

Levis (1993) carried out a study on long-term performance on U.K. firms over the period 1980 to 1988 on 712 IPOs and found there was underperformance of the firms three years after going public. Ritter and Welch (2002) observed that IPOs traded at a higher price above which the firm sold them. However, on average three years later the IPOs underperformed in the market. Sun (2004) carried out long-term performance on Canadian IPOs and states that even though the results were not significant, underperformance was confirmed. The selection of benchmarks, return calculation methods and time span of post-IPO performance can affect long-term performance conclusions.

These studies reveal the existence of long-term underperformance of IPOs. Recent studies have gone ahead to thoroughly scrutinize the phenomenon surrounding IPO performance. The mystery around IPO returns revolve around both qualitative and quantitative variables.

2.3.1 Performance of initial public offerings

Peng (2008) carried out a study on the long-run performance of 166 IPOs listed on China's Shanghai Stock exchanges from 2000 to 2002 and found out that the average CAR and BHAR over 3years after listing were significantly negative. Loughran and Ritter (2004) show that investment in IPOs generates lower returns than investing in the secondary market based on industry and market capitalization. IPOs that are issued during high valuation period end up being overpriced and therefore yield low returns in the long-run.

Drobetz et al. (2005) carried out a study to estimate the underpricing and long-run performance of Swiss IPOs from 1983 to 2000 over a period of 120 months and attributed the underperformance as being due to the small size of the firms. Ritter and Welch (2002) observed that in the first day of trading, IPOs traded at a higher price above which the firm sold them. However, on average 3years later the IPOs underperformed in the market. Sun (2004) carried out long-term performance on Canadian IPOs and states that even though the results were not significant, underperformance was confirmed. The selection of benchmarks, return calculation methods and time span of post-IPO performance can affect long-term performance conclusions.

Ritter and Welch (2002) posit that investors who are most optimistic about an IPO will be the buyers. He asserts that if there is great deal of uncertainty about the value of IPO the valuations of optimistic investors will be much higher than those of pessimistic investors. As more information becomes available with time, the divergence of opinion decreases and consequently the market price drops.

A firm can reduce the degree of information asymmetry surrounding IPO issuance by hiring underwriters and auditors who have reputation capital at stake. This way the underwriters and auditors will have the incentive to certify that the offer price is consistent with the inside

information. Long-run returns on IPOs issued by less prestigious underwriters are low (Brav and Gompers (2003).

2.3.2 Methodologies used to measure performance of initial public offerings

Gompers and Lerner (2003) advices that it is difficult to measure long-term performance returns due to their sensitivity and that the results may be divergent depending on the empirical methodology applied. The long-term performance is interpreted against market efficiency.

Two main methods have been used to measure the long-term performance of IPOs. Peng (2000) in consistency with the works of Ritter (1991); and Loughran, and Ritter (1995), examine returns realized by investors who purchased IPOs at the first day closing price and sold them after three to five years, using buy-and-hold abnormal returns (BHARs) and Cumulative abnormal returns (CARs). Brav et al. (2000); Loughran and Ritter (2000); and Mitchell and Stafford (2000), have demonstrated that the method of measuring long-term returns influences both the size and strength of the statistical test.

Brav et al (2000) use CARs to correct the statistical unreliability of BHARs. CAR also aggregates the returns at firm level but uses the simple sum of the excess returns from the time following the issue. Variability of longer period returns is controlled by giving equal weights to each month following the issue. Brav et al. (2000) use calendar time average returns (CTARs) to measure long-term performance of IPOs and find that underperformance diminishes when this methodology is used. CTARs are statistically preferable since they aggregate returns at monthly level although they can yield excessive positive returns when stocks are falling concurrently with the market.

Ritter and Welch (2002) observe that earnings per share of companies going public grow rapidly in the years prior to going public. Firms issuing IPOs rarely have negative earnings

surprises in the first two quarter but then the returns decline in the first few years after IPO. Low returns in the aftermarket for IPOs partly reflect the pattern that IPO volume is high near market peaks when market-to-book ratios are high. Underperformance is concentrated more on firms going public in heavy volume years as well as young firms.

Schultz (2002) affirms the underperformance of IPOs following pseudo market timings. The aftermarket following IPO issuance is not immediately efficient in valuing newly issued securities. The abnormal returns that are realized by IPO investors are as a result of overvaluation of securities in the early trading. The impresario theory affirms this argument by stating that IPOs are underpriced by investment bankers to create the appearance of excess demand. The greater the initial IPO return the greater the subsequent correction of the overvaluation pricing hence the lower the subsequent returns.

Jumba (2002) carried out a study on performance of the IPOs assessing them over a three year holding term for the period 1992 to 2007 and concluded that IPOs underperform the market in the long-run when although in the short-run they over perform the market. Njoroge (2004) carried out a similar study for the period 1984 to 2001 and arrived at similar conclusions with regard to long-term performance. A more recent study on long-return performance of IPOs was carried out by Karitie (2010) for the period 2000 to 2008 observes that the results of long-term underperformance of IPOs remains consistent when the Mean Adjusted Buy and Hold Return (MABHR) methodology is applied while the results achieved are different when CAR methodology is used.

2.3.3 Factors affecting performance of initial public offerings

The long-term performance can only be measured after an IPO has been in the market for a significant period of time. There are several factors that contribute the long-term

underperformance of IPOs. The contributing factors are both quantitative and qualitative. The quantitative factors include: Value of the share (stock valuation); number of firms issuing IPOs (market timing); institutional flipping; and Net Present Value of projects while qualitative factors include: divergence of investor opinion; underwriters reputation; quality of the firm; market efficiency and managerial optimism.

Purnanandam and Swaminathan (2004) in their study suggested that IPO investors pay too much attention to optimistic growth forecasts and give little attention to profitability in valuing IPOs. This gives rise to overvaluation at the offer price and a long-run decline to fair value. Ritter and Welch (2002) attributed the underperformance of IPO to investors who tend to be overoptimistic about the earnings potential of young growth firms. Purnanandam and Swaminathan (2004) posit that Preliminary valuation relies heavily on how the market is valuing comparable firms. In some cases, it is difficult to find comparative publicly-traded pure plays for valuation purposes.

Schultz (2002) argues that the low returns on IPOs are consistent with issuers taking advantage of heavy volume years. The underperformance is more concentrated among firms that go public in the heavy-volume years. Firms take advantage of the heavy-volume issuance and tend to time the 'window of opportunity' targeting investor sentiment on potential growth.

Ritter and Welch (2002) suggested that the overinvestment caused by managerial optimism may be a source of long-run underperformance. Firms invest in what the market view as positive NPV projects but in reality are negative NPV projects suggesting that managers are just as overoptimistic about the firm's future profitability like the investors are. Companies that focus on immediate growth opportunities experience long-run underperformance as compared to those that focus on long-term growth (Brau, Ryan, and Degraw, 2006).

Brav et al. (2000) through their study found out that the quality of a firm at the time of IPO issue explains the subsequent long-run performance; the better the quality the lesser the underperformance. They also found out that the more profitable a firm is before floatation the worse the performance in the long-run.

2.4 Hypothesess

In the intended study, we hypothesize that:

H1a: H1: CAR > 0 (IPOs outperformed the market)

H1b: H1: CAR < 0 (IPOs underperformed the market)

H2a: H1: BAHR > 0 (IPOs outperformed the market)

H2b: H1: BHAR < 0 (IPOs underperformed the market)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter outlines how the data was collected to address the objectives in chapter one and fill the research gaps in chapter two. The chapter dwells on the detailed procedure of carrying out the study. Specifically, the chapter explains research design; the target population; sample design and sampling technique; research instruments; data collection; data analysis and presentation methods.

3.2 Research Design

Research design is defined as the blue print that fulfills the objectives of the study and answers the research questions. It specifies the procedures and measurement for the collection, measurement and analysis of data (Cooper and Schindler, 2011). Bell and Bryman (2007) state that a research design is a framework for generating evidence that is suited for a certain criteria and to the research questions. Research design aids the researcher in the allocation of limited resources by posing crucial choices in methodology.

The study adopted a descriptive research design to summarize and organize data in an effective and meaningful way. Mugenda and Mugenda (2009), notes that a descriptive survey research attempts to collect data from members of a population in order to determine the current status of that population with respect to one or more variables. The study was descriptive survey as it set out to describe and interpret the situation (Etemesi, 2004).

According to Best and Kahn (1993) study as cited in Muchire (2003), descriptive research is also concerned with: conditions or relationships that exist, practices that prevail, beliefs, point of view, or attitudes that are held by people, processes that are going on, effects

that are being felt, or trends that are developing. It is concerned with what exists and related to preceding event that has influenced or affected a present condition or event. Descriptive research suit the study since it involved gathering data that describe events and then organizes, tabulates, depicts, and describes the data collected.

3.3 Target Population

Target population basically refers to the universe of units from which the sample is to be selected (Bell and Brymant, 2007). According to Cooper and Schindler (2006), a population is the total collection of elements about which the researcher wish to make inference. The target population is the larger group to which one hopes to generalize or apply his findings (Fraenkel and Wallen, 2006). The target population of the study shall be firms (1) listed in the NSE between the years 2006 and 2013, (2) firms that issued shares through initial public offering and (3) that have lasted at least 5 years since the IPO issue. The criterion leads to a total of 7 IPO firms (Appendix I).

3.4 Sample and Sampling Procedure

There are 7 firms that issued IPOs through the NSE between the period 2006 and 2013 which fall within above criterion (CMA, 2014). As such, a census method on all the 7 IPOs shall be applied for the study.

3.5 Research Instruments and Data Collection

The study intended to use Secondary data which shall be obtained from the 7 IPOs firms' publications as well as CMA, NSE databases and related databases through the use of data collection forms (appendix I). The market prices of shares together with the corresponding 20 share index shall be collected for every end month following the date of IPO issue. The data

collected was for a period spanning over 60months in order to fulfill the criteria of long-term period.

3.6 Data Analysis

There are two main methods that are commonly used to calculate the long-run performance of IPOs. According to several studies (Ritter, 1991; Durukan, 2002; Ritter and Welch, 2002; Alvarez and Gonzalez, 2005), cumulative average returns (CAR) and buy-and-hold returns (BHAR) have been used to measure long-run IPO performance. Jumba (2002), Njoroge (2004), Karitie (2010) used CAR and BHAR to measure the long-term performance of Kenyan IPOs over different periods.

Gompers and Lerner (2003) state that long term performance results differ depending on the empirical methodology. The study therefore intends to apply both the CAR and BHAR methods to analyze the long-term performance of 7 IPOs to double check the stability of the results. The NSE 20 share index shall be used as the benchmark. The returns of the IPOs shall be calculated for an equivalent period of 60 months. The following shall be put into consideration:

3.6.1 Cumulative Abnormal Return (CAR)

To calculate the raw returns on stocks

$$r_{it} = \frac{P_t}{P_{t-1}} - 1 \quad \text{.....(i)}$$

Where: r_{it} is the return on stock *i* at the end of month *t*

P_t is the price of stock *i* at the end of month *t*

P_{t-1} is the price of stock *i* at the end of the month preceding

To calculate the return on the benchmark

$$R_{mt} = \frac{NSE_{mt}}{NSE_{m(t-1)}} - 1$$

……(ii)

Where, R_{mt} is the return on the benchmark (stock index) at the end of month *t*

NSE_{mt} is the benchmark at the end of month *t*

$NSE_{m(t-1)}$ is the benchmark at the end of the month preceding

To calculate the benchmark-adjusted return for stock *i* in event month *t*

$$ar_{it} = R_{it} - R_{mt}$$

……..…….(iii)

To calculate the average benchmark-adjusted return on a portfolio of *n* stocks for event month *t*

$$AR_t = \frac{1}{n}\sum_{i=1}^{n} a\,r_{it}$$

……..…….(iv)

Where, *n* is the number of IPO stocks

To calculate the cumulative benchmark-adjusted aftermarket performance from event month *q* to event month *s*

$$CAR_{q,s} = \sum_{t=q}^{s} A\,R_t$$

……..(v)

To carry out the statistical test on the cumulative abnormal returns:

$$t_{CAR1,t} = \frac{CAR_{i,t}}{\sigma(CAR_{i,t})/\sqrt{n_t}}$$

……..(vi)

Where, $\sigma(CARit)$ is the cross-sectional sample standard deviations of abnormal returns for the sample of *n* firms and *nt* is the number of IPOs on month *t*

3.6.2 Buy and Hold Abnormal Return (BHAR)

This measure as an alternative to CAR makes it possible to calculate the total returns procured on a share acquired at the closing price on the first day trading retained up to month T after the IPO date.

To calculate the *T* period buy-and-hold abnormal return (BHAR) as the difference between the holding period return of IPO *i* and the benchmark return:

$$\mathrm{BHAR}_{i,T} = \prod_{t=1} T(1 + \mathrm{R}_{i,t}) - \prod_{t=1} T(1 + \mathrm{R}_{NSE,t})$$

……..(vii)

Where, R*i,t* denotes the rate of return on stock *i* in month *t* after IPO, and R*NSE,t* is the corresponding benchmark return.

To calculate the mean BHAR

$$\mathrm{BHAR}_{IPO,T} = \frac{1}{N}\sum_{i=1}^{n} BHAR_{iT}$$

……(vii)

Where, N is the number of companies in the sample. A positive BHAR is interpreted as a better performance of the respective IPO compared to the benchmark.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis results and discusses the findings of the research. The study used IPOs for the period 2006 to 2013 presented in table 4.1 below. Since the long-run period used in the study was a minimum of 5years, only IPOs issued after 2006 and had celebrated 5th year anniversary were considered. Monthly market prices were used to compute the IPO returns and monthly market indices were used to compute market returns. Market-adjusted returns were calculated as the return on an IPO minus the return on the NSE 20 share index. The monthly return was measured by comparing the closing price in the last day of trading in a month, with the closing price in the previous month end. The total number of IPOs used was seven as per the table below:

TABLE 1

NSE IPOs Issues from 2006 to 2013

IPOs	**Date of Issue**	**Issue/Offer Price (Ksh)**	**Subscription level (%)**
KenGen	11th May 2006	11.90	333%
Eveready	18th December 2006	9.50	830%
Scangroup	29th August 2006	10.45	620%
Kenya Re	27th August 2007	9.50	334%
Access Kenya	4th June 2007	10.00	363%
Safaricom	9th June 2008	5.00	532%
Co-op Bank	22nd December 2008	9.50	81%

Source: CMA Capital Markets Bulletin (Q1/2014)

4.2 Research Findings

The study sought to analyse the long-term performance of individual IPOs as well as a portfolio in Kenya relative to the performance of the NSE market. The Cumulative Abnormal Returns (CAR) and Buy and Hold Abnormal Returns (BHAR) methodologies were applied on the 7 IPOs from the first month up to 60 months of trading after issuance. The month end prices were selected in each of the 60 months of trading after issue.

4.2.1 Stocks performance

Table 4.2 below presents the stocks performance at the NSE market as calculated using month end 20 share index over a period of 5years coinciding with the period when IPOs were issued. The period of analysis extended to 7years due to the fact that the 7 IPOs were not issued in the same period while consistency in comparison was fundamental. Yearly results presented are arrived at by averaging the 12 months benchmark performance returns.

TABLE 2

Stocks Performance

Year	1	2	3	4	5	6	7
NSE 20 share Index	0.01	0.00	-0.04	0.04	0.00	-0.01	0.3

Source: Author (2015)

The NSE remained fairly tepid in the first 2years with a performance of 0.01 and 0.00 respectively coinciding with the period when the IPOs were issued. However, the lukewarm state was followed by an underperformance in the 3rd year by -0.04 which was followed by an over performance of similar magnitude. The stocks performance went back to a neutral state in the 5th year. The neutral state dipped into an underperformance in the 6th year by -0.01 but fortunately

over performance was restored in the 6th year by 0.3. These years were analysed as a comparative to coincide with IPOs period in the 5years defined by the study.

The NSE market depicts a not very vibrant bourse judged by the 20 share index returns which considers all sectors of business. Positive performance would have been expected considering IPOs are part of trading activity in the market.

4.2.2 Individual IPO performance

Table 4.3 below presents a summary of CAR for each of the 7 IPOs as analysed year after year for 5years together with the comparative benchmark.

TABLE 3

Statistics for CAR

IPOs/ Year	NSE 20 share Index	Safaricom	Scan Group	KenGen	Kenya Re	Eveready	Co-op Bank	Access Kenya
1	0.01	0.34	0.39	-0.31	0.08	-0.73	0.08	1.07
2	0.00	0.10	0.77	-0.38	-0.31	-1.05	0.55	1.27
3	-0.04	-0.02	1.03	-0.48	-0.37	-1.18	0.46	0.79
4	0.04	0.27	1.45	-0.47	-0.15	-1.33	0.25	0.00
5	0.00	0.90	1.52	-0.52	0.11	-1.55	0.43	-0.31

Source: Author (2015)

From the summary, Safaricom over performed the market in the first 2years of trading by 0.34 and 0.10 respectively. However there was slight underperformance in year 3 of trading by -0.02. Over performance continued in year 4 and 5 of trading by 0.27 and 0.90 respectively. Overall, Safaricom over performed the market in the period of 5years covered by the study apart from the slight underperformance observed in year 3.

Scangroup consistently over performed the market in the entire 5years of trading by 0.39, 0.77, 1.03, 1.45 and 1.52 yearly respectively. Over performance consistently improved yearly after the IPO issue with a noticeable magnitude compared to the market and other IPOs.

KenGen underperformed the market consistently in the 5years of trading by -0.31, -0.38, -0.48, -0.47 and -0.52 yearly respectively. The underperformance continued to worsen with time over the period of 5years since the IPO issue.

Kenya-Re over performed the market in the first year of trading by 0.08. However, there was underperformance in the next 3years of trading by -0.31, -0.37 and -0.15 yearly respectively. Over performance was restored during the 5th year of trading by 0.11. It is evident that Kenya-Re IPO reflected the market performance, extremely underperforming when the benchmark was at worst.

Eveready consistently underperformed the market in the 5years of trading by -0.73, -1.05, -1.18, -1.33 and -1.55 yearly respectively. The magnitude of underperformance continued to increase with passage of time in the 5years period covered by the study.

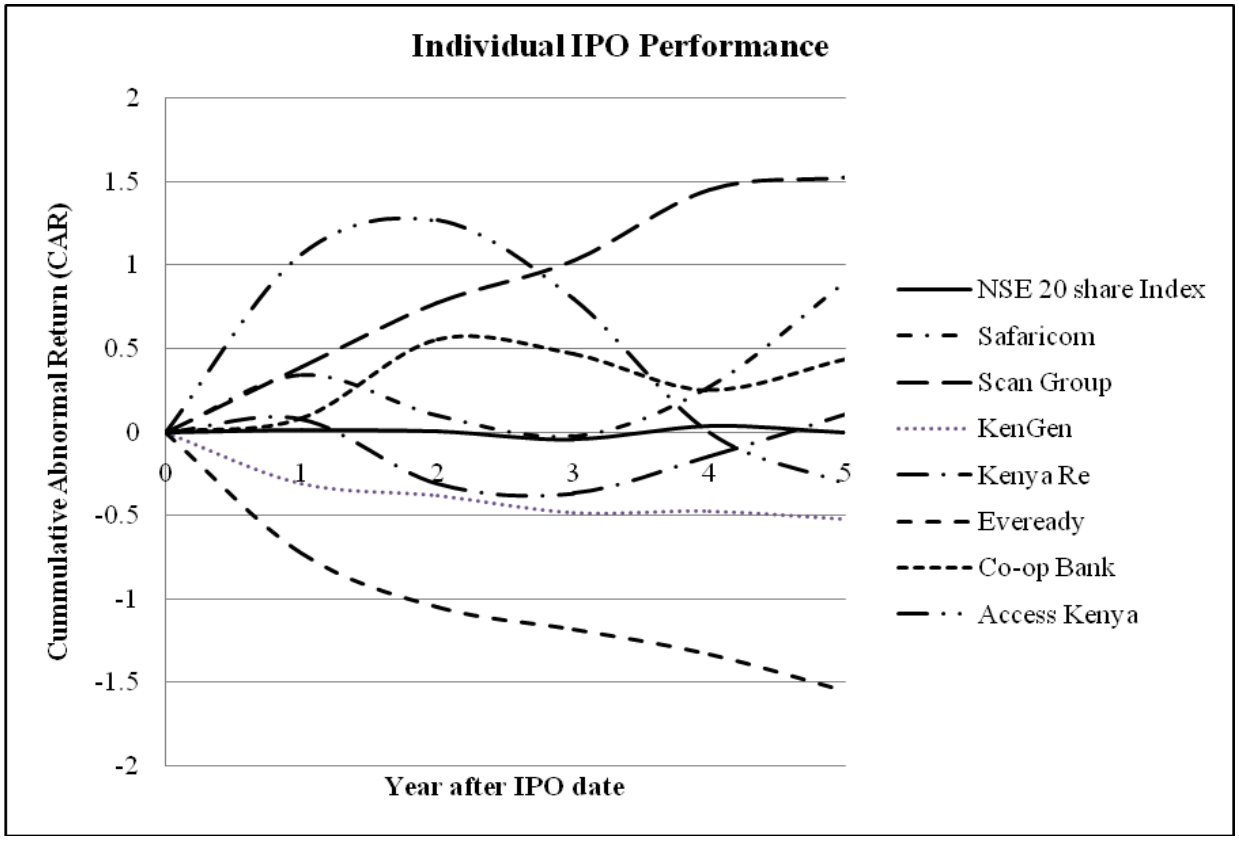
Cooperative Bank consistently over performed the market by 0.08, 0.55, 0.46 0.25 and 0.43 yearly respectively in the 5years of trading. The over performance increased consistently with time but a slight decrease was observed in the 4th year of trading.

Access Kenya over performed the market in the first 3years of trading by 1.07, 1.27, and 0.79 yearly respectively. The performance was neutral and at par with the market in the 4th year but unfortunately there was underperformance during year 5 by -0.31

Figure 4.1 below presents a summary of CAR for the 7 IPOs Versus the market.

FIGURE 1

Graphical Presentation of CAR



Source: Author (2015)

The graphical presentation of the cumulative abnormal returns of the individual IPOs clearly shows their respective overperformance and underperformance comparatively to the benchmark. Scangroup was the best overperforming IPO while Eveready was the worst underperforming IPO during the 5years under study. Access Kenya overperformed for four anniversaries only to crumble and underperform in the 5th year.

4.2.3 Aggregate IPO performance

Table 4.4 below presents a summary of IPO performance as portfolio by CAR and BHAR comparative to the benchmark.

TABLE 4

Aggregate Stock Performance

Year	NSE_{mt}	CAR_{qs}	$BHAR_{IPO},T$	SD_{CAR}	SD_{BHAR}
1	0.01	-0.25	0.01	0.18	0.14
2	0.00	-0.09	-0.06	0.08	0.07
3	-0.04	0.00	0.02	0.02	0.07
4	0.04	-0.05	-0.01	0.03	0.08
5	0.00	-0.13	-0.04	0.05	0.05
6	-0.01	-0.19	0.06	0.04	0.07
7	0.03	0.04	0.05	0.11	0.08

Source: Author (2015)

From the summary, there was over performance of stocks in the 1st year corresponding to the period when the IPOs were issued based on the 20 share index as a benchmark. The stocks performance aggregated nil in year 2 and year 5. The stocks underperformed in the corresponding 3rd year by -0.04 while over performance with similar magnitude was observed in the 4th year. Stocks underperformed in the corresponding 6th year by -0.01. Over performance was restored in the 7th year by 0.03.

The IPO portfolio returns as assessed through CAR methodology show underperformance in the first two years of trading by -0.25 and -0.09 respectively. The IPOs remain unrewarding in the 3rd year but continue to underperform in the 4th to the 6th year by -0.05, -0.13 and -0.19 respectively. There is over performance in the 7th year of trading after the date of IPO issue.

Similar assessment of the portfolio returns using the BHAR methodology show over performance in the 1st year of trading by 0.01 but there is underperformance in the 2nd year by -0.06 after the date of IPO issue. There is over performance in the 3rd year by 0.02 but

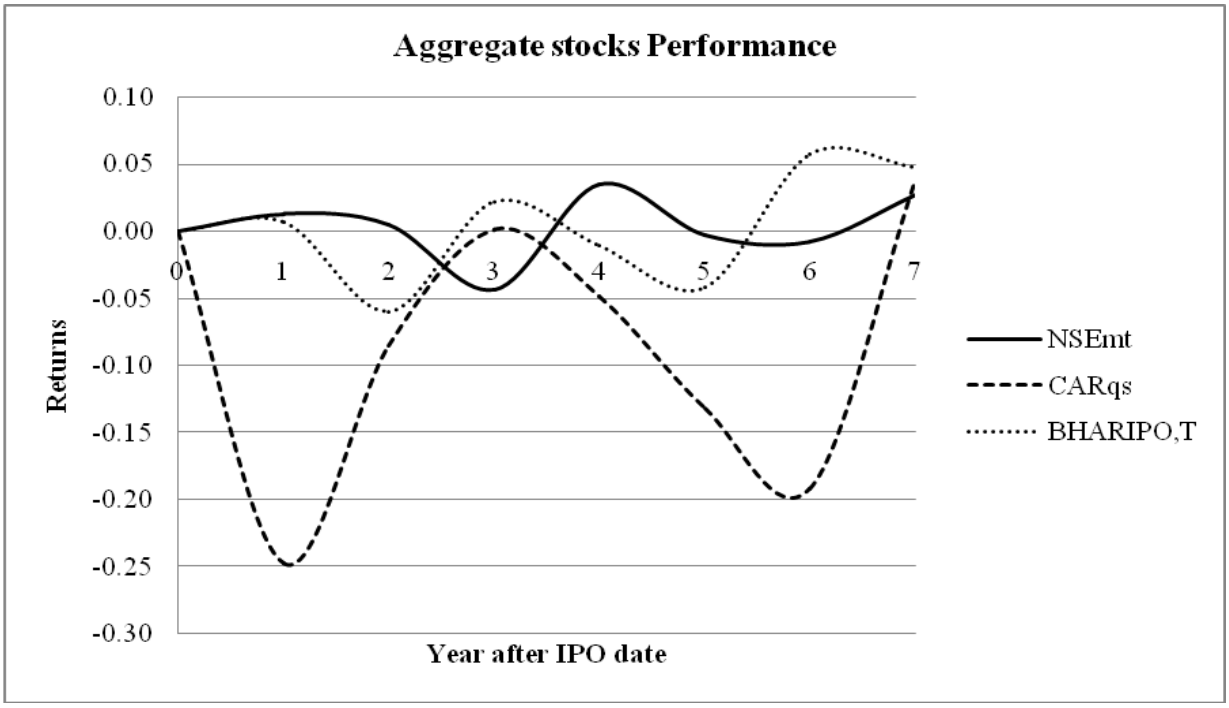
underperformance is observed in the 4th and 5th year by -0.01 and -0.04 respectively. The 6th and the 7th year reported over performance by 0.06 and 0.05 respectively.

Markedly, the IPOs portfolio performed above the benchmark in year 3 under both CAR and BHAR methodologies by 0.00 and 0.02 respectively. The benchmark was at -0.04 in comparison.

Figure 4.2 below presents a summary of aggregate stock performance.

FIGURE 2

Graphical Presentation of Aggregate Stock Performance



Source: Author (2015)

It is evident from the graphical presentation of the aggregate stock performance how the IPO performance through BHAR methodology, ranged closely to the benchmark even though the seasons went in opposite directions. The BHAR and CAR results follow a closely similar trend but negative CARs are more pronounced hence the deep troughs following underperformance. The IPOs performance is conspicuously above the market in year 3. The IPOs underperformance

noted in year 1 and 2 reverses in year 3, then continues to underperform only to pick up again after year 5 and beyond.

Eveready contributed to the extreme overall underperformance of the IPOs as a portfolio due to its individual underperformance. Notably Eveready was issued in the year when KenGen and Scan group were issued.

4.2.4 Test of significance

Table 4.5 below shows the output that was derived after carrying out a test of significance between CAR and BHAR results. CAR and BHAR were both used to measure the performance of the 7 IPOs as a portfolio.

TABLE 5

Test of Significance

	CAR	*BHAR*
Mean	-0.09497	0.0031
Variance	0.010549	0.0019
Observations	7	7
Hypothesized Mean Difference	0	
Df	8	
t Stat	-2.32663	
P(T<=t) one-tail	0.024208	
t Critical one-tail	1.859548	
P(T<=t) two-tail	0.048415	
t Critical two-tail	2.306004	

Source: Author (2015)

The t statistic is less than *t* critical therefore the CAR and BHAR are insignificantly different. T-test was conducted at 95% confidence level and concluded that there was no significant difference on IPOs performance using CAR and BHAR for five years after issue. The significance test results mean that the performance trend portrayed by CAR methodology is also reflected by BHAR methodology but with an inconsequential difference.

4.3 Discussion

The NSE 20 Share Index was used as the base for establishing the stocks performance. The month end indices for 60 months were used to compute the returns. The indices were selected to coincide with the period from 2006 to 2013 when the 7 IPOs were issued. To ensure consistency in comparison of both the benchmark and IPO returns, the comparative period results extended to 7years i.e. 84 months.

The results of stock performance indicated a fairly tepid state of the NSE market. The underperformance and over performance was never too on the extreme while there were some years when the performance remained indifferent. This is to mean that the investors' returns as measured through the benchmark were never too high nor too low while in some years there were no returns.

The individual IPOs performance was evaluated using the month end stock prices for 60months since the IPO issue. The CAR method was used to arrive at the results. The results for the seven IPOs were gauged in comparison to the 20 Share Index benchmark performances. Safaricom, Scangroup and Co-op Bank over performed the market while KenGen, Kenya-Re and Eveready underperformed the market. Access Kenya over performed the market in the initial years but underperformed in its 5^{th} anniversary. The sudden underperformance by Access Kenya was likely associated with the takeover bid that was looming which took place in 2013 and eventually finalised in 4^{th} January 2014 pursuant to section 210 of the companies Act.

The aggregate performance of IPOs was determined using both CAR and BHAR methods. The results were also gauged in comparison to the NSE 20 Share Index benchmark. The period of comparison extended to 7years due to the fact that the IPOs were not issued in the same period. The results achieved from both methods depicted an almost similar trend in

performance. However, the BHAR results were more pronounced when it came to underperformance results. Markedly, the IPOs underperformance was reversed in year 3 taken as a portfolio under both CAR and BHAR methodologies.

A test of significance was carried out comparing CAR and BHAR results in relation to IPOs performance as a portfolio. The test statistic arrived at indicated that the two results were insignificantly different.

Confines specific to NSE Market is that there has been a few numbers of firms that have gone public through IPO way since the inception of the NSE as compared to other capital markets where related studies have been carried out. There were a total of 7 IPOs that were considered for the study for the period from 2006 to 2013. This translated to about 10.77% of all listed companies in Kenya as at end of 2014. The small sample of IPO may not give consistent results as those achieved by studies carried out on global capital markets. The share prices used in the study are month end prices. This means the data is scanty. The IPO returns were adjusted with the benchmark corresponding to the particular days to ensure consistency in analysis.

The NSE 20 share index was used as a benchmark to gauge the performance of the IPOs. The benchmark takes into consideration all shares listed at the NSE. An overall comparison of shares would mean that all shares are performing fairly the same. This is contrary to the facts, considering the IPO firms are operating from different industries. Analysis by companies and segment is quite impracticable considering the NSE split the stocks into smaller segments with few numbers of firms. The IPOs considered in the study represented a few segments therefore they were analysed together as a portfolio regardless of specific segments.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter makes the research summary, conclusion and recommendation on the analyzed data on long-term performance of IPOs in Kenya issued between 2006 and 2013 relative to the performance of the NSE market. According to the study, both CAR and BHAR depicted a similar trend in the long term performance. However, the underperformance is more pronounced when measured by CAR as compared to BHAR. This confirms Drobetz et al. (2005) assertion that CAR statistics are negatively skewed when compared to BHAR.

5.2 Summary of Findings

The stocks performance at the NSE market remained fairly moderate for the period coinciding with IPOs issued from 2006 to 2013. Over performance or underperformance was not too extreme. Returns remained impartial in some years. This indicated a not so vibrant stock market. The results of the stocks performance are shown in Table 4.1.

Scan group, Safaricom and Co-Operative Bank over performed the market while KenGen, Kenya-Re and Eveready underperformed the market in 60 months of trading after issue. Access Kenya over performed in the initial years but underperformed in the 5^{th} year. IPOs do not always underperform in the long-term especially when assessed individually. The statistics for the individual IPOs performance over 5years are shown in Table 4.2. The results of the study disputes assertions by Jumba (2002) and Njoroge (2004) that all the IPOs underperform the market in the long run using CAR methodology.

CAR and BHAR methodology were both used to compare the long term performance of the IPOs as a portfolio. The study noted that the two methods depicted an almost similar curve

line safe for the discernible negative skewness on CARs. Drobetz et al. (2005) asserts that underperformance of IPOs is more pronounced when measured with CARs as compared to BHARs. Table 4.3 represents the CAR and BHAR results for the Seven IPOs as portfolios in the 5 year period under study. The period in years are extended from 5 to 7 on results presentation to cater for the different timings when individual IPOs were issued.

5.3 Conclusion

The study documents the long-term performance of 7 IPOs issued through the NSE Market in Kenya from 2006 to 2013 relative to the 20 share index as a benchmark. The findings show that, when using CAR to assess the individual IPO performance in overall, Safaricom, Scangroup, and Cooperative bank over performed the market in the 5years. Scangroup and Co-operative bank consistently over performed the market while Safaricom reported a slight underperformance in year 3 by -0.02. KenGen, Kenya-Re, Eveready and Access Kenya underperformed the market in overall. Scangroup and Co-operative Bank consistently over performed the market in the entire 5year period. Kenya-Re over performed in year 1 and 5 while Access Kenya underperformed in year 5 alone.

The aggregate performance of the IPO portfolio as assessed through both CAR and BHAR indicates that the IPOs performed closely to the benchmark. Both CAR and BHAR results portrayed a similar trend of performance but underperformance was more pronounced in CARs. This observation corresponds to findings laid out by Drobetz et al.(2005).

Noticeably, the IPOs portfolio performed better than the benchmark in year 3 under both CAR and BHAR methodologies. Ritter and Welch (2002) points out that underperformance of IPOs reverses on average in year 3. Underperformance resumed right after year 3 only to over perform again after year 5 and beyond.

The study confirms Ritter (1991) assertion that IPOs could perform well in some periods than in others like Safaricom and Co-operative bank which were both issued in 2007. Eveready which was issued between Scan group and Access Kenya had the highest subscription at 830% but reported the worst performance. This shows that the IPO may have been timed to benefit from the hot IPO period of 2006-2013.

5.4 Recommendations

The government should encourage and provide favorable environment for more private companies to list in the NSE by relaxing the regulations from the CMA. This will encourage firms to go public and in essence increase trading volume at the NSE therefore making it more vibrant to attract global and in essence more investors altogether. This is in relation to the few numbers of IPOs that have been issued in Kenya. A larger number of IPOs will give investors a choice when opting for a portfolio mix of stocks.

The CMA should have strict arrangement to ensure that poor IPOs are not offered in the market especially during hot IPO periods. This will ensure that investors are protected from companies that want to take advantage of over-valuation of IPOs and excess cash left on the table especially when a preceding successful IPO is oversubscribed. The oversubscription of Eveready followed by the increasing underperformance shows the likelihood of a timed out IPO.

5.5 Areas for Further Research

The study sought to analyze the long-term performance of IPOs in Kenya relative to the performance of the NSE market. The study recommends that a profound study should be done to establish the extent to which investors hold on to IPOs after the first day of trading and the reasons for holding the shares. This is because investors find themselves in a crossroad when the

IPOs they invested in continue to underperform without a foreseeable turnaround. Such a study shall likely reveal investors wealth that is lost through IPOs.

A further research may be done to unveil the reasons that hinder private companies from going public through the NSE market. This is because there is a snail pace rate at which new IPOs are issued in Kenya.

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APPENDICES

APPENDIX I

Data Collection Form

COMPANY: _____

YEAR/MONTH OF ISSUE: _____

ISSUE/OFFER PRICE: _____

YEAR/ MONTH	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		YEAR N	
Share price/Index	End month Price	End month Index	End month Price	End month Index	End month Price	End month Index	End month Price	End month Index	End month Price	End month Index	End month Price	End month Index
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

APPENDIX II

Nairobi Securities Exchange Share Issues 2006 – 2013

Company	Type of Issue	Shares on Issue	Year/Month of Issue	Issue/ Offer Price (Ksh)	Subscription level (%)
1. Kengen	IPO	658,900,000	2006 April	11.90	333%
2. Eveready	IPO	63,000,000	2006 Aug	9.50	830%
3. Scangroup	IPO	69,000,000	2006 June	10.45	620%
4. Kenya Re	IPO	240,000,000	2007 July	9.50	334%
5. Access Kenya	IPO	80,000,000	2007 March	10.00	363%
6. Safaricom	IPO	10,000,000,000	2008 June	5.00	532%
7. Co-op Bank	IPO	701,000,000	2008 October	9.50	81%

Source: CMA Capital Markets Bulletin (Q1/2014)

APPENDIX III

CAR and BHAR statistics

Month	N	NSE_{mt}	AR_{it}-Scom	AR_{it}-Scan	AR_{it}-KenGen	AR_{it}-KNRE	AR_{it}-EVRD	AR_{it}-COOP	AR_{it}-ACCS	AR_t	CAR_{qs}	t_{CAR}	$BHAR_{IPO,T}$	t_{BAHR}
1	1	-0.02	-0.02	0.59	0.10	0.02	-0.28	-0.04	0.02	0.10	0.10	0.56	0.10	0.69
2	1	0.00	0.05	-0.27	-0.09	-0.05	-0.07	0.08	0.26	-0.09	0.01	0.06	-0.09	-0.62
3	1	0.05	0.01	-0.18	-0.11	0.29	-0.16	-0.27	0.01	-0.11	-0.10	-0.56	-0.11	-0.76
4	2	0.09	-0.06	0.15	-0.02	0.09	-0.05	-0.02	0.05	0.28	0.18	1.47	0.35	3.42
5	2	0.09	-0.03	0.03	-0.13	-0.04	-0.05	0.13	0.05	-0.20	-0.02	-0.15	-0.15	-1.51
6	2	0.06	-0.02	-0.02	-0.13	-0.16	-0.06	0.32	0.20	-0.16	-0.17	-1.40	-0.12	-1.22
7	2	0.00	0.19	0.10	-0.10	-0.04	-0.01	-0.10	0.11	0.03	-0.15	-1.19	0.02	0.21
8	3	0.02	0.02	-0.07	-0.23	-0.10	-0.01	0.03	0.02	-0.16	-0.31	-3.02	-0.13	-1.61
9	3	-0.07	0.06	0.10	0.14	-0.01	0.00	0.00	0.07	0.02	-0.29	-2.87	-0.03	-0.37
10	3	-0.05	0.04	0.01	-0.20	-0.01	-0.07	-0.04	0.19	-0.09	-0.38	-3.72	-0.11	-1.31
11	3	0.01	0.19	-0.02	0.40	0.05	0.02	0.03	0.02	0.10	-0.28	-2.76	0.09	1.15
12	3	-0.04	-0.09	-0.03	0.06	0.04	0.01	-0.02	0.05	0.03	-0.25	-2.43	0.01	0.08
13	3	0.03	0.08	0.05	-0.07	-0.01	0.12	-0.01	-0.02	-0.04	-0.29	-5.90	-0.02	-0.54
14	4	0.04	-0.01	0.01	0.07	-0.01	-0.04	-0.02	0.03	0.02	-0.27	-6.42	0.05	1.49
15	4	0.01	-0.09	0.06	0.10	-0.06	-0.11	-0.10	-0.03	0.08	-0.19	-4.49	0.09	2.74
16	4	-0.04	0.01	0.00	-0.06	-0.06	-0.13	0.15	-0.14	0.00	-0.19	-4.55	-0.03	-0.97
17	4	-0.03	-0.05	0.05	-0.02	-0.10	-0.18	0.06	0.06	-0.01	-0.20	-4.71	-0.03	-0.93
18	4	0.05	0.02	0.02	-0.02	0.00	0.14	0.17	0.01	0.03	-0.17	-4.07	0.08	2.31
19	4	0.04	-0.01	-0.03	-0.05	0.01	-0.03	-0.02	0.09	0.04	-0.13	-3.06	0.08	2.40
20	4	-0.13	-0.18	0.09	0.01	-0.02	0.01	0.10	-0.02	0.07	-0.06	-1.32	-0.02	-0.70
21	4	0.08	-0.13	-0.01	-0.01	-0.06	0.02	0.07	0.00	0.00	-0.05	-1.31	0.07	2.03
22	4	-0.05	0.10	0.04	-0.03	-0.01	0.03	0.08	0.09	-0.02	-0.08	-1.87	-0.05	-1.60
23	4	0.10	-0.01	-0.05	-0.01	0.03	-0.01	0.01	0.15	0.03	-0.04	-1.05	0.13	4.03
24	4	-0.03	0.03	0.15	0.01	-0.08	-0.14	-0.01	-0.04	-0.04	-0.09	-2.03	-0.06	-1.82
25	4	0.00	-0.06	-0.01	-0.05	0.03	0.00	0.07	-0.06	0.05	-0.04	-3.63	0.05	1.34
26	4	-0.06	-0.05	0.08	0.01	0.00	0.13	0.05	-0.06	-0.02	-0.06	-5.41	-0.06	-1.51
27	4	-0.05	0.04	0.03	-0.02	0.02	-0.09	-0.11	0.00	0.04	-0.02	-1.42	0.01	0.18
28	4	-0.10	0.00	-0.06	0.04	-0.05	-0.06	0.02	-0.04	0.00	-0.01	-1.10	-0.06	-1.60
29	4	-0.19	-0.04	0.06	-0.15	0.00	-0.12	-0.02	-0.03	-0.04	-0.06	-5.29	-0.12	-3.23
30	4	-0.01	0.04	-0.06	0.15	-0.13	-0.12	-0.04	0.00	0.06	0.00	0.19	0.05	1.34
31	4	0.05	-0.03	-0.05	-0.02	0.04	0.01	0.00	-0.02	-0.05	-0.05	-4.71	-0.01	-0.36
32	7	-0.09	-0.08	0.14	-0.01	0.00	0.09	0.00	-0.08	0.01	-0.04	-4.60	-0.05	-1.78
33	7	-0.23	0.04	0.02	-0.03	0.05	-0.02	0.04	-0.15	0.01	-0.02	-2.98	-0.08	-3.02
34	7	0.13	-0.06	-0.03	0.08	-0.01	-0.06	-0.04	-0.07	0.00	-0.03	-3.13	0.16	5.59
35	7	0.00	0.04	0.00	-0.05	-0.01	0.11	-0.04	-0.12	0.02	-0.01	-0.89	0.01	0.50
36	7	0.02	0.04	0.13	-0.04	0.00	-0.02	-0.03	0.15	0.01	0.00	0.15	0.02	0.80
37	7	0.15	0.07	-0.05	0.09	0.04	0.20	0.05	-0.06	0.01	0.01	0.77	0.22	7.10
38	7	-0.01	-0.08	-0.06	-0.04	-0.04	-0.07	-0.12	-0.12	-0.01	0.00	0.22	-0.01	-0.46
39	7	-0.05	0.03	-0.01	-0.05	-0.04	0.20	0.07	0.03	0.01	0.01	0.98	-0.03	-1.06
40	7	-0.03	-0.02	0.02	-0.07	0.28	-0.02	0.02	-0.08	-0.01	0.00	-0.16	-0.03	-1.11
41	7	0.03	-0.05	-0.09	-0.09	0.24	-0.11	-0.07	-0.02	-0.04	-0.04	-3.47	-0.01	-0.47
42	7	0.03	0.05	0.01	0.03	-0.17	-0.08	-0.15	-0.16	0.05	0.01	1.30	0.10	3.34
43	7	0.02	0.07	-0.10	0.12	-0.10	-0.07	-0.01	0.00	0.01	0.02	1.79	0.02	0.66

Month	N	NSE_{mt}	AR_{it}-Scom	AR_{it}-Scan	AR_{it}-KenGen	Ar_{it}-KNRE	AR_{it}-EVRD	AR_{it}-COOP	AR_{it}-ACCS	AR_t	CAR_{qs}	t_{CAR}	$BHAR_{IPO,T}$	t_{BAHR}
44	7	0.10	0.00	-0.04	0.02	0.10	0.05	-0.01	-0.23	0.02	0.04	3.90	0.16	4.95
45	7	0.02	0.03	0.21	-0.09	0.05	-0.08	0.00	-0.17	-0.04	0.00	0.41	-0.02	-0.72
46	7	0.12	0.04	0.18	0.00	0.01	-0.05	0.01	0.19	-0.04	-0.04	-3.54	0.07	2.37
47	7	0.04	0.14	-0.10	0.01	-0.07	-0.21	-0.02	-0.12	0.00	-0.04	-3.79	0.03	1.04
48	7	0.00	0.00	0.47	0.07	-0.07	0.12	0.02	-0.07	-0.01	-0.05	-4.38	-0.01	-0.33
49	7	0.02	0.01	0.10	-0.01	0.05	-0.09	-0.04	-0.08	0.06	0.01	0.66	0.10	4.83
50	7	0.02	0.03	0.09	0.00	0.02	-0.05	0.04	0.01	-0.04	-0.03	-1.32	-0.02	-0.89
51	7	0.00	-0.03	-0.10	-0.01	0.20	0.03	0.12	-0.03	0.04	0.02	0.91	0.03	1.56
52	7	0.04	0.16	0.07	-0.04	0.01	-0.13	0.02	-0.01	-0.02	0.00	0.07	0.02	0.79
53	7	0.01	0.01	0.02	0.01	0.05	-0.02	-0.02	-0.03	0.02	0.02	1.19	0.03	1.31
54	7	-0.06	-0.01	-0.03	-0.03	-0.03	-0.03	-0.01	0.02	-0.05	-0.02	-1.27	-0.07	-3.44
55	7	0.01	0.07	0.01	0.01	0.04	0.06	0.00	-0.08	0.00	-0.03	-1.44	0.00	0.02
56	7	0.01	0.08	0.13	-0.01	-0.07	0.01	0.02	-0.21	-0.01	-0.03	-1.78	0.00	-0.07
57	7	-0.05	0.08	-0.19	-0.03	-0.07	0.09	-0.01	0.02	-0.05	-0.08	-4.30	-0.07	-3.36
58	7	-0.08	0.08	0.05	0.03	-0.05	-0.13	0.06	0.10	-0.02	-0.10	-5.44	-0.07	-3.29
59	7	0.04	0.12	-0.09	0.03	0.14	0.01	0.01	0.06	0.03	-0.08	-4.03	0.06	3.18
60	7	0.01	0.04	0.01	-0.01	-0.04	0.02	-0.01	-0.08	-0.06	-0.13	-6.94	-0.04	-2.04
61	7	-0.03		-0.10	-0.10		-0.05		-0.01	-0.04	-0.17	-10.92	-0.05	-2.01
62	7	-0.06		0.01	-0.09		-0.15		-0.09	-0.03	-0.20	-12.67	-0.06	-2.30
63	7	-0.07		0.10	-0.05		0.04		0.03	-0.01	-0.21	-13.50	-0.06	-2.21
64	7	-0.05		0.01	-0.03		0.02		-0.08	0.01	-0.20	-12.88	-0.03	-1.22
65	7	0.07		-0.01	0.07		0.13		-0.02	-0.02	-0.23	-14.45	0.04	1.46
66	7	-0.10		0.02	-0.10		-0.12		-0.03	0.00	-0.23	-14.72	-0.06	-2.48
67	7	0.02		0.21	-0.01		0.05		0.11	0.01	-0.22	-14.25	0.02	0.87
68	7	0.01		-0.03	-0.06		0.01		0.24	-0.01	-0.23	-14.59	0.00	-0.07
69	7	0.02		-0.05	-0.10		-0.09		0.30	-0.10	-0.33	-20.75	-0.06	-2.46
70	7	0.02		0.04	-0.04		-0.11		0.18	0.04	-0.28	-18.07	0.07	2.62
71	7	0.05		-0.04	0.07		0.15			0.06	-0.22	-14.05	0.15	5.86
72	7	0.03		0.06	-0.05		0.08			0.03	-0.19	-12.23	0.06	2.23
73	7	0.01		0.00	0.07		-0.12			-0.05	-0.24	-5.66	-0.04	-1.34
74	7	0.03		-0.02	-0.06		-0.06			-0.01	-0.26	-6.01	0.01	0.49
75	7	0.01		0.10	-0.02		0.05			0.01	-0.25	-5.84	0.01	0.46
76	7	0.03		0.03	0.04		0.30			0.01	-0.24	-5.68	0.03	1.13
77	7	0.04		-0.09	-0.02		0.02			-0.02	-0.27	-6.24	0.01	0.46
78	7	-0.02		0.06	0.11		0.05			0.06	-0.21	-4.95	0.04	1.49
79	7	0.01		-0.08	-0.12		0.01			-0.01	-0.23	-5.25	0.00	-0.16
80	7	0.07		-0.05	0.27		-0.06			0.03	-0.20	-4.62	0.11	3.67
81	7	0.02		-0.04	0.02		-0.06			0.05	-0.15	-3.47	0.08	2.82
82	7	0.08		-0.02	0.11		-0.02			0.10	-0.05	-1.24	0.26	8.99
83	7	-0.02		0.05	0.03		0.02			0.09	0.04	0.93	0.09	2.95
84	6	0.05		-0.02	-0.03		0.01			0.00	0.04	0.83	0.05	1.49

Source: Author (2015).