

**LONG RUN PERFORMANCE OF INITIAL PUBLIC OFFERINGS:
EVIDENCE FROM THE NAIROBI STOCK EXCHANGE**

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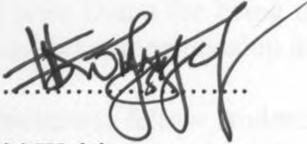
A management research project submitted in partial fulfilment of the requirements for the degree of Master of Business Administration, University of Nairobi

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DECLARATION

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

Signed:



Date:

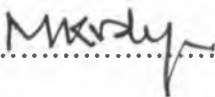
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This management research project has been submitted for examination with my approval as the University Supervisor

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Mr. Martin Odipo

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First to The Almighty God, for the gift of life, time and resources, I give you thanks.

To my supervisor Mr. Martin Odipo, for his fatherly guidance throughout the project may God bless you.

To my dear wife Diana for being there for me, as a spouse and a fellow MBA student, your presence and companionship made the whole of the MBA course enjoyable.

To all my lecturers, fellow students and support staff at the University of Nairobi, for their input in various ways. May God bless you all.

DEDICATION

I dedicate this paper to my loving wife Diana, adoring son Michael and my glorious daughter Victoria: Your love and care has kept me going. To my sister Esther for sacrificing a lot for me, indeed, “to those whose much has been given much will be required”. To my dear parents, brothers and sisters, for your never ending encouragement for which I am greatly indebted.

ABSTRACT

Long run performance of IPOs has elicited much research the world over. Much interest by scholars has been on the anomalies on initial over performance and long run underperformance. It is amazing to note that majority of recent IPOs in Nairobi Stock Exchange have been highly oversubscribed with Eveready recording over 800%, yet research on IPOs point that IPOs underperform the market in the long run.

The overwhelming success of the KenGen IPO at the NSE generated a lot of awareness in investment in shares among ordinary Kenyans of all ages, professions and income levels. The landmark IPO led to a massive interest in opening stock brokerage accounts and investing in Kenya. According to the Central Depository and Settlement Corporation (CDSC), the number of people with CDS accounts increased significantly and as at the end of June 2007 stood at over 750,000 accounts up from 78,300 in December 2005; a noteworthy tenfold increase in only one-and-a-half years. The IPO was oversubscribed by 330%. The IPOs following KenGen had higher oversubscriptions, with Eveready recording over 800%. The begging issue is the long run performance of these IPOs.

In conformity to previous studies on the long run performance, the study confirmed that IPOs underperformed the market by -0.62% using MABHR methodology. However interestingly, using CAR, IPOs underperformed the market by -0.01% presenting a difference of 0.61% from results of MABHR methodology. The study confirmed that different results are obtained if different methodologies are used.

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ABBREVIATIONS

CAR – Cumulative Abnormal Returns

IPO – Initial Public Offering

MABHR – Mean Adjusted Buy and Hold Return

NSE – Nairobi Stock Exchange

SEO – Secondary Equity Offering

UK – United Kingdom

USA – United States of America

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Few corporate events are more momentous than the first trading day following a firm's Initial Public Offering (IPO), Houge et al, (2001). This is due to the fact that there is no prior trading history, limited financial information about the company and the uncertainty about the firm's future performance.

It is implausible to assume that although the future is very uncertain, and the forecasts are difficult to make, that somehow everyone makes some identical estimates of the return and risk from every security, Miller (1977). The concept of uncertainty suggests that investors will differ in their forecasts. Thus, some investors will invest in the short term while others will invest for the long term. This leads to investors making differing returns from IPOs. The longer an investor holds an investment, the larger should be the return, however, past research suggests that IPOs over perform the market in the short run while in the long run, there is underperformance.

Literature on IPO underperforming the market in the long run points to the direction of limited investor rationality and psychological finance, Hirshleifer (2001). One possible rational explanation is that IPO underperformance is due to investor learning. Morris, (1996) presented a model to illustrate investor learning and concluded that IPOs underperform as investors learn about the true distribution of the firm values in the long run.

The Nairobi Stock Exchange has had very few IPOs compared to developed markets. The IPOs have been highly oversubscribed with Barclays bank of Kenya recording a high of 613%, Eveready at over 800%, and Safaricom the biggest offer in the region at 382%. In all the oversubscribed offers, so much money was left 'on the table' and this results into

hefty refunds to subscribers. Appendix iii presents the subscription levels for IPOs for the period 2000- 2008.

Whereas the subscription rates to IPOs have been high in the past, studies by Jumba (2002) indicated that in the long run the average daily return for a sample of nine IPOs for the period 1992- 2000 was 0.06% in three years after going public, compared to the market return of 0.3%. Njoroge (2004) while studying 1984-2001 using a sample of 14 IPOs observed that all the IPOs recorded an overall negative cumulative growth of -68.46%. Ndatimana (2008), using a sample of 15 covering the period 1992-2007 employing MABHR model produced mixed support. He found out that cumulative returns fall to -3.1% after 3 months, down further to -6.17% at the end of the first year. - 1.92%, 0.68%, -1.72% and 8.66% at the end of 2nd, 3rd, 4th and 5th year respectively. Using wealth relatives, Ndatimana (2008) found 1.0866 at the 5th anniversary and -1.017 at the third anniversary. He concluded that any underperformance for the first 3 years reverses by the 5th year.

If all investors expect that the long run returns of IPO shares will be negative, through backward induction no one will invest in IPOs in the initial markets. The long run underperformance of IPOs is anomaly that is worth examining, Chen and Pan (1998).

In most cases, the primary reason for going public is the desire to raise equity capital for the firm and to create a public market in which the founders and other shareholders can convert some of their wealth into cash at a future date. Nonfinancial reasons, such as increased publicity, also play a minor role for most firms. Other than cash considerations, most entrepreneurs would rather just run their firms than concern themselves with the complex public market process.

Several theories have been advanced to explain reasons for going public. Lifecycle theories proposed by Zingales (1995), Chemmanur and Fulghieri(1999) and Maksimovic and Pichler (2001) advance that a firm goes through a process from being private to public, and one way of going public is through an IPO. Market timing theories by Lucas

and McDonald (1990), Choe, Masulis, and Nanda (1993), Subramanyam and Titman (1999), Schultz (2000) and Welch and Ritter (2002) advance that firms go public to take advantage of bull market or in order to cash in on high valuation.

Every investor's main motive is returns. This could be attributed to the initial high returns as a result of under pricing. Reasons advanced to explain initial under pricing include self interested investment bankers, Baron and Holmstrom (1980) and Baron(1982), the 'winner's curse' Rock (1986), Lawsuit avoidance, Tinic (1988) and Hughes and Thakor (1992), Signaling (Allen and Faulhaber (1989), Grinbaltt and Hwang(1989) and Welch (1989), Market incompleteness (Mauer and Senbet (1982), Book building (Benveniste and Spindt (1989) and information cascade, Welch (1992). Loughran et al (1994) suggest that IPO under pricing may be due to the regulatory environment.

1.2 Statement of the problem

During the pre offer period, there is devoted marketing effort to make the offering appealing to the public. This culminates to highly oversubscribed offers, thereby leaving subscribers with huge chunks of refund monies. According to Njoroge (2004), nearly all the IPOs placed in the NSE had very good response from investors. However, he added that the investors should note that IPOs are timed to benefit the issuers by aiming to extract the maximum value from the market. According to the winners curse hypothesis on IPO under pricing, if some investors are more likely to attempt to buy shares when the issue is underpriced, the excess demand will be higher when there is more under pricing.

The signaling hypothesis on under pricing of IPOs indicates that the under priced issues leave a 'good taste' with the investors, allowing the firms and insiders to sell future offerings at a higher price than would otherwise be the case. This leads to excessive interest in future offerings.

Ritter (1991) found a significant long run under performance at the end of three year following the offering for a sample of 1526 IPOs over the period 1975- 1984. He found that the results appeared to be time sensitive. He observed a positive mean for the period 1975-1980 and negative mean performance for the period 1981-1984. This suggested that IPOs could perform well in certain periods than in others.

Levis (1993) in a study of 712 UK firms during the period 1980 – 1988 reported an under performance three years after going public. He noted that the average underperformance in the UK sample appeared to be less excessive than in the Ritter's (1991) US sample.

Loughran and Ritter (1995) in their study on the new issues puzzle used a sample of companies issuing IPOs and SEO during 1970 -1990 found that firms issuing IPOs and SEOs significantly underperformed relative to non issuing firms for five years after the offering date.

Jumba (2002) studied the performance of IPOs in Kenya for the period 1992-2000 and concluded that in the short run IPOs over perform the market while in the long run IPOs underperformed the market using three year holding period. Njoroge (2004) analyzed initial and long run performance of IPOs at the NSE during the period 1984-2001 and concluded that all IPOs underperformed the market in the long run using three year holding period. Ndatimana (2008) analyzed the performance of IPOs for the period 1992 – 2007 and reported that underperformance for the first three years reverses by the fifth year using Market adjusted Buy and Hold Return (MABHR) to measure the performance.

This study sought to build on the literature in the previous studies on the long run performance of IPOs using both buy-and-hold abnormal returns (BHARs) and cumulative abnormal returns (CARs) methodologies for the period 2001 – 2008. The study provided more recent analysis of the most current IPOs for the years 2006 and 2007 which have been excluded from previous studies. The period 2006 and 2007 introduced the hot period where five out of six IPOs were issued. Ritter (1991) observed that IPOs could

perform well in certain periods than others. The study sought to test if the period 2000-2007 would present differing results from other periods.

According to Gompers and Lerner (2003) divergent long-run performance results are observed depending on the empirical methodology applied.

1.3 Objective of the Study

The study investigated the long-run performance of IPOs at the Nairobi Stock Exchange.

1.4 Importance of the Study

Investor's motive in any venture is profit. However due to lack knowledge, many investors hold IPOs shares for long periods thus loosing on substantial profits, and in worse cases, losing part of their initial investment if disposals are made when the share price is sold below the offer price. According to behavioral finance, investors tend to follow the heard theory by investing. This means that they invest in what other are investing in without much analysis or concrete rationale.

This study will be of interest to the investing public as they will be able to make more informed choices while investing in IPOs.

The study adds on to the literature on IPOs and acts a foundation for further research to the academic fraternity.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents literature on long run performance of IPOs. Theoretical and empirical studies that have been done on IPOs are also discussed.

2.2 Theoretical Studies on IPOs

2.2.1 Life Cycle Theories

The first formal theory of the going public decision appeared in Zingales (1995). He observed that it is much easier for a potential acquirer to spot a potential takeover target when it is public. He noted that entrepreneurs realize that acquirers can pressure targets on pricing concessions more than they can pressure outside investors. By going public, entrepreneurs thus help facilitate the acquisition of their company for a higher value than what they would get from an outright sale.

Chemmanur and Fulghieri (1999) argue that IPOs allow more dispersion of ownership. They argue that pre-IPO “angel” investors or venture capitalists hold undiversified portfolios, and therefore are not willing to pay as high a price as diversified public-market investors. They assert that early in its life cycle, a firm will be private, but if it grows sufficiently large, it becomes optimal to go public.

Public trading has both cost and benefit. Maksimovic and Pichler (2001) pointed out that a high public price can attract product market competition. Public trading, however, can add value to the firm, as it may inspire more faith in the firm from other investors, customers, creditors, and suppliers. Being the first in an industry to go public sometimes confers a first-mover advantage. Schultz and Zaman (2001), reported that many internet firms that went public in the late 1990s pursued an aggressive acquisition strategy, which they interpret as an attempt to pre-empt competitors.

2.2.2 Market-Timing Theories

Lucas and McDonald (1990) developed an asymmetric information model where firms postpone their equity issue if they know they are currently undervalued. In their model, if a bear market places a low value on the firm, given the knowledge of entrepreneurs, then they will delay their IPOs until a bull market offers more favorable pricing. Choe, Masulis and Nanda (1993) found that firms avoid issuing in periods where few other good-quality firms issue. Other theories have argued that markets provide valuable information to entrepreneurs (“information spillovers”), who respond to increased growth opportunities signaled by higher prices (Subramanyam and Titman (1999), Schultz (2000)).

Welch and Ritter (2002) suggested that in addition to rational theories for IPO volume fluctuations, a plausible semi-rational theory without asymmetric information can also explain cycles in issuing activity. They argued that entrepreneurs’ sense of enterprise value derives more from their internal perspective, their day-to-day involvement with the underlying business fundamentals, and from the public stock market. They further stated that sudden changes in the value of publicly traded firms are not as quickly absorbed into the private sense of value held by entrepreneurs, thus entrepreneurs adjust their valuation with a lag. As a result, even if the market price is driven by irrational public sentiment or the entrepreneur’s price is driven by irrational private sentiment, entrepreneurs are more inclined to sell shares after valuations in the public markets have increased.

The motive therefore for going public primarily is to benefit the issuers (entrepreneurs) and not the investors. Investors need to know how and when new issues can be of benefit to them.

2.3 Long run performance

Ritter (1991) found a significant mean market adjusted return of -24.33% at the end of three year following the offering for a sample of 1526 IPOs over the period 1975- 1984. He found that the result appeared to be time sensitive. He observed a positive mean for the period 1975-1980 and negative mean performance for the period 1981-1984. This suggested that IPOs could perform well in certain periods than in others.

Levis (1993), in a study of 712 UK firms during the period 1980- 1988, reported an under performance of -11.4%, three years after going public, Levis confirmed Ritter's (1991) finding of statistically significant long run under performance and noted that the average underperformance in the UK sample appeared to be less excessive than in the Ritter's US sample.

Njoroge (2004) analyzed initial and long run performance of IPOs for companies listed in the Nairobi Stock Exchange during the period 1984-2001. From a sample of 14 IPOs, he observed that all the IPOs recorded an overall negative cumulative growth of -68.46%.

Welch and Ritter (2002) reported that at the end of the first day of trading IPOs traded at 18.6% (on average) above the price at which the company sold them. Nevertheless, over three years the average IPO underperformed the CRSP value-weighted index by 23.4%.

Michel (2010) in his study on the relationship between manager optimism and long run performance using a sample of 777 venture banked capital IPOs found that IPOs with more optimistic managers underperformed IPOs with less optimistic managers by about 35% (30%) on an equal-weighted (value-weighted) basis in the 3 year period following the offer. Loughran and Ritter (1995) in their study on the new issues puzzle use a sample of companies issuing IPOs and SEO during 1970 -1990 found that the firms issuing IPOs and SEOs significantly underperformed the market relative to non issuing firms for five years after the offering date.

In a study of the long-run performance of German IPOs, Stehle et al. (2000) showed that size portfolios and matching stocks were better benchmarks than market portfolios. Using buy-and-hold abnormal returns and accounting for the size effect, they reported a long-run underperformance for German IPOs of roughly -6% over three years.

Jumba (2002) studied the initial public offers in Kenya for the period 1992-2000. Using a sample of 9 IPOs, she found that the average daily return is 0.06% in 3 years after going public, whereas a market model produced daily returns of .3% over the same period. She also found out that for the 3 years buy and hold period, all IPOs produced below the market average with Beta values below 1.

Nabucha (2008) in her study of IPOs in the NSE for the period 1984- 2008 sought to find if there existed any difference in the pricing and performance of state owned and private firms. She found that both IPOs depicted negative cumulative abnormal returns of 32% and 6 % respectively. She concluded that a long term investor was better off investing in the privatization IPOs as compared to private IPOs.

Ndatimana (2008) studied the long run performance of IPOs over a five year period for the period 1992- 2007. He found that the average cumulative returns fall to -3.1% after the first three months, down further to -6.17% at the end of the first year, and randomly traces -1.92%, 0.68%, -1.72% and 8.66% at the end of the 2nd, 3rd, 4th and 5th year respectively. He concluded that there is no discernible regularity of long run performance when gauged against the market benchmarks. Using wealth relatives defined as the average gross total return on IPOs divided by the average gross return on the market index, both measured over 5 years after the IPO excluding the initial return, he found that the wealth relative was 1.0866 at the 5th anniversary and -1.017 at the third anniversary. He asserted that any underperformance for the first three years reverses by the 5th year.

2.4 Reasons for Long run Underperformance

Theoretical explanations for the long run underperformance of IPOs are not many. Factors previously identified include the underwriters' reputation, ownership structure

and bad luck (Carter *et al* (1998), Michaely and Shaw (1994), Brav and Gompers (1996) Jain and Kini (1994)). They showed that long-run performance is positively related to the degree of multi-nationality of a firm and found a significant negative relationship between the long-run performance and first day returns. They also found that the quality of a firm at the time of the IPO also explains long-run performance: the better the quality the less is the under-performance. Interestingly they also found that the more profitable the company is before flotation, the worse is its long-run performance, the larger the size of the firm the better is the long-run performance and the greater the change in the ownership structure at the time of offering (i.e., the greater the extent of original shareholders' dilution of ownership at the time of offering), the worse is the long-run performance. They did not find a statistically significant direct relationship between the age of a firm and its long-run performance and so is the case with the reputation of the underwriter.

Aggarwal and Rivoli (1990) established the possibility that the aftermarket is not immediately efficient in valuing newly issued securities and that abnormal returns that ensue to IPO investors are as a result of a temporally overvaluation by investors in the early trading. This was consistent with the "impresario" hypothesis or the 'fads' hypothesis advanced by Shiller (1990), which argues that IPOs are underpriced by investment bankers (the impresarios) to create the appearance of excess demand, just as the promoter of a rock concert attempts to make it an 'event'. This hypothesis predicted that the greater the initial return at the IPO date, the greater the degree of subsequent correction of the overpricing by the investors and the lowest subsequent returns should be.

Miller (1977) confirmed the divergence of opinion hypothesis to explain IPO underperformance. He suggested that the investors who are most optimistic about an IPO will be its buyers. He further asserted that if there is a great deal of uncertainty about the value of an IPO, there will be differences of opinion between the optimistic and the pessimistic investors. As information flow increases with time, the divergence of

expectations decreases and thus the prices are adjusted downwards. He predicted that the greater the reduction overtime are, the more the security should underperform the market.

If there are periods when investors are especially optimistic about the growth potential of companies going public, the large cycles in volume may represent a response by firms attempting to time their IPOs to take advantage of these swings in investor sentiment,

Njoroge (2004). Ritter (1991) and Loughran and Ritter (1995) argued that the low returns on IPOs were consistent with issuers taking advantage of 'windows of opportunity' in which the market is willing to overpay their equity. The window of opportunity predicts that there will be low long run returns on firms conducting IPOs and on firms conducting seasoned equity offerings.

Fama (1998) argued that it is notoriously hard to measure long-term abnormal returns and that long-term return anomalies are sensitive to methodology. The poor long-term performance of IPOs is usually interpreted as evidence against market efficiency. Following the influential work by De Bondt and Thaler (1985) and the theoretical models by Barberis, Shleifer, and Vishny (1998) and Daniel, Hirshleifer, and Subramanyam (1998), among others in the growing behavioral finance literature, Fama (1998) classified the IPO 'anomaly' in the overreaction camp. He argued that it is safe to presume that IPOs have strong past earnings to display when they go public. If the market does not understand that earnings growth tends to mean revert, stock prices at the time of the IPO are too high. If the market only gradually recognizes its mistakes, the overreaction to past earnings growth is corrected only slowly in the future.

A general problem with behavioral models it that they lack a specific alternative to the null hypothesis of market efficiency; this problem is particularly severe because investors tend to overreact to some events like IPOs, but under react to others like dividend initiations. Fama (1998) argued that existing models do well on the anomalies they are designed to explain, but they do not explain the 'big picture'. Reviewing the results of empirical studies testing long-term returns following a variety of corporate events, he argued that the literature is "more consistent with the market efficiency prediction that

long-term return continuation and long-term return reversal are equally likely chance results”.

Fama's (1998) proposition was strengthened by his convincing evidence that, viewed individually, most anomalies are at best weak. He asserted that long-term performance studies are always contaminated by a bad-model problem, which results from the empirical observation that all models for expected returns are only incomplete descriptions of the underlying cross-sectional risk-return relationship. He stated that this is a problem since market efficiency can only be tested jointly with a model for expected returns.

Teoh, Welch and Wong (1998a) showed that long-run market performance can be driven by discretionary current accruals. They asserted that managers can increase current accruals by, for example, advancing recognition of revenues with credit sales before cash is received or by delaying the recognition of expenses when cash is advanced to suppliers. They further observed that discretionary current accruals are not independent of managerial optimism and noted that high discretionary current accruals may result from unintentional over optimism by the managers about future cash flows.

Ritter (1991) attributed the underperformance to an IPO market in which investors tend to be overoptimistic about the earnings potential of young growth firms. Purnanandam and Swaminathan (2004) suggested that IPO investors pay too much attention to optimistic growth forecasts and too little attention to profitability in valuing IPOs, giving rise to overvaluation at the offer price and a long-run decline to fair value.

Michel (2010) pointed out that another potential explanation for the long-run underperformance of some IPOs is that managers are irrational, that they overestimate their future cash flows or underestimate the discount rate. Heaton (2002) found that managers who are optimistic about future projects overinvest by taking on negative NPV projects that they perceive to be positive NPV projects. Alternatively, managers who are optimistic about assets in place under invest, by declining positive NPV projects which

require external financing because they believe that the market undervalues their company's stock.

Malmendier and Tate (2005) found that overconfident CEOs invest more when they have more cash at hand, but curtail investment when they require external financing. Ritter and Welch (2002) suggested that the overinvestment caused by managerial optimism may be a source of long run underperformance in IPOs. Loughran and Ritter (1997) found evidence of this by examining the operating performance of a sample of SEOs. They reported that firms are investing in what the market views as positive NPV projects, but are in fact often negative NPV projects, suggesting that managers are just as overoptimistic about the future firms' profitability as are investors. In a survey of chief financial officers, Brau, Ryan and DeGraw (2006) found that companies focusing on immediate growth opportunities experienced long-run underperformance, while those that focused on long-term growth did not.

2.5 Empirical Studies on Long run Performance

Ritter (1991) found a significant long run under performance at the end of three year following the offering for a sample of 1526 IPOs over the period 1975- 1984. He found that the result appeared to be time sensitive. He observed a positive mean for the period 1975-1980 and negative mean performance for the period 1981-1984. This suggested that IPOs performed well in certain periods than in others.

Levis (1993) in a study of 712 UK firms during the period 1980 – 1988 reported an under performance three years after going public. He noted that the average underperformance in the UK sample appeared to be less excessive than in the Ritter's (1991) US sample. Loughran and Ritter (1995) in their study on the new issues puzzle using a sample of companies issuing IPOs and SEO during 1970 -1990 found that firms issuing IPOs and SEOs significantly underperform relative to non issuing firms for five years after the offering date.

Khurshed et al, (1999) in their study “on the long run performance of IPOs” using IPOs listed in the London main market from 1991-1998 documented a long run underperformance of 17.81%. They also found that the pre-IPO performance of a firm had significant relationship between the long run performance and the first day returns. They documented that long-run performance was related to a richer set of factors than previously posited in literature.

Jumba (2002) studied the performance of IPOs in Kenya for the period 1992-2000 and concluded that in the short run IPOs over perform the market while in the long run IPOs underperformed the market using three year holding period. Njoroge (2004) analyzed initial and long run performance of IPOs at the NSE during the period 1984-2001 and concluded that all IPOs underperformed the market in the long run using three year holding period.

Ndatimana (2008) analyzed the performance of IPOs at the NSE for the period 1992 – 2007 and reported that underperformance for the first three years reverses by the fifth year using Market adjusted Buy and Hold Return (MABHR) to measure the performance. Brav and Gompers (1997) found that underperformance is concentrated among non venture capital-backed firms and small firms with low book-to-market ratios, and there is no general underperformance of IPO firms.

2.6 Conclusion of Literature Review

The reviewed literature expounded on the explained reasons of long run under performance and also summarized findings in Kenya and other parts of the world. While Ndatimana (2008) found out that long run underperformance in three years reverses in the 5th year, studies by Jumba (2002) and Njoroge (2004) limited their period of study to three years and reported long run underperformance of IPOs. Ritter (1998) observed that companies that went public during 1970-1993 produced an average return of 7.9% per year for the five years after going public, while the market average annual return was 13.1%, thus IPOs underperformed the market. This research analyzed the long run

performance up to three years using the two methods used internationally – MABHR and CAR to find out the long run performance of IPOs at the NSE. Additional analysis was provided on IPOs that have celebrated 4th and 5th anniversaries at the time of study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

This was an analytical study designed to test the long run performance of IPOs in Kenya. The research excluded the initial under pricing, and hence the first month was excluded from the study to allow for seasoning of prices. This is consistent with Khurshed (1999). Inflation and systematic risk adjustments were also excluded. The NSE 20 share index was used as a benchmark for market performance indicator.

3.3 Population of the study

The population of the study was taken as all firms that issued IPOs in the Nairobi Stock Exchange between the year 2001 and year 2008. The total number of IPOs during the period was 6. (Appendix II). As such, census method was used. Safaricom IPOs had not lived up to its third anniversary and therefore was excluded from the study.

3.5 Data Collection.

The study relied on secondary data that was collected from the NSE hand book, CMA, CDSC, Stock brokers, Investment banks, NSE pricelists and prospectus issued by issuing companies.

Data to be collected included the issuing firms, dates of IPO, Share prices and market indices for the period under analysis.

3.6 Data Analysis

Data collected was analyzed in tables and schedules. These show the returns on each IPO, the return on Index and market adjusted returns. A schedule showing the computations of the market buy and hold returns, percentage growth of returns, growth on index, growth in share price, the mean, Standard deviation and the median is shown for each of the IPOs. The Pearson product moment correlation was used to show the relationship between the share prices and the index.

Equally weighted average 5-year, 4 year and 3 year buy-and-hold percentage returns were calculated from the closing market price after one month to the 3rd, 4th and 5th year anniversary price. Market-adjusted returns were calculated as the buy-and-hold return on an IPO minus the compounded daily return on the NSE 20 share index. The monthly return was measured by comparing the closing price in the last day of trading on which the stock is traded with the closing price in the previous month.

Descriptive statistics of the share prices of each IPO and the index were computed using correlations. A beta below 1 means that IPO underperformed the market, whereas a beta greater than 1 means that the IPO over performed the market.

3.6.1 Mean Adjusted Buy and Hold Return (MABHR)

The following model used by Ritter (1991) was used to calculate MABHR:

$$MABHR_i = \sum_{t=2}^{61} \left(\ln \frac{P_{it}}{P_{it-1}} - \ln \frac{M_{it}}{M_{it-1}} \right)$$

Where $MABHR_i$ denoted the market adjusted buy and hold return for a firm “i” over “n” month period. P_{it} and M_{it} denoted the closing price in month t of the stock “i” and the closing index in the corresponding month respectively. A month was defined as full calendar trading days period.

The mean MABHR was computed as the arithmetic average of abnormal return on the sample size “n” using the model:

$$MABHR_{ipo,t} = \frac{1}{n} \sum_{t=1}^n MABHR_{it}$$

Where $MABHR_{ipo,t}$ is the mean market adjusted buy and hold return from all IPOs in the sample period “t”, “n” is the sample size and $MABHR_{it}$ is the market adjusted buy and hold return for the firm “i” during the period “t”.

$$t\text{- statistic} = MABHR_{ipo,t} * \sqrt{\frac{nt}{Sdt}}$$

Where $MABHR_{ipo,t}$ is the average bench mark adjusted return for the month “t” for the sample, “nt” is the number of observations in the month “t” and “Sdt” is the cross sectional standard deviation of the market adjusted buy and hold return for the month “t”.

3.6.2 Cumulative abnormal returns (CAR)

Cumulative average abnormal returns (CARs) were calculated. They can be understood as consistency checks for the buy-and-hold abnormal returns. Monthly benchmark-adjusted returns were calculated as the monthly raw returns on an IPO stock minus the benchmark returns.

Following Ritter (1991), the benchmark-adjusted returns for stock “i” in event month “t” was defined as;

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

Where R_{it} is the return for stock “i” in event month “t” and R_{bt} is the market return in the event month “t”.

The average benchmark-adjusted return on a portfolio of “n” stocks for event month “t” is the equally-weighted arithmetic average of the benchmark-adjusted returns:

$$ar_t = \frac{1}{n} \sum_{i=1}^n ar_{it}$$

The cumulative benchmark-adjusted aftermarket performance from event month 1 to event month “t” is the summation of the average benchmark-adjusted returns:

$$CAR_{it} = \frac{1}{n} \sum_{t=1}^T ar_t$$

t- statistic for the average adjusted return was calculated as:

$$t - \text{statistic} = Ar_t \cdot \sqrt{\frac{nt}{Sdt}}$$

Where Ar_t is the average market adjusted return for n months, t, n_t is the number of observations in n months, t and sd_t is the cross sectional standard deviation of the adjusted returns for n months, t.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the data, analyzes and discusses the findings of the research.

The study used IPOs for the period 2000 to 2008. Since the long run period used in the study was 3, 4 and 5 years, only IPOs before 2007 were used. 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 on which the stock is traded with the closing price in the previous month. The total number of IPOs used was six as per table 1 below:

Table 1

IPOs between 2001- 2007

Number	Company	Year of Issue	Subscription Rate (%)
1	Mumias	2001	60%
2	Kengen	2006	330%
3	Scan group	2006	520%
4	Eveready	2006	800%
5	Access	2007	363%
6	Kenya Re	2007	334%

Source: The Nairobi Stock Exchange

4.2 Findings

The Market Adjusted Buy and Hold Returns (MABHR) and Cumulative Average Returns for the 6 IPOs for 36 months, 48 months and 60 months of trading, allowing for the first month after first trading day were as shown in appendix II. The summary statistics for the data for 36 months are presented in tables 2 below.

All the 6 IPOs have a Mean MABHR of -0.62%, standard deviation of 0.018 and a median of -0.7%. Using MABHR, Scan group outperformed the market the highest with a mean of 1.4% while Access outperformed the market by 1.2%. Eveready, KenGen,

Kenya Re and Mumias underperformed the market by -3.2%, -1.9% and -.06% respectively.

Using Cumulative Average Returns (CAR), a mean of -0.01% was observed with a standard deviation of 0.019 and a median of 0.4%. Mumias, Scangroup and Access overperformed the market by 1.3%, 1.6% and 1.7% respectively. On the contrary, Eveready, KenGen and Kenya Re underperformed the market by -2.9%, -1.1% and -0.5% respectively.

Table 2
Summary Statistics for three years

STATISTICS			
	IPO	MABHR	CAR
1	Mumias	-0.6%	1.3%
2	KenGen	-1.9%	-1.1%
3	Scan group	1.4%	1.6%
4	Eveready	-3.2%	-2.9%
5	Access	1.2%	1.7%
6	Kenya Re	-0.8%	-0.5%
	Mean	-0.62%	-0.01%
	Std Dev	0.018	0.019
	Median	-0.7%	0.4%

Mumias, Scangroup and Kengen had celebrated their fourth anniversary. The statistics for the four years are shown in table 3 below.

Table 3 : Summary Statistics for four years

SUMMARY STATISTICS			
	IPO	MABHR	CAR
1	Mumias	1.25%	2.93%
2	KenGen	-1.65%	-1.02%
3	Scan group	1.59%	1.99%
	Mean	0.40%	1.30%
	Std Dev	1.78%	2.06%

Mumias Sugar over performed the market after four years of trading measured both by MABHR and CAR at 1.25% and 2.93%. Scangroup over performed the market also in the fourth year. Using MABHR Scangroup over performed by 1.59% while using CAR it over performed by 1.99%. Kengen IPO underperformed the market by -1.65% in the four years and -1.02% measured by MABHR and CAR respectively.

Mumias was the only IPO that had celebrated 5 years anniversary by the time of the study. For the five years trading, the MABHR was 1.18% where as the CAR was 2.63%. Comparing with the four year trading results whose MABHR and CAR was 1.25% and 2.93% respectively, this shows that the returns declined after the fourth year. However, the returns were positive and therefore the IPO over performed the market.

Individual company's correlations as presented in Appendix III reveal that Kenya Re, Eveready and KenGen were negatively correlated with the Index, while Scangroup and Access were positively correlated with the index. Using CAR methodology Mumias was positively correlated with the Index while using MABHR the share was negatively correlated to the Index. The study noted that Scangroup and Access outperformed the market and they were positively correlated with the market Index. It is thus plausible to conclude that when a share movement is positively correlated with the index, the share is likely to over perform the market. Schedules 1 to 6 represent the data and computations for each of the six IPOs.

All commercial and services segment IPOs which included Scangroup and Access outperformed the market while Industrial and allied IPOs underperformed the market for the 36 months of trading. All Industrial and Allied segment IPOs represented by Mumias, Kengen and Eveready underperformed the market in 36 months of trading.

Table 4 below presents a summary of MABHR for each of the IPOs. From the table it is evident that Scangroup and Access over performed the market by 1.43% and 1.25% respectively for the 36 months of trading. Scangroup over performed well into the 48 months of trading.

Mumias underperformed the market in 36 months of trading by -0.55%. However the underperformance was reversed in 48 months where it returned 1.25% over the market and 1.18% over the market in 60 months of trading.

Table 4
Mean Average Buy and Hold Returns

IPO	36 months	48 months	60 Months
Mumias	-0.55%	1.25%	1.18%
Kengen	-1.85%	-1.65%	
Scan group	1.43%	1.59%	
Eveready	-3.24%		
Kenya Re	-0.77%		
Access	1.25%		

Table 5
Cummulative Abnormal Returns

IPO	36 months	48 months	60 Months
Mumias	1.26%	2.93%	2.63%
Kengen	-1.12%	-1.02%	
Scan group	1.62%	1.99%	
Eveready	-2.95%		
Kenya Re	-0.52%		
Access	1.66%		

Table 5 above presents the CAR for the six IPOs. Mumias over performed the market for the first 36 months by 1.26%, 2.93% and 2.63% for the 48 months and 60 months respectively. Kengen underperformed the market both for the 36 months and 48 months by -1.12% and -1.02% respectively. Scan group over performed the market by 1.62% in the 36 months and by 1.99% in the 48 months of trading. Access over performed the

market by 1.66% within the 36 months of trading, where as Eveready and Kenya Re underperformed the market by -2.95% and -0.52% respectively.

The study found out that Eveready IPO that had the highest level of subscription at 800% had the highest underperformance in relation to the market at -3.24% while measured by MABHR and – 2.95% while measured by CAR for the first 36 months of trading. Scangroup and Access which over performed the market in the first 36 months by market by 1.43% and 1.25% measured by MABHR had subscriptions of 520% and 363% respectively.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary and conclusions

This study analyzed the long run performance of IPOs at the NSE for the Period 2000 - 2008. According the study, the IPOs underperformed the market in the long run using MABHR methodology while using CAR methodology the IPOs over performed the market. This confirms Gompers and Lerner (2003) assertion that divergent long-run performance results are observed depending on the empirical methodology applied. Using MABHR methodology IPOs underperformed the market by -0.6% while using CAR methodology IPOs underperformed the market by -0.01%

The results of the study affirm Jumba (2002), Njoroge (2004) and Ndatimana (2008) conclusion that IPOs at the NSE underperform the market in the Long run using MABHR. The study however disputes assertion by Jumba (2002) and Njoroge (2004) that all the IPOs underperform the market in the long run. Notably, Scangroup and Access IPOs outperformed the market both measured by MABHR and CAR.

Mumias was the only share for the period of study that had celebrated 5th anniversary. Kengen and Scangroup had celebrated 4th anniversary. The study found out that Mumias over performed the market on 4th and 5th anniversary while Kengen underperformed the market both on 3rd and 4th anniversary. The study confirms that any underperformance within three years is reversed on 5th anniversary as put by Ndatimana (2008). It therefore means that investors who purchase IPO shares in the aftermarket should hold their portfolios for periods longer than three years for them to realize better returns than the market.

The study confirms Ritter (1991) assertion that IPOs could perform well in some periods than in others. Out of the six IPOs in the study, three were issued in year 2006 while two were issued in year 2007. Scan group and Access Kenya which had the highest returns were issued in this period, reporting 1.43% and 1.25% respectively. Eveready which was issued between Scan group and Access had the highest subscription at 800% but reported the worst performance at -3.24% while using MABHR. This shows that the IPO may have been timed to benefit from the hot IPO period of 2006-2007.

5.2 Recommendations

The government should encourage more private companies to list in the NSE by relaxing the requirements. To promote correct pricing of shares, the minimum shares traded should be raised so as to encourage individual investors to use institutional investors to trade at the NSE. Since institutional investors are more enlightened on the correct valuation of shares, Individual investors will gain from the expertise of the institutional investors.

The government should have strict mechanism to ensure that bad IPOs are not offered in the NSE especially during hot IPO periods. This will ensure that investors are protected from companies that want to take advantage of over valuations in the market arising from fads.

5.3 Limitations of the Study

The NSE has had few IPOs since its inception in 1954. For the period of study only six IPOs were considered, although this translated to 12.7% of all the companies trading at the exchange as at 30th September 2010, in comparison to developed markets, the results could be different.

Share prices since inception of the NSE is scanty and unreliable. Therefore a comprehensive study of all the IPOs is not possible since data collected could be unreliable.

The data used in the study was monthly data. If daily data was used this could have given different results.

Comparing IPOs with the market indices may lead to unqualified conclusions. Better comparison may be obtained by comparing an IPO with a matching firm in the stock exchange. However, it is difficult to evaluate which trading firms would be equal to a specific IPO.

5.4 Suggestions for further Research

Research is recommended to found out the extent to which investors hold on to IPO shares and the reasons for holding the shares.

A further research may be done to unveil the reasons that hinder private companies from raising IPOs at the NSE.

In future, a similar study can be done to test the performance with long run period being 5 years and ten years.

A further research can be done to investigate whether IPOs of certain segments perform better than others.

7

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Appendix I

Nairobi Stock Exchange Share Issues for the Period 1992 -2008

Company	Year of Issue	Type of Issue
Uchumi Supermarkets Ltd.	1992	Public Issue
Crown Berger Ltd.	1992	Public Issue
HFCK.	1994	Public Issue
Firestone E.A.	1994	Public Issue
National Bank of Kenya	1994	Public Issue
National Industrial Credit Ltd	1995	Public Issue
Rea Vipingo	1995	Private Placing
Rea Vipingo	1996	Public Issue
Kenya Airways	1996	Public Issue
National Bank of Kenya	1996	2 nd Public Issue
Kenya Commercial Bank	1996	3 rd Public Issue
TPS Serena	1997	Public Issue
Athi River Mining	1997	Public Issue
Kenya Commercial Bank	1998	4th Public Issue
Housing Finance of Kenya	1999	2 nd Public Issue
Africa Lakes Corporation plc	2000	2 nd Listing
Mumias Sugar Company Ltd	2001	Public Issue
ICDC Investment Company	2001	Public Issue
Kengen	2006	Public Issue
Scangroup	2006	Public Issue
Equity Bank	2006	Introduction
Eveready	2006	Public Issue
Kenya Re	2007	Public Issue
Safaricom Limited	2008	Public Issue

Source: The Nairobi Stock Exchange Ltd

Appendix II

Market Adjusted Buy and Hold Returns (MABHR) and Cumulative Average Returns

Month	MUMIAS		KENGEN		SCANGROUP		EVEREADY		ACCESS		KENYA RE	
	MABH R	CAR	MABH R	CAR	MABH R	CAR	MABH R	CAR	MABH R	CAR	MABH R	CAR
1												
2	-0.154	0.140	0.126	0.132	0.006	0.006	-0.255	0.224	0.020	0.021	-0.112	0.109
3	-0.150	0.137	-0.086	0.082	0.060	0.065	-0.213	0.196	0.199	0.229	-0.037	0.038
4	-0.016	0.015	-0.102	0.102	0.004	0.004	-0.127	0.111	-0.032	0.032	0.120	0.128
5	-0.153	0.132	-0.062	0.066	0.057	0.050	0.054	0.053	0.055	0.054	-0.083	0.076
6	-0.229	0.195	-0.092	0.096	-0.020	0.021	-0.136	0.129	0.135	0.139	0.025	0.024
7	0.023	0.023	-0.138	0.136	0.002	0.002	0.026	0.026	0.155	0.177	-0.107	0.107
8	0.038	0.039	-0.095	0.091	0.100	0.116	-0.016	0.016	-0.061	0.062	0.137	0.153
9	-0.025	0.024	-0.319	0.279	-0.031	0.030	-0.031	0.031	0.219	0.211	0.114	0.105
10	-0.049	0.047	0.209	0.216	0.042	0.043	-0.050	0.049	-0.014	0.015	-0.031	0.033
11	0.061	0.065	-0.245	0.207	-0.055	0.051	-0.067	0.062	0.300	0.334	-0.080	0.073
12	0.129	0.155	0.376	0.462	0.144	0.148	0.098	0.099	-0.104	0.109	-0.045	0.048
13	0.178	0.204	0.030	0.029	-0.009	0.008	0.027	0.029	0.082	0.083	-0.070	0.066
14	-0.201	0.225	-0.076	0.075	0.091	0.077	-0.091	0.090	-0.078	0.075	-0.161	0.148
15	0.153	0.164	0.081	0.087	0.019	0.020	0.151	0.141	0.042	0.041	0.041	0.040
16	-0.207	0.193	0.060	0.062	-0.039	0.040	-0.222	0.214	-0.098	0.089	0.119	0.121
17	-0.290	0.268	-0.058	0.054	0.057	0.053	0.023	0.022	-0.279	0.219	0.029	0.026
18	-0.110	0.129	-0.020	0.019	-0.042	0.032	-0.344	0.321	0.250	0.230	-0.066	0.052
19	0.014	0.013	-0.015	0.016	-0.078	0.083	0.170	0.180	0.065	0.067	0.297	0.346
20	0.084	0.085	-0.039	0.040	0.132	0.144	-0.078	0.075	-0.039	0.040	0.029	0.031
21	0.087	0.096	0.010	0.008	0.019	0.020	0.029	0.028	-0.139	0.118	0.104	0.099
22	-0.039	0.041	-0.043	0.045	-0.021	0.025	-0.056	0.052	0.293	0.263	0.257	0.226
23	-0.094	0.09	-0.005	0.00	0.005	0.005	-0.070	0.06	0.020	0.022	-0.175	0.17

		8		5				1				8
24	0.064	0.06 8	-0.006	0.00 7	0.190	0.20 0	0.223	0.20 3	0.132	0.14 5	-0.167	0.15 7
25	-0.124	0.12 5	0.021	0.02 0	-0.122	0.11 2	-0.121	0.11 4	0.101	0.10 8	-0.058	0.05 7
26	0.294	0.36 2	-0.046	0.04 5	-0.066	0.06 5	-0.129	0.12 5	-0.205	0.21 4	-0.134	0.14 5
27	0.625	0.95 5	0.006	0.00 5	-0.014	0.01 4	-0.020	0.01 8	-0.120	0.11 2	0.095	0.09 8
28	-0.359	0.28 8	-0.021	0.01 9	0.002	0.00 2	0.357	0.33 2	0.021	0.02 0	0.107	0.10 8
29	0.147	0.14 3	0.035	0.03 2	-0.074	0.07 8	-0.207	0.20 8	0.019	0.01 9	0.171	0.18 1
30	0.188	0.20 3	-0.151	0.11 4	0.011	0.01 1	-0.132	0.12 6	-0.026	0.02 6	-0.075	0.07 4
31	0.002	0.00 2	0.078	0.08 2	-0.097	0.10 4	0.005	0.00 6	-0.021	0.02 2	0.019	0.02 0
32	-0.006	0.00 6	0.000	0.00 0	-0.039	0.03 9	-0.125	0.13 6	0.065	0.06 8	-0.037	0.03 7
33	-0.008	0.00 8	-0.025	0.02 2	0.174	0.19 1	0.070	0.07 1	-0.152	0.15 5	-0.197	0.19 6
34	-0.002	0.00 2	-0.054	0.04 1	0.127	0.13 9	-0.029	0.02 7	-0.042	0.04 2	-0.005	0.00 5
35	0.001	0.00 1	0.076	0.09 0	-0.063	0.06 3	-0.007	0.00 7	-0.143	0.14 9	-0.091	0.09 7
36	-0.065	0.06 6	-0.056	0.05 4	0.404	0.50 0	0.157	0.17 4	-0.180	0.17 1	-0.205	0.19 3
37	-0.157	0.14 9	-0.031	0.03 1								
38	0.085	0.09 2	0.070	0.08 3								
39	0.055	0.05 9	-0.025	0.02 4								
40	0.008	0.00 8	-0.067	0.06 1								
41	0.058	0.05 9	-0.052	0.04 9								
42	0.254	0.30 5	-0.112	0.10 9								
43	0.234	0.29 7	0.057	0.06 0								
44	0.084	0.09 5	0.092	0.09 9								
45	0.051	0.05 2	0.020	0.02 2								
46	0.182	0.19 0	-0.093	0.09 1								
47	-0.078	0.07 7	0.001	0.00 1								
48	0.005	0.00 5	0.010	0.01 0								

49	0.064	0.067										
50	0.107	0.117										
51	-0.003	-0.003										
52	0.040	0.040										
53	0.064	0.066										
54	0.253	0.309										
55	0.012	0.012										
56	0.037	0.037										
57	-0.148	-0.143										
58	-0.013	-0.014										
59	-0.139	-0.138										
60	-0.167	-0.175										

Appendix III

Individual Company Statistics

Individual Company Statistics					
Mumias					
					Correlation
CAR	Average	1.04		1.02	
	Std Dev	0.23		0.08	1
MBHR	Average		0.02	0.02	
	Std Dev		0.20	0.07	-1
KenGen					
CAR	Mean	0.98		0.99	-1
	Std Dev	0.15		0.08	
MBHR			0.03	0.01	
			0.15	0.08	-1
Scan Group					
CAR	Average	1.02		1.00	
	std dev	0.12		0.07	1
MBHR	Average		0.01	0.00	1
	std dev		0.11	0.08	
Eveready					
CAR	Average	0.96		0.99	
	std dev	0.10		0.08	-1
MBHR	Average		0.05	0.02	-1
	std dev		0.10	0.08	
Access					
CAR	Average	1.02		1.00	
	std dev	0.12		0.08	1
MBHR	Average		0.01	0.00	1
	std dev		0.13	0.09	
Kenya Re					
CAR	Average	0.99		1.00	
	std dev	0.11		0.08	-1
MBHR	Average		0.01	0.00	-1
	std dev		0.11	0.09	