

**THE EFFECT OF INITIAL PUBLIC OFFERING PRICING ON
THE LONG RUN STOCK RETURNS OF COMPANIES LISTED
AT THE NAIROBI SECURITIES EXCHANGE**

**BY
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DECLARATION

STUDENTS DECLARATION

I declare that this research project is my original work and has not been submitted before for a degree in any other University.

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This research project has been submitted for examination with my approval as the University supervisor.

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In front of you is the result of a yearlong struggling and hard work and a project to establish the effect of IPO pricing on the long run stock returns of companies listed at Nairobi Securities Exchange, Kenya. It is the ending project of my Master of Science in Finance at the University of Nairobi. During my master, I not only learned a lot about the programme and everything that comes with it, I also learned a lot about myself.

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DEDICATION

I must also dedicate this to my family members and mostly to my wife Frida, daughters Valerie, Michelle, son Owen and my late father, Stephen and my mother Margaret for their patience during the hard times.

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LIST OF ABBREVIATIONS

AIMS	- Alternative Investments Market Segment
BHAR	- Buy and Hold Abnormal Return
CDSC	- Central Depository and Securities Corporation
CMA	- Capital Markets Authority
FIMS	- Fixed Income Market Segment
GEMS	- Growth and Enterprise Market Segment
IPO	- Initial Public Offering
MENA	- Middle East and North Africa
MIMS	- Main Investment Market Segment
MABHAR	- Market Adjusted Buy and Hold Return
NSE	- Nairobi Securities Exchange
WR	- Wealth Relative
U.S	- United States of America

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ABSTRACT

The phenomenon of IPO pricing has long existed in the global stock market, although the magnitude of under pricing varies from country to country. Several academic researchers found in their studies that IPOs show underperformance in the long-run or have negative abnormal returns over holding periods after the IPO issue date. There is not sufficient evidence yet in the literature to conclude that the IPO pricing decisions is the main explanatory factor for the long-run performance of firms. The objective of this study was to investigate the effect of IPO pricing on the long run stock returns of companies listed at Nairobi Securities Exchange (NSE), Kenya.

This study used descriptive research design. The target population of this study was all firms listed at the NSE in Kenya. From the listed companies in NSE, the researcher studied all the firms that have issued IPO from 2000-2013. This study used secondary data collected from the NSE, the Capital Market Authority (CMA), annual reports of the firms, and other research material on share prices. The data was analyzed using descriptive analysis and inferential analysis technique. Statistical Package for Social Services (SPSS) software aided in data analysis. Further, the study used multivariate regression was be used to test the influence of the explanatory variables on the long-run performance, measured by market adjusted buy –and hold abnormal (BHAR).

From the regression analysis, the study revealed that 51.5% of the variation in long run performance of shares was explained jointly by 1st Day pricing differential between the offer price and closing day one price, age in years of firm is the difference the between the offer firm's IPO year and the founding year, size of the firm as measured by total assets, number of shares issued and the percentage subscription as the obtained coefficient of determination (R^2) from the model summary was 0.515. The study further revealed that the regression model predicting the relationship between the long run performance of shares and independent variables was significant. The study deduces that holding all the other factors constant, long run performance of shares would be 8.736. A unit change in the difference between offer price and closing day one price holding the other factors constant would lead to change in long run performance of shares by 0.068. For the case of firm age, Size of the firm, number of shares issued, and percentage, the effect they had on long run performance of shares was -0.371 , 7.147×10^{-8} , -1.524×10^{-9} and 0.008 respectively.. The firms should put good strategic measures in place to ensure continued performance of their shares in the long run. These findings have implications for market regulators, company management and investors.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Corporate organizations generally are stimulated to experience rapid growth so as to meet the overall corporate objective of shareholders wealth maximization. The rapid growth by the firm could be attained by investing in value creating investments (Brealey and Myer, 2003). Hence, a firm needs to acquire funds for these investments at the best price in order to maximize their returns and value creation over the long-term (Pagano et al., 1998). One major source of funding to firms that desire rapid growth is to go public, through a process known as initial public offering (IPO)

An IPO is defined as a process where a firm issues shares to the public for the first time. These IPOs are often issued by small; younger firms seeking capital to expand but also can be done by large privately owned firms looking to become publicly traded (Ritter, 1991). Because of information asymmetry between the issuing firm and investors, the issuing firm usually hires investment banks to assist in valuation of the firm. The firms go through various valuation techniques coupled with massive publicity of the company's past performance. They also disclose what they intend to do with the new funds to be raised through IPO, and thus make the offer price to the general public.

An IPO is generally perceived as one of the most important milestones in a firm's lifecycle. It allows the firm to access the public equity markets for additional capital necessary to fund future growth. It also provides an avenue for trading the firm's

shares, enabling its existing shareholders to diversify their investments and to crystallize their capital gains from investing in the company (Kim and Weisbach, 2005; Brealey and Myers, 2003). Also, this IPOs may lower the cost of funding the firm's operations and investments.

Further, the act of going public itself shines a spotlight on the company, and the attendant publicity may bring indirect benefits, such as attracting a different calibre of management, gaining of publicity and status, employee ownership and liquidity of shares (Grundvall, Melin-Jakobsson and Thorell, 2004). Despite the benefits that accrue with IPOs, firms normally incur costs which may be direct or indirect (Ritter, 2006). Directly, firms incur cost such as underwriting fees, auditors' and lawyers' fees for consultancy, and publication cost. Indirectly, management's time and effort is devoted to the process of conducting the offer.

However, it has been observed that immediately the company is listed in the securities exchange, there follows the first day under pricing followed by long term period of underperformance in terms of pricing. Researchers have noticed these intrigues of IPO subsequent under pricing and the uniqueness of the long term underperformance of IPO (Brav and Gompers, 1997). Hence, there has been a significant interest from investors and academics to understand the decisions of why companies go public and the short- and long-run performance of newly issued equities. In particular, empirical research has investigated the under pricing and long-run performance of Initial Public Offerings (IPOs) in the U.S and in other countries (Loughran and Ritter, 1995). As a result, a relatively consistent pattern of under pricing, initial returns, and long-run performance of IPOs has emerged.

For most countries, studies on IPOs pricing find significant under pricing in the primary market and consequently substantial initial returns in the secondary market (Ritter and Welch, 2002). In contrast to the almost certain short-run outperformance of IPOs there is, on average, a substantial underperformance over longer periods. Therefore, this study undertakes to establish the impact of IPO pricing on the long-run performance of firms listed at the Nairobi Securities Exchange in Kenya.

1.1.1 IPO Pricing

The pricing of an IPO is a complex procedure as there are many firm specific and market risk factors that can affect the market price the IPO (Rock, 1986). The pricing is also difficult due to the uncertainty about future cash flows in the company. Therefore, firms use multiple variables to determine the value of the IPO stock. The most popular method is the discounted cash flow method (DCF), at which the firm's cash flows are discounted at the cost of capital and after that deducted by the market value of debt to arrive at the equity value of the firm (Ritter ,2003).

Another one is the comparable firms' approach which capitalizes for instance the earnings per share of the IPO firm at the average or median price/earnings ratio of comparable publicly traded firms, like firms in the same industry, or with similar transactions (Kim and Ritter, 1999). Finally, there is the asset-based method which determines the value of the IPO based on the value of the separate assets of the company. However, Purnanandam and Swaminathan (2004) find that differences exist between the offer price and the value of an IPO. Therefore, they argue that IPO offering price is set in light of both available financial information and what the underwriter learns about investor demand during the marketing phase.

The process of IPO pricing begins at the time the issue is filed. This initial stage involves registering a preliminary prospectus relating to the company and the proposed offering with the authority responsible for regulating the securities exchange. Next, the prospectus is then filed with securities exchange authority. Before meeting with potential investors, the lead underwriter determines the offer price band within which the offer price is most likely set. Finally, it is the book-building process, during which company management meets institutional investors. The actual setting of offer price occurs after the securities exchange authority has given a green light to go ahead. The issuer and lead underwriter will then hold a price meeting at which offer price is agreed upon (Ritter and Welch, 2002). It is believed that the final price is set after the market closes on the day before the offering.

Bensveniste and Spindt (1989) argue that issuers can feign themselves to investors as high reputation than they really are in order to have a successful IPO. Further, the situation is made worse by the fact that investment bankers act as an intermediary between the investors and the issuing company. The investment bank, besides acting as a professional advisor, also undertakes to underwrite and to distribute the firm's shares to the public. Such an arrangement will provide investors with confidence as regards the information contained in the prospectus and the pricing of IPO.

However, it is argued that the investor banker makes sure that the IPO is priced in such a way so as to make the issue successful because the bank cannot risk the possibility of issue failure. This is because if the underwriter undervalues the IPO pricing, then the experienced investors who are also opinion leaders to rational investors are able to obtain the information about the intrinsic value of the IPO, and

avoid overpriced securities, a condition known as Lemon dodge. The reality however has pointed to the contrary.

Loughran and Ritter (1995) posit that the offer price by underwriters incorporates both the available information from the prospectus and what the underwriters obtain from the experienced investors. Hence, the underwriters use the information collected from the experienced investors during the registration period to set the final price of IPO just before the first day of trading. However, studies have shown that underwriters do not incorporate all available information, the purpose being to under price the IPO so as to keep it within the popular trading range of share prices of companies in the particular economic sector (Lowry and Schwert, 2004).

Pricing of new instrument in corporate finance is a critical decision. Koop and Li (2001) identified three roles played by valuation, including its significance in corporate control transactions; the need for firms going public to value their stocks; and its significance in determining capital structure of the firm. Where one party to a transaction has quality information more than the other party, a market for lemons arises (Akerlof, 1970). Further, Akerlof argues that this problem leads to a situation where quality assets are driven out of the market because the owners of quality assets are not willing to sell at lower price demanded by buyers. Buyers will seek risk premium to compensate them for taking risk.

Further, Initial public offerings (IPO) involve problems regarding price discovery due to uncertainties regarding aggregate demand and the quality of the issuer. This concept of uncertainty suggests that investors will differ in their forecasts. Hence, some investors will invest in the short-term and others in the long-term. This leads to

investors making differing returns from IPOs. It is argued that the longer the investor holds to an investment, the larger should be the return. However, past research suggests that IPOs over perform in the market in the short-run while in the long-run there is underperformance. Derrien (2005) posit that pricing of IPOs is a daunting task due to obscurity of discovering an appropriate comparable firm.

Another factor that could greatly influence the performance of IPO after the first day of listing could be the significantly low initial offer price influenced by the politicized offer terms when conducting IPOs (Dewenter et al., 1997). The politicized offer terms consists of a number of state regulations that require shares of listing firms to be made accessible to large portions of the local population. In developing countries such as Kenya, such a large proportion of investors will include a sizeable number of low income investors with no ability to hire security analysts to advise them on the possible future post IPO listing. This will result in the immediate post IPO high price which eventually will not be sustained thus resulting in cumulative negative return.

However, the marked variation in average IPO initial returns across time and across issuer types has thus far eluded explanation because it simply means that investors are just buying the IPOs at the offer price aware that there is a high chance of losing money, a situation referred to as buying the block (Jagannathan et al, 2006). Thus, the pricing of IPO is one of the most intriguing aspects of investment decisions. Under pricing refers to the percentage difference between the offer price and the first day closing price (Paleari and Vismara, 2007). Under pricing is a loss to the issuing firm because it is a loss of money that could be utilized for profitable investment opportunities.

1.1.2 Long-Run Performance of Shares

Most of the literature on IPO defines the long run as typically being in the region of three years and above (Ritter and Welch 2002). Studies have shown that most IPOs long run underperformance as measured by their respective subsequent market prices in developed economies is as a result of a time-varying phenomenon. This adverse under performance have caused considerable uncertainty to researchers as well as academicians bearing in mind that under IPO, firms use their prospectus to invest heavily in their companies.

Ritter (1991) examined 1,526 USA firms which went public between 1975 and 1984 and found that the average return on a firm's stock over the three years following its IPO was significantly lower than the average on firms matched by size and industry. Ritter (1991) suggested that over optimism on part of investors is the most likely explanation for long-run underperformance, contending that investors in the IPO market are systematically fooled into paying too high a price.

In addition to the intensively studied issue of IPO under-pricing and the positive first day initial returns, there exist a large number of studies that empirically investigate the long-run performance of initial public offerings. Following the earlier work of Ritter (1991) for the U.S there have been numerous empirical studies for other countries that support the view that, on average, IPOs underperform an appropriate benchmark in the long-run (Loughran, Ritter and Rydqvist, 1994). Further, this was demonstrated by Jain and Kini (1994) who found that, in general, firms undergo a decline in operating performance following an IPO.

1.1.3 Effect of IPO on Long-Run Performance of Shares

There exists a large body of empirical research examining the impact of initial public offerings (Ritter, 1991; Kunz & Aggarwal, 1994; Loughran & Ritter, 1995; Sapusek, 2000; Drobetz et al., 2005). For instance, Ritter (1991) pointed out that buying shares of a firm that has just gone public may result in abnormal negative risk adjusted returns. Further, Ritter (1998) finds that the new issue under-pricing phenomenon exists in every developed nation with a stock market, although the amount of under pricing varies from country to country. Researchers have labeled this phenomenon as “new issues puzzle” because it has defied arbitrage forces even after being so well and so long publicized.

Ritter (1984) analysis shows an average under pricing of 26.5%, Welch (1989), conducted a study on 1028 IPOs in the USA and reported an average under pricing of 26%, Kelohargu (1993) cites an average under pricing of 8.7% for Finnish IPOs and Booth and Chua (1996) find an average under pricing of 13.1% . Further, Krigman et al, (1999) in their study concluded that first day winners continue to be winners over the first year, and first day losers continue to be losers except for extra hot IPOs, which are seriously underpriced. Using a sample of more than 2000 IPO during 1980-1997, Purnanandam and Swaminathan (2004), find that on average, the offer price substantially exceeds the corresponding intrinsic values computed from similar firms in the peer group of the issuing firm. They posit that, overvalued IPOs have large first day returns but low long run risk adjusted returns.

However, the results concerning long-run IPO performance are inconclusive. For the Swiss market, Kunz and Aggarwal (1994) suggest that there is no evidence for long-run underperformance of Swiss IPOs for up to three years after the initial offering.

Brav and Gompers (1997) also challenge the view that IPO firms underperform in the long run. They used a sample of U.S. IPOs from 1972-1992 and found no evidence that IPO firms underperform the benchmarks. They provide evidence that underperformance is typical of small firms with low book –to – market ratios and find that when returns are weighted equally, firms backed by venture capitalists outperformed, non-venture backed firms.

Further, Brav and Gompers (1997) argue that firms are more likely to underperform regardless of whether they are IPOs firms or not. Hence, they conclude that underperformance is not an IPO effect. In addition, Drobetz et al. (2005) also find no evidence for long-run underperformance of Swiss IPOs after going public.

Most of empirical research on the IPOs is based on US data and to a lesser extent on data from other large developed countries (Germany, United Kingdom). There have been other studies in other emerging markets economies but with varying results. The overall conclusion of the literature is that IPOs are underpriced; i.e., the offer price of IPOs is on average lower than the corresponding first-day market closing price and exhibit long-run underperformance (Ritter, 2003).

1.1.4 Nairobi Securities Exchange

In 1954, Nairobi Stock Exchange (now Nairobi Securities Exchange) was constituted as a voluntary association of stockbrokers registered under the Societies Act (NSE Website). Nairobi Securities Exchange (NSE) is a market where securities are traded in Kenya. Capital Market Authority (CMA) is the regulatory body that formulates laws that regulate both the financial and the securities market traded at the NSE. The NSE is one of the most vibrant markets in Africa which has attracted investors from

all over the world, and has grown considerably over the period. The NSE is, characterized by liquidity, market capitalization and turnover; hence, it may be classified as both an emerging market and a frontier market.

There are four investment market segments for companies listed at the NSE namely; Main Investment Market Segment (MIMS), Alternative Investment Market Segment (AIMS), Fixed Income Securities Market Segment (FISMS) and Growth and Enterprise Market Segment (GEMS). The MIMS is further divided into ten sectors namely; Agricultural; Automobile and Accessories; Banking; Commercial and Services; Construction and Allied; Energy and Petroleum; Insurance; Investment; Manufacturing and Allied firms; and Telecommunications & Technology. The improved corporate governance at the CMA and the NSE and the demutualization of the securities exchange has increased investor confidence leading to more companies going public.

The NSE, like many other markets has had an improvement in the number of companies getting listed. In the twenty five year period between 1988 and 2013, a number of IPOs have been issued with varying performance. Between 2000 and 2013, ten firms raised capital through initial listing in Nairobi Securities Exchange. Since the KenGen IPO offer in 2006, the Kenyan equity market at large has experienced an increase in subscriptions in IPO issues

However, the NSE has had very few IPOs compared to developed markets. Most of the IPOs have been highly oversubscribed, with Eveready at 830%, and Safaricom the biggest offer in the region at 382% among others. The number of shares sold at the NSE is fixed and they are offered for a fixed period of time. Hence , those investors

who have information disadvantage relative to others will be worse off if they get the shares they ask for, since they create an excess demand that leads to oversubscription. This is evident from NSE where out of the 10 IPOs issued between the year 2000 and 2013 – 70 % had wide oversubscription margins (CMA website).

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 firms found out that any underperformance for the first 3 years reverses by the 5th year.

1.2 Research Problem

The phenomenon of IPO pricing has long existed in the global stock market, although the magnitude of under pricing varies from country to country. Several academic researchers found in their studies that IPOs show underperformance in the long-run or have negative abnormal returns over holding periods after the IPO issue date. Braun and Larrain (2007) affirm that a single large IPO can have a significant effect in a less developed markets and that IPOs as focal points, can stir the whole market.

There is not sufficient evidence yet in the literature to conclude that the IPO pricing decisions is the main explanatory factor for the long-run performance of firms. However, there is some empirical evidence that suggests some measurable impact on the long-run performance in U.S. (Michaely and Shaw, 1994; Kale and Payne, 2000). In the German market a number of empirical studies analyzed the under pricing and

long-run performance of initial public offerings (Ljungqvist, 1997; Stehle et al., 2000; Bessler and Kurth, 2007). These studies, however, provide some conflicting results such as huge spreads in under pricing within analyzed periods as well as long-run underperformance and neutral performance dependent on the benchmark used so that a number of open issues remain and await empirical explanations.

Daily (2005) argue that IPO offer pricing, which is a key factor in under pricing has remained relatively unexplored in literature. Paleari and Vismara (2007) also agree that although valuation of IPO is a critical subject, only narrow extant research has addressed it. Labidi and Triki (2011) sought to find out if there were anomalous patterns, namely under-pricing and long-run under-performance, in firms that go public in the Middle East and North Africa (MENA) region. They found that initial IPO returns were highly related to over-subscription levels and listing lags hence contradicting the idea of voluntary under-pricing.

However, in contrast, Chun et al. (2002) claim with a larger number of firms over a longer time period reported that Korean IPOs outperformed the stock market with the divergence widening over time in contrast to patterns observed in developed markets. Further, the findings of Jelic et al. (2001), Ahmad-Zaluki et al. (2007) and Chorruck and Worthington (2010) show IPO long-run over-performance in developing countries such as Malaysia and Thailand.

For the Kenyan capital market there have been a number of empirical studies that have focused on under-pricing and performance of IPOs such as Cheluget (2008) on investor's demand for IPOs and first day performance: evidence from NSE, Ndatimana (2008) on performance of IPOs, Leshore (2008) on medium-term

performance of IPOs, Simiyu (2008) on pricing and performance of initial public offering: a comparison between state owned enterprises and privately owned enterprises at NSE; Karitie (2010) on long-run performance of IPOs. However, these results have provided mixed results depending on the methodology or the period of study taken. Hence, lack of sufficient literature to explain effects on the long-run performance at NSE remain largely unexplained necessitating this study.

Despite its importance, IPO pricing has remained unexplored in the Kenyan financial market. Most of previous studies of IPOs are based in developed markets. It is intriguing to study IPO pricing in developing markets such as Kenya. Given that no study of this nature has been done in Kenya, this study sought to fill the knowledge gap by establishing what is the effect of initial public offers pricing on the long-run stock returns of companies listed at NSE in Kenya?

1.3 Objective of the Study

To investigate the effect of IPO pricing on the long run stock returns of companies listed at Nairobi Securities Exchange, Kenya.

1.4 Value of the Study

The findings of the study would be useful to investors as it would give guidelines to them to enhance their understanding of the behaviour of share prices after the IPOs. This would assist the investors in making informed decisions while investing in the securities market.

The government, market regulators especially the Nairobi Securities Exchange, Capital Markets Authority would gain more knowledge on how to handle future IPOs

in regard to the regulations and policies. Hence, this would result into improved confidence to the investors who are investing in the securities market.

The firms listed in the NSE would appreciate the issues surrounding the long-run performance of the IPOs. This would assist the firm's management in making prudent decisions when they issue their shares through IPOs. Hence, they would make value creating decisions when setting the offer prices of the shares during the IPOs. The corporate managers would use the information to negotiate the framework of IPO pricing with their underwriters so as to add value to shareholders.

The findings obtained would be useful to future researchers who want to advance their knowledge and literature in the market values after the IPOs. In addition, it would also add to the literature on the IPO subject as reference materials and simulate further research in the field.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature relevant in this study. It embraces defining and highlighting the characteristics of initial public offering pricing and long-run performance; understanding the various theories advanced on IPOs as well as empirical studies conducted.

2.2 Theoretical Review

Theories of IPO pricing are categorized as to whether the information between the issuer, the underwriter and other stakeholders are asymmetric or not. Many scholars however advance the theories that explain mispricing of IPOs based on the availability of information.

2.2.1 Ownership Dispersion Hypothesis

According to this theory the under pricing of IPO is beneficial both to the managers of the issuing firm as well as the shareholders in the long run. Booth and Chua (1996) propose that mispricing of IPO will lead to stock liquidity in the market in that there will be increased demand for the company's shares. They argue that liquid stocks are more attractive to investors since such stocks are considered less risky. The managers of such funds can utilize the goodwill created to undertake profitable projects to sustain the return that has already been set in the mispricing.

Further, Brennan and Franks (1997) argue that under pricing gives managers the possibility to ensure a dispersed shareholder group. Hence, issuing firms may intentionally under price their shares in order to generate excess demand and so be

able to have a large number of small shareholders. This will both increase the liquidity of the market for the stock, and make it more difficult for outsiders to challenge management. Goergen et al. (2007) found evidence that long-run performance of an IPO stock is inversely related to the degree of change in ownership in the process of IPO. Hence, Booth and Chua (1996), Brennan and Franks (1997), all point out that under-pricing creates excess demand and thus allows issuers and underwriters to decide to whom to allocate shares.

2.2.2 Lawsuit Avoidance Hypothesis

Tinic (1988) and Hughes and Thakor (1992) propose that companies under price their stock when going public in order to avoid lawsuits from investors who are disappointed with the post-IPO performance of the stock. Hence, they argue that under-pricing represents an insurance premium imposed by issuers and underwriters to cushion themselves against the likelihood and magnitude of future legal liability claims against them.

In addition, Hughes and Thakor (1992) argue that their legal insurance model of under pricing could explain the long-run underperformance phenomenon. According to them, the litigation threat gives the investors the opportunity to recover parts of subsequent losses from the issuer. They posit that these damages are extra dividends paid out to the investors and that long-run underperformance could be explained as the failure to initially include the value of these dividends into the offer price. As Ritter (2003) points out, fear of lawsuits has been mentioned as one rationale for why Internet IPOs were under-pricing so much in 1999-2000.

2.2.3 The Winners Curse Hypothesis

This theory is based on information asymmetry. The winner's curse hypothesis proposed by Rock (1986) suggests that some investors are better informed about the true value of the IPO shares than are investors in general. Rock (1986) argues that well-informed investors bid only for attractively priced IPOs, while the uninformed investors also bid for unattractively priced IPOs. Therefore, he argues that this imposes a 'winner's curse' on uninformed investors.

Rock (1986) posits that if the uninformed investors bid on unattractive IPOs, they will receive all the shares they have bid for. If they bid on attractive IPOs, they will not receive all the shares they have bid for because the well-informed investors will bid on these IPOs too. Therefore, in order to attract the less informed investors, IPOs have to be priced at a discount. Further, Rock (1986) argues that primary market is dependent on the participation of uninformed investors, because the well-informed investors cannot bid up all the IPOs, even when they are attractive. Consequently, the IPOs are underpriced on average, to avoid negative expected returns for the uninformed investors, and thereby guaranteeing their participation.

2.2.4 Information Cascades Hypothesis

The 'information cascades' or 'herding hypothesis', developed by Welch (1992), assumes that, in aggregate, investors hold perfectly accurate information about the issuing firm. However, information concerning the value of the shares is highly uncertain for investors. Furthermore, it is assumed that it takes investment bankers time to approach interested investors because of their limited distribution channels. The hypothesis draws from the notion that potential investors base their investment

decisions not only on their own information about the issue, but also on whether or not other investors, who were approached earlier, are purchasing.

Further, Welch (1992) states that if investors learn about the value of the issued company by observing the behavior of other investors, issuers will under price their stock to create a cascade or herding of buyers. Subsequently investors either subscribe overwhelmingly to new issues or largely abstain, with very few cases in between. Welch (1992) concludes that pricing an IPO just a little too high leaves the issuer with a too high probability of complete failure, just because others are not interested. Hence, in order to prevent the situation from happening, an issuer may have to under price the IPO to induce the first few potential buyers and later induce a cascade in which all subsequent investors want to request irrespective of their own information.

2.3 Determinants of Long –Run Performance of Share Price

Share prices are influenced by numerous factors so that predictions using only a number of select variables may give incorrect results. Researchers have striven hard to build models which incorporate a diverse array of variables to predict the share prices but have not been successful in having one such model. Bhabra and Pettway (2003) find that prospectus information, i.e., pre-IPO profitability, research and development spending, relative offer size, firm size, and number of risk factors listed in the offer document help in predicting long-run performance of IPOs. They also document that the underperformance is more severe for smaller and younger firms than that of the large-sized mature firms.

2.3.1 IPO Pricing

From research, it has been shown that IPO pricing displays certain important anomalies – such as the positive first day returns (under pricing) and long-run underperformance. Hence, the under pricing of IPOs is one of the most studied anomalies (Ritter and Welch, 2002; Loughran and Ritter, 2002; among others).

It is argued that IPOs are deliberately under-priced on the day of listing, leading to exploitable opportunities for investors (Rock, 1986). Thus, IPOs with upward offer price adjustments have higher levels of under pricing (Harley, 1993). Therefore, the high demands of IPO shares initially are attributed to information asymmetry of information between the investors and the firm going public. While the company wants to maximize subscription levels, the investor wants to maximize returns. The company thus under-prices its IPO. However, Miller (1977) finds that divergence of investors' opinions drives the IPO price higher than its intrinsic value due to optimistic investors.

However, this information of the firm is not known to all. The extent and nature of under-pricing is also an unknown variable. Thus, the investors can make use of this missing information, provided they have accessed to it. Hence, abnormal returns are possible (Ibbotson, 1975; Ritter, 1984; Purnanandam and Swaminathan, 2004). Further, the time period for which this under-pricing can persist is also quite long – from one year to up to five years (Jaskiewicz et al., 2005; Ritter and Welch, 2002).

2.3.2 Age of the Firm

IPO firms are subject to uncertainties regarding quality of the firm because of missing track record and lack of public scrutiny. In order to compensate investors for value

uncertainty, investment bankers discount IPO offer prices (Beatty and Ritter, 1986; Rock, 1986). Further, Carter (1998) argues that older firms have longer operating histories and thus face less uncertainty. This observation was also echoed by Ritter (1998) who argue that younger firms have shorter operating history and are subject to great deal of uncertainty.

2.3.3 Size of the Firm

According to Chemmanur et al. (2005), only large old public firms with adequate cash flows and private limited firms that have accumulated a track record of successful performance find it optimal to go public by issuing IPO. Consequently, firms that issue IPO are regarded by investors as having very high chance of success, hence, the high demand during the first day of trading. The demand even escalates further if there is information asymmetry with regard to possible oversubscription.

Existing research shows that firm size has a significant impact on IPO pricing. Ritter (1984) argue that larger firms are easier to value because of ease of forecasting cash flows. Teker and Ekit (2003) posit that a firm with larger amount of total assets experience less uncertainty regarding its perpetuity, and hence commanding less under pricing, and hence higher offer price. Also Dalton (2003) posits that the size of the IPO firm has important implication for pricing as it is an important determinant of stability of the firm.

2.3.4 Number of Shares Issued

McBain and Krause (1989) argue that higher valuations are experienced by firms whose pre-IPO shareholders maintain relatively larger ownership positions following the offer. Ofek and Richardson (2003) showed that a higher retention level of shares

means that fewer shares will be available for trading and hence IPO prices increase. Habib and Ljungqvist (2001) posits that where owners sell fewer shares at the time of IPO, they are likely to be more tolerant to under pricing (and hence higher offer price) because the benefit of costly monitoring is minimal. It can be argued that the post-IPO ownership retention may play a role in valuation process of IPO.

2.3.5 The Subscription Percentage

Aggarwal, Liu and Rhee (2008) studied an after-market pricing behavior of IPOs issued in the Hong Kong market during 1993 to 1997. They studied the after-market performance of the IPOs in relation to the subscription rate (the times at which an IPO is subscribed by the investors). They found out those IPOs with high investor demand realize a high initial excess return, but a negative long run return, while the reverse is true for the low demand IPOs. Thus, it can be demonstrated that higher subscription percentage can lead to higher price of the IPO.

2.3.6 First Day Price Differential Between The Offer Price And Closing Price

Empirical evidence shows that there tend to be an abnormal high returns caused by the significant positive difference between the first market price and IPO offer price. Ritter (1991) find that the high returns realized on the first day of trading may turn into negative returns in the long run. He asserts that this could be attributed to the fact that the closing price of the first day of trading might have been influenced by the investor purchasing behavior wave and therefore may not reflect the intrinsic value of the company's shares. However, the managers will have been provided by a goodwill opportunity which they can take advantage off and turn the company round.

2.4 Empirical Review

Most of the research findings on the offer market performance study the IPO issuing firms performance over a period of 3-5 years. Ritter (1991) finds that IPO issuing firms performance over such period register a positive return which is less than similar firms that did not issue IPO. This would suggest that firms may issue IPO to raise funds to venture into new areas that already had well established competitors. Hence, the need to undertake very strategic investment portfolios using funds rose through IPOs.

Jegadeesh, Weinstein and Welch (1993) assert that when managers take correct strategic portfolio diversification measures, then the first day returns of IPO are just as effective in inducing future issues as other returns after the first day. Hence, they argue that there is strong evidence to support the fact that the offer market performance is positively related to under pricing and negatively related to the size of the public float.

Brav, Geczy and Gompers (2000) argue that the long run underperformance of IPO may be due to insufficient correction of risk i.e. the manager's failure to take advantage of the favourable condition to turn the company round before investors change their mind. They argue that a favourable return on the IPO should be taken as the first step towards the policy of forward ever and backward never with regard to returns on the company's share returns. This would suggest that firms issuing IPO must have very realistic strategic investment opportunities that they should immediately undertake to sustain at least positive return on IPO for at least five years.

Baker and Wurgler (2000) assert that stock prices periodically diverge from fundamental values and those managers and investment bankers take advantage of over pricing by selling stock to overly optimistic investors. This is to suggest if the IPO market is very attractive to investors during a given period, the overly optimistic investors may over react and managers can take advantage of the situation. This will result in short run good performance by the company's shares which cannot be sustained in the long run. Thus, this will result in poor long run performance by such a firm. Therefore, timing of IPO issue should also be taken into account.

2.4.1 International Evidence

Ritter (1991) revealed first positive but then evenly increasing negative abnormal returns for the first three years following an IPO. The analysis of 1,254 IPOs for the period from 1975 to 1984 by using wealth relatives resulted in substantial negative abnormal returns of -29.1% for the 36 month's period after the IPO. These empirical results for IPOs were confirmed in a number of studies for the United States.

In the UK, Levis (1993) investigated the long-run performance of a sample of 712 UK IPOs issued during 1980-88 using long-run returns based on three alternative benchmarks. His work confirmed that IPOs in the (UK) underperformed relevant benchmarks for thirty six months after their first day of trading and noted that the average UK sample appeared to be less excessive than in Ritter's (1991) US Sample. Keloharju (1993) studies the Finnish IPO market and suggests that there is evidence for the long-run underperformance of the IPO firms in Finland, by using a sample of 80 IPOs issued in Finland between 1984 and 1989. This studies offer a similar conclusion that there is a poor long-run performance of IPO firms.

Using forty two IPOs in Swiss Market over the period 1983-1989, Kunz and Aggarwal (1994) also reported significant under pricing. In contrast to previous findings for the U.S., they find no evidence for long run underperformance for up to three years in the aftermarket. Loughran and Ritter (1995), using an even larger sample of U.S. IPOs and applying different benchmark portfolios to measure abnormal returns, come to the same result. By using buy-and-hold abnormal returns, they calculate a 26.9% underperformance against matched firms in three years. They concluded that investing in firms issuing stock is hazardous to one's wealth.

Madhusoodanan and Thiripalraju (1997) analyze both short-run and long-run aftermarket pricing performance of the Indian IPOs issued prior to 1997. They indicate that in the short run, the Indian IPOs generate more market-adjusted initial return than the international IPOs. In the long run too (after one year), Indian IPOs generate higher returns compared to the negative returns reported from other countries.

Stehle, Erhardt, and Przyborowsky (2000) in a study of long-run performance of German IPOs show that size portfolios and matching stocks are better benchmarks than market portfolios. Using buy-and-hold abnormal returns and accounting for the size effect, they report a long-run underperformance for German IPOs of roughly 6% over three years. They demonstrated that this underperformance is substantially smaller than the corresponding numbers found for the U.S. Ritter and Welch (2002) using U.S data from 1980 to 2001, report that at the end of the first day of trading, the stocks of the average IPO trade at 18.6% above the price at which the company sold them. Nevertheless, over three years, the average IPO underperforms the CRSP value-weighted index by 23.4%.

Previous studies by Brav and Gompers (1997), Sapusek (2000), Brav, Geczy, and Gompers (2000), among others, show that long-run IPO performance is sensitive to the benchmark used. Gompers and Lerner (2003) study based on a large sample of 3,661 IPOs in the U.S. from 1935 to 1972, found evidence for a poor aftermarket performance when buy-and-hold abnormal returns are used, but the poor aftermarket performance disappears when cumulative abnormal returns are used. They argue that long-run performance results that differ in empirical findings can be explained either by the methodological approach taken in calculating abnormal returns or by the difference in the benchmark employed for comparing returns.

Kooli and Suret (2004) examined the aftermarket performance, up to five years after listing, of 445 Canadian IPOs listed on the Toronto Stock Exchange (TSE), Montreal Stock Exchange, Vancouver Stock Exchange, Alberta Stock Exchange (ASE) and over-the-counter (CDN). Their results indicated IPO underperformance in the long-run and were not always statistically significant, depending on the methodology used.

Drobtz et al. (2005) estimated the under pricing and long-run performance of Swiss initial public offerings (IPOs) from 1983 to 2000 by using a sample of 120 IPOs. They found an average market adjusted initial return is 34.97%. To examine the long-run performance of Swiss IPOs, they compute buy-and-hold abnormal returns, skewness-adjusted wealth ratios, and cumulative abnormal returns using 120 months of secondary market returns. They found only modest and mostly insignificant underperformance of Swiss IPOs up to four years after the first day of trading. In the very long-run they find evidence that Swiss IPOs severely underperform the market. They conclude that the underperformance of Swiss IPOs is driven by the fact that Swiss IPOs are generally those of small firms.

In the UK, Goergen et al. (2007) studied 252 IPOs listed on the London Stock Exchange between 1991 and 1995. They also found poor long-run performance of UK IPOs, in particular of the smaller firms while those of the large firms performed better in a cross-sectional study. Similarly, Mazouz et al. (2008) investigated the long-term performance of 537 IPOs in Hong Kong from 1990 to 2002. They reported that three-year average cumulative abnormal returns (with an equally-weighted portfolio) were -74.83%, using the market index as a benchmark and -17.78 when size matched. Their findings were consistent with the literature on the long-run underperformance of IPOs in an international context reported.

In a study of short-run under pricing and long-run underperformance for 92 Indian IPOs issued during the period 2002-2006, Sahoo and Rajib (2010) reported that on an average the Indian IPOs are underpriced to the tune of 46.55 per cent on the listing day (listing day return vis-à-vis issue price) compared to the market index. Further, they examined the long-run performance of IPOs up to a period of thirty six months by using the wealth relative (WR) and buy-and-hold abnormal rate of return (BHAR) evaluation techniques, both being adjusted with market index. Their results evidence that the underperformance is most pronounced during the initial year of trading, i.e., up to 12 months from the listing date followed by over-performance.

Labidi and Triki (2011) sought to find out if there were anomalous patterns, in the stock price behaviour of firms that go public in the Middle East and North Africa (MENA) region, and the impact of investors' optimism and divergence of opinions on IPO under-pricing and long-term under-performance. They used data from (2000-2010) for 159 companies in ten countries. The study found out that initial IPO returns

were highly related to over-subscription levels and listing lags hence contradicting the idea of voluntary under-pricing.

2.4.2 Local Evidence

Although the time period available to study IPOs in Kenya is limited and the number of IPOs is relatively small there have been a number of studies that have analyzed the long-run performance of IPOs. A review of these studies confirms that the results are very sensitive to both the methodology and the benchmark employed.

Jumba (2002) studied the performance of nine IPOs in NSE in Kenya for the period 1992-2000. Using a market model for three years buy and hold period, found that all IPOs produced below market average. She concluded that in the short-run, IPOs over-performed the market while in the long-run IPOs underperformed the market using three year holding period. This was supported by Njoroge (2004) who analyzed initial and long-run of 14 IPOs at the NSE during the period 1984-2001 and observed that all the IPOs recorded a negative accumulative growth of -68.46% . He concluded that all IPOs underperformed the market in the long-run using a three year holding period.

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

Ndatimana (2008) studied the long-run of 15 IPOs over a five year period at the NSE for periods 1992-2007 using a MABHR model. He found mixed results and concluded that there is no discernible regularity of long-run performances when

gauged against the market benchmarks. Using wealth relatives defined as the average gross total returns on IPOs divided by the average gross return on the market index, both measured over five years after the IPO excluding the initial returns, he found that the wealth relative was 1.086 at the fifth anniversary and -1.017 at the third anniversary. Hence, he asserted that any under-performance for the first three years will reverse by the fifth year.

Karitie (2010) in a study of IPOs at the NSE using market adjusted buy and hold returns methodology found that there was long run underperformance. However, using the cumulative abnormal returns (CAR) methodology, the IPOs over performed. Hence, it demonstrated that the methodology used can give different results.

2.5 Summary of Literature Review

In summary, the literature shared common views on the most observed IPO pricing performance anomaly, i.e., under pricing or over performance followed by underperformance for IPOs. However, the literature indicates divergent findings regarding the continuity of underperformance in the post-listing scenario. Most of the studies document underperformance for the new issues up to a period of three to five years from listing but there is lack of a clear pattern of over-or- under performance after the first anniversary. Further, the lack of empirical evidence from the emerging economies and the absence of examination of the impact of IPO pricing and long-run performance of firms, are gaps that this review has found from the literature.

Further, from the studies by Jumba (2002), Njoroge (2004) and Ndatiamana (2008), they conclude that IPO's underperform the market in the long-run using MABHR, and that all IPOs underperform the market in the long-run. However, Karitie (2010)

disputes this assertion from the study and posit that the methodology used determines whether IPOs will underperform in the long-run. Hence, this is a gap that this study attempted to address.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the rationales and techniques that were used in this study. It covers research design, population of the study, data collection procedures to be used as well as data analysis techniques applied.

3.2 Research Design

Research design is the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions. The plan is the overall scheme or program of research. It includes an outline of what the researcher would do from writing the hypotheses and their operational implications to the final analysis of the data.

Descriptive research involves collecting and examining data in order to answer questions concerning the status or condition of the research subject at some point of time. Thus, descriptive research seeks to determine the answers to who, what, when, where and how questions. Its major purpose, as designed, is to describe characteristics of a population or a phenomenon (Zikmund, 2003).

In this research, secondary data method was used. This research problem was best studied through the use of descriptive survey design. It allowed the collection of large amount of data from a sizeable population in an economical manner. Further, it allows one to collect quantitative data which can be analyzed quantitatively using descriptive and inferential statistics (Saunders et al, 2007). Since the researcher used quantitative

data to answer the research question, the descriptive survey method was more suitable for this study. The data was collected, coded and analyzed using SPSS software.

3.3 Population of the Study

The target population of this study was all firms listed at the NSE in Kenya. From the listed companies in NSE, the researcher studied all the firms that have issued IPO from 2000-2013, so as to cover a minimum of three year period. There were sixty one firms listed at NSE as at end of year 2013. The sample was the number of firms that had issued IPOs in the period under study which were ten and of which two were delisted (CMA).

3.4 Data Collection

There are many methods of data collection. The choice of a tool and instrument depends mainly on the attributes of the subjects, research topic, problem question, objectives, design, expected data and results. This is because each tool and instrument collects specific data. Data used in this study was secondary.

The secondary data was collected from the NSE, the Capital Market Authority (CMA), annual reports of the firms, and other research material on share prices. Secondary data are data gathered and recorded by someone else prior to the current needs of the researcher (Zikmund, 2003). Specifically, stock prices for the companies were collected for period under study. This included the offer price and after market prices, as well as the prices up to five years after the IPO. The prospectuses of issuing firms provided provide vital information on the offer price and number of shares offered and the background information on these firms. The data was coded and analyzed through the use of analysis software, Statistical Package for Social Services (SPSS), and then statistical computations were used to draw conclusions.

3.5 Data Analysis

Data analysis as related to this research work involved statistically analyzing the data collected to form a basis of accepting or rejecting the hypothesis. Descriptive statistics was the main methods of data analysis that was suitable for this study. The research was empirical in nature and was analyzed using descriptive statistics such as charts, graphs, mean, and standard deviation, quartiles and regression analysis.

Zikmund (2003) defined an independent variable as a variable that is expected to influence the dependent variable and the dependent variable as a criterion or a variable that is to be expected or explained.

3.5.1 Analytical Model

For purposes of this study a multivariate regression was used to test the influence of the explanatory variables on the long-run performance, measured by market adjusted buy – and hold abnormal (BHAR). This study used the following model as applied by Ritter (1991) who did a study on the long-run performance of initial public offerings in USA and Bhabra and Pettway (2003) who did a study on the IPO prospectus information and subsequent performance in USA.

A typical multivariate regression model is of the form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Hence:

$$\text{BHAR (Y)} = \beta_0 + \beta_1 \text{IR} + \beta_2 \text{AGE} + \beta_3 \text{SIZE} + \beta_4 \text{NO} + \beta_5 \text{SUB} + \varepsilon$$

Where:

Y-Long run performance of shares measured by BHAR

Selected as follows:

$X_1 = 1^{\text{st}}$ Day pricing differential between the offer price and closing day one price.

$X_2 =$ Age in years of firm is the difference between the offer firm's IPO year and the founding year

$X_3 =$ Size of the firm as measured by total assets

$X_4 =$ Number of shares issued

$X_5 =$ the percentage subscription

$\beta_0 =$ is the intercept; and reflects the constant of the equation.

$\beta_i =$ is the sensitive coefficient of each independent variable ($i = 1, 2, 3, 4, 5$).

$\mathcal{E} =$ is the error term.

The intercorrelation matrix was used to check the suitability of the independent variables in the multiple regression equation. This was necessary to avoid the effect of multicollinearity.

3.5.1.1 Dependent Variables

The abnormal return of company i in event year t are $BHAR_{i,t}$ calculated as:

$$BHAR_{i,t} = \left[\prod_{t=1}^T (1 + R_{i,t}) - 1 \right] - \left[\prod_{t=1}^T (1 + R_{m,t}) - 1 \right]$$

Where;

BHAR the market adjusted BHAR for the firm "i" over "t" year period

$R_{i,t}$ and $R_{m,t}$ are the yearly return on the stock i and the market index in event year t respectively.

Therefore, the identification of IPO outperformance (underperformance) will be a positive (negative) value of $BHAR_{i,t}$.

3.5.1.2 Independent Variables

a) Initial return – The returns of stocks in % in any given time period is given as

$$IR_{i,t} = \{ (P_{i,t} - OP_{i,0}) / P_{i,0} \} * 100 \dots\dots\dots 1$$

Where:

$P_{i,t}$ = Closing price of stock i at time t.

$P_{i,0}$ = Offering price of IPO Shares

To calculate the market return in the same time period is given by.

$$R_{m,t} = \{ (P_{k,t} - P_{k,0}) / P_{k,0} \} * 100 \dots\dots\dots 2$$

Where:

$R_{m,t}$ is the first day's comparable NSE share return.

$P_{k,t}$ is closing NSE share index value on the first trading day.

$P_{k,0}$ is the closing NSE share index value on the offering of the appropriate share.

The market adjusted abnormal return of each IPO on the first day trading is given as:

$$MAAR_{i1} = \{ (1 + Ri,t / 1 + R_{m,1}) - 1 \} * 100 \dots\dots\dots 3$$

3.5.2 Test of Significance

To test the robustness of the long –run abnormal returns, the study computed the t-statistic, which is the mean of BHAR equal for a sample of n firms.

The mean buy-and-hold returns are calculated as:

$$\overline{BHAR}_{i,t} = \sum_{i=1}^n \omega_i BHAR_{i,t}$$

$BHAR_{i,t}$ = Average benchmark return for the year “t” for the sample

In order to test whether the average buy-and-hold return is significantly different from 0 or not, the t-statistic is calculated as:

$$BHAR_{t,month} = \frac{\overline{BHAR}_{i,t}}{\sigma(BHAR_{i,t})/\sqrt{n}}$$

Where:

“n” = number of observations in the year

“σ”=Cross-sectional standard deviation of the market BHAR for the year

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

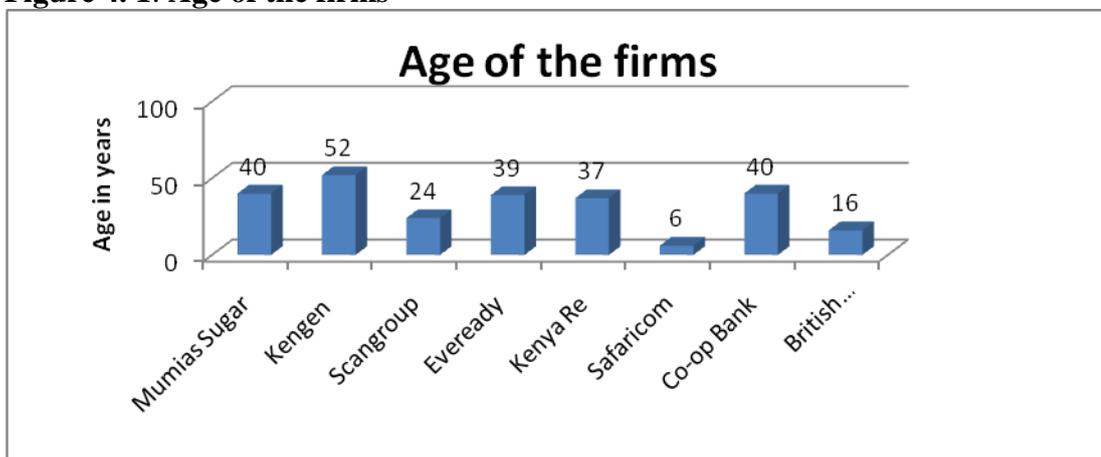
This chapter presents analysis and findings of the study as set out in the research objective and research methodology. The study findings are presented on the effect of IPO pricing on the long run stock returns of companies listed at Nairobi Securities Exchange (NSE), Kenya. The data was gathered exclusively from the secondary source which included the records at Kenya National Bureau of Statistics.

4.2 Findings

4.2.1 Age of the Firms

The study sought to establish the age firms under study which was computed by establishing the difference between the offer firm's IPO year and the founding year. The age was expressed in years and the findings were presented in Figure 4.1 below and appendix IV.

Figure 4. 1: Age of the firms



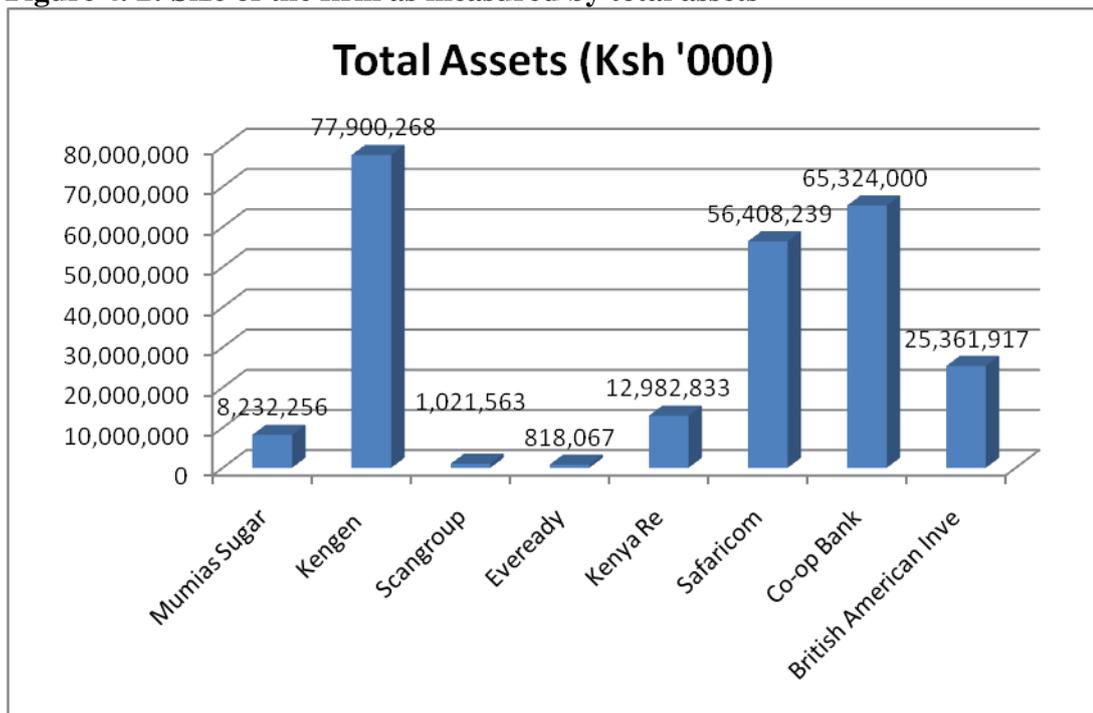
Source: Research Findings

From the data findings, based on the difference between the year of firm’s IPO and the founding year, Kengen had the greatest age with 52 year followed by Co-operative Bank with age of 40 years then Mumias Sugar with age of 40 years. Eveready had an age of 39 years followed by Kenya Re with an age of 37 years then Scangroup with an age of 24 years. British American Investment had an age of 16 years while Safaricom was has the least age of 6 Years. This is an implication that Kengen was the oldest company of all the companies incorporated in this study followed by Co-operative Bank then Mumias Sugar Company.

4.2.2 Size of the Firm as Measured by Total Assets

The study sought to establish the size in the total assets of the firms in the year of listing. The assets were expresses in thousand Ksh. The findings are presented in the figure 4.2 below and appendix III.

Figure 4. 2: Size of the firm as measured by total assets



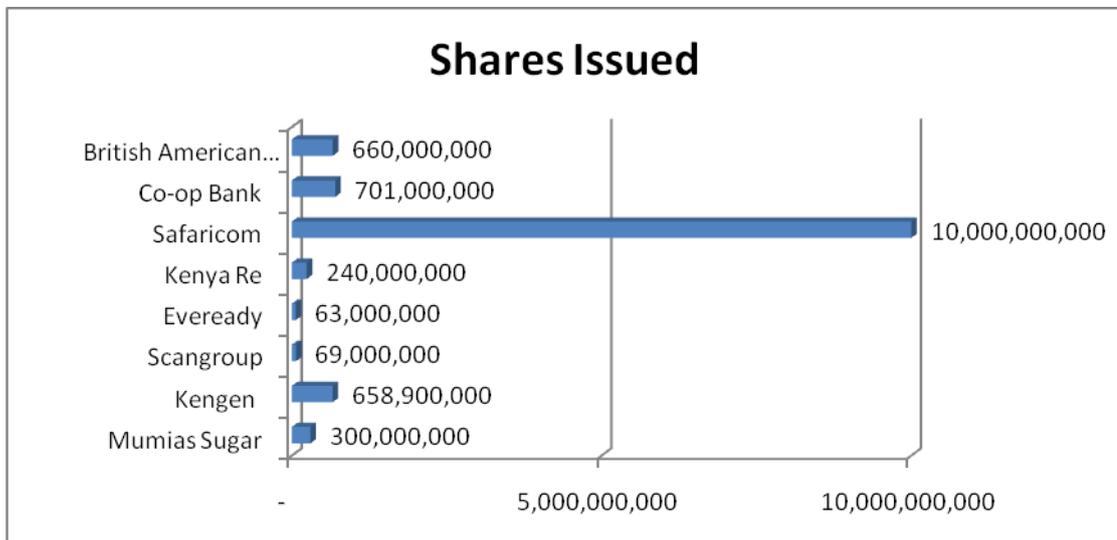
Source: Research Findings

According to the study findings, Kengen had the largest total assets amounting to Ksh. 77,900,268. Co-op Bank followed with total assets valued at Ksh. 65,324,000. Safaricom had total assets of Ksh 56,408,239 while British American Investment had total assets worth Ksh.25,361,917. The total assets of Kenya Re, Mumias Sugar and Scangroup amounted to Kshs. 12,982,833 Ksh. 8,232,256 and Ksh respectively. Eveready had the list total assets worthy KSh. 818,067.

4.2.3 Number of Shares Issued

The study sought to establish the number of shares issued by the firms under study. The findings are presented in the Figure 4.3 below.

Figure 4.3: Number of shares issued



Source: Research Findings

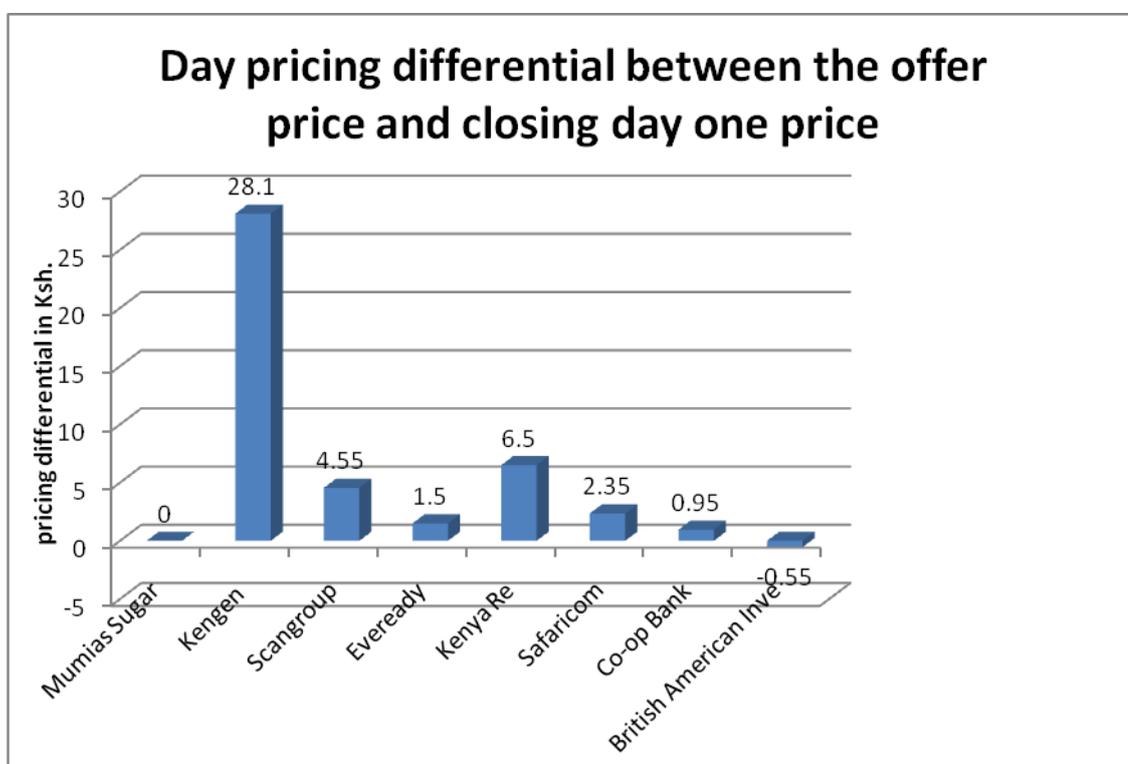
From the study findings, Safaricom issued the highest number of shares which totaled to 10,000,000,000. Co-op Bank issued 701,000,000 shares followed by British American Investment which issued 660,000,000 shares. Kengen on the other hand issued Kengen 658,900,000 shares whereas Mumias Sugar and Kenya Re issued

300,000,000 shares and 240,000,000 shares respectively. Scangroup and Eveready hand the least shares issue whereby they issued 69,000,000 shares and 63,000,000 shares respectively.

4.2.4 Day Pricing Differential between the Offer Price and Closing Day One Price

The study sought to find out the trend in day pricing differential between the offer price and closing day one price for the companies. The findings are presented in the Figure below.

Figure 4.4: Day pricing differential between the offer price and closing day one price



Source: Research Findings

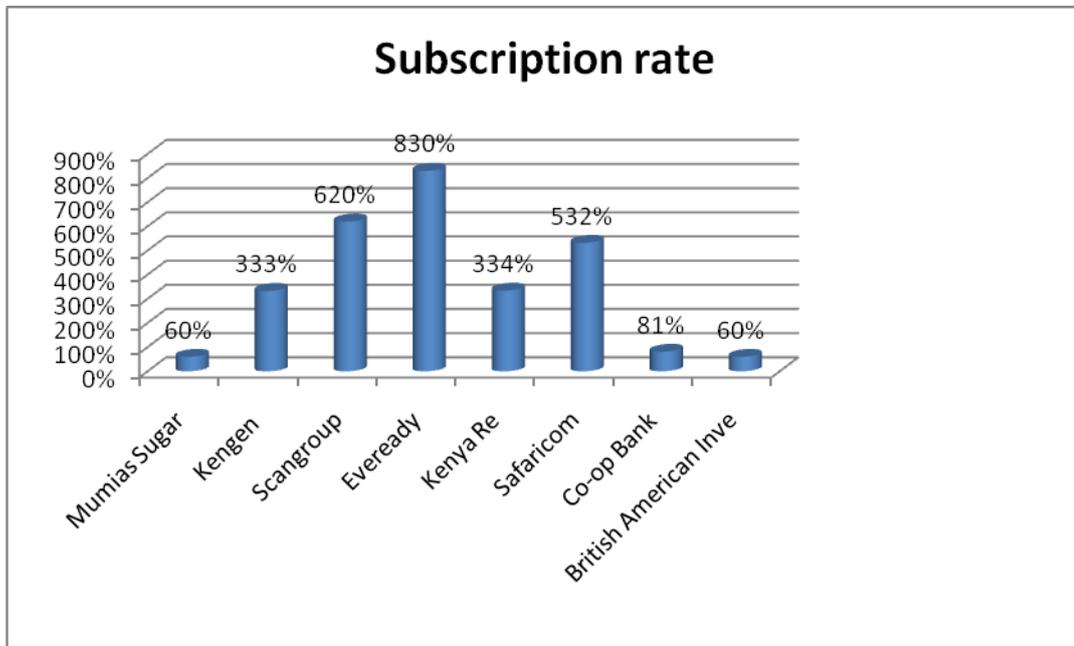
According to the findings, Kengen had the largest difference between 1st Day pricing offer price and closing day one price of Ksh, 28.1 followed by Kenya Re with a

difference of Ksh. 6.5 then Scangroup with a difference of Ksh 4.55. Safaricom, Eveready and Co-op Bank had deferential of Ksh. 2.35, Ksh. 1.5 and Ksh. 0.95 respectively. Mumias sugar had no difference between 1st Day pricing offer price and closing day one price whereas British American Investment had a differential of Ksh. -0.55. It can be deduced that the closing day one prices for all companies under study were higher as compared to the offer prices of the shares with an exception of British American investment and also Mumias Sugar.

4.2.5 Subscription Rate

The study sought to establish the percentage subscription of shares of the companies under study. The findings were as shown in the figure 4.5 below and appendix IV:

Figure 4.5: Subscription Rate



Source: Research Findings

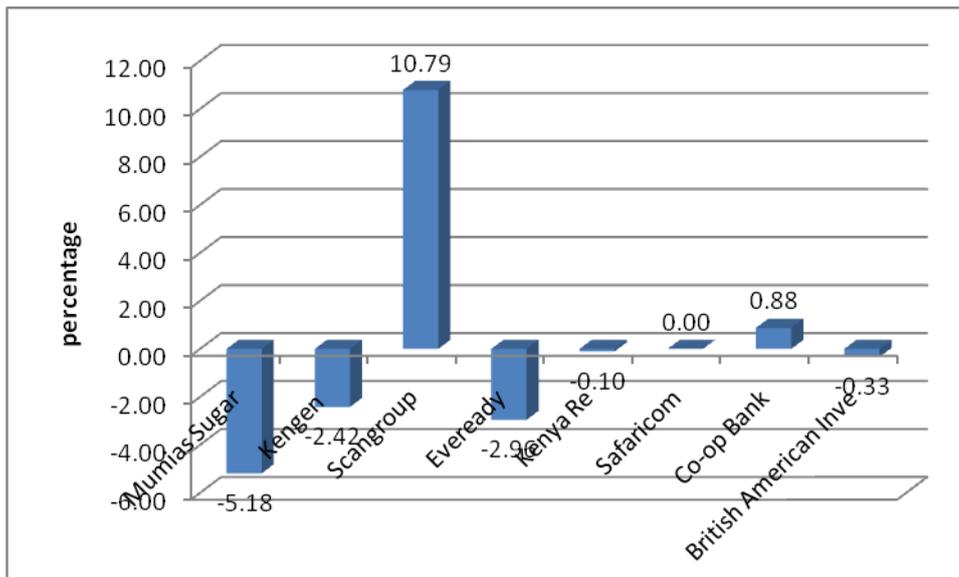
From the study findings, Eveready had the highest subscription rate of 830% followed by Scangroup with a subscription rate of 620% then Safaricom with

subscription rate of 532%. Kenya Re recorded a subscription rate of 334%, while kengen recorded a subscription rate 333%. Co-op Bank recorded a subscription rate of 81% while British American Investment and Mumias Sugar recorded a subscription rate of 60% each. This implies that there was over subscription for shares in Eveready and Scangroup, Safaricom, Kenya Re and kengen. The findings further imply that the there was under subscription of shares in Co-op Bank recorded, British American Investment and Mumias Sugar.

4.2.6 Long Run Performance of Shares

The study sought to establish the trend in the Long run performance of shares measured by BHAR. Appendix IV and Figure 4.6 presents the data findings

Figure 4.6: Long Run Performance of Shares



Source: Research Findings

According to the study findings, the long run performance of shares as revealed by the obtained BHAR values was negative for majority of the companies. Mumias Sugar

had a negative BHAR value of -5.18% same as Kengen which had a BHAR value of -2.42%. Eveready had a BHAR of -2.96% while Kenya Re had a BHAR of -0.10%. British American Investments had a BHAR of -0.33%. This was an indication that market returns were higher. The study findings further revealed that Scangroup had a BHAR 10.79% while Co-op Bank had a BHAR of 0.88%. Safaricom had a BHAR of 0.

4.2.7 Regression Analysis

In this study, multivariate regression was done to establish the relationship between explanatory variables and the long-run performance of shares. The analysis was undertaken at 95% confidence level and 5% significance level. Initially, the study sought to establish variation in the dependent variable which was explained by the independent variables under study by use of coefficient of multiple determinations (R^2). The table below presents the data findings.

Table 4. 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.717 ^a	.515	-.698	6.20525

Source: Research Findings

The R^2 was used to establish the predictive power of the study model. The R^2 , called the coefficient of multiple determinations, is the percentage of the variance in the dependent explained uniquely or jointly by the independent variables. The model had an average coefficient of determination (R^2) of 0.515 and which implied that 51.5% of the variation in Long run performance of shares was explained by the independent variables understudy (Percentage Subscription, 1st Day pricing differential between

the offer price and closing day one price., Number of shares issued, Size of the firm as measured by total assets, and Age in years of firm).

The study further sought to establish the significance of the model by using Analysis of Variance Technique (ANOVA). The table below presents the data findings.

Table 4.2: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	81.700	5	16.340	20.296	.047 ^b
Residual	1.610	2	0.805		
Total	83.310	7			

a. Dependent Variable: Long run performance of shares

Source: Research Findings

From the ANOVA table, the regression model predicting the relationship between the dependent and independent variables was significant as the probability-value obtained was 0.043 which was less than $\alpha=0.05$, the significance level. The F calculated at 5% level of significance was 20.296 which was greater than $F_{(5,2)}$ critical = 19.30 which implies that the model was significant.

Table 4.3 : Coefficient table

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8.736	9.882		.884	.470
1st Day pricing differential between the offer price and closing day one price (X ₁)	.068	.404	.135	3.169	.017
1 Age in years of firm (X ₂)	-.371	.289	-1.176	-2.484	.028
Size of the firm as measured by total assets(X ₃)	7.147×10^{-8}	.000	.465	2.682	.023
Number of shares issued(X ₄)	-1.524×10^{-9}	.000	-1.091	-2.106	.041
Percentage Subscription(X ₅)	.008	.011	.499	3.348	.012

a. Dependent Variable: Long run performance of shares

Source: Research Findings

The established model for the study was:

$$Y = 8.736 + 0.068X_1 - 0.371X_2 + 7.147 \times 10^{-8}X_3 - 1.524 \times 10^{-9}X_4 + 0.008X_5$$

From the regression model obtained above, holding all the other factors constant, long run performance of shares would be 8.736. A unit change in the difference between offer price and closing day one price holding the other factors constant would lead to change in long run performance of shares by 0.068; a unit change in Age in years of firm holding the other factors constant would change long run performance of shares by -0.371. A unit change in Size of the firm holding the other factors constant would change the long run performance of shares by 7.147×10^{-8} . A unit change in number of shares issued holding the other factors constant would change the long run performance of shares by 1.524×10^{-9} while a unit changes in Percentage Subscription holding the other factors constant would change long run performance of shares by 0.008 units. Based on the stipulated criteria for testing for significance, the study found out that at 5% level of significance all the predictor variables were significant since their corresponding probability values were less than significance level ($\alpha=0.05$).

4.3 Interpretation of the Findings

The findings of the regression analysis imply that shares of a firm would underperform in the long run holding other factor constant as shown by a constant of 8.736. Age in years of firm and number of shares issued by a firm of shares have negative impact on the long run performance of shares whereas 1st Day pricing differential between the offer price and closing day one price, Size of the firm and Percentage Subscription positively affect the long run performance of shares. The

findings are in agreement with Teker and Ekit (2003) who found out that firm with larger amount of total assets experience less uncertainty regarding its perpetuity, and hence commanding less under pricing and increased long run performance of shares. The findings however contradict with Carter (1998) argument that older firms have longer operating histories and thus face less uncertainty hence guaranteeing better long run performance of shares.

From the study findings, based on the obtained coefficients, 1st Day pricing differential between the offer price and closing day one price has the highest influence on the long run performance of shares of a firm. The more the 1st Day pricing differential between the offer price and closing day one price, the higher the long run performance. Increase in the number of shares issued by a firm decreases the performance of shares in the long run. The findings conform to Baker and Wurgler (2000) assertion that if the IPO market is very attractive to investors, they take advantage of the situation and this results in short run good performance by the company's shares which cannot be sustained in the long run. According to the regression analysis, the magnitude of the effect of the firm size and the number of shares issued on the long run performance of shares is low as shown by coefficients of 7.147×10^{-8} and -1.524×10^{-9} respectively. These findings concur with Dalton (2003) that the size of the IPO firm has important implication for pricing as it is an important determinant of stability of the firm.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the study summary, conclusions and recommendations based on the study findings. The objectives of this study was to investigate the effect of IPO pricing on the long run stock returns of companies listed at Nairobi Securities Exchange (NSE), Kenya.

5.2 Summary

The study findings established that the shares of the companies under study were underperforming. On average, over the study period, the study established that Safaricom Company had issued the highest number of shares. The study revealed that the closing day one prices of shares for all companies under study were higher as compared to the offer prices of the shares with an exception of British American Investment while the difference for Mumias sugar was zero. Further, the study revealed that there was over subscription for shares in Eveready and Scangroup, Safaricom, Kenya Re and kengen and under subscription of shares in Co-op Bank recorded, British American Investment and Mumias Sugar.

From the regression analysis, the study revealed that 51.5% of the variation in long run performance of shares was explained jointly by the independent variables under study as the obtained coefficient of determination (R^2) from the model summary was 0.515. The study further revealed that the regression model predicting the relationship between the long run performance of shares and independent variables

was significant. The study deduces that holding all the other factors constant, long run performance of shares would be 8.736 units. A unit change in the difference between offer price and closing day one price holding the other factors constant would lead to change in long run performance of shares by 0.068. For the case of firm age, Size of the firm, number of shares issued, and percentage, the effect they had on long run performance of shares was -0.371, 7.147×10^{-8} , -1.524×10^{-9} and $0.008X_5$ respectively.

5.3 Conclusion

This study concludes that the difference between 1st Day offer price and closing day one price affect the long run performance of shares whereby an increase in the difference positively affects the long performance of shares of firms and vice versa.

From the findings, the study deduces that age of the firm i.e. the difference, in years of firm is the difference the between the offer firm's IPO year and the founding year affects the long run performance of the shares. The more aged a firm is, the lower performance of its shares in long run.

The study further concludes that size of a firm affects the performance of shares of that firm in the long run. Increased firm size increase the performance of shares in the long run while decrease in firm size reduces the performance of performance of shares in the long run. Teker and Ekit (2003) posit that a firm with larger amount of total assets experience less uncertainty regarding its perpetuity, and hence commanding less under pricing, and hence higher offer price hence in agreement with this conclusion.

The study concludes that the number of shares issued influences the long run performance of shares in the long run, whereby increase in the number of shares

issued reduce the performance of shares in the long run while a decrease in the number of shares issued increase the performance of shares.

The study finally concludes that the percentage subscription affects the performance of shares of a company in the long run. Increased percentage of subscription increase the performance of shares in the long run while decreased in subscription rate reduces the performance of shares in the long run.

5.4 Recommendations for Policy

This study found out there was under performance of the IPOs of the firms under study in the long run. Based on these findings, the study recommends for the implementation of policies by the NSE management so as to revert the situation. The firms should also put in place measures to ensure continued performance of their shares in the long run.

The study found out that increase in the number of shares issued negatively affects the long run performance of shares of a firm. Hence, this study recommends for policies to be enacted regulating the number of shares being issued by firms.

The study findings established that that size of a firm affects the performance of shares of that firm in the long run. Based on this finding, this study recommends that firms listed at the NSE need to put in place strategies that will ensure their continued expansion as this is important for ensuring enhanced performance of shares in the long run.

5.5 Limitations of the Study

A limitation for the sake of this study comprised of any factor that was present and could have hindered the attainment of this study's research objective. The main limitations of this study were: the firms under study commenced the issuance of IPO at different period hence variability of the data collected in terms of time scope.

This data used in this study comprised of secondary data collected for other purposes and was subject to various macroeconomic variables which may have influenced their construction. This may however limit the applicability of the data in other circumstances.

Further, the other limitation of the study was the number of firms selected which were eight for the analysis based on the time period and limited variables. Data used in the study was yearly because of the time constrained in mining the daily data obtained. The result could differ probably if daily data were used.

5.6 Recommendations for Further Studies

The study revealed that 51.5% of the variations in long run performance of shares were explained jointly by the independent variables under study. The subject matter of this project still attracts considerable intellectual effort for further studies to determine the factors explaining the remaining 49.5% variation in long run performance of shares.

Given economic changes in developing countries which affect the performance of shares, this study recommends for further research into the effect in variation of economic stability on the long run stock return of shares the firms under study.

Further studies need to be done on the perception of investors (IPO share holders) on the performance of share of the companies. This would be of importance in enhancing the long run stock return.

A further research can be done to investigate whether IPOs of certain segments at the Nairobi Securities Exchange perform better than others.

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APPENDICES

APPENDIX I : NAIROBI SECURITIES EXCHANGE LISTED COMPANIES AS AT THE YEAR 2013

NSE LISTED COMPANIES	
AGRICULTURAL	CONSTRUCTION AND ALLIED
Eaagads Ltd – Ord. 1.25 AIMS	ARM Cement Ltd Ord. 1.00
Kakuzi Ltd Ord. 5.00	Bamburi Cement Ltd Ord. 5.00
Kapchorua Tea Co.Ltd Ord .5.00 AIMS	Crown Paints Kenya Ltd Ord.5.00
The Limuru Tea Co.Ltd Ord. 20.00 AIMS	E.A. Cables Ltd Ord.0.50
Rea Vipingo Plantations Ltd Ord. 5.00	E.A Portland Cement Co.Ltd Ord.5.00
Sasini Ltd Ord. 1.00	
Williamson Tea Kenya Ltd Ord. 5.00 AIMS	ENERGY AND PETROLEUM
	KenGen Co. Ltd Ord. 2.50
AUTOMOBILES & ACCESSORIES	KenolKobil Ltd Ord. 0.05
Car & General (K) Ltd Ord. 5.00	Kenya Power & Lighting Co. Ltd Ord. 2.50
CMC Holdings Ltd Ord. 0.50	Total Kenya Ltd Ord. 5.00
Marshalls (E.A) Ltd Ord. 5.00	Umeme Ltd Ord. 0.50
Sameer Africa Ltd Ord. 5.00	
	INSURANCE
BANKING	British American Investments Co.(K)Ltd Ord. 0.10
Barclays Bank of Kenya Ltd Ord.0.50	CIC Insurance Group Ltd. Ord. 1.00
CFC Stanbic of Kenya Holdings Ltd Ord.5.00	Jubilee Holdings Ltd Ord. 5.00
Diamond Trust Bank Kenya Ltd Ord. 5.00	Kenya Re Insurance Corporation Ltd. Ord 2.50
Equity Bank Ltd Ord. 0.50	Liberty Kenya Holdings Ltd Ord. 1.00
Housing Finance Co. Kenya Ltd. Ord. 5.00	Pan-African Insurance Ltd. Ord 5.00
I&M Holdings Ltd Ord. 1.00	
Kenya Commercial Bank Ltd. Ord. 1.00	INVESTMENT
National Bank of Kenya Ltd. Ord. 1.00	Centum Investment Co.Ltd 0.50
NIC Bank Ltd Ord. 5.00	Olympia Capital Holdings Ltd. Ord 5.00
Standard Chartered Bank Kenya Ord. 5.00	Trans-Century Ltd Ord.0.50 AIMS
Co-operative Bank of Kenya Ord. 1.00	
	MANUFACTURING & ALLIED
COMMERCIAL AND SERVICES	A. Baumann & Co Ltd Ord 5.00 AIMS
Express Kenya Ltd Ord. 5.00 AIMS	B.O.C Kenya Ltd Ord. 5.00
Hutchings Biemer Ltd Ord.5.00	British American Tobacco Kenya Ltd. Ord 10.00
Kenya Airways Ltd Ord. 5.00	Carbacid Investment Ltd Ord.1.00
Longhorn Kenya Ltd Ord. 1.00 AIMS	East African Breweries Ltd .Ord. 2.00
Nation Media Group Ltd Ord.2.50	Eveready East Africa Ltd. Ord. 1.00
Scangroup Ltd. Ord. 1.00	Kenya Orchards Ltd .Ord.5.00 AIMS
Standard Group Ltd Ord. 5.00	Mumias Sugar Co.Ltd Ord. 2.00
TPS Eastern Africa Ltd. Ord. 1.00	Unga Group Ltd Ord .5.00
Uchumi Supermarket Ltd. Ord. 5.00	
	TELECOMMUNICATIONS&TECHNOLOGY
	Safaricom Ltd Ord. 0.05
GROWTH ENTERPRISE MARKET SEGMENT (GEMS)	
Home Afrika Ltd Ord. 1.00	

Key
AIMS – Alternative Investment Market Segment
Ord. – Ordinary Shares.

Source: CMA

APPENDIX II : INITIAL PUBLIC OFFERS (IPOS) – 2000-2013

Company	Shares on Issue	Year of Issue	Issue Price	Subscription Level
	Ordinary Shares	Year/Month	Kshs.	%
African Lakes Delisted in 2003	4,000,000	2000 March	94.50	150%
Mumias Sugar Company Limited	300,000,000	2001 November	6.25	60%
Kengen Ltd	658,900,000	2006 April	11.90	333%
Scangroup Ltd	69,000,000	2006 June	10.45	620%
Eveready	63,000,000	2006 August	9.50	830%
Access Kenya Delisted in 2013	80,000,000	2007 March	10.00	363%
Kenya Re	240,000,000	2007 July	9.50	334%
Safaricom Ltd	10,000,000,000	2008 June	5.00	532%
Co-operative Bank	701,000,000	2008 October	9.50	81%
British-American Investments Co.Ltd	660,000,000	2011 September	9.00	60%

Source: CMA

APPENDIX III: FIRM AGE AND MARKET RETURN

	Offer Price	First day Trading Price (List Price)	Market Returns	Incorporati on Year	IPO Year	Age
Mumias Sugar	6.25	6.25	1,478.71	1971	2001	30
Kengen	11.9	40	4,447.99	1954	2006	52
Scangroup	10.45	15	4,486.07	1982	2006	24
Eveready	9.5	11	5,093.51	1967	2006	39
Kenya Re	9.5	16	5,274.53	1954	2007	37
Safaricom	5	7.35	5,445.67	2002	2008	6
Co-op Bank	9.5	10.45	3,367.24	1968	2008	40
British American Inve	9	8.45	3,393.70	1995	2011	16

Source: CMA

**APPENDIX IV: ASSETS, BUY AND HOLD ABNORMAL RETURN
(BHAR) AND SUBSCRIPTION RATE**

	Total Assets (Ksh '000)	Shares Floated	Subscripti on rate	Buy and Hold Abnormal Return (BHAR) in
Mumias Sugar	1,218,400	300,000,0 00	60%	-5.18%
Kengen	10,194,762	658,900,0 00	333%	-2.42%
Scangroup	1,021,563	69,000,00 0	620%	10.79%
Eveready	818,067	63,000,00 0	830%	-2.96%
Kenya Re	12,982,833	240,000,0 00	334%	-0.10%
Safaricom	56,408,239	10,000,00 0,000	532%	0.00%
Co-op Bank	65,324,000	701,000,0 00	81%	0.88%
British American Inve	25,361,917	660,000,0 00	60%	-0.33%

Source: CMA