

**THE EFFECT OF IPO'S ON THE PERFORMANCE OF OTHER  
STOCKS AT THE NAIROBI STOCK EXCHANGE**

**BY**

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A management research project submitted in partial fulfillment of the requirement for the award of the degree of Masters of Business Administration (MBA), School of Business; University of Nairobi

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**Declaration**

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

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

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## **Dedication**

This study is dedicated to my parents; Mr and Mrs Anekeya. All that I wish to become is in the hands of God who enabled through the above very special persons to give me all the support to undertake my studies.

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The pursuit of this degree would not have been possible without the encouragement, support and assistance of many people. I sincerely believe that without their patience, valuable advice and criticism, completion of this project would not have been possible. I am therefore extremely grateful to them.

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## List of Abbreviations

- AAR Application Allocation and Refund
- AIMS Alternative Investment Market Segment
- CDSC Central Depository Settlement corporation
- CMA Capital Markets Authority
- FIMS Financial Investment Market Segment
- IFC International Finance corporation
- IPOs Initial Public Offers
- SEO Secondary Equity offerings
- MIMS Main Investment Market Segment
- NASI Nairobi Stock Exchange All Share Index
- NSE Nairobi stock Exchange

## **ABSTRACT**

Over the last three years there has been an upsurge of IPO activity. The reason for this popularity is because of the worldwide trend towards privatization. The IPOs at the NSE have been successful and have been characterized by massive oversubscriptions indicating their potential as well as the popularity. Most studies analyze the performance of companies around their Initial Public Offerings (IPOs). This study focused on returns on pre-IPO, during and after an IPO. This research found that the size of the IPO has no role to influence the market turnover.

The question that comes is how the investors show interest towards IPOs; whether they mobilize their investments from the secondary market to the IPO seek alternative sources other than liquidating their existing securities and whether as a result of such fund mobilization, the transaction volumes face any pressure.

This study sought to establish whether the interest of investors towards IPOs creates pressure on the performance of other stocks during the Pre-application period (Pre-IPO), the application, allotment and the refund period (AAR), and Post allotment period (Post-IPO). The results suggested that either the market has enormous capacity that the IPO announcements did not have any effect on it, or the prospective investors do not rely on the capital market as they keep huge funds to be invested.

Using data from NSE on the daily average market turnover and the turnover of the IPOs during the listing month, the findings indicated that the market turnovers during this period were not affected by the IPOs. The study established that the IPO size has no effect on market turnover.



The research recommends that further research should be carried out to find out if the other variables such as share price index and market capitalization are affected by an IPO. Research can also be done to find out the source of investor liquidity during such periods.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background to the Study

Firms usually go public through the stock market. The stock market or equity market is a private or public market for the trading of the company's stock and derivatives of company stock at an agreed price. Security issuances in the stock market can either be by the initial public offering (IPOs) or seasoned equity offerings (SEO's) (Boit 2008).

According to Bringham and Houston (2004) there are three types of stock market transactions namely trading in the outstanding shares of established publicly owned companies; the secondary market, additional shares sold by established, publicly owned companies; the primary market and Initial Public Offers by privately held firms; the IPO market.

A seasoned equity offering is a new equity issue by a company after its IPO. Usually the offering will include the issuance of new shares intended to raise new capital, as well as the secondary sale of existing shares. However there are certain regulatory restrictions imposed by the lead underwriter on the sale of existing shares.

An Initial Public Offering (IPO) refers to the offering of stock in a company to the public through a public market. The Initial Public Offerings ("IPOs") are also defined as the first time issuance, by a company, of its common stock to the public (Spinella, 2006). They are often issued by smaller, younger companies seeking capital to expand, but can also be done by large privately-owned companies looking to become publicly traded.

IPOs can either be issued by a private company or through privatizations by governments while divesting from state owned enterprises. The IPO of a company serves as a significant liquidity opportunity for early investors, including founders and the venture capital investors. An IPO acts as a means for investors to transfer savings to organizations that can get better returns for these funds, and in turn, gives investors a more divisible and liquid asset that they can access any time should they require it.

The stock exchange has become a fashionable tool for raising capital for most organizations. Investors too have become increasingly aware of the potential of NSE (Jumba 2002). With respect to this therefore, IPO's attract large attention.

Shleifer (1986) observed that in a perfect market, the only issues affecting the share prices should be the fundamentals of the company and its ability to continue maximizing shareholder's value. Unfortunately, in frontier markets there is increased share price volatility driven by sentiment and supply shocks from large IPO's.

Research indicates that though the event is totally anticipated, there is a 1% - 3% drop in the stock price, and a 40% increase in volume, when the IPO period ends (Myers and Majluf, (1984); Harris & Gurel, (1986)). Various explanations point to a downward sloping demand curve for other shares, with the most likely explanation pointing to a permanent, long-run effect resulting from IPOs supply shocks (Kaul, Mohrotra & Morck, 2000).

During IPOs the retail and individual investors liquidate existing shares in order to participate in an IPO. In Kenya, for example , the consecutive IPOs over short intervals of time, barely one year, left majority of the investors seeking either refunds of a previous IPOs or liquidating existing stocks in order to participate in the consecutive IPOs that followed. Eckbo and Masulis (1992) stated that when the shareholders take only a part of the IPO issue due to wealth constraints, there will be a wealth transfer as shareholders shed off their existing stock in the market in order to participate in the IPO offer. Another plausible explanation is that, if the demand curve for stocks is down sloping, increased supplies of stocks from IPOs may also cause negative price movements.

### **1.1.1 Nairobi Stock Exchange**

The Nairobi Stock Exchange (*NSE*) is the principal stock exchange of Kenya. It began in 1954 as an overseas stock exchange while Kenya was still a British colony with

permission of the London Stock Exchange. The NSE is a member of the African Stock Exchanges Association.

The NSE is an example of an emerging stock market that has been characterized by humble beginnings yet has grown considerably over time. It stands out as an average stock market with great potential for growth, one that is making considerable effort to be a more significant driver of economy in Kenya and the East African Region. In 1994 the NSE was rated by the International Finance Corporation (IFC) as the best performing emerging market in the world with a return of 179% in dollar terms, (NSE Reports 2005).

In the past two years (2003 - 2005) it has experienced robust activity and high returns on investment. It accounts for over 90% of market activity in the East African region and is a reference point in terms of setting standards for the other markets in the region. (NSE Reports 2005)

The NSE has three market segments; main investment market segment (MIMS), the alternative investment market segment (AIMS) and the fixed income securities market segment (FIMS). The MIMS is divided into four segments namely;-Agricultural, Commercial and Services, Industrial and Allied and finally the Finance and Investment. The total listing in the MIMS currently stands at 48 listed companies. However; IPO's are only available to companies being listed at MIMS.

The NSE market performance is through the NSE 20-Share Index which has been in use since 1964 and measures the performance of 20 blue-chip companies with strong fundamentals and which have consistently returned positive financial results. This index primarily focuses on price changes for the 20 companies.

In 2008, the Nairobi Stock Exchange All Share Index (NASI) was introduced as an alternative index. Its measure is an overall indicator of market performance. The Index incorporates all the traded shares of the day. Its attention is therefore on the overall market capitalization rather than the price movements of select counters.

### **1.1.2 IPOs in Kenya**

In Kenya, the NSE has witnessed several IPO's in the last 10 years which have had significant impact on the market performance (CMA, 2008). Over the last three years there has been an increase of private and government owned firms approaching NSE to issue new equity for the first time (Nabucha 2008). There have been eight IPOs since the introduction of Central depository System in 2006. This shows a remarkable improvement as compared to the period between 2001 and 2006 when no IPO was floated.

There have been a total of twenty five IPOs in the last twenty five years of which ten were privatization IPOs while fifteen were private IPOs. The first privatization IPO was a successful sale of the government's 20% stake in the Kenya Commercial Bank (KCB) in 1988. The recent June 2008 Safaricom issue where the government offloaded 25% of its shareholding was the largest IPO in the history of Sab-saharan Africa, which was oversubscribed by a massive 432%. Cooperative Bank IPO became short of its fund-raising target but reached a take-up rate of more than 70 percent (CMA, 2008).

IPOs on the Nairobi stock Exchange (NSE) have been successful having been characterized by oversubscriptions. Most of the highly successful public share offerings have been by private enterprises (Boit 2008). IPOs on the NSE have been successful as most of them have been characterized by overwhelming oversubscriptions clearly indicating their potential and popularity (Nabucha 2008). The impact of IPOs can be felt by the market through supply shocks. For example Safaricom limited, registered massive oversubscriptions sending supply shocks into the NSE markets for months in the year 2008. (Mbaru, 2008).

### **1.2 Statement of the Problem**

The reason why IPOs have been the focus of much research is the worldwide trend towards privatizations. Company's can be privatized in a variety of ways such as through

outright sale to another company or via distribution of shares to members of public (Jeckinson & Ljungquist 2001)

The effects on other stocks are known to commence at the end of first month following the IPO because of myopic behavior of investors, who mostly seek short-term returns in a very volatile and inflationary environment. Allocation of shares in an IPO and its size also impact after-market performance of shares. The broader and the more even allocation of shares, the smaller both the long-run effects on prices and the turnover are (Teo & Woo, 2004).

Larrain and Braun (2005a) show how the introduction of a large asset permanently affects the prices of existing assets in a market. They used data from 254 IPOs in 22 emerging markets. They found that portfolios that co-vary highly with the IPO experience a decline in prices relative to other portfolios during the month of the issue. The effects were found to be stronger when the IPO is issued in a market that is less integrated internationally and when the IPO is bigger. This evidence was consistent with the idea that shocks to asset supply have a significant effect on asset prices.

In another publication, Larrain and Braun (2005b) studied the effect of (IPOs) on the prices of other stocks listed in a market. Their focus was on emerging markets in order to explore quantitatively meaningful changes in asset supply. They found that the introduction of a new asset affects the prices of previously existing assets in a market.

Hsu, Reed and Rocholl (2006) analyzed the effect of large IPOs on publicly listed industry competitors. The paper provided evidence that companies experience negative short term stock price reactions to IPOs in their industry. Furthermore the incumbent firms show significant deterioration in their operating performance. The results were consistent with issuing firms having an IPO related competitive advantage over their competitors. The paper identified potential reasons for this gain in competitiveness: financial intermediary certification, the loosening of financial constraints, and the

presence of knowledge capital. Results showed that all of these aspects of competitiveness are significant in explaining the cross section of underperformance as well as survival probabilities for incumbent firms.

The stocks that are normally highly over-subscribed and the amounts of funds locked up are usually large. The purpose of this study is to examine whether there is any significant impact of these IPOs on market turnover. Two periods are examined, namely the impact during the lockup period and the impact during the post-listing period.

In Kenya there is little known research on the effect of IPOs on market turnover. Previous research focused on IPO underpricing (Jumba 2002), (Maina 2005), reasons for going public (Boit 2008), Pricing and performance of IPOs (Nabucha 2008) and performance of IPOs at NSE (Weche 2005). (Nabucha (2008), focused on the performance of IPO and compared between the state owned enterprises and privately owned enterprises. (Kiilu 2006) made a comparison of firm performance of companies before and after going public through NSE. He concluded that the profits first drop in the initial years but rise after the third year.

The previous studies cited concentrated on factors other than IPOs influencing prices of other stocks at NSE. This study therefore, added to the literature by empirically investigating the effects of the eight IPOs on market turnover at Nairobi Stock Exchange from 2006 to 2008.

## **1.5 Importance of the Study**

The study will be important to the following audiences:

### **Capital Markets Authority**

The CMA is in charge of authorizing IPOs in consultation with the NSE. The council would benefit from the findings in ensuring that the pricing of the IPOs before listing

does not send deep supply shocks in the NSE especially where the IPO is too large that its effects are felt several months after listing. This would serve to caution against lack of interest on other stocks during the IPO.

### **Participants in NSE**

Brokers would use the study findings to understand how IPO affects pricing and trading volume of other shares and this would assist them while making decisions on when to buy or dispose shares for a gain. Prospective and existing shareholders may use the findings in making informed investment decisions, particularly with regard to IPOs and how they affect market prices of other stocks.

### **Potential investors.**

This group would use the information to make rational decisions pre and post IPOs when investing in the stocks.

### **Other Researchers /Scholars**

Other researchers would use the study to further their study in this area by reviewing the empirical literature and establishing study gaps to fill.

## **1.4 Objectives of the study**

To determine the price and turnover of other shares during and after the IPO period in order to determine the effects of IPO on the performance of other shares traded at NSE.



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

Initial public offerings (IPOs) have been widely studied in the academic literature. In general, research has shown that IPOs are underpriced and lead to excess short-run returns. The observed variability of returns to IPOs has led to further research seeking an understanding as to whether or not IPOs affect the performance of other listed stocks during the lockup and post IPO listing. In this paper, we will consider the effect of an IPO in relation to the performance of other securities.

This chapter will present a review of related literature on the subject under study presented by various researchers, scholars, analysts and authors. Materials from several sources which are closely related to the theme and the objectives of the study will be sought.

### **2.2 Theoretical Studies**

#### **2.2.1 The IPO Activity**

Most companies choose to public because of 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. Some companies also choose to go public for non financial reasons, such as increased publicity. For a long time IPOs have been the best way for entrepreneurs to raise capital.

Boit (2008) studied the reasons why IPOs go public. Using evidence from the Nairobi Stock Exchange, she concluded that firms go public for various reasons despite the high listing costs incurred.

Some theorists such as Zingales (1995) looked at the motivation of companies going public and observed that it is much easier for a potential acquirer to spot a potential takeover target when it is public. Moreover, 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.

Black and Gilson (1998) point out that entrepreneur often regains control from the venture capitalists in venture capital-backed companies at the IPO. Thus, many IPOs not so much exits for the entrepreneur as they are for the venture capitalists

Lucas and McDonald (1990) developed an asymmetric information model where they argued that firms postpone their equity issue if they know they are currently undervalued. 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.

In Choe, Masulis, and Nanda (1993), advanced in their argument 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)).

### **2.2.2 The Effect of New Issues on the Price of Other Assets**

A change in asset supply cannot have an impact on prices in a world of flat asset demands. However, the underlying assumption behind flat and stable asset demands is that changes are small. As Scholes (1972, p. 182) puts it: “The corporation, which issues additional claims to finance investment, adds to the stock of assets that must be held; but this addition is assumed to be a small percentage of assets. At the time of a new issue

there should be no effect on the market price . . . .” Starting with Shleifer (1986), the subsequent literature on demand curves for stocks has disputed the idea of flat demands, even for small changes, based on the absence of close substitutes and limits to arbitrage.

### **2.2.3 Frictionless model: the capital asset pricing model**

Larrain and Braun (2005a) show by use of a mathematical equation that in the CAPM model, the average effect of the IPO on the market is not necessarily negative, but that the effect depends on whether the IPO has a market beta above or below 1. In other words, the change in the composition of the market is crucial and not simply the change in the size of the market. For instance, the market premium does not change if the IPO beta is equal to 1, which is to say that there is no price change if the market grows in a balanced way by perfectly replicating itself. In general, size is relevant in this model, but to determine the magnitude of the effect and not the sign. Market segmentation can also be understood as another way of varying the relative size of the IPO. In a less segmented market, the relevant market capitalization includes foreign assets, which amounts to the weight of the IPO in the market shrinking. In the extreme case of a fully integrated market where the world market is the reference for the CAPM (Karolyi and Stulz, 2003), any IPO necessarily has a negligible size and therefore the change in expected returns is zero.

### **2.2.4 Downward-sloping demand curves for stocks**

Demand curves for stocks are flat in a frictionless benchmark such as the CAPM. They are downward sloping if there are frictions that restrict arbitrage, indicating that the market has a limited capacity to bear risks and adjust to shocks (De Long et al., 1990; Shleifer, 1986; and Shleifer and Vishny, 1997).

The price of a stock with a positive covariance with the IPO falls, and this effect is magnified by risk aversion and the size of the IPO. Despite the fact that demands are downward sloping, the re-pricing of stocks follows a similar intuition as in the CAPM because both models are models of relative pricing. Any stock is priced in comparison to the rest of the stocks in the market. The portfolio of reference changes when the new stock enters the market, and the covariance with the IPO measures the impact on each particular asset. The effect of the IPO covariance is therefore a property of a broad class of models that use relative pricing and not only of the CAPM. A fall in demand for an individual stock in the CAPM and in the model with downward-sloping demands The IPO shifts the position of the demand in the CAPM, but the demand remains flat. For any given price, (expected return), the market demands zero or infinite of that stock.

In the case of limits to arbitrage, the IPO also shifts the whole demand curve as the market is redefined, but the demand continues to be downward sloping. In other words, the IPO affects the position of the demand curve in both models, leaving the slope of the demand unaffected. Therefore, the effect on the market is most likely negative. Only if the IPO has a negative covariance with the market—which is not common in empirical applications—is the effect on the market then positive. This is almost a direct implication of the limited capacity to bear risk that is assumed in this model.

Shleifer (1986) argues that a permanent stock price indicates a downward-sloping demand curve for the stock. To rule out information effects, Shleifer (1986) analyzes whether the stock's abnormal return is correlated with the firm's bond rating. If the inclusion conveys favorable information, it should be greater for lower-rated bonds than for higher-rated bonds. He finds no significant difference between the two. Kaul, Mehrotra, and Morck, (2000) find permanent stock price changes associated with changes to the weights of firms in the Toronto Stock Exchange 300 Index.

Harris and Gurel (1986) report that price increases are temporary and are quickly reversed. They explain the price change by temporary price pressure effects. Dhillon and Johnson (1991) and Lynch and Mendenhall (1997) also report a temporary component to the price increase.

However, the behavioral literature also argues that investors use “styles” to allocate their wealth and therefore to price assets. For example, Barberis and Shleifer (2003) suggest that investors classify assets using easily observable characteristics such as belonging to the S&P 500 Index or the book-to-market ratio of the stock. We can imagine that investors rebalance their portfolios as an IPO enters the market in order to maintain their desired exposure to different styles. In this process, assets that have a style similar to the style of the IPO are substituted away more strongly than other assets. For example, if there is a downward-sloping demand for “growth” (low book-to-market), a growth IPO can crowd out and lower the price of other growth stocks as we move along the demand curve for growth.

In the tradition of the behavioral literature, the downward-sloping demand can be the result of the interaction of biased investors, who judge assets in comparison to their asset class, and fully rational arbitrageurs, who price assets based on fundamentals. Frictions such as performance-based contracts (Shleifer and Vishny, 1997) and short horizons (De Long et al., 1990) prevent arbitrageurs from driving prices back to fundamentals when style investors buy or sell assets as the IPO enters the market. With frictionless arbitrage, no change in price is observed on the issuance date if agents have rationally anticipated the IPO.

In a model with limits to arbitrage, the effects are probably still seen at issuance. For instance, there is no certainty about the issuance when management announces plans to do it or files for it; rather, the probability of issuance grows slowly in time and reaches its peak only on the actual date of listing. This implies that there is a substantial risk to the

arbitrage strategy of selling short stocks with high IPO covariance and buying stocks with low IPO covariance, which deters arbitrageurs from pursuing it and affecting prices before the date of issuance (De Long et al., 1990; and Shleifer and Vishny, 1997). A similar logic is applied by Ofek and Richardson (2000) to argue that the response to anticipated expirations of IPO lockups is evidence in favor of downward-sloping demands.

Empirically, we expect a negative market reaction to equity issues according to the model with downward-sloping demands, while the market reaction is ambiguous according to the CAPM. These market-wide predictions are independent of the cross-sectional heterogeneity that both models predict (i.e., some prices falling less than others or even increasing). The evidence on market timing—the fact that periods of active issuance precede periods of low market returns—in the United States Baker and Wurgler, (2000) and in the same database that we use in this paper Henderson, Jegadeesh, and Weisbach, (2006) suggests that the market reaction is mostly negative, in favor of a model with downward-sloping demands.

### **2.2.5 Price pressure**

The previous models coincide in that the effect of the IPO comes from a permanent change in the demand for a stock in contrast to transitory price pressure (Harris and Gurel, 1986). The idea of price pressure is that during the period surrounding the IPO, investors need to finance their acquisition of the new stock by selling other stocks, and that market makers are only willing to take the stocks at a discount. It is possible that the degree of the discount is correlated with the IPO covariance if investors sell similar stocks to finance the acquisition of the new asset. However, as investors build up liquidity again, they buy back the shares previously sold and prices rebound to their original level. Therefore, if the initial effect is due to a liquidity shortage, one should

observe larger price increases in those stocks with a high IPO covariance in the period that follows the IPO. The price pressure hypothesis has the unique prediction of price reversal following the main event, or to be more precise, following the abnormal volume produced by the event. This has been the key differentiating prediction in other applications such as index additions Kaul, Mehrotra, and Morck, (2000).

### **2.3 Empirical Studies**

Classical asset pricing models focus on investors' preferences (e.g., risk aversion) to explain the behavior of securities prices. Changes in asset supply, on the other hand, are typically considered to be of second-order importance. In many models, the potential effects of supply are basically assumed away by taking the case where supply is either fixed (e.g., Lucas, 1978) or perfectly elastic (e.g., Cox, Ingersoll, and Ross, 1985).

There has been a recent theoretical interest in relaxing these extreme assumptions to understand the price impact of changes in the relative supply of risks. However, in spite of voluminous research on public offerings, the research on whether supply is relevant empirically, has not been explored. In terms of the level of supply, Hong, Kubik, and Stein (2008) document that market-to-book ratios across the United States are negatively associated with a measure of the state's relative asset supply (the ratio of each state's total book equity to total personal income).

The other papers study changes in supply and, in particular, the price effect of equity issues. For instance, Baker and Wurgler (2000) show that the market price level tends to fall after periods of active issuance. Similarly, Ofek and Richardson (2000) show that an increase in supply through the expiration of initial public offering (IPO) lockups lowers the prices of recent IPOs. There is also evidence of supply effects in the fixed-income market. In an event study, Newman and Rierson (2004), show that a very large bond

issuance of Deutsche Telekom depressed the prices of the bonds of other European telecommunications firms.

Larrain and Braun (2005) extended the analysis of supply effects by studying the impact of IPOs on the prices of *other* assets in the market of issuance. In particular, they conducted event studies of 254 IPOs in 22 emerging markets, and observed that these IPOs permanently affected the entire cross section of prices in their markets. They showed that portfolios that covary highly with the newly added asset experienced a decline in prices relative to other portfolios during the month of the issuance. Securities that were closer to the IPO in terms of style (i.e., similar size and book-to-market ratios) also saw their relative prices decline. These effects are larger when the supply shock was bigger (i.e., when the IPO is large relative to the market, and when the market is more segmented), providing confirmation of the supply mechanism. The magnitudes were considerable: a strategy that took a long position in the portfolio with the lowest covariance with the IPO and a short position in the portfolio with the highest covariance with the IPO yields approximately 70 basis points over the month of issuance.

Larrain and Braun (2005b) studied the effect of (IPOs) on the prices of other stocks listed in a market. Their focus was on emerging markets and they sought to explore quantitatively meaningful changes in asset supply. They found that the introduction of a new asset affects the prices of previously existing assets in a market.

Hsu, Adam and Rocholl (2006) analyzed the stock price, operating performance and survival probabilities of publicly traded companies after a large IPO in their industry. In their paper, they showed that industry competitors experience negative stock price returns around the IPO and have significant deterioration in their operating performance after the IPO. Cross sectionally, they observed that companies perform better and are more likely to survive if they are less leveraged, if their IPO has been underwritten by a top investment bank, and if they spend more on research and development. The results



suggested that IPOs have competitive effects on other companies that operate in the same industry. The evidence in the paper had implications for investors in assessing the risk and return of companies in industries in which there is a high probability of new IPO entrants.

Other studies have looked at the relationship between investor demand for IPOs and aftermarket performance of these firms. Hanley (1993) states that, stocks that are priced above the initial filing range perform very well on the first day in spite of being offered at the higher price, while stocks that are priced below the initial filing range do poorly on the first day thereby affecting other existing stocks in the market.

Studies by Kandel, et al (1999) also document a positive relationship between the demand schedules and the abnormal return on the first trading day for a small (27 IPOs) sample of Israeli IPOs which negatively affected prices of other more price elastic stocks.

Loderer, Cooney and Van Drunen (1991), studied the price effects of stock offerings in regulated firms. Their study focused on cross elasticity's, a quantity change in one asset affecting the price of another asset. They looked at the announcement effects of IPO offerings and established that negative price reactions of other stocks which cannot be explained by the release of information about the firms' fundamentals.

Lee and Poon, (2004) studied the effect of IPOs on market turnover. They found that the impact of the IPOs on market turnover during the lockup period and the post-listing period is inconclusive.

Other researchers such as Espenlaub al (2001) sought to analyze the effect of lock up periods on market turnover. Using a sample of 94 UK IPOs, they analyzed their stock performance around the time of expiry of the lock-in agreements. They also looked at the volume and pattern of directors' sales before and after the expiry of the lock-in agreement. They found that the average cumulative abnormal return around the lock-in expiry was negative and was significantly different from zero. The increase in stock sales

by directors in the weeks immediately after the lock-in expiry is substantial. From their results, the sub-sample of the companies that reported directors' sales in the period of interest had lower negative average cumulative abnormal returns, albeit not statistically significant, than the sub-sample of the companies that had no reported sales.

Brau et al. (1999), Ofek and Richardson (2000), Bradley et al. (2000), Brav and Gompers (2000) and Espenlaub et al. (2001) argued that, at the expiration of the lock-in, on average the abnormal returns should be zero. Chen and Mohan's (1999) findings support these theoretical assertions. They find no abnormal returns around the expiration of the lock-in agreements.

However, some recent findings contradict Chen and Mohan's results. Bradley et al. (2000) examined the stock price behavior around the lock-in expiry for a sample of 2,529 U.S. firms during 1988 to 1997. They report average abnormal losses of 0.74 percent on the day of expiry, with an average cumulative loss of 1.61 percent over the five-day period surrounding the expiry.

In Kenya research has mainly focused on IPO underpricing (Jumba 2002), (Maina 2005), reasons for going public (Boit 2008), observed that most of the highly successful public share offerings are by private enterprises. (Nabucha 2008) looked at pricing and performance of IPOs and performance of IPOs at NSE (Weche 2005). (Nabucha (2008), focused on the performance of IPO and compared between the state owned enterprises and privately owned enterprises. She concluded that companies go public for various reasons. (Kiilu 2006) made a comparison of firm performance of companies before and after going public through NSE. He concluded that the profits first drop in the initial years but rise after the third year.

## **2.4 Summary**

IPOs do not go unnoticed in emerging markets such as Kenya. The sheer size of their transactions attracts the attention of all big investors such as pension funds and

international funds. IPOs are focal points, particularly if they are listed alone during the month, and they can stir the whole market.

Literature further suggests that initial public offerings (IPOs), on average, earn abnormally high initial returns when returns are measured from the offer price to the closing price at the end of the first and second day of trading. Substantial research has focused on the causes of under pricing and the long-run performance of IPOs as a group [Ritter (1991), and Brav and Gompers(1997)].

## **CHAPTER THREE: METHODOLOGY**

### **3.0 INTRODUCTION**

This chapter outlines the methodology that was used in carrying out the study. It covers the research design, population and sampling criteria, data collection methods and data analysis method.

As large amounts of funds are locked up, this may result in shrinkages in market turnover during the lockup period; and on the other hand, when these funds are released, it may raise market turnover during the post-listing period.

### **3.1 Research Design**

A desk research design was used in the study. The research used secondary data to determine and define the causal relationship of the share price and turnover (dependent variables) to the independent variable (effects of IPOs). A descriptive research design was used to analyze the data.

### **3.2 Population**

The population of this study constituted all the 7 IPOs at NSE since 2006. This was because of the upsurge of IPOs during that period as opposed to the earlier years-2000-2005 when they were dormant. The market turnover was used to analyze the performance of other stocks. Data was collected from the stock exchange data reports available from the stock exchange library.

### **3.3 Data Collection**

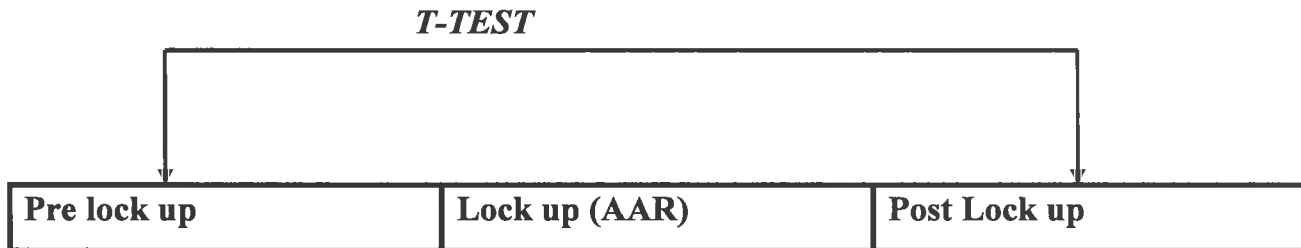
Secondary data from the NSE was used. The NSE was ideal for carrying out the study based on the availability, accessibility and reliability of the data that was used. The researcher referenced records at the NSE and collected data on the stock name, the date of listing, the funds raised, subscription ratio, funds locked up and the market turnover of the sample firms.

### 3.3.1 Lockup period and post-listing period

It is a common market practice for a stock to get listed in approximately twenty to thirty days after the closing of an IPO. The application, allocation and refund (AAR) process takes approximately one to two months. In other words, the funds subscribed to the IPO are locked up for  $n$  trading days, where  $n$  is the exact number of trading days during which the funds are locked. This is referred to in this study as the lockup period.

Turnover during the lockup period is compared with turnover during the pre-lockup period (i.e.  $n$  trading days prior to the lockup period). Some investors may start adopting a wait-and-see attitude even during the pre-lockup period. In other words, the effect of the IPO may kick in earlier than the lockup period and turnover may have slowed down during the pre lockup period. Therefore, a comparison between turnover during the lockup period and turnover during pre lockup is carried out.

**Chart 1: various testing periods that were used in this study.**



Market turnover during the post-listing period (i.e. the first  $n$  trading days of the newly listed stocks) is compared with turnover during the lockup period and turnover during the pre-lockup period.

Market turnover during the post-listing period here does not include the turnover of the new stocks. Hence, the tests are purely on the impact of releasing the lockup funds on the “original” market turnover (i.e. the impact of the newly listed stocks on market turnover is eliminated).

## 4.0 CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

### 4.1 Data Analysis

This study used the T-Test analysis method to analyze data. A t-test is a commonly adopted statistical method to determine whether there is any significant difference between the means of two samples when the sample size is less than 30. For time series analysis, a t-test can be used to test if there is any significant change in the series over different sample periods (when the number of observations in the sample is less than 30). Therefore, in this study, the t-test was conducted to verify whether the change in market turnover during different periods was statistically significant.

In this study, T-test has been applied assuming unequal variances to determine whether there is any significant difference in market turnover of Pre-Lockup, Lockup and Post-Listing periods. This will help in concluding that the IPO of that particular company had significance influence on Market turnover. However, if no significant difference is found then inference can made; either the market has enormous capacity that IPO announcement does not have any effect on it, or prospective investors are not relying on the capital market as they are keeping huge funds to be invested.

#### 4.1.2 Tested Hypotheses

For the t-test, the set of hypotheses to be tested in the Pre-lockup, lockup, and Post-IPO period at 5% level of significance are as follows:

$$H_0 : \mu TURNOVER_{PRE\_IPO} = \mu TURNOVER_{POST\_IPO}$$

$$H_a : \mu TURNOVER_{PRE\_IPO} \neq \mu TURNOVER_{POST\_IPO}$$

H0: There is no significant difference in total turnover value of the Pre-IPO and the Post-IPO periods.

Ha: There is a significant difference in total turnover value and in the Pre-IPO and the Post-IPO periods.

## 4.2 Findings

As shown in the table below, the results show that out of 7 IPOs, at a 0.05 level of significance only 1 IPO had a significant impact on the turnover of the NSE consistently throughout the three periods. 3 other IPO's had some significant impact on two of the three periods and another 3 IPO's had no significant impact at all. Impact of IPO's was most in the year and 2006, there was less impact in the IPO's of 2007 and no impact in the 2008 IPO's. No relationship is found between the size of the IPO and the effect on turnover.

Stock Name	Date of listing	Average daily turnover during the listing month	Prelockup and Lockup <i>p value</i>	Lock up and Post Listing. <i>p value</i>	Prelock up and Post listing <i>p value</i>
Kengen	18/5/06	322,465,341.68	<b>0.002</b>	0.118	<b>0.001</b>
Scan group	29/8/06	411,633,479.11	<b>0.013</b>	<b>0.047</b>	0.641
Eveready East Africa	18/12/06	276,231,643.58	<b>0.002</b>	<b>0.000</b>	<b>0.000</b>
Access Kenya	6/4/07	280,012,694.05	0.164	0.705	0.341
Kenya-re	27/8/07	420,752,966.40	0.335	<b>0.015</b>	<b>0.004</b>
Safaricom	6/9/08	338,355,492.00	0.528	0.256	0.348
co-operative bank	22/12/08	621,094,875.00	0.347	0.438	0.501
<b>BOLD ITALICIZED P VALUES INDICATE SIGNIFICANT EFFECT</b>					

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS FOR FURTHER RESEARCH**

### **5.1 Summary and Conclusion**

Over the last three years there has been an upsurge of IPO activity. The reason for this popularity is because of the worldwide trend towards privatization. The IPOs at the NSE have been successful and have been characterized by massive oversubscriptions indicating their potential as well as the popularity. When there are new IPOs in the market, the question that comes is how the investors show interest towards IPOs; whether they mobilize their investments from the secondary market to the IPO seek alternative sources other than liquidating their existing securities and whether because of such fund mobilization, if the transaction volumes face any pressure. This paper tries to find out the answer whether because of investors interest towards IPO creates a pressure on the performance of other stocks at the Nairobi Stock Exchange (NSE)

Most studies analyze the performance of companies around their Initial Public Offerings (IPOs). This study focused on returns on pre-IPO, during and after an IPO. This research found that the size of the IPO has no role to influence the market turnover.

The statistical results show that the impact of the IPOs on the NSE is not conclusive. This leads the study to reject the assumption that NSE variables such as the market turnover are functions of IPOs. Other variables such as the IPO under pricing and market capitalization could have an influence on the performance of other stocks. The results suggested that either the market had enormous capacity that the IPO announcement did not have any effect on it, or the prospective investors did not rely on the capital market as they kept huge funds to be invested.



The results also suggest that the NSE is sufficiently efficient to hold large IPO volumes as the number of IPOs in the period of the study was relatively large and high but still there was no significant on the market turnover. The pattern observes leads one to conclude in the earlier years there was excitement over the IPO's but this has reduced to relatively low levels. These findings can be a policy guideline to the CMA and NSE.

## **5.2 Limitations of the study**

During the testing periods, there were instances where there was more than one IPO. As the impact of one IPO may not be isolated from the other, this could have affected the testing results. In addition, there could also be factors other than price level that could have caused the changes in market turnover.

The other limitation was the fact that this study used only one variable; the market turnover. The use of more than one variable such as market capitalization and the NSE 20-share index could perhaps have given different results.

## **5.3 Recommendations for further research**

Further studies should focus on the effect of IPOs on other variables such as market capitalization and the prices of existing assets in a market. The research should study the effect of supply on the prices of existing assets.

Further studies could also be done to assess the role of information and its effect on the prices of secondary equity offerings. The study should examine the informational externalities of going public decisions by firms on existing publicly traded firms.

Research can also be done to find out the source of investor liquidity during the IPO periods.

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## APPENDICES

### Appendix 1: Listed Companies Listed At Nairobi Stock Exchange

	Company /segment
	<b>Agricultural</b>
1	Kakuzi
2	Rea vipingo
3	Unilever tea
4	Sasini
	<b>Commercial and services</b>
5	Car and general
6	CMC holdings
7	Hutchings Biemer(suspended)
8	Kenya airways
9	Marshals east Africa
10	Nation media group
11	Scan group (quoted 2006)
12	Standard group
13	Tps serena
14	Uchumi supermarkets(suspended)
15	Access kenya limited (quoted in 2007)
	<b>Finance and investments</b>
16	Barclays bank
17	Cfc bank
18	Diamond Trust
19	Equity bank
20	Safaricom Limited (quoted in 2008)
21	Housing finance
22	Centum Investment

23	Jubilee insurance
24	KCB bank
25	National Bank
26	NIC Bank
27	Pan African Insurance
28	Standard Chartered
29	Cooperative Bank (quoted 2008 )
	<b>Industrial and allied</b>
30	Athi river mining
31	BOC Kenya(suspended)
32	Bamburi
33	BAT- Kenya
34	Carbacid (suspended)
35	Crown berger
36	E A cables
37	E. A Portland
38	E.A breweries
39	Eveready East Africa (quoted 2006)
40	Kenol
41	Kenya power and lighting
42	Kengen (quoted 2006)
43	Mumias Sugar Company
44	Olympia capital holdings
45	Sameer group
46	Total Kenya
47	Unga limited
48	Kenya-re (quoted 2006)



## APPENDIX 2: T-TEST RESULTS FOR THE IPO ISSUES

### KENGEN

#### COMPARING PRE LOCK UP AND LOCK UP PERIODS

	<i>PRE LOCKUP</i>	<i>LOCKUP</i>
Mean	164694640.8	255217746.8
Variance	9.76376E+14	3.31275E+16
Observations	24	46
Hypothesized Mean Difference	0	
Df	50	
t Stat	-3.28179524	
P(T<=t) one-tail	0.000942465	
t Critical one-tail	1.675905026	
P(T<=t) two-tail	0.001884929	
t Critical two-tail	2.008559072	

#### COMPARING LOCK UP AND POST LISTING PERIODS

	<i>LOCKUP</i>	<i>POST LISTING</i>
Mean	255217746.8	322465341.7
Variance	3.31275E+16	9.96403E+15
Observations	46	10
Hypothesized Mean Difference	0	
Df	24	
t Stat	-1.623105142	
P(T<=t) one-tail	0.058815363	
t Critical one-tail	1.710882067	
P(T<=t) two-tail	0.117630726	
t Critical two-tail	2.063898547	

#### COMPARING PRE LOCK UP AND POST LISTING PERIODS

	<i>PRE LOCKUP</i>	<i>POST LISTING</i>
Mean	164694640.8	322465341.7
Variance	9.76376E+14	9.96403E+15
Observations	24	10
Hypothesized Mean Difference	0	
Df	10	
t Stat	-4.89913265	
P(T<=t) one-tail	0.00031196	
t Critical one-tail	1.812461102	
P(T<=t) two-tail	0.000623921	
t Critical two-tail	2.228138842	

**SCAN GROUP****COMPARING PRELOCK UP AND LOCKUP PERIODS**

	<i>PRELOCKUP</i>	<i>LOCKUP</i>
Mean	3.93E+08	3.25E+08
Variance	6.54E+15	1.25E+16
Observations	23	30
Hypothesized Mean Difference	0	
Df	51	
t Stat	2.576656	
P(T<=t) one-tail	0.006457	
t Critical one-tail	1.675285	
P(T<=t) two-tail	0.012913	0.05
t Critical two-tail	2.007584	

**COMPARING LOCK UP AND POST LISTING**

	<i>LOCKUP</i>	<i>POSTLISTING</i>
Mean	3.25E+08	4.12E+08
Variance	1.25E+16	1.34E+16
Observations	30	11
Hypothesized Mean Difference	0	
Df	17	
t Stat	-2.14349	
P(T<=t) one-tail	0.023416	
t Critical one-tail	1.739607	
P(T<=t) two-tail	0.046832	
t Critical two-tail	2.109816	

**COMPARING PRELOCK UP AND POST LISTING**

	<i>PRELOCKUP</i>	<i>POST LISTING</i>
Mean	3.93E+08	4.12E+08
Variance	6.54E+15	1.34E+16
Observations	23	11
Hypothesized Mean Difference	0	
Df	15	
t Stat	-0.4754	
P(T<=t) one-tail	0.320676	
t Critical one-tail	1.75305	
P(T<=t) two-tail	0.641353	
t Critical two-tail	2.13145	

**EVEREADY****COMPARING PRE LOCK UP AND LOCKUP**

	<i>PRELOCK UP</i>	<i>LOCKUP</i>
Mean	7.31E+08	5.25E+08
Variance	5.68E+16	3.22E+16
Observations	21	29
Hypothesized Mean Difference	0	
Df	36	
t Stat	3.333565	
P(T<=t) one-tail	0.000997	
t Critical one-tail	1.688298	
P(T<=t) two-tail	0.001995	
t Critical two-tail	2.028094	

**COMPARING LOCK UP AND POST LISTING**

	<i>LOCKUP</i>	<i>POST LISTING</i>
Mean	5.25E+08	2.76E+08
Variance	3.22E+16	7.45E+15
Observations	29	7
Hypothesized Mean Difference	0	
Df	20	
t Stat	5.334945	
P(T<=t) one-tail	1.6E-05	
t Critical one-tail	1.724718	
P(T<=t) two-tail	3.2E-05	
t Critical two-tail	2.085963	

**COMPARING PRE LOCK UP AND POST LISTING**

	<i>PRE LOCK UP</i>	<i>POST LISTING</i>
Mean	7.31E+08	2.76E+08
Variance	5.68E+16	7.45E+15
Observations	21	7
Hypothesized Mean Difference	0	
Df	26	
t Stat	7.408909	
P(T<=t) one-tail	3.62E-08	
t Critical one-tail	1.705618	
P(T<=t) two-tail	7.23E-08	
t Critical two-tail	2.055529	

**ACCESS KENYA****COMPARING PRE LOCKUP AND LOCK UP PERIODS**

	<i>PRELOCKUP</i>	<i>LOCKUP</i>
Mean	306080363.6	2.7E+08
Variance	7.09551E+15	8.58E+15
Observations	20	30
Hypothesized Mean Difference	0	
Df	43	
t Stat	1.416752201	
P(T<=t) one-tail	0.081879954	
t Critical one-tail	1.681070704	
P(T<=t) two-tail	0.163759907	
t Critical two-tail	2.016692173	

**COMPARING LOCKUP AND POST LISTING PERIODS**

	<i>LOCKUP</i>	<i>POST LISTING</i>
Mean	270217278.6	2.8E+08
Variance	8.58006E+15	4.03E+15
Observations	30	11
Hypothesized Mean Difference	0	
Df	26	
t Stat	-0.383381794	
P(T<=t) one-tail	0.352276829	
t Critical one-tail	1.705617901	
P(T<=t) two-tail	0.704553658	
t Critical two-tail	2.055529418	

**COMPARING PRE LOCKUP AND POST LISTING PERIODS**

	<i>PRELOCK UP</i>	<i>POST LISTING</i>
Mean	306080363.6	2.8E+08
Variance	7.09551E+15	4.03E+15
Observations	20	11
Hypothesized Mean Difference	0	
Df	26	
t Stat	0.970422205	
P(T<=t) one-tail	0.17038892	
t Critical one-tail	1.705617901	
P(T<=t) two-tail	0.340777839	
t Critical two-tail	2.055529418	

**KENYA RE****COMPARING PRE LOCK UP AND LOCK UP PERIODS**

	<i>PRELOCKUP</i>	<i>LOCKUP</i>
Mean	308624417.8	330146846.8
Variance	5.01305E+15	7.51536E+15
Observations	21	30
Hypothesized Mean Difference	0	
Df	48	
t Stat	-0.973050343	
P(T<=t) one-tail	0.16770328	
t Critical one-tail	1.677224197	
P(T<=t) two-tail	0.335406559	
t Critical two-tail	2.010634722	

**COMPARING LOCK UP AND POST LISTING PERIODS**

	<i>LOCKUP</i>	<i>POSTLISTING</i>
Mean	330146846.8	420752966.4
Variance	7.51536E+15	9.29383E+15
Observations	30	11
Hypothesized Mean Difference	0	
Df	16	
t Stat	-2.737600198	
P(T<=t) one-tail	0.007300701	
t Critical one-tail	1.745883669	
P(T<=t) two-tail	0.014601403	
t Critical two-tail	2.119905285	

**COMPARING PRE LOCK UP AND POST LISTING PERIODS**

	<i>PRELOCK UP</i>	<i>POST LISTING</i>
Mean	308624417.8	420752966.4
Variance	5.01305E+15	9.29383E+15
Observations	21	11
Hypothesized Mean Difference	0	
Df	16	
t Stat	-3.406274519	
P(T<=t) one-tail	0.001806012	
t Critical one-tail	1.745883669	
P(T<=t) two-tail	0.003612024	
t Critical two-tail	2.119905285	

## SAFARICOM

### COMPARING PRE LOCK UP AND LOCK UP PERIODS

	<i>PRELOCKUP</i>	<i>LOCKUP</i>
Mean	391970564.5	463788381.4
Variance	4.28749E+16	3.19639E+17
Observations	21	30
Hypothesized Mean Difference	0	
Df	39	
t Stat	-0.637373408	
P(T<=t) one-tail	0.263802976	
t Critical one-tail	1.684875122	
P(T<=t) two-tail	0.527605951	
t Critical two-tail	2.022690901	

### COMPARING LOCK UP AND POST LISTING PERIODS

	<i>LOCK UP</i>	<i>POST LISTING</i>
Mean	463788381.4	338355492
Variance	3.19639E+17	1.22654E+16
Observations	30	11
Hypothesized Mean Difference	0	
Df	34	
t Stat	1.156190835	
P(T<=t) one-tail	0.127831461	
t Critical one-tail	1.690924198	
P(T<=t) two-tail	0.255662922	
t Critical two-tail	2.032244498	

### COMPARING PRE LOCK UP AND POST LISTING PERIODS

	<i>PRELOCK UP</i>	<i>POST LISTING</i>
Mean	391970564.5	338355492
Variance	4.28749E+16	1.22654E+16
Observations	21	11
Hypothesized Mean Difference	0	
Df	30	
t Stat	0.954268195	
P(T<=t) one-tail	0.1737872	
t Critical one-tail	1.697260851	
P(T<=t) two-tail	0.347574399	0.05
t Critical two-tail	2.042272449	

## CO-OPERATIVE BANK

### COMPARING PRE LOCK UP AND LOCK UP PERIODS

	<i>PRELOCKUP</i>	<i>LOCKUP</i>
Mean	251494596.2	188036662.2
Variance	9.61229E+15	1.16791E+17
Observations	18	30
Hypothesized Mean Difference	0	
Df	36	
t Stat	0.953736568	
P(T<=t) one-tail	0.173288728	
t Critical one-tail	1.688297694	
P(T<=t) two-tail	0.346577456	
t Critical two-tail	2.028093987	

### COMPARING LOCK UP AND POST LISTING PERIODS

	<i>LOCK UP</i>	<i>POST LISTING</i>
Mean	188036662.2	621094875
Variance	1.16791E+17	1.24619E+18
Observations	30	5
Hypothesized Mean Difference	0	
Df	4	
t Stat	-0.86074355	
P(T<=t) one-tail	0.218957518	
t Critical one-tail	2.131846782	
P(T<=t) two-tail	0.437915035	
t Critical two-tail	2.776445105	

### COMPARING PRE LOCK UP AND POST LISTING PERIODS

	<i>PRELOCK UP</i>	<i>POSTLISTING</i>
Mean	251494596.2	621094875
Variance	9.61229E+15	1.24619E+18
Observations	18	5
Hypothesized Mean Difference	0	
Df	4	
t Stat	-0.739538184	
P(T<=t) one-tail	0.250315304	
t Critical one-tail	2.131846782	
P(T<=t) two-tail	0.500630609	
t Critical two-tail	2.776445105	