

**EFFECT OF SUBSCRIPTION RATE ON INITIAL PUBLIC OFFERINGS  
PERFORMANCE AT THE NAIROBI SECURITIES EXCHANGE**

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REQUIREMENTS FOR THE AWARD OF MASTERS OF BUSINESS  
ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI**

**November, 2014**

## DECLARATION

### Student Declaration

This research project is my original work and has not been presented for examination to any other university

Signature..... Date.....

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D61/70792/2008

### Supervisor Declaration

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

Signature ..... Date.....

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## **DEDICATION**

This research project is dedicated to my dear departed friend Jim Asume Ochola who was and still is a source of inspiration to many in this generation.

## **ACKNOWLEDGMENTS**

It would not be possible to complete this project without the guidance and assistance of specific individuals. I would like to acknowledge God almighty for the bringing me this far. I would also like to acknowledge my parents Wycliffe Swanya and Priscilla Swanya for their constant encouragement and support and their visionary leadership. I am deeply indebted to you.

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## ABSTRACT

Factors that affect IPO performance both in the long run and in the short run have been researched on extensively. Underpricing is the term that is commonly used to describe first day gains or returns of an IPO. Under pricing is the difference between first trading price and the IPO offer price. The focus of the study was to determine the effect of IPO subscription rate on IPO performance in terms of first day trading gains at the NSE .This study analyzed nine IPO's that took place from 2006 to September 2014 which was considered as the most active years in the NSE reflecting both bearish and bullish markets. Data was collected and regression analysis was used. The general results of the study were consistent with the findings in the literature review that there is a positive relationship between IPO subscription rate and IPO performance. The study found that the average subscription rate of IPO's was 375.4% which was an increase from 272.49 % as found by a study conducted by Mwathi(2013).An earlier study that had been carried out by Cheluget( 2008) had found the average subscription rate to be 291.08%.Average first day gains for the IPO's in the study was found to be 67.67% .This was an increase compared to a similar study carried out by Cheluget (2008) who had found average first gains to be 40.28%.The average rate of 67.67%o is high compared to more developed exchange markets. This is consistent with findings by (Loughran, Ritter, and Rydqvist, 1994) who established that level of underpricing is particularly high in emerging markets.Ibbotson( 1975) found that the short-run performance of IPO's in the US showed an average first day return of 11.4% .Paudyal (1996) found that IPO,s in the UK IPOs recorded an initial return of 38.7%.Studies have shown that initial returns for IPO in emerging markets for Malaysia, Korea, and Brazil are on average 80%.Empirical evidence shows that China before 2005 had the highest initial return in the world markets with returns that range from 200% to 900% . The study established and confirmed that the IPO subscription rate has a positive relationship with IPO performance in terms of first day gains. Pre IPO demand has an effect on the IPO first day performance which was in line with findings by Yong (2007) and Cheluget( 2008).

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## **ABBREVIATIONS**

**IPO** –Initial Public Offering

**NSE**-Nairobi Securities Exchange

**US**-United States of America

**UK**-United Kingdom

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## **CHAPTER ONE: INTRODUCCION**

### **1.1 Background of the Study**

Organizations prefer to raise capital through equity than debt as the capital raised does not have to be repaid and return on the investment to investors is at the organization's discretion, whereas debt securities such as bonds must be repaid with interest and have a time limit on the repayment period. In Kenya the first IPO was by the Kenya Commercial Bank in 1988 followed by National Bank of Kenya 1994, Kenya Airways 1996. In 2006 there were three IPO's for Kengen, Eveready and Scan Group. In 2007, there were two companies that offered their stocks to the public namely Kenya Re and Access Kenya. In 2008 there was the Safaricom and Co-operative bank IPO. The latest IPO has been that of the Nairobi Securities Exchange in 2014.

The IPO process is a long and costly one and involves a lot initial investment in anticipation of higher returns. It is very time consuming as it takes a lot of planning and is subject to the approval of the Capital Markets Authority. It also involves a lot of other players who need to be remunerated irrespective of whether the IPO is a success or not. These include the company investors both retail and institutional, stock brokers, underwriters, investment banks, lead advisors, advertising agencies and regulators.

Owing to the recent popularity of the IPO's in Kenya, banks have come up with IPO's loans for investors. The IPO loans are usually given at an interest rate of 15 per cent, plus commitment charges which range between one and three per cent. Investors take these loans hope to get a return on their investments either through huge first day gains, dividends or by proceeds through gradual increase of the share price in the long run.

Advertising agencies can make huge profits as companies market and publicize themselves in order to attract investors. The goal of a public offering usually is to price the security issue at the exact price at which all the issued shares can be sold to investors, so there will be neither a shortage nor a surplus of securities (Barber and Odean, (2001).

The biggest stake holders are affected by an IPO's outcome are the issuing company, the underwriters of the IPO and stock brokers. Success for an issuer is to collect their targeted capital. Advisors, regulators advertising firm, lawyers' fees are not dependent on the outcome of the IPO. These need to be paid whether the IPO is a success or not. Stock brokers point of view success of an IPO is based on the amount of money they collect from investors who subscribe to the IPO (Chopra, Lashonik and Ritter, (1992).

IPO's have been associated with huge first day gains which signals under pricing and a lot of researches have conducted various studies evidencing underpricing. Underpricing is the percentage difference between the price at which IPO shares were sold to investors and the price at which shares subsequently trade in the market.(Ljungqvist(2007).

Investors are driven by investor sentiment and behavioral finance theories have been used to explain why investors behave the way they do. Behavioral finance is a field of finance that proposes psychology based theories to explain stock market variances. It takes into account knowledge of psychology social sciences to explain irrational investor behavior that cannot be explained by traditional finance theories. Contrary to expected utility theory, people place different weights on gains and losses and on different ranges of probability (Tversky and Kahneman, 1979). They found that individuals are much more distressed by prospective losses than they are happy by equivalent gains. This is the prospect theory.

This could be used to explain why there was under subscription of the Co operative bank British American IPO right after the Safaricom IPO as the investors expectations were not met

### **1.1.1 IPO Subscription**

IPO subscription is defined as an offer by an investor to purchase soon to be issued shares that have been floated to the market to enable a company to raise capital. Usually there is a minimum number of shares that an investor must apply for.

Based on the offers received by investors, shares are allocated on the basis of availability. Investors view success if they get 100% allocation of the shares they have applied for and if there are first day gains where the share trading price is higher than that of the IPO price.

An oversubscription is where investors apply for more shares than are available. The success for an issuer is to collect and surpass the targeted amount of capital. Investopedia describes oversubscription as a case where there is more demand for a public offering than there is supply. According to Investopedia this means that a higher price could have been charged and the issuer could have raised more capital.

Oversubscriptions are usually viewed as a success in the eyes of the issuer the and the underwriters. Ruud,(1991 and 1993)and Schultz and Zaman,(1994)show that underwriters encourage companies to issue equity below their intrinsic value in order to ensure an over-subscription. This also reduces the risk an underwriter bears.

An under subscription is when the issuer collects less than the targeted amount meaning that not enough funds are received during the IPO open period. This is usually associated with lack of investor confidence which is linked to investor subscription. Underwriters usually look for

investors to purchase these stocks and sometimes are forced to take up stocks that have not been taken up by the public.

A failed IPO for issuers happens when the IPO is undersubscribed, projecting a likely drop in price after listing (Dreman and Lufkin, (2000).This was seen in the case of the British American IPO where there was drop in the price on the first day of trading.

### **1.1.2 IPO Performance**

IPO's are usually associated with huge first-day gains which are also considered as abnormal returns and leads .First day gains are described as the difference between the first day trading price and the IPOs price.

Positive initial returns are known as underpricing.Jones and Swaleheen (2010) define under pricing as the percentage profit from the offered share price to closing price of shares at the end of the first day of listing .Chan,(2010) defines IPO performance, which is under pricing as the percentage difference between the first day closing price in the secondary market and the offering price at which the shares were sold in the primary market

Where the first day trading price is higher than then IPO price, the investor is said to have made a first day gain and the investment is viewed as a success in the eyes of the investor. Should the investor decide to sell the investment on the first day of trading in cases where price is lower than the IPO price the investor will make a loss on the investment.

### **1.1.3 IPO subscription and IPO performance**

Subscription of an IPO is considered as one of the contributing causes of IPO performance. Studies have shown that oversubscription has a significant and positive impact on the first day trading price of an IPO. This study aims to show this.

First day gains are usually associated with IPO underpricing. Ljungqvist (2005) defines IPO underpricing as the percentage difference between the price at which IPO shares were sold to investors and the price at which the shares subsequently trade in the market.

### **1.1.4 The Nairobi Securities Exchange**

The Nairobi Securities Exchange was formed in 1954 and is the fourth largest in Africa in trading volumes and the fifth largest in market capitalization. There are two indices that are used to measure performance in the Nairobi Securities Exchange. One is the NSE 20 share index that measures the performance of 20 blue-chip companies with strong fundamentals and which have consistently returned positive financial results. This focuses on the price changes for the twenty companies. The second one is the Nairobi Securities Exchange All Share Index (NASI) which uses the overall market performance. Its attention is therefore on the overall market capitalization rather than the price movements of select counters.

In July 2014, the NSE opened its IPO at NSE. A total of 17,843 investors participated in the IPO and the IPO was oversubscribed by 663%. The NSE is now the second exchange in Africa that is self-listed. The Johannesburg Stock Exchange was the first to list itself in Africa.



## **1.2. Research Problem**

Studies have been carried out on how investor demand affects IPO first day performance. The last study was conducted in 2008 where majority of the IPO's had been issued in a bullish market with few IPO's being undersubscribed More IPO's have since taken place at the NSE .

This study will contribute to existing literature and expand on previous studies on IPO performance by examining if IPO subscription rate has any effect on the first day trading gains of IPO's as at September 2014.

## **1.3 Objective of the Study**

The objective of the study is to analyze how IPO Subscription rate affects IPO performance at the NSE as at September 2014 and to contribute further evidence found by Cheluget(2008)

The study will measure the IPO performance in Kenya and determine the relationship between IPO subscription and IPO performance in terms of first day gains

## **1.4 Value of the Study**

Through this study, it is hoped the organizations will be take into account pre IPO investor demand as measure of IPO first performance.

The study will add to existing literature on the relationship between IPO subscription rate and under pricing and will form the basis on further research the same.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter provides the literature review of the theoretical framework where several theories that have been used to explain IPO under pricing which is a representative of IPO first day gains. The theories are discussed and explained. The chapter also consists of empirical studies on the effect of IPO subscription rate and IPOs performance at the NSE and other security markets worldwide.

### **2.2 Theoretical Framework**

IPO's are generally underpriced to ensure that they are fully subscribed. Evidence of IPO under pricing has been observed. When the secondary market for the IPO opens, it has been observed that the IPO price increases to even more than double resulting in abnormal first day gains for investors. There are several theories that have been used to explain IPO underpricing. This chapter will look at two main theories.

#### **2.2.1 Winners Curse Theory**

In order to ensure that IPO's are fully subscribed, IPO's are underpriced in order to lure uninformed investors into the market. A fixed number of shares are sold at a fixed offering price, during rationing will result if demand is unexpectedly strong. Less informed investors will only submit purchase orders if, on average, IPO's are underpriced sufficiently to compensate them for the bias in the allocation of new issues if demand is unexpectedly strong. This was a theory according to Rock (1986) which states that investors have different information about the fair value of the shares. Uninformed investors subscribe to every IPO while informed investors only buy new shares if the issue price is less than the fair value. This results in a winner's curse for the uninformed investors. IPO's must therefore be offered at a discount to attract uninformed

investors in the market because none of the informed or uninformed investors have enough money to fully subscribe to the initial public offering.

### **2.2.2 Bandwagon Theory and Herd Behavior**

Bandwagon effects are likely to occur when potential investors pay attention not only to their own information about a new issue, but also as to whether other investors are purchasing the same issue. If an investor sees that no one else wants to buy a certain stock, the investor may decide not to buy the stock even when there is favorable information. In order to mitigate this, the issuer of the IPO will under price an issue in order to induce the first few potential investors to buy, and induce a bandwagon, or cascade, in which all subsequent investors want to buy irrespective of their own information. In Kenya there are extensive media campaigns by the issuing company to create awareness and demand on IPO's so as to attract investors to purchase shares to ensure that issues are fully subscribed.

The bandwagon theory has also been explained through the behavioral finance theory of herd behavior. Banerjee (1992) found that investors sometimes act the same way as the majority of a group to feel safe and avoid conflicts, instead of basing their decisions and behavior on their beliefs and available information. Investors may invest in equities just because everyone is doing so or fail to invest in an equity because others are not investing in the equity.

### **2.3 Determinants of IPOs Performance**

An IPO's aim is to sell a pre-determined number of shares to the public at the best possible price so as to ensure that the target capital is collected. Investors will require a return on the investment and this can either be through first day gains, dividends or long term capital gains where the stock is held for long periods and sold at a price above its purchase price. Apart from

the macro economic variables which affect post trading at the NSE and share prices, studies have found the following that the following pre- trading factors also have an effect on IPO first day returns of shares.

### **2.3.1 Offer Price**

Offer price of an IPO is the price at which a company sells its shares to investors. It can also be defined as the price paid by the institutional investors who commit before the IPO to buy shares at the offer price. Most investors expect to buy shares at a low price and sell the shares at a high price. When setting the offer price the lead underwriter must ensure that the price they set will attract investors .Studies carried out have found a positive relationship between offering price and aftermarket returns at the NSE. Mukiria (2010) found a positive relationship between the offering price and the probability of a successful IPO. Ritter (1998) defines “ownership dispersion hypothesis” as “IPO firms may deliberately under price the shares for the purpose of generating additional demand and as a result there will be able to attract a large number of smaller shareholders.

The lead underwriter for the IPO sets the offer price based on the bank's analysis of the company's value and the projected demand for its shares. In the days before the IPO, the banks and brokerage firms which will receive the shares ask their customers about the interest in the shares at the projected price. The offering price is set in the last couple of days before the IPO. Money left on the table is the total number of shares sold times the first day price gain. When there is money left on the table, it means that the IPO would have raised more capital by offering a higher price for the IPO.

### **2.3.2 Size of Offer**

A study carried out by Abdul Rahim and Yong (2010) on Malaysian IPO's established that initial return was driven by the size of the IPO. They analyzed 289 IPO's that had taken place between 2004 and 2013 found that IPO size determinant of IPO performance.

Once the price of IPO is set, the numbers of shares that will raise the desired capital are determined. Investors are required to apply for a minimum number of shares. At the NSE, a portion of shares is set aside for employees of the organization. Depending on if the owners want to dilute the ownership of the company of the desired level of ownership a portion may be set aside for institutional investors.

### **2.4 Empirical Review**

Empirical studies both local and global have been conducted to analyze the relationship between IPO performance and IPO subscription. A study by Moko (1995) conducted a study to investigate the relationship between offering price and the subscription rate of initial public offerings at the NSE. The study looked at IPO's that had taken place between 1984 and 1994. His results found that there was evidence of underpricing at the NSE and the underpricing had an influence on the rate of subscription.

Cheluget (2008) looked at the relationship between investors demand for IPO's and first day performance. He analyzed IPO's at the NSE for the period 1984 and 2008 and used a quadratic regression model to determine a relationship between demand for IPO's and first day

performance. He found that there is a positive relationship between investor demand and first day performance.

Mwathi (2013) analyzed the relationship between on the subscription rate of IPO's and long term performance of IPO's at the NSE. Subscription rate was measured in monetary terms. He analyzed twelve IPO's that happened at the NSE between the years 1992 and 2009 and used a regression model to determine the relationship between IPO performance and IPO subscription. The study established a weak positive relationship between IPO subscription rate and the long term performance.

Bansal and Khana (2012) did a study to measure the relationship between subscription and underpricing. They used a regression model and studied IPO's listed in the Bombay exchange between April 1999 and December 2012. The results showed that there is positive link between the retail subscription and IPO first day gains which signals the degree of underpricing.

Booth and Chua (1996) modeled and tested the correlation between underpricing and ownership dispersion. Their studies found a positive relation between underpricing and oversubscription and suggest information asymmetry hypothesis should be introduced into the model to make the empirical results more sensible.

Yong( 2007) conducted a study on the relationship between investor demand ,size effect and the immediate post listing behavior of Malaysian IPO.'s A regression model was used to analyze 277 IPO's listed in Bursa Malaysia from January 2004 to December 2010. The results showed that there was a significantly positive correlation between investor subscription ratio and the first day price spreads.

Agarwal, Chunlin and Ghon (2003) sought to identify the relationship IPO performance and investor demand for the IPO. They used a regression model to analyze 256 IPO's that took place at Hong Kong Stock market between the periods 1993 to 1997. Their study found that IPO's with high demand were associated with high initial returns and IPO's with low demand were associated low initial returns. They concluded that investor demand is positively correlated with first day returns.

## **2.5 Summary of Literature Review**

This chapter highlighted the findings of previous researches done established the subscription rate affects IPOs performance. This aim of this study will be to examine effect of subscription rate from 2006 to September 2014 and expound on previous studies that had analyzed the effect of subscription rate up to 2008.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter outlines the research methodology that was used in the research project. This section summarizes the research design, population of the study, the sample and sampling frame, data collection and data analysis techniques.

### **3.2 Research Design**

Research design is a plan outlining` techniques and strategies on how information is to be gathered for an assessment or evaluation that includes identifying the data gathering method, the instruments to be used, how the instruments will be administrating and how the information will be organized and analyzed (Lawrence et al., 2012). A descriptive study obtains information about the current status if a phenomena and describes what exists with variables or conditions in a situation. The study used a descriptive study to determine the relationship between IPO performance and IPO subscription rate. Data collected was analyzed using multiple regression .

### **3.3 Population**

The population of the study was all the nine IPO's that had taken place at the NSE at during the period January 2006 to September 2014( Appendix D),

### **3.4 Sample**

The sample size was the same as the population of the study .All nine IPO's that had taken place at the Nairobi Securities Exchange from January 2006 to September 2014 formed the sample size of the study.



### 3.5 Data Collection

The study used secondary data .Data was derived from the Nairobi Securities Exchange, financial journals and the Capital Markets Authority Statistical Quarterly reports, prospectuses from the companies that participated in the IPO's.

### 3.6 Data Analysis

Data was analyzed using SPSS .The data collected was quantitative in nature. Descriptive statistics including means, standard deviations were used to analyze the data. The analyzed data was presented by way of tables and graphs. Regression analysis was used to determine the relationship between the variables.

In measuring the effect of IPO subscription on IPO performance at the NSE the study adopted the following model;

$$Y = \alpha_0 + \alpha_1 \text{SUBS} + \alpha_2 \text{IPO Offer price} + \alpha_3 \text{IPO Size} + \varepsilon$$

Where:

Y = IPO performance

SUBS=Subscription ratio of the IPO

IPO offer price=Price offered for IPO

IPO size=Number of shares issued

### **IPO Performance**

Performance of an IPO will be measured on the basis of first day trading gains where

$$Y = \frac{(P_1 - P_0)}{P_0}$$

$P_0$

Where:  $P_1$  = First day trading price of IPO

$P_0$  = IPO subscription price

### **Subscription Rate of the IPO**

SUBS = Number of shares applied for

Number of shares offered

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter highlights the finding of the study and explains the findings of the study in depth.<sup>9</sup>

IPO's were analysed, regression analysis , means and standard deviation were used

#### 4.2 Data Presentation

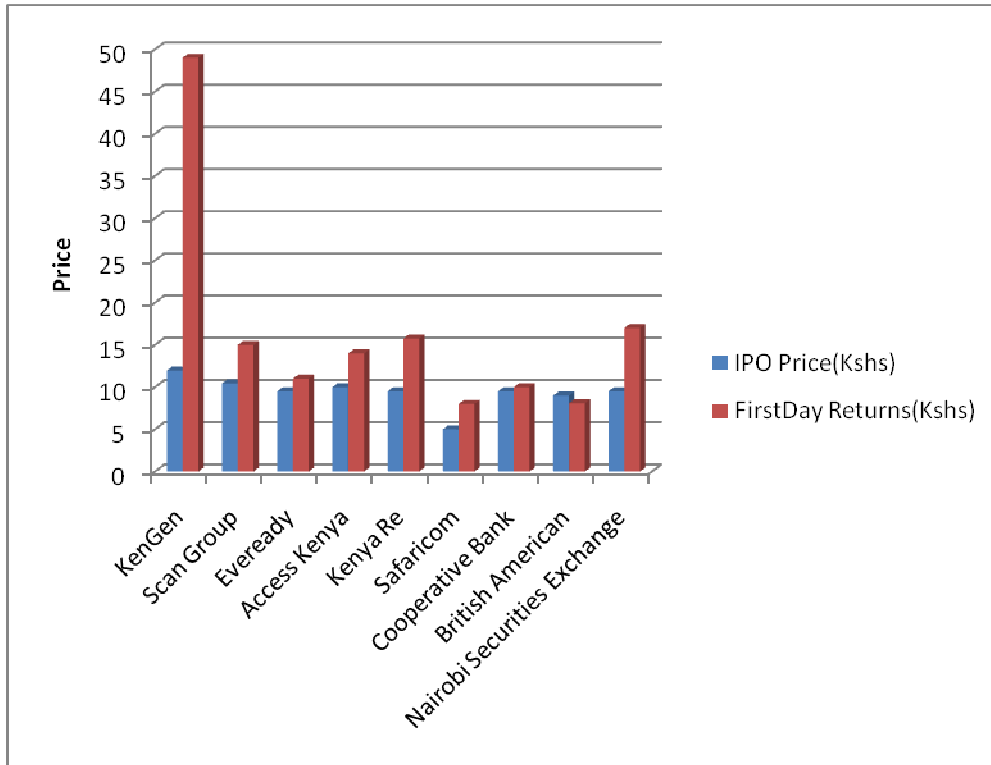
This section presents all data that was analyzed and computed together with the interpretation of the data.

##### 4.2.1 IPO Performance

**Table 4.1: IPO First Day Percentage Gains**

Year	Company	IPO Price(Kshs)	First Day Trading Price (Kshs)	First Day Percentage Gains
2006	KenGen	11.96	49	309.70 %
2006	Scan Group	10.45	15	43.54%
2006	Eveready	9.5	11	15.79%
2007	Access Kenya	10	14	40.00%
2007	Kenya Re	9.5	15.75	65.79%
2008	Safaricom	5	8	60.00%
2008	Cooperative Bank	9.5	10	5.26%
2011	British American	9	8.1	- 10.00%
2014	Nairobi Securities Exchange	9.5	17	78.95%

**Figure 4.1: IPO First Day Percentage Gains**



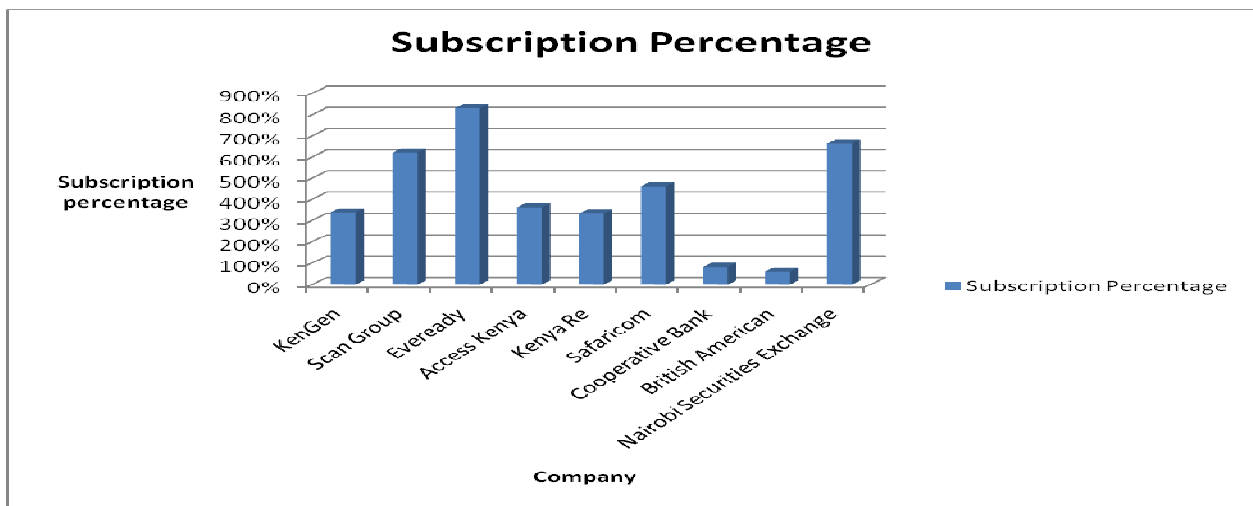
The average increase in price for the IPO's held from January 2006 to September 2014 was Kshs 7.08 . 8 out of the 9 IPO's recorded positive first gains.Kengen had the highest price increase of Kshs 37 and Cooperative Bank had the lowest price increase of Kshs 0.50.British American had negative first day gains with a price drop of 0.50. Average percentage first day gains for the nine IPO's was 67.67 %.Out of the 8 IPO's that recorded first day positive gains Kengen had the highest first day gains with 309.70% while Cooperative Bank had the lowest first day gains of 5.26%.British American recorded negative first day gains of negative 10%.

### 4.2.2 Subscription Rate

**Table 4.2: Subscription Percentage of IPO's in Kenya from 2006 to 2014**

Year	Company	Subscription Percentage
2006	KenGen	340%
2006	Scan Group	620%
2006	Eveready	830%
2007	Access Kenya	363%
2007	Kenya Re	334%
2008	Safaricom	463%
2008	Cooperative Bank	81%
2011	British American	60%
2014	Nairobi Securities Exchange	663%

**Figure 4.2 Subscription Percentage of IPO's in Kenya from 2006 to 2014**



**Source: Research findings and Capital Markets Authority**

7 out of the 9 IPO's that were analyzed were oversubscribed. Two IPO's that were undersubscribed, British American and Cooperative Bank IPO. The average subscription percentage for the IPO's under the period under review was 375.4% with Eveready having the highest subscription percentage and British American having the lowest subscription percentage.

#### 4.2.3 Offer Price

**Table 4.3: Offer Price**

<b>Year</b>	<b>Company</b>	<b>IPO Price(Kshs)</b>
2006	KenGen	11.96
2006	Scan Group	10.45
2006	Eveready	9.5
2007	Access Kenya	10
2007	Kenya Re	9.5
2008	Safaricom	5
2008	Cooperative Bank	9.5
2011	British American	9
2014	Nairobi Securities Exchange	9.5

**Source: Research findings**

**Figure 4.3: Offer price of IPO's in Kenya from 2006 to 2014**



The average offer price of the IPO's reviewed under the period was Kshs 9.3 with the lowest offer price being that of the Safaricom IPO of Kshs 5 and the highest being that of Kengen of Kshs 11.96.

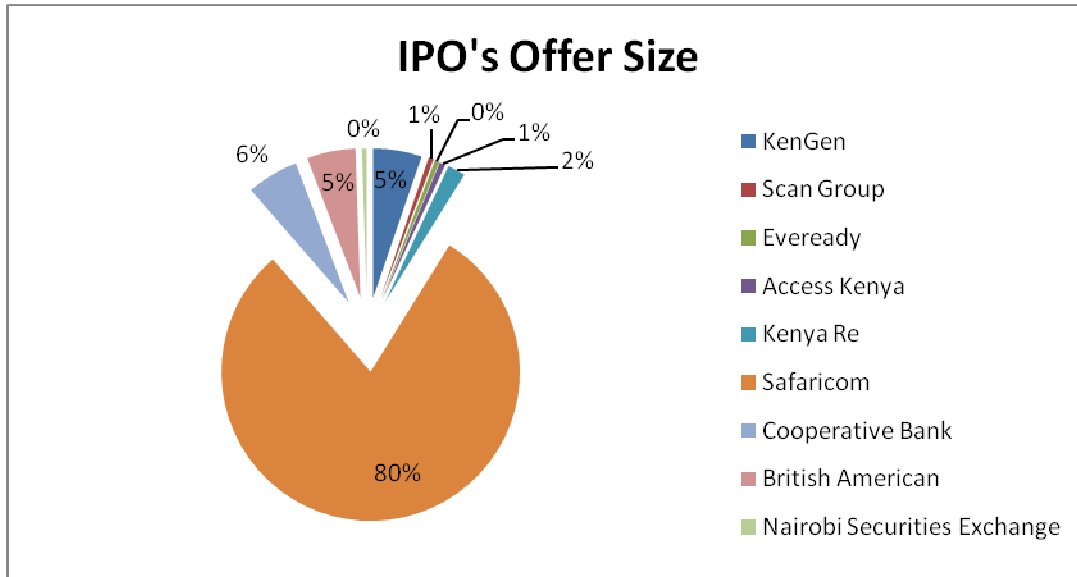
#### 4.2.4 Offer Size

**Table 4.4: Offer Size**

Year	Company	Offer Size
2006	KenGen	658,900,000
2006	Scan Group	69,000,000
2006	Eveready	63,000,000
2007	Access Kenya	80,000,000
2007	Kenya Re	240,000,000
2008	Safaricom	10,000,000,000
2008	Cooperative Bank	701,000,000
2011	British American	660,000,000
2014	Nairobi Securities Exchange	66,000,000

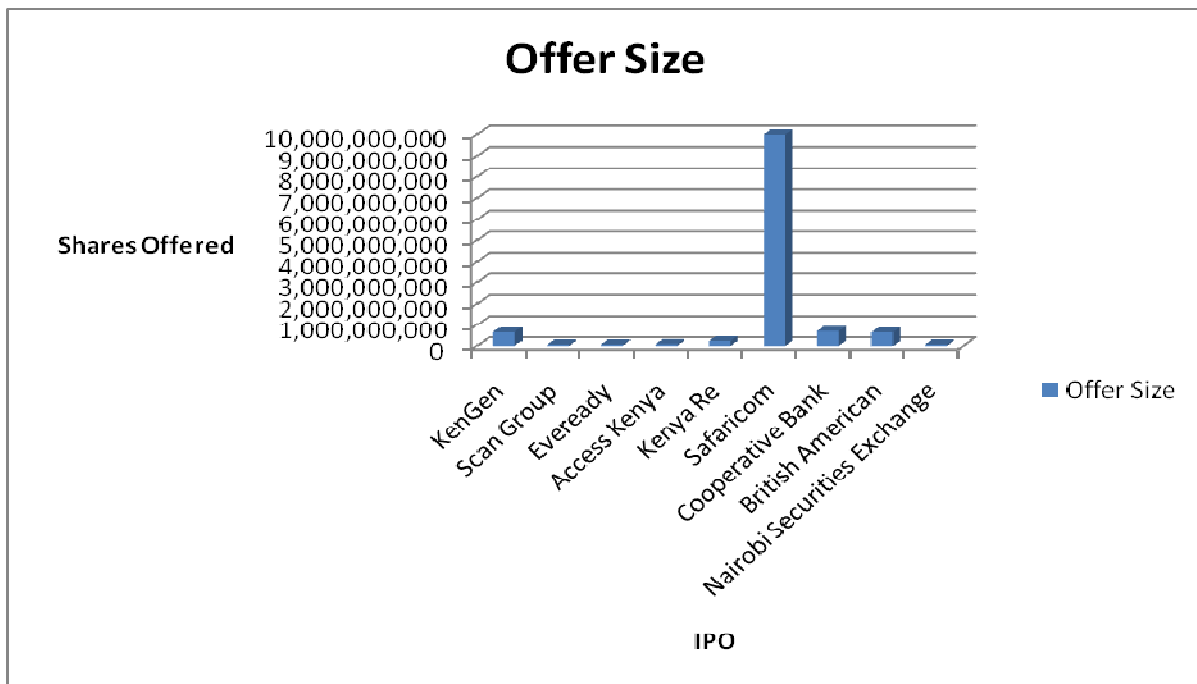
**Source: Research findings**

**Figure 4.4 Offer Size**



Safaricom’s IPO accounts for 80% of the total shares offered in the IPO from 2006 to September 2014. The remaining 8 IPO’s account for 20%.

**Figure 4.5: Offer size of IPO’s in Kenya from 2006 to 2014**





Average offer price of the IPO's reviewed under the period was Kshs 9.3 with largest offer being of the Safaricom IPO with 10 billion shares and the smallest being that of the Eveready IPO with 63 million shares on offer.

#### 4.2.5 Regression Analysis

Multiple regression was used for statistical analysis with the dependent variable being IPO performance and independent variables being subscription rate, offer price and offer size.

**Table 4.5: Regression statistics**

<i>Regression Statistics</i>	
Multiple R	0.91
R Square	0.83
Adjusted R Square	0.72
Standard Error	50.12
Observations	9.00

As per the observations, the Pearson product moment of correlation=0.909. R-square measures the proportion of the variation in the dependent variable that was explained by variations in the independent variables square of 0.723 indicates that the independent variables influence IPO performance at the NSE up to 72.3 per cent. This means that 72.3 per cent of the variations of the dependent variable have been explained by the explanatory variations and only 26.7 per cent of the variations are unexplained and are taken care of by the error term. The regression model is therefore a good fit.

Variance analysis was also performed in order to test the significance of the model. The confidence level for the regression was 95%. The p value of 0.02 which is less than 0.05 indicates that the study established a relationship between the dependent and independent variables. This implied that the independent variables used together reliably predicted the dependent variable.

**Table 4.6: Analysis of Variance**

ANOVA

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	6017 6.2	2005 8.7	7.985 84	0.0236251 53
Residual	5	1255 8.9	2511. 79		
Total	8	7273 5.2			

**Source: Research findings**

**Table 4.7: Regression Coefficient Matrix**

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-914.07	202.48	-4.51	0.01	-1,434.55	393.59
Offer Size	0.05	0.01	4.26	0.01	0.02	0.08
Offer Price	96.34	19.70	4.89	0.00	45.69	146.98
Subscription rate	2.70	6.89	0.39	0.71	-15.00	20.40

**Source: Research findings**

A simple summary of the above output is that the fitted line is

$$Y = -914.070 + 0.05X_1 + 96.34X_2 + 2.7X_4$$

**Test of Statistical Significance**

The coefficient of offer size estimated standard error is 0.01 , t-statistic is 4.26 and the p-value is 0.01. It is therefore not statistically significant at significance level of 95% as p-value < t-statistic.

The coefficient of offer price estimated standard error is 19.70, t-statistic is 4.89 and p-value is 0.00. It is not statistically significant at a significance level of 95% as p-value < t-statistic. The

coefficient of subscription rate has a standard error of 6.89, t-statistic of 0.39 and p-value of 0.71. It is therefore statistically significant at significance level of 95% as  $p\text{-value} > t\text{-statistic}$ .

#### **4.3 Summary and Interpretation of Findings**

From the data analysis above it can be seen conclusively seen that where the IPO's was undersubscribed there was a drop in first day trading price or a very insignificant increase in the first price. This can be seen in the case of the British American IPO where the IPO price was Kshs 9 and the first day trading price was Kshs 8.1. This is in line with a study carried out by Dreman and Lufkin, (2000) who established that the first day price for an undersubscribed IPO would be lower than the IPO offer price. The Cooperative Bank which was undersubscribed did not record a drop in price, however it recorded the lowest increase in initial returns in the study. The IPO gained on the first day by Kshs 0.50.

The results also show that there is evidence of underpricing of IPO's at the NSE and this has been evidenced by the positive first day returns for 8 out of the 9 IPO's that were analyzed. This is in line with studies carried out by Mbiti (2013)

People overweight long-term averages and tend to put too much weight on recent experience. If there has been an ongoing trend of share prices of stock returns, investors assume that these returns are normal and they therefore assume that this trend will continue. This is the recency theory of behavioural finance which was established by Goldberg J. and Von Nitzsch R., (2001). They show that if there have been an ongoing trend of share prices of stock returns, investors

expect the trend to continue although the market fundamental may portray otherwise.. This explains the constant oversubscriptions of IPO's from the Kengen IPO to the Safaricom IPO. The under subscription of the British American IPO can also be explained by the recency theory. The Cooperative Bank had a subscription rate of 81% and first day gain percentage of 5.26% which was the lowest out all the IPO's that had been conducted from 2006. Based on this experience investors assumed that this trend would continue and therefore leading to the under subscription of the British American IPO.

The average first day returns rate of 67.67% is in line with empirical studies that found emerging markets have a high rate of average first day returns. Studies gave found that average first day returns for emerging markets is 80%.

A study carried out in Hong Kong by Yu ,Zhang and Yan ( 2011) established that investor sentiment plays an important role in abnormal returns on IPO's at the Taiwan Stock Exchange. IPO's that are issued during periods of high investor sentiment when investors are confident will be over subscribed. Investors are encouraged to issue IPO's when investors are optimistic about a stock in order to lower their cost of capital. Where there is investor confidence, the IPO's show an abnormal returns. This explains why the oversubscription of the 7 IPO's lead to the high positive initial returns while the undersubscription resulted of the 2 IPO's resulted in low and negative first day returns.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Summary

Based on the results of the data analysis, it can be concluded that IPO's subscription rate has an effect on the IPO performance. Out of the 9 IPO's, 7 IPO's were oversubscribed with an average subscription rate of 375%. All 7 the oversubscribed IPO's recorded positive first gains with an average first day return of 67.67%. Out of the 2 undersubscribed IPO's, one recorded very minimal first day positive gains while another recorded negative first day gains.

The results of this study are consistent and in line with empirical studies that show that IPO subscription rate which is also an indication of IPO demand has a positive relationship with IPO first day gains. The study is similar to those that have been carried out by Agarwal, Chunlin and Ghon (2003), Cheluget (2008) and Mwathi (2013). Offer size has no significant relationship effect IPO performance which is contrast with studies carried out by Abdul Rahim and Yong(2010),

#### 5.2 Conclusion

The objective of the study was to find out the effect of the subscription rate on IPO performance at the NSE for the period January 2006 to September 2014. The results of the study showed that subscription rate had an effect on first day gains. IPO's that had been oversubscribed between period had positive first day gains. The Britam IPO that had been undersubscribed had negative

first day gains. There is a significant positive relationship between IPO subscription rate and IPO performance.

Based on the study it can be concluded the subscription rate has an effect on IPO performance at the NSE. Oversubscribed IPO's will have positive first day gains where as undersubscribed IPO's will have negative first day gains. The study is line with previous studies carried out by Cheluget (2008) and Mwathi (2013) at the NSE that established subscription rate has a positive correlation on first day trading gains for IPO's at the NSE.

It is also worthwhile to note that while first day gains can make a quick and huge return for investors, the first trading is a very short period to measure performance of a stock as shares prices have been known to eventually escalate over a period of time. Rational investors would not judge IPO performance based on first day gains only, investors should therefore look at the long run when considering their participation in IPO's.

### **5.3 Recommendations to policy and practice**

Based on the results of this study, I recommend that stock broking houses ,investment advisors and investor protection agencies educate and sensitize investors on long term gains of investing in IPO's and that guaranteed long term gains are expected from stocks. Lack of first day gains should not discourage investors from participating in subsequent IPO's .

Companies issuing IPO's should strive to ensure that IPO's are oversubscribed as this as established by the study has been seen to have a direct correlation with the rise in share price of the company during the first day of trading. An increase in price boosts investor confidence in the share and can lead to a further increase in share price has been seen to guarantee a rise in the share price of the company in the first day of trading.

IPO issuing companies should ensure appropriate timing of their IPO's taking into consideration whether a previous IPO has been oversubscribed or undersubscribed as this has been seen to affect investor sentiment which in turn has an effect on demand for securities.

#### **5.4 Limitations of the study**

The primary limitation of the study was the sample size of the study .The sample size consisted of a total of 9 IPO's which have taken place in the NSE in the last 8 years. Similar studies that have been conducted had larger sample sizes.A similar study carried out in Hongkong used a sample size of 256 IPO's that had taken place over a 4 year period.Another similar study that had taken place in Malaysia had a sample size of 277 IPO's that had taken place over a six year period.

Another limitation of the study was the use of subscription percentage as measure of subscription rate. A better measure of subscription rate would be the number of times one share is demanded by investors. Information on the exact number of investors who participated in a particular IPO is not publicly available .This is because different companies use different stock broking house as lead underwriters for their IPO's. Information on the number of investors who participate in



IPO's is maintained in the share registry of the different stock broking houses and is not made by publicly available. Other sources of this information like the press only give approximations of the number of investors who participated in the IPO's.

The study assumed that the IPO's were all issued under the same economic and political condition which was not the case. It did not take into account the different macro economic conditions that were prevailing at the time the IPO's were issued. IPO's issued in 2008 were issued at a time of political instability and rising inflation rates .

### **5.5 Suggestions for further studies**

A further research is recommended to determine what economic variables affect the subscription rate of IPO's the NSE .The study can look at several economic factors and their relationship with subscription of IPO's that have been issued at the NSE.

Further research can be carried out to determine what other factors have an effect on IPO performance in terms first day gains. This study only looked at subscription rate, however there are other factors that affect first day gains and IPO performance.

Studies should be carried out to determine what influences the behavior of individual investors at the NSE to oversubscribe or undersubscribe IPO's. The study should look at behavioural finance theories that affect individual investors when participating in IPO's at the NSE. The study can look at what drives individual investors to oversubscribe or undersubscribe an IPO.

A further study is recommended on the same relationship but in the Johannesburg Securities exchange. The NSE and Johannesburg Securities Exchange are the only two self listed security markets. The research can compare the findings with the local findings Once more IPO's have taken place at the NSE , the same study can be expanded on but taking into account all IPO's from 1984.

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## APPENDICES

**Appendix I: Table showing the listed companies that were sampled for this study.**

	<b>Name of Company</b>	<b>Year of IPO</b>
1	KenGen	2006
2	Scan Group	2006
3	Eveready East Africa Ltd	2006
4	Access Kenya Group Ltd	2007
5	Kenya Reinsurance Corporation Ltd	2007
6	Safaricom Ltd	2008
7	Cooperative Bank Ltd	2008
8	British American Ltd	2011
9	Nairobi Securities Exchange	2014

**Appendix II: Table showing IPO Price, Subscription percentage and first day trading price**

<b>Company</b>	<b>IPO Price(Kshs)</b>	<b>Subscription Percentage</b>	<b>FirstDay Trading Price (Kshs)</b>
KenGen	11.96	300%	49
Scan Group	10.45	520%	15
Eveready East Africa Ltd	9.5	800%	11
Access Kenya Group Ltd	10	300%	14
Kenya Reinsurance Corporation Ltd	9.5	334%	15.75
Safaricom Ltd	5	532%	8
Cooperative Bank Ltd	9.5	70%	10
British American Ltd	9	60%	8.1
Nairobi Securities Exchange	9.5	663%	17