**An analysis on the**

**Long term performance of Initial Public Offerings in the Nairobi Stock Exchange.**

**Ladha, Jay Kaushik 84401**

**Submitted in partial fulfillment of the requirements for the Degree of Bachelor of Business Science in Finance at Strathmore University.**

**Strathmore Institute of Mathematical Sciences**

**Strathmore University**

**Nairobi, Kenya.**

**November, 2017.**

This research project is available for library use on the understanding that it is copyright material and that no quotation from the research project may be published without proper acknowledgment.

## DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the Research Project contains no material previously published or written by another person except where due reference is made in the Research Project itself.

© No part of this Research Project may be reproduced without the permission of the author and Strathmore University

JAY KAUSHIK LADHA ..... [*Name of Candidate*]

..... [*Signature*]

6th November 2017 ..... [*Date*]

This Research Project has been submitted for examination with my approval as the Supervisor.

Mary Wanza Kiplamai ..... [*Name of Supervisor*]

..... [*Signature*]

6/11/17 ..... [*Date*]

Strathmore Institute of Mathematical Sciences

Strathmore University

ACKNOWLEDGEMENTS

I would like to thank my supervisor for the faith that she had in me and for imparting her wisdom to me, Thank you Mrs. Mary Mutinda.

I would also like to acknowledge my friends and family, without whom this project would have been finished earlier.

# ACRONYMS

1. IPO- Initial Public Offerings.
2. NSE- Nairobi Stock Exchange.
3. CMA- Capital Markets Authority.
4. DCF- Discounted Cash Flow.
5. OFS- Offers For Sale.

ABSTRACT

There have been a number of studies carried out that have tried to determine the long term performance of IPOs. The three key issues these studies try and dwell on is the long run underperformance, short term underpricing and the hot issue market phenomena. The effects of the financial crisis of 2007-2008 was felt strongly in America. However there were small ripple effects that spilled over in to countries like Kenya. The studies carried out with regard to the above three phenomena in relation to IPOs and post financial crisis period have been scanty and not entirely conclusive. This project will help the IPO literature, by providing proof on two of the three above mentioned anomalies. The study documented evidence supporting the undisputed underpricing of IPOs at the NSE as compared to the closing first day trading price of the IPOs. With respect to the first phenomena, which was the long run underperformance, the results are mixed in the sense that the study concludes that there is no visible regularity when computed against the market benchmarks. The study also proves through the use of wealth relatives that the IPOs are performing similarly to the market on their 5th anniversary to the market.

Table of Contents

# Chapter 1: Introduction

## 1.1 Background.

The global financial crisis was technically caused due to a combination of debt and mortgage backed assets. Right after the Second World War, prices in the United States of America have been steadily rising, (statistics, 2014). In the mid-2000s, mortgages worth billions of dollars were given to individuals with poor credit ratings at adjustable rates.

Prodigious investment banks such as Bear Sterns and Lehman brothers were in peril as they held large positions on the sub-prime mortgages. The situation got worse and Lehman Brothers had to file for bankruptcy. Many firms had to be bailed out while others needed a takeover. The largest insurance company (AIG) had succumbed to the financial crisis and sought for bail out while Merrill Lynch was taken over by bank of America. The effects were seen in the stock market. The industrial average for the Dow Jones fell by around 30% in the course of the following 2-3 weeks.

It is true that African countries had not been severely affected by the Global Financial Crisis based on the fact that African markets did not hold many positions on the risky securities but they are tied to these foreign economies through trade deals.

Kenya was exposed to the crisis due to the fact that most of its exports such as tea, coffee and flowers are to countries that were affected by the crisis like the USA. The recession in 2008 in America and parts of northern Europe could have resulted in a reduction in the demand for Kenyan exports. There are many Kenyans who live in USA and Northern Europe and who send money back home. This money is assumed to be invested in the Kenyan market. The recession cut down the disposable income for the expats living abroad and hence the amount they sent would decline, reducing investment in the Kenyan economy.

Capital requirements shape the future of a company. There are two common ways a firm can raise this capital to support expansion or even simply just to meet monetary demands in their ongoing projects. The two methods are acquiring debt and issuing shares

publicly. Now this does not mean that privately owned companies have no shareholders, but they are few and hence have a limited capability. Issuing an Initial Public Offering (IPO), seems like a logical idea for companies as it stands to make more capital with a diversified number of shareholders in which normally, not one single public shareholder has a controlling interest. Research findings have however indicated that using the net income approach a firm that is fully financed via debt is more likely to have a higher value than one with a full equity funding, (Durand, 1959).

"Kenya is emerging as one of Africa's key growth centers with sound economic policies in place for future improvement" according to Diarietou Gaye, the World Bank's Country Director for Kenya (2015). This is attributed to the thousands of industries that support its economy every day. Many of these large companies have not issued out IPOs.

The guide to listing on the NSE explains that there are three key reasons for getting listed. That is:

i. To raise funds for expansion and growth without interest payments to lending institutions from which they would borrow a sum.
ii. To improve the liquidity of their securities
iii. To inform and market its products to the public.

A company could enlist first using an IPO in which the general public could subscribe to the shares by Offer for Sale (OFS). OFS is either done using a fixed price or through tendering methodology. The shares could also be put up for private placement where key investors are first identified and shares are put aside for their investment. There may be shareholders in a private company who wish to sell and buy more of the company shares. Enlisting provides a market for existing shareholders to conduct transactions using these shares.

Most SMEs in Kenya start off as family owned businesses but shun away from the concept of listing on the NSE, (Waitathu, 2015). There has been an increase in private equity funds over the years. Private equity is simply composed of funds and investors who are willing to invest in a company directly (Mwaniki, 2016). They are also used to

complete an acquisition or rather a buyout of a public company which directly results in the delisting of the company. The latest of these trends is happening with the listed stock of Marshalls. "Marshalls also owns 50 per cent of Associated Vehicle Assemblers located in Mombasa, Kenya's largest and most successful vehicle assemblers. The success of the company is based on the excellent reputation of its range of products for quality and reliability in the tough conditions of Africa. The strength of Marshalls' marque is allied to our unrivalled back-up service network. This means that in every class in which the company competes, our products are consistently the clear market leaders," as seen on their webpage. Marshalls is a subsidiary of the Marshall Group headquartered in Cambridge. Private equity funds have deduced that it is easier to seek strategic investors for when they choose to divest from a selected company as they consider the process of listing as unnecessarily expensive. In a move to make listing more appealing the CMA reduced its licensing fees in March 2017. The new payment methodology states that companies have to pay a maximum Sh30 million when they seek an approval to go public, down from 0.15 per cent of the total value of the offer (Anayanzwa, 2015). Kenya has seen a dry spell of IPOs in the last 15 years shown in a study carried out by the CMA. They claim that only eleven firms have been able to offer the public there shares in the last 15 years. Many of these firms also complained about over regulation, high licensing fees and the fact that the NSE was known for its bad publicity. The Chief Executive of NSE, Geoffrey Odundo claimed that the recent decision by the Government to introduce capital gains tax also contributed to the reason why firms were dismissing listing options. The eleven IPOs that were issued totaled of 15.54 billion shares offered to the public raising only KShs 73.28 billion. The eleven companies that did enlist are Mumias Sugar Company, Kenya Electricity Generating Company (KenGen), ScanGroup, Eveready East Africa, Kenya Reinsurance Corporation (Kenya Re), Safaricom, Co-operative Bank of Kenya, British American Investments Company (Britam), the Nairobi Securities Exchange itself, which self-listed in 2014, African Lakes and AccessKenya. The last two from the eleven delisted from the NSE in 2003 and 2013 respectively.

According to Juma (2016) there are six potential steps in the process of an IPO and they

are simply,

1. Bank hiring. The company has to hire an investment bank. The investment bank will then help the company to focus on the financial needs as well as the projected finances that are likely to be raised.
2. Submitting documents to Nairobi Security Exchange. The NSE is the agency that is mandated with the regulation of stock trading as well stock exchanges in Kenya. The documents are meant to explain the business of the company, the risks that are prone to happen and how the company is going to protect the investors.
3. Handing out the preliminary prospectus. This is a document that lists the estimated price range for one share of the company's stock.
4. Going on a road show. This is now making the interests and the intentions of the company to go public known to the potential investors. Most companies, however, instead of going on a road show, they use the media to reach out to potential investors.
5. The agency mandated with the regulations of the stocks makes the statement public and gives a go ahead for the purchases to be made.

Jumba (2002), noted that there was a problem with the long term performance of the stock for a company as they tend to perform poorly. His study reveals that the returns for the sample he chose of 9 listed companies in NSE from 1992-2000 was a mere 0.06% for the first three years after the company decides to go public.

## 1.2 Problem Statement.

Initially this study was undertaken to establish whether or not there was underpricing of the shares when initially offered to the public and the long term under or over performance of these IPOs listed on the NSE. Ndatimana (2008) dealt with this problem

regarding securities issued during the years up to 2008. He was building on what Jumba (2002) had worked on by including a bigger sample and using more statistical methodology. However, there is a gap regarding the effects the Financial Crisis has had on the Kenyan Stock Markets, with little to no developments seen in the recent years.

While this study builds on what Ndatimana, (2008) did by using the Market Adjusted Buy and Hold returns methodology, this study will use a more recent sample of companies ranging from 2008-2016. In contrast Ndatimana used a sample of 15 companies from 1992-2007. The idea of using less companies but more recent ones is that the economic environment has changed recently with respect to investment in shares. Back when Ndatimana (2008) did his research the financial crisis of 2008-2009 was not taken into account. The financial crisis confounded with the 2007-8 post election violence in Kenya had an immediate effect on Kenya's currency where the shilling depreciated by 3%-9% in a span of one month relative to the dollar, (McCormick, 2008). This event happened right after the post-election violence of 2007. Kenya was taking on hits and it would be safe to assume that these affected the stock market. Furthermore it was observed that during this period of the financial crisis the stock markets in North America, Europe and most of the Asia pacific region had fallen by over 30% since the start of 2008. Companies in East African countries also took a hit in the value of their stock as the stock markets fell by 27% in Kenya and 21% in Uganda between September 1 and November 30, (Wanjohi, 2011). Also from looking at the eleven companies that did Issue out shares in the last 15 years we can notice how they lie on extremes.

This study examines performance of companies based on five year period to get an understanding on whether the public issuing of shares benefits the long term performance of these companies.

## 1.3 Research Objective.

1. To determine whether the IPOs listed on the NSE are underpriced or overpriced.
2. To evaluate the three to five year performance of IPOs in Kenya from 2008-2016

(post financial crisis).

1.4 Research Questions.

1. How do companies perform financially in the first five years after their first IPO post 2008 financial crisis?
2. Are companies listed on the NSE, post financial crisis, underpriced or overpriced with their Initial offerings?

1.5 Significance of the study.

This study adds on to the knowledge in the scholastic community on understanding the performance of IPOs in Kenya by considering a period of high volatility in 2007-08 which witnessed the global financial crisis and Kenya's Post-election violence.

This study will help investors willing and able to invest in the NSE listed companies with a guideline on the long term performance of the stock and the effects of the financial crisis on their long term performance and hence investors will be able to make a rational decision.

Likewise, regulatory authorities shall benefit from this paper as they shall be able to deduce the performance of IPOs in Kenya, their success rates and the effects global financial crisis has on the stock exchange. This is also true for brokers and underwriters. The regulatory authorities will also benefit by better understanding the cause of inefficiency in the market.

Companies who have not listed on the NSE can also benefit from this paper seeing the benefits or disadvantages of listing on the NSE.

# Chapter 2 Literature Review.

## 2.1 The Advantages and Disadvantages of Issuing Shares to the Public.

In the 1998 article in the journal of finance by Pagano, Panneta, & Zingales (1998), there were benefits and costs of listing on the stock exchange that were clearly explained as follows:

### 2.1.1 The benefits of Issuing Shares to the Public.

The most obvious advantage one would be able to think was the fact that the company finds itself an alternative to borrowing. This is extremely advantageous to companies that have plans of expansion and will have a high capital need in the future. This is a simple way to get an alternative to bank borrowing and high interest rates. This was one of the advantages stated that by Pagano et al (1998). The second advantage that was stated in their paper was that companies would choose to go public in order to increase their bargaining power with banks. They simply predicted that the companies facing a higher interest rate have few sources from which they can obtain credit, the companies will be more willing to go public with the exception of credit becoming cheaper. You see by penetrating the stock market and allowing for free flow of information to the public a firm can extract completion from outside sources and this in turn will lead to a lower cost of credit and in some cases a larger supply of external finance. Thirdly we have the added advantage of liquidity and portfolio diversification. Going public has a definitive effect on the liquidity of a firm. The scope for diversification is also affected by the decision to go public. They clearly state that shares of private companies will be traded at a substantial cost for the party initiating the sale of shares. However trading of stock on an organized platform is cheaper and the shares can be traded at short notice. For initial owners who raise the capital from dispersed owners there is the factor of the liquidity benefit provided by being listed on an exchange platform. Another key advantage (Pagano et al, 1998) documented in their article was the benefit of monitoring. The shareholders of a company (public), will use the data and information they derive from

the changing stock prices to create and modify a package of compensation schemes for managers, like offering them stock options. There was also the idea of investor recognition. In this theory Pagano claims that most investors have a small fraction of known company stock in their portfolio. They tend to have shares of companies mostly listed on the stock exchanges. Therefore getting listed on an exchange allows a company to attain recognition and could be used as a marketing strategy. Companies have the option to list on an exchange to change control. Owners can decide to go public to maximize value before they eventually sell the company off. "By going public, the initial owner can change the proportion of cash flow rights and control rights which he retains when he bargains with a potential buyer, Pagano et al (1998). The last benefit that was explained in this paper was the window of opportunity argument. If companies find out through their analysis that stocks of its listed competitors are overvalued, they will want to benefit from this overpricing and may take this information as an incentive to list.

### 2.1.2 The disadvantages of going public.

There is the cost of adverse selection that is faced by many companies. The issuers truly know the value of the company based on the information each of them have. This information asymmetry has an overall effect on the quality of the firm which is seeking to list and therefore also affects the price at which the share will be sold which in turn leads to deciding the enormity of the underpricing needed to sell these shares. It was noticed that companies that were smaller in size and relatively newer were less known to investors and this lack of information will affect the average quality of a company willing to go public and this forces their hand in determining share prices to make it attractive to these investors, this shows a correlation between the probability of an IPO and the firm size, (Chun, Lynch, & Smith, 2002). We explained in the introduction how firms tend to take on more debt instead of issuing an IPO due to the high administrative expenses and fees. This is echoed by Pagano et al (1998). There are considerable costs related to going public which seems an irrelevant cost to the firm. Some of these costs are the costs of

underwriting, registration, audit fees, stock exchange fees, certification and the cost of making public the accounting information. During their study, Chun et al (2002), noted that these costs were significant and certainly turned away many firms from going public. IPO costs in Korea were typically 3% of their gross proceeds and this figure increased to 7% when the study was carried out in America. However one of the biggest costs that firms faced was the loss of confidentiality. Pagano et al. (1998) noted that firms would be hesitant to go public as they may have to reveal information which they believed was a secret that wasn't ready to be out in the open just yet like ongoing research and development programs. They also noted that with all the information out in the open, these firms were under a scrutiny from the tax authorities making it difficult to reduce their scope for tax elusion.

## 2.2 Money Left on the Table.

Money left on the table is defined as the difference between the closing price on the first day and the price the share was offered at, multiplied by the number of shares sold during that time, (Ritter, 2004). In short it is just the profit made during the first day transactions of these shares by the investors. You could say it is the transfer of wealth from the original shareholders of the firm issuing the shares to the new investors.

The initial price offered for the IPO has a high implication on the result of the offering. It is easy to see that if the price is too high, the interest from potential buyers will subdue and this will lead to the failing of the offering. On the other extreme is the effect if the price is set too low. With a low price there is going to be oversubscription which would mean from the above definition that the firm is leaving "cash on the table," that it could have probably collected if they had decided to go and charge a slightly higher price. At this low price the scheme to distribute and allocate the stock is in effect giving out a higher surplus value from its offering.

Using Kenya Airways (KQ) as an example to explain this further. When the market closed on April 19th, 1996, KQ had an oversubscription level of 94% of the shares offered during that time which were 235 million shares. The trading price was 11.25 shilling per share. When the price was checked for the first day traded closing price it was revealed that it was 13.90 shilling per share. Plugging this information in the formula shown by Ritter,$(13.90 - 11.25) * 235million$ we notice that KQ left 623 million shillings on the table due to this over subscription.

## 2.3 Why IPOs tend to be underpriced.

It was shown by Ritter (1991) that once IPOs are issued they tend to underperform other non-issuers in the long term within the same economic sector with market value that equals the IPOs issuers. What was deduced from this paper is that the time to place or propose an IPO is not random but is based on the best time for that company in the market.

Ritter later teamed up with Loughran, (Loughran & Ritter, 1995) and compared two portfolios using the method he described as the wealth relatives. This was simply the ratio between the buy and the hold IPO portfolio, and a buy and hold non-issuers portfolio returns based on the same time horizon. They took in relevant information one year after the IPO was issued and estimated that there was a 0.9 wealth relative factor. Which according to his calculation resulted in a negative abnormal return. They replaced the non-issuers portfolio with the S&Ps 500 index the results were still the same. They then decided to perform this over a longer period, 5 years. The results stayed the same and abnormal returns stayed negative.

A study carried out, (Evans, 2000), took a sample of 1011 USA firms which were able to list on the stock market between the years 1994-1995. The study eventually revealed that that these firms were able to underperform the market for at least three years following their IPO. Thomas was able to deduce that the long run returns are have a significant relationship to a number of key factors, namely, the first day returns, the reputation of the

underwriter, the return from the market prior to the IPO and ownership through venture capital.

There exists a high level of correlation between the returns on the stock markets in an emerging country and that of developed countries. Based on this fact the effect the financial crisis had on the Dow Jones must reflect on to other stock markets around the world too. An examination of 14 countries that were still considered as emerging countries proved that the crisis in USA significantly affected the markets in the emerging countries, (Cuadro-Saez, Fratzscher, & Thimann, 2009).

The crisis has affected Kenya and other African countries from both direct and indirect channels. In essence the direct channels is the financial markets. There has been an imminent increase in the variance of the stocks as well as relative wealth losses. There has been a significant decline in the stock market indices in Nigeria of around 67% between 2008 and 2009. Nigeria is one of the most affected countries in Africa to the financial crisis due to the effect the crisis had on its oil sales.

Looking at Kenya which has a growing stock market it was necessary to take into consideration what was proposed by Chun et al (2002) when Korea was going through a similar process of an emerging stock market. What they noticed here was that there was less attention paid to this stock market as more of the resources and attention were focused towards the banking sector and the market for bonds. There is also evidence that most studies done in the stock market are done in the secondary market.

There were many theories and hypothesis explained by Ritter (1998) on the aspect of why IPOs tend to be underpriced. Some of these theories which were relevant are explained below:

### 2.3.1 The Bandwagon Hypothesis

In this theory it is explained by Ritter (1998) that new investors take in to consideration actions from other investors before they decide to buy securities. If investors tend to make decisions sequentially then other investors tend mimic the previous investors

decisions. What firms do to take advantage of this phenomena is that they deliberately undervalue its shares. This will capture the attention of the investors, leading to a good first impression which then tends to create a ripple effect by attracting other new investors.

### 2.3.2 The Investment Bankers Monopsony Power hypothesis

It is a known fact that investment bankers tend to have a good understanding of how the stock market is supposed to work. This hypothesis is based around this fact. The hypothesis goes to state that the investment bankers use their understanding of the market and the company issuing the shares to underprice this offering, (Ritter J. R., 1998). It allows them to spend less time marketing the shares as the price should speak for itself and they then ingratiate themselves with the buy-side customers.

### 2.3.3 The winners curse hypothesis.

One of the most popular hypothesis regarding the underpricing phenomena. When the information asymmetry aspect is present in the market investors tend to use this to their advantage. With information asymmetry, Ritter (1998) suggests that if an initial issue is deduced to be underpriced, investors will buy more shares which in turns increases demand which in turn results in newer investors being issued only a small portion of the new desirable issues and more of the less desirable ones. These investors will be awarded all the shares which they request for only because the more informed investors have rejected these shares. Due to this adverse selection dilemma, the investors who tend to have less information will only place a bid order if on average the initial public offering is underpriced just enough to reward them for the bias they faced in the allocation of the new issues.

### 2.3.4 The lawsuit avoidance hypothesis.

This theory revolves around the aspect of litigation. It theorizes that the underpricing

phenomena will reduce the occurrence of lawsuits and litigation, (Ritter, 1998). It is safe to assume that disheartened parties are more likely to sue if the offering was over-priced rather than underpriced. When issuing a prospectus all parties are legally liable for any omissions they make that the law believes to be material. The underpricing is one way of reducing the frequency and severity of lawsuits.

### 2.3.5 The Market Incompleteness Hypothesis.

The hypothesis pushes the idea that markets that are seen to be incomplete should punish new comers rather than the already listed companies. Therefore investors ask for a premium for holding these new stock as a guarantee instead of investing in an already established listed company, hence the IPOs tend to be underpriced to allow room for the premium, (Ritter, 1998).

### 2.3.6 The signaling hypothesis.

Management of the issuers firm tends to have a huge value of reference for that firm. They use underpricing to show this value over time. In most cases they tend to issue a second public offering to recover from the initial underprice, (Ritter, 1998).

## 2.4 The IPO Process in Kenya.

Securities can be brought to a listing using three main ways in Kenya:

1. Introduction- To facilitate a market for current shareholders
2. Private placement- The stock is out for sale to an identified set of investors.
3. Initial Public offering- The public in general is invited to partake in the buying of the shares.

A budget of around 5-10% of the total value of the securities needs to be set aside by a prospective issuer, for costs ranging from publicity to printing costs, according to the practical guide by NSE. These costs though are normally tax deductible.

However it is not that simple to list on the exchange. There are legal and market requirements that need to be met. The company should be registered under the companies act and the financial records should be available and reliable with no qualifications in the independent auditors report. It is also a requirement that the company's shareholding, management and core business activities remain relatively unchanged. The law also requires that the securities must be freely transferable with no restriction on marketability or the rights of pre-emption. There is a requirement by CMA that one class of voting shares that are on the exchange (listed) must have their prospectus or information memoranda approved by CMA. It is also necessary that only those shares that have been paid for fully are listed and that the company has not breached any of its loan agreements.

There are certain expectations from the market regarding the issuer. It expects that the firm has a consistent and feasible market plan alongside a vast range of experience and knowledge in the board of directors who will represent the shareholders and the management team which will be in charge of the day to day business activities. The market most definitely expects the firm to make consistent profits. The firm must be transparent in ownership and in its activities and market sentiments and timing should be taken into consideration by the issuer.

## 2.5 Valuing IPOs

It is stated that valuation of IPOs should be no different than valuation of other stock, (Ritter, 1998). The discounting cash flow analysis (DCF) and the comparable firm analysis is a common tool used in the valuation of shares and can be used to value IPOs too. However a preliminary valuation may be dependent on the value of firms that are similar to the issuer. In most cases we could find a publicly listed company to compare with a new IPO, say if Airtel Kenya decided to list on the NSE we could use the information on how customers value Safaricom to value the initial price offering for Airtel Kenya. However using DCF analysis to value stock is based on many sensitive assumptions made by the analyst, this would explain why fair value may not always reflect the forecasts. DCF is also more time intensive compared to other methodologies.

DCF also assumes that the company is 100% transparent with all its reporting which is a serious assumption that could alter the forecast of the future performance.

"Book building is when the lead investment banker canvasses potential buyers and records who is interested in buying how much and at what price", (Ritter J. R., 1998). In summary the investment banker analyses the demand of the listing and constructs a demand curve. They then price the initial offering on this information. When a firm adopts the book building valuation, they normally hold off valuing the IPO until the morning in which the SEC clears the firm for going public in the USA. There is still problems with book building as it allows for shares to be allocated preferentially. The book building process tends to hand over a significant amount of control to the underwriter regarding the allocation of shares.

Due to the privatization bill of 2005 that had been in the works for "nearly three years," many firms in the telecommunication, finance and energy and infrastructure sectors were bound to be privatized in the coming future. The bill reveals methods of privatization that consist of leases, concessions and management contracts, liquidation and negotiated asset sales. However at the same time The Financial Weekly, a newspaper, noted that public offering on the NSE may be more favorable as we have seen now with Kengen and Kenya Power. The key here by the Kenyan government was divesture which was achieved by increasing the ownership base for the Kenyan public.

When trying to value a company, one has to analyze the sector of the economy the firm belongs in alongside its recent performance, strategic plan, its growth potential and the management record. However the value of a firm yet to be privatized is unpredictable.

## 2.6 The Hot Issue Market.

This phenomena is what we call to define an event where we notice a period of abnormal initial returns and increasing volumes. It was noted, that firms which went public during "hot markets" underperformed dramatically in comparison to other times, (Loughran & Ritter, 1995), (Ritter J., 1991). This brings in the concept of "windows of opportunity."

Companies will try and time their issues to coincide with these opportunities when they regard the valuation in the market is at its peak. The windows of opportunity concept will be dealt with as this paper goes on.

2.7 Long-term Performance.

It is obvious why investors are concerned with the long term performance of shares, by identifying patterns in the price changes investors have the chance to gain higher returns by partaking in an active trading strategy. It also helps to analyze the long term performance to try and identify if there was a "nonzero aftermarket performance" in order to check the efficiency of the primary market. (Ritter, 1991) also noted that the cost incurred by a company going public depended not only on the transaction costs of going public but also on the returns the investors would receive in the aftermarket. This was an important factor to the extent that if low returns were earned in this aftermarket then the cost of equity was lowered for these firms. Lastly it also noted that there was a large variation in the volumes of IPOs over time (Ritter, 1991). Once again the window of opportunity phenomena is relevant here. If the periods in which there are high volumes of IPOs traded is linked to a poor long term performance then it would mean that investors are timing the IPOs to reap the benefits of the windows of opportunity.

In theory it has been noted that the superior returns generated are high during the start of the IPO but tend to be negative in the long term, (Ndatimana, 2008). It was discovered that for a sample of USA companies who issued IPOs during the period of 1960-69 there was a negative relation between the long term stock price performance and initial returns for the IPO, (Ibbotson, 1975). When Ibbotson did carry out this study he noticed that in the first year there was a notably encouraging performance by the stock. This was followed by a turn of negative performance for the following three years and a peak again to a positive performance in the fifth year.

In his study (Ritter, 1998) came to a realization that companies that went public between the years of 1970-93 achieved a mean return of around 7.9% every year for the first five years after the initial offering. He assumed that the first day closing market price was the purchase price for that equity. In contrast was firms that did not go public chosen on their

market capitalization basis produced a mean return of just around 13.1%. He concluded that IPOs underperformed by almost 5.2% in comparison to non-issuing firms. He also observed that most of the firms that did underperform were those that went public in years where heavy volumes of IPOs were traded and were relatively new firms. Established firms and firms that went public in years when the volumes were low tended not to underperform in the long run.

There have been three theories proposed to explain this long term underperformance events. The theories are explained below.

### 2.7.1 The Impresario Hypothesis.

It has been argued that there is a curtain of fads that surrounds the IPO market. There is a belief that IPOs are underpriced by the underwriters in a bid to make the offering more inviting to the public by creating a false image of excessive demand, (Shiller, 1990). This theory goes on to claim that firms that have a higher initial returns often end up with aftermarket returns that are not as impressive. Shiller (1990) argued that investment bankers tend to create a façade of demand surplus but the market tends to correct itself in the long term. There was some relation shown when Ritter (1991) carried out his study. However there has also been evidence suggesting that the initial return is not generally a significant factor in the explanation of long run return, (Jong-Wan, 2001)

### 2.7.2 Divergence of Opinion.

This theory argues that if there is a great amount of uncertainty surrounding the true value of an IPO then those investors who are optimistic will value the IPO higher than the pessimistic ones. However with the passing of time these two views of pessimism and optimism will narrow down and eventually the market price will drop. This is based on the fact that the optimistic buyers are the ones who are eventually going to invest in the initial offering, (Miller, 1977). However this hypothesis is seemingly untested even though it's appealing. It is a tough task to measure the dispersion of beliefs across all the potential investors.

### 2.7.3 The Window of Opportunity.

In this hypothesis it was argued by Ritter (1991), that in the periods where buyers are hopeful regarding the potential of the firms willing to go public, the huge cycles in volumes could be a representation of the companies trying to time their initial offering to benefit from these changes in investor behaviors. As mentioned earlier this hypothesis stresses the fact that the companies that tend to go public during periods of high volumes are more often than not overvalued. This statement could be interpreted to mean that these firms will in return have a low long term return.

Regardless of the fact that there have been a number of studies conducted on financial crises, there has been no consensus on the causes of the financial crisis. There is also no globally accepted methodology to tackle and end a crisis nor is there any universally accepted list of effects the financial crisis has on the financial markets around the world. There is still a lot of research that needs to be undertaken considering the financial crisis phenomena. The research won't be a problem based on the fact that there will be financial crises from here to eternity, (Pareto, 1964).

## Chapter 3: Research Methodology

### 3.1 Research design.

This study is analytically designed to observe whether or not the pricing abnormalities noted in many developed countries regarding IPOs exist in the Nairobi Stock Exchange.

### 3.2 Population and sample.

The population of the study is all companies listed on the Nairobi Stock Exchange that issued an IPO after 2008. There are 68 listed companies on NSE as of May 2017. This companies include NSE itself as well as an exchange traded fund by the name of New Gold Issuer (RP) Ltd. From all these companies listed, all those that issued IPOs after 2008 are to be studied. The number of companies that listed on the NSE post crisis are 3, and these 3 companies define the population. The sample in this scenario will be the whole population, where the population is all companies who went public after 2008-2016.

### 3.3 Data collection.

This study will revolve around secondary data collection methods. Stock process information for the companies will be gathered for the period under study. That is the offer price and after market prices available on a daily basis on the NSE database. Key information relevant to this study will be found in the prospectus of issuing firms regarding the offer price and number of shares initially offered as well as a brief history of the firm.

We use the standard event study methodology to analyze the medium to long term performance of the IPO. An event study methodology is useful here as we try to understand the magnitude and perceived effects an unanticipated even like the crisis can have on the stock market. Event studies have previously been used to conduct similar

studies like done by Ritter (1991). An event study can be undertaken for short term periods like 2 days, 2 months, or even in long term effects like a study for 60 months, (Sitthipongpanich, 2011). For a single IPO the monthly returns are computed for at least the first 60 months after the IPO is issued, this excludes the month of the issue. However there are problems that arise due surround event studies with respect to IPOs. The biggest challenge is that enough data is not available to attain estimates of the benchmark variables in the time before the IPO was issued, (Ibbotson, 1975).

Important to an event study is its control periods. These periods lay out what is considered as normal returns. The financial crisis was an event outside the control of the firms issuing IPOs and this will affect the future operations in some way. Critical to an event study is its horizon. Typically with efficient markets, event studies focus on short term horizons. However there are even studies undertaken up to 5 years after the event has occurred, this is known as a long term horizon. Technically short term studies focus on how fast information is incorporated into the share prices however long term horizon studies can focus on the information incorporation and inefficiency as well as different expected returns.


In the timeline above T0-T1 will represent the estimation period. This is the period that shows a firms 'normal' returns over a period of time. The study aims to analyze this data from the prospectus that each firm releases before going public. This will involve data before and after the financial crisis hence we can estimate what normal returns are.

The time period T1-T2 will be the event window, whereas '0' is the time the event, in this case the issue of the IPO. Now we can see that time 0 falls in between T1 and T2 and yet the whole of T1-T2 is the event window. This is because information about the event

is already circulating in the market and affecting the market. Again this information will be available in the news. Now what we are again interested in in the time period T2-T3, the post event window. This is after the IPO has been issued and is the period to determine whether its long term performance is normal or abnormal and whether it had been underpriced or not.

### 3.3.1 Market Adjusted Abnormal Return (MAAR)

This methodology is common in use and hence was the first choice in this paper to determine the existence of underpricing of IPOs in the Nairobi Stock Exchange. The research aims to calculate first the percentage change from offer price to aftermarket prices for the sample companies selected.

Since the paper focuses on the NSE, the study assumed NSE 20 as a benchmark. The study intends to calculate the MAAR of each of the firms selected using the NSE 20 share index as the benchmark using the methods employed by (Aggarwal, Leal, & Hernandez, 1993).

To calculate the return of the stock on the first day we employ the following formula:

$$R_{t1} = \frac{P_{t1}}{P_{t0}} - 1 \quad \textbf{(1)}$$

Here $R_{t1}$ is the total day return of that share, $P_{t0}$ is the offering price for the IPO and $P_{t1}$ is the closing price of the share on its first trading day.

To calculate the benchmark, which is the NSE 20 index return during the same time is

$$R_{NSE1} = \frac{P_{NSE1}}{P_{NSE0}} - 1 \quad \textbf{(2)}$$

Here $R_{NSE1}$ is the first days NSE 20 return that'll be compared to the others, $P_{NSE0}$ is the closing NSE 20 share index value of the appropriate share and $P_{NSE1}$ is the closing value

of the NSE 20 share index on its first trading day.

After calculating this two returns it is now possible to calculate the MAAR for each of the stocks IPOs on their first day using:

$$MAAR_{t1} = \left(\frac{1+R_{t1}}{1+R_{NSE1}} - 1\right) * 100 \quad \textbf{(3)}$$

To calculate the average MAAR for the selected sample the arithmetic average of the first abnormal return on all the IPOs was computed.

$$MAAR_a = \frac{1}{n}\sum_{t=1}^{n} MAAR_{t1} \quad \textbf{(4)}$$

Testing for the relevance of the abnormal initial return the study will use test statistics.

$$tstatistics = MAAR_a * \frac{\sqrt{n}}{Sd_s} \quad \textbf{(5)}$$

In the above formula n is the number of observations within the sample and the Sds is the cross sectional standard deviation of the MAAR in the sample.

3.3.2 Money left on the table.

The concept was explained earlier on how this is the difference between the closing price of the stock on its first day and its initial offer price and then multiplied by the number of the shares sold. The IPO activity has been known to result in there being money left on the table.

In order to determine if there was any money left on the table the study will aim to calculate the change in the offer price of the IPO and the first day closing price too. The difference between the two will then have to be multiplied by the number of shares sold. The result should give us the amount left on the table in Kenyan Shillings.

### 3.3.3 Market Adjusted Buy and Hold Return (MABHR)

The study will also aim to analyze the impact on the investors' wealth if the same amount of money will be invested passively in each of the selected IPOs after the first day of trading. This can be calculated using by determining the buy and hold return for the sample IPOs selected and compare these with the buy and hold return an investor could have achieved by investing in the NSE 20 share index. The monthly returns will have to be calculated as well. This will be done by comparing the closing price of the stock on the last trading day of the month and the closing price at the same point for the previous month. The first month allows for underpricing and the possibility of price support in its first few days hence this month will be excluded from the calculations. The general assumption is that the first month allows for prices to be adjusted downwards moving towards the true market equilibrium once the support of the prices has been withdrawn, (Khurshed, Mudambi, & Goergen, 1999).

MABHR is calculated as follows as suggested by Ritter (1991):

$$MABHR_i = \sum_{t=2}^{61}(ln\frac{P_{it}}{P_{it-1}} - ln\frac{NSE_{it}}{NSE_{it-1}}) \quad (6)$$

Here the $MAHBR_i$ will represent the market adjusted buy and hold return for a firm $i$ over a 60 month period. We choose 61 periods since t=2 because the study aims to exclude the first month. $P_{it}$ will represent the closing price of a stock $i$ at a time $t$. The $NSE_{it}$ will represent the closing index in the relative month. The returns will exclude the initial under-pricing.

The results are interpreted such that a positive MABHR shows that the stock is performing better than the benchmark it is pitted against. We can calculate the mean MABHR as the arithmetic average of the abnormal returns on all of the IPOs in the sample selected.

$$MABHR_{IPO,t} = \frac{1}{n}\sum_{t=1}^{n} MABHR_{it} \quad (7)$$

The $MABHR_{IPO,t}$ represents the average market adjusted buy and hold return from the sample selected within the period $t$. The total sample size is denoted by $n$. Here the

$MABHR_i$ will represent the market adjusted buy and hold return for a firm $i$ over a period $t$.

The study requires the t-statistic for the MABHR for the same reasons stated above for the MAAR.

$$tstatistics = MABHR_{IPO,t} * \frac{\sqrt{n_t}}{Sd_t} \quad \textbf{(8)}$$

The $MABHR_{IPO,t}$ represents the average market adjusted buy and hold return from the sample selected within the period $t$. In the above formula $n_t$ is the number of observations within the sample and $Sd_t$ is the cross sectional standard deviation of the MABHR in the sample over a period $t$.

In the examinations of long term performance it was observed that the IPOs outperformed the stock market benchmarks. It was noted that the divergence widened over time in contrast to the patterns observed in what was considered developed markets, (Chun, Lynch, & Smith, 2002).

In order to establish the long run performance of IPOs, the mean percentage change of the market prices will be calculated for a time period of 5 years from the actual date of the IPO. The study will aim to measure the long term stock price performance for the initial year, the next three years and the fifth year. This method is consistent with that of Ibbotson (1975). The mean will be calculated for the year 1-5 using the geometric mean method. This seems to be the most preferred method as it can be easily adapted to average ratios, logarithmically distributed series and the rate of exchange. The year will be defined as twelve, 2i trading day intervals, (Loughran & Ritter, 1995).

### 3.3.4 Wealth relative

To measure secondary market performance a technique used by Ritter (1991) and Loughran and Ritter (1995) was implemented. This is method is called the wealth relatives.

The performance of sample IPOs was calculated relative to the market benchmark and

that is the security to market benchmark wealth relative.

It is calculated as follows:

$$WR = \frac{1+\frac{1}{n}\sum_{t=1}^{N} R_{i,t}}{1+\frac{1}{n}\sum_{t=1}^{N} R_{NSE,t}} \quad \textbf{(9)}$$

If *WR*>1 then it implies that the return from investing in an IPO is greater than investing in the market portfolio however if *WR*<1 then investing in the market portfolio would have been more profitable and if *WR*=1 then the investor is indifferent.

# CHAPTER 4: DATA ANALYSIS

## 4.1 Sample Selection

As pointed out in the introduction of this paper the IPO issues in Kenya have been far and few between the last 15 years. In fact the companies that issued shares that meet our criteria are only four companies.

The selected companies meet the criteria to complete both objectives set forward. The table below gives the details of the companies selected:

| **Table 1** | | | | |
|---|---|---|---|---|
| **Company** | **Shares on issue** | **Year Of Study** | **Issue Price** | **Subscription level** |
| Safaricom | 10,000,000 | 2008 June | 5 | 532.00% |
| Co-Operative | 701,000,000 | 2008 October | 9.5 | 81.00% |
| Britam | 660,000,000 | 2011 September | 9 | 60.00% |

*Source: Capital Markets Authority*

## 4.2 First day Performance test

The table 2 shown below reports on the aftermarket performance for the 4 selected companies. The MAAR calculated for most of the companies are positive for the initial day of trading and are significantly greater than zero. There was one case of Britam where the returns generated had negative MAAR on the first day of trading. Consistent with previous studies and literature review, the results show a large mean of 23.1 and a median of 21.32. The data had a t statistic of 1.47 at a confidence interval of 95%. This results are consistent with the findings that showed competitive average first day trading returns were found to be 78.5%, 16.7% and 2.8% in Brazil, Chile and Mexico respectively, (Aggarwal, Leal, & Hernandez, 1993).

| Table 2 | | | |
|---|---|---|---|
| **Company** | **Year Of Study** | **Return on Stock for the first day (Rt1)** | $MAAR_{t1} = \left(\frac{1 + R_{t1}}{1 + R_{NSE1}} - 1\right) * 100$ |
| Safaricom | 2008 June | 0.60 | 60.00 |
| Co-Operative | 2008 October | 0.05 | 5.26 |
| Britam | 2011 September | (0.10) | (10.00) |
| Nairobi Securities exchange | 2014 September | 0.37 | 37.37 |

4.3 Money Left on the Table

The table below looks at underpricing from a different angle. It shows the amount of money that was not obtained as a result of the issue being pegged lower than the trading price. The results from this study are exceptional. Three out of four of the sample showed vast amounts of money left on the table. The one that did not have similar results, Britam, had a negative balance meaning they had valued the share at a higher price than the market assumed it to be. The largest amount of money left on the table not just in this study but even historically in the Nairobi Stock Exchange was that of Safaricom due to its highly oversubscribed issues (KES 30 Billion).

| Table 3 | | | | |
|---|---|---|---|---|
| Company | Issue Price | Closing Price | Shares on Issue | Money left on the table |
| | **A** | **b** | **C** | **d=(b-a)*c** |
| Safaricom | 5 | 8.00 | 10,000,000,000 | 30,000,000,000 |
| Co-Operative | 9.5 | 10.00 | 701,000,000 | 350,500,000 |
| Britam | 9 | 8.10 | 660,000,000 | (594,000,000) |
| Nairobi Securities Exchange | 9.5 | 1.05 | 66,000,000 | 234,300,000 |

4.4 Test of Long run Aftermarket Performance of IPOs.

It was shown in the study conducted by Aggarwal and Rivoli (1990), new issues in the USA usually underperform the market in the long run. The same study also showed that the mean and median MAAR were negative in cases where investors purchased the securities at the offering price and held them for one year. Similar results were obtained by Ritter (1990). Aggarwal et, al. (1993) showed that brazil had mean excess returns of around -39% with respect to an investor who bought securities at the offering price and held them for an year.

The results shown in Appendix I are that of the MABHRs calculated to determine the long term performance. From the data gathered and test conducted the series developed shows a mixed result during the period selected. The average cumulative returns fall to negative 1.82% after five months of trading (excluding the initial month). The cumulative returns then grow strongly for three months and fall again. At the end of year 1 the returns have fallen to a -4.64% and the average cumulative returns for the following years were 1.45%, 12.26%, 3.01% and 0.89% for year 2, year 3, year 4 and year 5 respectively. We also deduced that the average returns are not statistically significant at a confidence interval of 95%.

What we can deduce from this test is that level of IPO under performance is mixed and not economically and statistically significant.

To evaluate the t statistic we would not reject the null hypothesis if the t value computed

is less than the critical value. In which case the MABHRs for all years after the first show positive returns which implies that the IPOs have performed better than the benchmark. This means if I picked a month at random I would have lost as much with an IPO bet as I would have in the full market trade (or vice versa)

The study carried out by Ibbotson (1997) suggests that the level of underperformance will not extend beyond a three year period. This study also shows that underperformance of an IPO does not extend beyond three years shown by our cumulative average returns.

### 4.5 Wealth relatives

In order to have a quantitative measure of long term performance of the IPOs some benchmark has to be used. The focus this time will be on wealth relatives, , defined as the average gross total return on IFOs divided by the average gross total return on NSE20 index where both of these are measured over the 5 years after the IPO, excluding the initial return, as the primary measure of IPO aftermarket performance. The wealth relative (WR) after 5 years of seasoning is 1.02.

Since $WR>1$ then it shows that investing in an IPO portfolio would generate higher returns than the market portfolio. The study shows that the IPOs outperform the market during a five year period. The study has shown that Kenyan IPOs do not underperform the market beyond its first year anniversary post financial crisis.

# Chapter 5: Conclusions and Recommendations

## 5.1 Summary and conclusions

The following sections will summarize and conclude the findings and analysis of this study:

### 5.1.1 Initial first day returns

The study carried out supports findings from other IPO markets in the world that initial first day returns are economically relevant and statistically significant. The returns were found to be on average 23.16 which is a significant amount. The study also deduced that there was a large amount of money left on the table in $\frac{2}{3}rds$ of the IPOs examined. It was only in the case of Britam Holdings Ltd that the money left on the table was negative which implies it was overpriced. However every other IPO was clearly underpriced which is consistent with Jumba (2002).

Evidence from previous studies conducted on IPOs have also always found excess returns in the short run. These returns could be attributed to simply liability avoidance, aspects of information asymmetry as no market is complete, the need to award investors for willingly taking a risk, and the need to make IPOs of government entities to be spread as large as possible during periods of privatization.

### 5.1.2 Long term performance of IPOs

The average cumulative returns fell to negative 1.82% after five months of trading (excluding the initial month) and at the end of year 1 the returns have fallen to a -4.64% and the average cumulative returns for the following years were 1.45%, 12.26%, 3.01% and 0.89% for year 2, year 3, year 4 and year 5 respectively. The study also shows that the average returns were not statistically significant at a 5% level of significance as the t values computed were significantly lower than the critical values.

The overall conclusion is that the market has no pattern when compared against the

benchmark. The returns in the last four years were positive but the volatility within the returns was extremely high as well. Hence the study concludes that their no visible regularity when computed against the market benchmarks.

This study goes against the findings of Jumba (2002) and Ibbotson et al. (1994) who had deduced that the IPOs underperform in the long run. From our study we have deduced that the IPOs have performed better than the market in the first year but after the first year investing in the market or an IPO portfolio would have almost similar returns as per the t-test.

A significant difference in the methodology used by Jumba (2002) and this study is that Jumba used daily data which is more noisy and made modeling difficult. However the MAAR used in this study has done a significantly better job of explaining the under and over performance.

In order to determine the strength of the initial tests this study carried out I calculated a significantly quantitative measure of long run performance which was the wealth relatives. It is defined as the average gross total return on IPOs divided by the average gross total return on the market index, where both of these are measured over the 5 years after the IPO, excluding the initial return. The wealth relative (WR) after 5 years of seasoning is 1.02. Since $WR>1$ then it shows that investing in an IPO portfolio would generate higher returns than the market portfolio. This implies that the IPOs outperform the market during a five year period. The study has shown that Kenyan IPOs do not underperform the market beyond its first year anniversary post financial crisis.

## 5.2 Limitations

- The data collected from NSE needs to be more cautiously interpreted due to the small sample size and because of the fact that 2-4 of the IPOs were from a single year.
- The study conducted used monthly averages in its calculations. The results may vary if daily data was used.
- Studies conducted on the performance of IPOs in first world economies use

matched samples. The results of such studies will have more validity than those based on market indices. This method however cannot be applied in NSE because it is difficult to get the firms to pair with the IPO firms. Based on that fact one should be cautious in making inadequate comparisons of studies using different methods.

- The period selected concerning the Post financial crisis also had other events that may have affected the returns on shares and IPO performance such as the Kenyan post-election violence (2007).

## 5.3 Suggestions for Further Research

This subject has been studied for years and will continue to be studied for years to come as more and more information is made available and markets become more efficient. However more attention needs to be drawn to the fact that;

1. There are many theories out there that to explain the underpricing phenomena. Many of the first world countries have settled on a few of these theories however the continued research on this phenomena and its reasons of occurrence need to occupy the minds of the third world analysts.

2. The results generated in this study may be as a result of the sample selected and data mining methods. More effort is required to determine the authenticity of this regularity and to theorize on its roots.

# References


Aggarwal, R., Leal, R., & Hernandez, L. (1993). The aftermarket performance of initial public offerings in Latin America. *Financial management*, 42-53.

Anayanzwa, J. (2015, August 29). *Kenya: Concerned By Dry Season of IPOs On NSE, Regulator Reaches Out to Potential Issuers*. Retrieved from allafrica.com: http://allafrica.com/stories/201508312335.html

Apaka, G. O. (1998). "Testing the existence of differences in the level of underpricing between primary and secondary offerings at NSE.". *Unpublished MBA research project, University of Nairobi.*

Cuadro-Saez, L., Fratzscher, M., & Thimann, C. (2009). The transmission of emerging market shocks to global equity markets. *Journal Of Empirical Finance*, 2-17.

Durand, D. (1959). Cost of debt and equity funds for Business. In D. Durand, *Costs of Debt and Equity Funds for Business: Trends and problems of measurement* (pp. 95-96). Haverford: NBER.

*Financial crisis 2008/2009 overview*. (n.d.). Retrieved from Wallstreet Oasis: https://www.wallstreetoasis.com/financial-crisis-overview

Ibbotson, R. G. (1975). Price performance of common stock new issues. *Journal of Financial Economics vol 2 issue 3*, 235-272.

Jong-Wan, Y. (2001). Pre-offering earnings and the long run performance of IPOs. *International review of financial analysis 10*, 53-67.

Juma, F. (2016, June 17). *The process of an IPO and what it takes*. Retrieved from sokodirectory: http://sokodirectory.com/2016/06/process-ipo-takes/

Jumba, W. (2002). *Initial Public Offerings performace in Kenya.* Nairobi: unpublished.

Khurshed, A., Mudambi , R., & Goergen, M. (1999). On the long-run performance Of IPOs. *Working Paper.*

McCormick, D. (2008). *THE IMPACT OF THE GLOBAL FINANCIAL CRISIS ON DEVELOPING COUNTRIES:IMPACT OF THE FINANCIAL CRISIS ON KENYA.*

Sussex: Institute Of Development Studies.

Miller, E. M. (1977). Risk, Uncertainity and Divergence of opinion. *Journal of finance 32*, 1151-1168.

Mwaniki, C. (2016, June 29). *Nine out of 10 private equity firms eyeing East Africa prefer Kenya.* Retrieved from Daily Nation: http://www.nation.co.ke/business/9-of-10-private-equity-firms-eyeing-East-Africa-prefer-Kenya/996-3272302-123nxebz/index.html

Ndatimana, E. (2008). *Performance of Initial Public Offerings: The evidence from Nairobi Stock Exchange.* Nairobi: unpublished.

Pagano, M., Panneta, F., & Zingales, L. (1998). Why Do Companies Go Public? An Empirical Analysis. *The Journal of Finance.*

Pareto, V. (1964). Les crises economiques. *In Cours d'conomie politique, Vol. II, Book II, Ch. IV.*

Ritter, J. (1991). The long run performance of initial pulic offerings. *The journal of finance*, 3-27.

Ritter, J. (2004). *Money on the table.* Retrieved from Warrington College Of Business: https://site.warrington.ufl.edu/ritter/

Ritter, J. R. (1998). Initial Public Offerings. *Contemproary Finance Disgest Vol 2*, 5-30.

Shiller, R. J. (1990). Speculative prices and popular models. *Journal of Economics Perspective vol 4*, 55-65.

Sitthipongpanich, T. (2011). Understanding the Event Study. *Journal of Business Administration. 34*, 60-68.

statistics, B. o. (2014, April). *Monthly labor review.* Retrieved from United States Departent of Labor: https://www.bls.gov/opub/mlr/2014/article/one-hundred-years-of-price-change-the-consumer-price-index-and-the-american-inflation-experience.htm

Waitathu, N. (2015, March 5th). *Family-owned firms shy away from listing on stock markets.* Retrieved from Standard Digital: https://www.standardmedia.co.ke/business/article/2000153654/family-owned-firms-shy-away-from-listing-on-stock-markets

Wanjohi, A. M. (2011). *Economic Crisis in Kenya During Recession Period between 2008 and*

*2009*. Retrieved from KENPRO Online Papers Portal: http://www.kenpro.org/papers/economic-crisis-kenya-during-recession-period-2008-2009.htm#_Toc233560946

VT OMNES UNVM SINT

Appendix 1

Average Cumulative returns

| Date | Safaricom closing price | NSE 20 comparative | MABHR | Date | CO-Operative closing price | NSE 20 comparative | MABHR |
|---|---|---|---|---|---|---|---|
| July-08 | 5.80 | 4,868.27 | | November-08 | 3.58 | 3,341.47 | |
| August-08 | 5.50 | 4,648.78 | -0.70% | December-08 | 5.65 | 3,521.18 | 40.32% |
| September-08 | 4.90 | 4,180.40 | -0.93% | January-09 | 4.76 | 3,198.90 | -7.54% |
| October-08 | 3.10 | 3,386.65 | -24.73% | February-09 | 3.99 | 2,474.75 | 8.02% |
| November-08 | 3.65 | 3,341.47 | 17.68% | March-09 | 3.75 | 2,805.03 | -18.73% |
| December-08 | 3.60 | 3,521.18 | -6.62% | April-09 | 3.63 | 2,800.10 | -3.08% |
| January-09 | 3.20 | 3,198.90 | -2.18% | May-09 | 4.08 | 2,852.57 | 9.83% |
| February-09 | 2.60 | 2,474.75 | 4.90% | June-09 | 6.19 | 3,924.56 | 9.78% |
| March-09 | 3.00 | 2,805.03 | 1.78% | July-09 | 5.54 | 3,273.10 | 7.06% |
| April-09 | 2.85 | 2,800.10 | -4.95% | August-09 | 5.33 | 3,102.68 | 1.48% |
| May-09 | 2.75 | 2,852.57 | -5.43% | September-09 | 5.21 | 3,005.41 | 0.91% |
| **June-09** | **3.20** | **3,924.56** | **-16.75%** | **October-09** | **5.12** | **3,083.63** | **-4.31%** |
| July-09 | | | 32.67% | November- | | | 1.76% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 3.70 | 3,273.10 | | 09 | 5.39 | 3,189.55 | |
| August-09 | 3.60 | 3,102.68 | 2.61% | December-09 | 5.39 | 3,247.44 | -1.80% |
| September-09 | 3.70 | 3,005.41 | 5.93% | January-10 | 5.74 | 3,565.28 | -3.05% |
| October-09 | 3.95 | 3,083.63 | 3.97% | February-10 | 5.83 | 3,629.41 | -0.23% |
| November-09 | 4.85 | 3,189.55 | 17.15% | March-10 | 5.95 | 4,057.63 | -9.12% |
| December-09 | 4.55 | 3,247.44 | -8.18% | April-10 | 7.02 | 4,233.24 | 12.30% |
| January-10 | 5.25 | 3,565.28 | 4.97% | May-10 | 7.53 | 4,241.81 | 6.81% |
| February-10 | 5.40 | 3,629.41 | 1.03% | June-10 | 9.17 | 4,339.28 | 17.43% |
| March-10 | 5.50 | 4,057.63 | -9.32% | July-10 | 8.93 | 4,438.58 | -4.91% |
| April-10 | 5.80 | 4,233.24 | 1.07% | August-10 | 9.64 | 4,454.49 | 7.29% |
| May-10 | 5.55 | 4,241.81 | -4.61% | September-10 | 10.95 | 4,629.80 | 8.88% |
| **June-10** | **5.80** | **4,339.28** | **2.13%** | **October-10** | **11.85** | **4,659.56** | **7.26%** |
| July-10 | 5.80 | 4,438.58 | -2.26% | November-10 | 11.34 | 4,395.17 | 1.44% |
| August-10 | 4.85 | 4,454.49 | -18.25% | December-10 | 11.37 | 4,432.60 | -0.58% |
| September-10 | 4.45 | 4,629.80 | -12.47% | January-11 | 12.05 | 4,464.92 | 5.08% |
| October-10 | 4.85 | 4,659.56 | 7.97% | February-11 | 12.20 | 4,240.18 | 6.40% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| November-10 | 4.50 | 4,395.17 | -1.65% | March-11 | 9.85 | 3,887.07 | -12.70% |
| December-10 | 4.70 | 4,432.60 | 3.50% | April-11 | 10.71 | 4,029.23 | 4.78% |
| January-11 | 4.45 | 4,464.92 | -6.19% | May-11 | 10.30 | 4,078.10 | -5.11% |
| February-11 | 4.00 | 4,240.18 | -5.50% | June-11 | 9.61 | 3,968.12 | -4.20% |
| March-11 | 3.80 | 3,887.07 | 3.57% | July-11 | 9.11 | 3,738.46 | 0.62% |
| April-11 | 3.95 | 4,029.23 | 0.28% | August-11 | 8.36 | 3,465.02 | -1.00% |
| May-11 | 3.85 | 4,078.10 | -3.77% | September-11 | 8.33 | 3,284.06 | 5.00% |
| **June-11** | **3.95** | **3,968.12** | **5.30%** | **October-11** | **8.69** | **3,507.34** | **-2.35%** |
| July-11 | 3.55 | 3,738.46 | -4.71% | November-11 | 7.05 | 3,155.46 | -10.34% |
| August-11 | 3.05 | 3,465.02 | -7.59% | December-11 | 7.41 | 3,205.02 | 3.42% |
| September-11 | 2.95 | 3,284.06 | 2.03% | January-12 | 7.83 | 3,224.18 | 4.92% |
| October-11 | 3.00 | 3,507.34 | -4.90% | February-12 | 7.08 | 3,303.75 | -12.51% |
| November-11 | 2.80 | 3,155.46 | 3.67% | March-12 | 7.71 | 3,366.89 | 6.63% |
| December-11 | 3.00 | 3,205.02 | 5.34% | April-12 | 8.12 | 3,546.66 | -0.02% |
| January-12 | 3.20 | 3,224.18 | 5.86% | May-12 | 7.74 | 3,650.85 | -7.69% |
| February-12 | 3.10 | 3,303.75 | -5.61% | June-12 | 8.00 | 3,703.94 | 1.86% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| March-12 | 3.20 | 3,366.89 | 1.28% | July-12 | 8.18 | 3,832.42 | -1.18% |
| April-12 | 3.35 | 3,546.66 | -0.62% | August-12 | 8.29 | 3,865.76 | 0.47% |
| May-12 | 3.25 | 3,650.85 | -5.93% | September-12 | 8.50 | 3,972.03 | -0.21% |
| **June-12** | **3.50** | **3,703.94** | **5.97%** | **October-12** | **9.00** | **4,143.35** | **1.49%** |
| July-12 | 3.80 | 3,832.42 | 4.81% | November-12 | 8.71 | 4,083.52 | -1.82% |
| August-12 | 3.85 | 3,865.76 | 0.44% | December-12 | 9.11 | 4,133.02 | 3.29% |
| September-12 | 4.10 | 3,972.03 | 3.58% | January-13 | 9.29 | 4,416.60 | -4.68% |
| October-12 | 4.40 | 4,143.35 | 2.84% | February-13 | 9.93 | 4,518.59 | 4.38% |
| November-12 | 5.00 | 4,083.52 | 14.24% | March-13 | 11.75 | 4,860.83 | 9.53% |
| December-12 | 5.00 | 4,133.02 | -1.20% | April-13 | 11.61 | 4,765.23 | 0.79% |
| January-13 | 5.45 | 4,416.60 | 1.98% | May-13 | 12.00 | 5,006.96 | -1.64% |
| February-13 | 5.75 | 4,518.59 | 3.08% | June-13 | 11.07 | 4,598.16 | 0.45% |
| March-13 | 6.20 | 4,860.83 | 0.23% | July-13 | 11.43 | 4,787.56 | -0.84% |
| April-13 | 6.90 | 4,765.23 | 12.68% | August-13 | 11.50 | 4,697.75 | 2.50% |
| May-13 | 7.25 | 5,006.96 | 0.00% | September-13 | 11.57 | 4,793.20 | -1.40% |
| **June-13** | **6.60** | **4,598.16** | **-0.88%** | **October-13** | **12.86** | **4,992.88** | **6.49%** |

| Date | Britam closing price | NSE 20 comparative | MABHR | Mean MABHR for all companies | Std Dev | t-statistic for all companies |
|---|---|---|---|---|---|---|
| October-11 | 5.75 | 3,507.34 | | | | |
| November-11 | 4.90 | 3,155.46 | -5.42% | 11.40% | 0.205398 | 0.435632 |
| December-11 | 5.00 | 3,205.02 | 0.46% | -2.67% | 0.034912 | -0.24755 |
| January-12 | 4.70 | 3,224.18 | -6.78% | -7.83% | 0.133897 | -0.37061 |
| February-12 | 3.95 | 3,303.75 | -19.82% | -6.96% | 0.174252 | -0.28876 |
| March-12 | 4.20 | 3,366.89 | 4.24% | -1.82% | 0.045228 | -0.14797 |
| April-12 | 5.00 | 3,546.66 | 12.23% | 6.63% | 0.063046 | 0.457211 |

| | | | | | | |
|---|---|---|---|---|---|---|
| May-12 | 5.45 | 3,650.85 | 5.72% | 6.80% | 0.021326 | 0.806751 |
| June-12 | 5.45 | 3,703.94 | -1.44% | 2.47% | 0.035041 | 0.228128 |
| July-12 | 5.75 | 3,832.42 | 1.95% | -0.51% | 0.031496 | -0.04952 |
| August-12 | 5.80 | 3,865.76 | 0.00% | -1.51% | 0.027976 | -0.15604 |
| **September-12** | **6.40** | **3,972.03** | **7.13%** | **-4.64%** | **0.09752** | **-0.25751** |
| October-12 | 6.15 | 4,143.35 | -8.21% | 8.74% | 0.174025 | 0.362943 |
| November-12 | 6.00 | 4,083.52 | -1.01% | -0.07% | 0.019191 | -0.00859 |
| December-12 | 5.85 | 4,133.02 | -3.74% | -0.29% | 0.044009 | -0.02361 |
| January-13 | 6.35 | 4,416.60 | 1.57% | 1.77% | 0.01719 | 0.233698 |
| February-13 | 7.00 | 4,518.59 | 7.46% | 5.17% | 0.108448 | 0.271677 |
| March-13 | 8.90 | 4,860.83 | 16.71% | 6.94% | 0.108471 | 0.365144 |
| April-13 | 8.20 | 4,765.23 | -6.21% | 1.86% | 0.057518 | 0.134284 |
| May-13 | 8.35 | 5,006.96 | -3.14% | 5.11% | 0.088777 | 0.297073 |
| June-13 | 8.00 | 4,598.16 | 4.24% | -3.33% | 0.056451 | -0.24294 |
| July-13 | | | -5.29% | 1.02% | 0.051387 | 0.078252 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 7.90 | 4,787.56 | | | | |
| August-13 | 8.35 | 4,697.75 | 7.43% | 3.90% | 0.060469 | 0.274867 |
| **September-13** | **8.10** | **4,793.20** | **-5.05%** | **1.45%** | **0.050487** | **0.111544** |
| October-13 | 10.30 | 4,992.88 | 19.95% | 6.38% | 0.097147 | 0.354286 |
| November-13 | 14.20 | 5,100.88 | 29.97% | 3.71% | 0.199171 | 0.144119 |
| December-13 | 14.90 | 4,926.97 | 8.28% | 0.30% | 0.091209 | 0.017117 |
| January-14 | 18.10 | 4,960.99 | 18.77% | 11.05% | 0.054974 | 0.815928 |
| February-14 | 18.40 | 4,933.41 | 2.20% | -4.05% | 0.063165 | -0.27908 |
| March-14 | 18.30 | 4,945.78 | -0.80% | 2.49% | 0.023842 | 0.279829 |
| April-14 | 18.15 | 4,948.97 | -0.89% | -4.06% | 0.022885 | -0.46519 |
| May-14 | 18.00 | 4,881.56 | 0.54% | -3.05% | 0.025953 | -0.32809 |
| June-14 | 20.50 | 4,885.04 | 12.93% | 5.71% | 0.052506 | 0.43132 |
| July-14 | 23.50 | 4,906.09 | 13.23% | 4.17% | 0.064255 | 0.284959 |
| August-14 | 24.75 | 5,139.39 | 0.54% | 0.59% | 0.035822 | 0.054031 |
| **September-14** | **35.50** | **5,255.62** | **33.83%** | **12.26%** | **0.155701** | **0.538237** |

| | | | | | | |
|---|---|---|---|---|---|---|
| October-14 | 27.00 | 5,194.89 | -26.21% | -13.75% | 0.091 | -0.78976 |
| November-14 | 26.65 | 5,156.33 | -0.56% | -1.57% | 0.045505 | -0.12783 |
| December-14 | 30.00 | 5,112.64 | 12.69% | 6.55% | 0.045024 | 0.534362 |
| January-15 | 28.00 | 5,212.11 | -8.83% | -8.74% | 0.031072 | -0.85911 |
| February-15 | 29.50 | 5,491.37 | 0.00% | 3.43% | 0.027128 | 0.361181 |
| March-15 | 27.50 | 5,248.16 | -2.49% | 0.94% | 0.032689 | 0.090369 |
| April-15 | 22.50 | 5,091.43 | -17.04% | -6.29% | 0.093983 | -0.35529 |
| May-15 | 22.50 | 4,786.74 | 6.17% | 0.81% | 0.048681 | 0.063282 |
| June-15 | 20.75 | 4,906.07 | -10.56% | -3.49% | 0.051009 | -0.26745 |
| July-15 | 16.60 | 4,404.72 | -11.53% | -3.90% | 0.054202 | -0.2898 |
| August-15 | 16.55 | 4,176.59 | 5.02% | -0.37% | 0.044687 | -0.03058 |
| **September-15** | **16.80** | **4,173.52** | **1.57%** | **3.01%** | **0.020905** | **0.360698** |
| October-15 | 16.00 | 3,868.83 | 2.70% | 1.90% | 0.027675 | 0.197642 |
| November-15 | 14.75 | 4,016.18 | -11.87% | -2.72% | 0.065783 | -0.18338 |
| December- | | | -9.84% | -3.65% | 0.055256 | -0.26861 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 15 | 13.45 | 4,040.75 | | | | |
| January-16 | 12.10 | 3,773.17 | -3.73% | 1.16% | 0.035145 | 0.107554 |
| February-16 | 12.00 | 3,862.24 | -3.16% | 6.87% | 0.073488 | 0.438798 |
| March-16 | 10.85 | 3,982.09 | -13.13% | -4.52% | 0.061453 | -0.31551 |
| April-16 | 13.30 | 4,009.26 | 19.68% | 6.67% | 0.093161 | 0.378639 |
| May-16 | 14.80 | 3,827.80 | 15.32% | 6.28% | 0.064791 | 0.427417 |
| June-16 | 14.00 | 3,640.61 | -0.54% | -0.38% | 0.004516 | -0.0984 |
| July-16 | 12.50 | 3,488.67 | -7.07% | 2.71% | 0.080655 | 0.165034 |
| August-16 | 10.65 | 3,178.83 | -6.72% | -2.71% | 0.028923 | -0.2757 |
| **September-16** | **10.55** | **3,243.21** | **-2.95%** | **0.89%** | **0.040498** | **0.076452** |