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**The effect of an IPO on the share performance of industry rivals:  
An event study analysis of the Nairobi Securities Exchange**

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## **List of abbreviations**

AR- Abnormal Return

BAT- British American Tobacco

CAAR- Cumulative Average Abnormal Return

CAR- Cumulative Abnormal Return

DTB- Diamond Trust Bank

HF- Housing Finance

IPO- Initial Public Offering

KPLC- Kenya Power and Lightning Company

KQ- Kenya Airways

NMG- Nation Media Group

NSE- Nairobi Securities Exchange

POT – Pecking Order Theory

SCBK- Standard Chartered Bank of Kenya

SGL- Standard Group Limited

T-stat- Test statistic

## **Abstract**

The research project analyzes the impact an Initial Public Offering has on the share performance of industry rivals. Access to funds is one of the key processes of firms and an IPO is one of the channels that firms seeking better growth opportunities will pursue. In regard to the growing market of the Kenyan industry, more firms are expected to list at the Nairobi Securities Exchange and it will be of interest to study how an IPO will impact the share performance of an industry cluster. This research uses an event study approach to analyze the share performance of industry incumbents for the time period 2004 to 2014. The research finds that an IPO has significant impact on the incumbents share performance and the significant effect is either negative or positive especially when the listing company offers similar services. This research also finds evidence that there is an insignificant impact when the listing company offers totally different services in comparison to the incumbents. The data is collected from the NSE as well as the websites of companies that have undergone an IPO.

## **Chapter 1: Introduction**

### **1.1 Background**

An Initial Public Offering (IPO) is a process in which a private company goes public through sale of shares. The main goal of an IPO is to raise funds however it is not limited to this function only as there are other purposes such as an exit strategy for owners of the company. An IPO is the first time a company issues shares in the primary market and it is facilitated by an investment banker. For example, the Safaricom IPO of May 2008 was facilitated by Dyer and Blair in the domestic Kenyan market and Morgan Chase in the International Market.

A significant amount of research has been done on the performance of companies during and around an IPO. Most of the research has focused on the firm specific short run and long run performance after an IPO, for example (Loughran, Ritter, & Rydqvist, 1994), while more recent studies have looked at the competitive industry effects of an IPO, for example, (Akhigbe, Borde, & Whyte, 2003) and (Hsu, Reed, & Rocholl, 2010). The industry effect of an IPO is also the field of interest of this research since there is reason to believe that a new entrant into an industry will have an impact on the share price performance of other players in that sector.

Ritter (1984) can be said to be the one who aroused interest among other researchers about the performance of companies around an IPO with research that dates back to 1984. According to (Ibbotson, Ritter, & Sindelar, 1988), IPOs are underpriced in the US at an average of 15% due to several factors such as investment banker power, asymmetric information among investors and the bandwagon hypothesis. Ritter (1991) also found that there is short run positive return and long run negative adjusted market return after an IPO in analysis of frontier stock markets. For instance, the results showed that in the U.S.A, the initial return was 10% and the 3 year period market adjusted return was -20%. In Britain, the initial return was found to be 14.1 % while the 3 year market adjusted return was -8.1%. Stoll and Curley (1970) studied 205 small offering and noticed short run price appreciation and long run dismal performance.

Mikkelsen, Partch, & Megan (1988) examined the impact of withdrawn IPOs on share performance of similar industry players. The results found showed that the withdrawal of an IPO leads to share appreciation while the successful completion of an IPO leads to share price depreciation of rivals in a particular industry. Aigbe et al (2003) extended the literature on performance around an IPO by studying if there exists an industry effect for initial public offerings. The results found an insignificant reaction showing that IPO was firm specific. However, Hsu et al (2010) in the paper “New Game in Town: Competitive effects of IPOs” found that companies experience negative price reactions to completed IPOs while publicly traded companies reacted positively to a withdrawn IPO. The main focus was price reaction which will also be the interest of this study. In both Aigbe et al (2003) and Hsu et al (2010) the study was on the U.S.A market but the difference in the results is that the latter categorized small IPOs and large IPOs to reduce the contamination effects given that the U.S.A stock market is a world class asset group that is deeply penetrated. In the study, there will be no need for separation since the Nairobi Securities Exchange is not yet fully developed and it also has a group for small companies, the Growth and Enterprise Market Segment (GEMS). In addition, (Slovin, Sushka, & Ferraro, 1995) also found that share prices of rivals react negatively to IPOs. However their focus was on equity carve outs, spin offs and asset sell-offs.

There is particular interest in IPOs in Kenya according to Baker &McKenzie, a London based law firm, which ranked Kenya as the country that will have highest number of IPOs in East Africa with an 8% share of the total in Africa (Senelwa, 2015). During the recently concluded Global Entrepreneurship Summit that happened in Nairobi, Steve Case (Harrison, 2015) a founder of American Online and head of Revolution Ventures was quoted saying that “Kenya particularly, and Nairobi particularly, is quickly emerging as a quite vibrant startup community”. Case echoed President Obama’s comments of Kenya becoming a regional trading hub by adding that “he had met several companies that could go public in the next years with billion dollar valuations in Nairobi which not only focused on Kenyan needs but also meeting global ambitions” (Harrison, 2015). Hence, it would be of interest to know what new entrants signal on the performance of the industry players. This research will focus on the impact of IPOs on share performance of companies in an industry that an IPO is happening.

## **1.2 Problem statement**

This paper addresses the gap that exists between companies going public the first time through an IPO and the impact it has on the share price performance of rivals in that industry. The paper analyzes whether an IPO event has a significant effect on the share price performance of cluster industry by using an event study approach of the IPOs that have happened at NSE. There is reason to believe that events have a significant impact on performance of competitors or rivals in an industry as evidenced by various studies such as Hsu et al (2010) on American IPOs (Hsu, Reed, & Rocholl, 2010), (Lang & Stulz, 1992) on bankruptcy announcements and on the contagion effects in the insurance industry (Polonchek & Miller, 1999). This paper will also study whether the observed share price depreciation after an IPO also occurs at the Nairobi Securities Exchange. The focus of this paper will be on the rivals and not the companies having an IPO since there might be a difficulty on accessing reliable data of the firms when they were private. Research examining the impact of IPOs on share performance of industry rivals has not been carried out on the NSE.

## **1.3 Research objective**

To determine the impact of IPOs on the share price performance of industry rivals.

## **1.4 Research question**

What is the impact of IPOs on the share price performance of industry rivals?

## **1.5 Significance of study**

This study presents important information to incumbent firms in an industry on what might be the possible impact of new entrants on the share price performance. The study is useful to private companies that may want to list on the NSE as they are able to identify what effect their entry will have on the competitive position of industry rivals, hence how industry rivals might adjust or react to entry of new companies. The research will also be useful to the capital market authority as the results might be a guideline on how policies may be structured, for instance policies which encourage more IPOs if there is share price appreciation of industry rivals signaling positive expectations of that particular industry.

For those in the academic field, the research will be adding more knowledge to the literature.

## **Chapter 2: Literature review**

### **2.1 Introduction**

This chapter presents the literature surrounding IPO effects on industry performance. The focus is on the impact an IPO has on industry rivals with few instances of literature on short run and long run performance after companies have gone public. The chapter then gives the advantages and disadvantages of an IPO and concludes with a conceptual framework of the research study.

### **2.2 Discussion of previous literature**

While most of the attention has been focused on the short run and long run performance of companies after an IPO, there has been also a considerable interest in the effect an IPO has on the industry rivals. Mikkelson, Partch, & Megan (1988) did an analysis of 311 completed and withdrawn IPOs of US common stock and convertible debt. On average, they found a negative price reaction upon successful completion of an IPO on rival firms and positive share price reaction upon withdrawal of an IPO. The research used an event window of 60 days before the announcement of a proposed offering and 20 days after issuance or withdrawal of an IPO (Mikkelson, Partch, & Megan, 1988). The research calculated both the raw returns and prediction errors in the time period 1974-1983 for firms listed on the New York or American Stock Exchange. The presence of abnormal returns evidenced by the study was a signal that managers have proprietary financial information that market participants are not aware of.

The evidence of managers' proprietary financial information was also a rationale for ranking stock issuance as the last resort of financing in the pecking order theory (POT) according to Myers (1984). The POT literature suggested that stock issuance will be followed by underperformance and hence it should be used as the last means of financing since not only does it convey negative information but also prompts managers to disclose private proprietary information to the new shareholders since common stock is the only way one can gain control of a company. Consequently, researches surrounding IPO performance have recorded a post IPO drop in profitability or share performance.

Hsu et al (2010) found that companies experience negative stock price reactions to completed IPOs and publicly traded companies respond positively to the withdrawal of an

IPO in their industry, consistent with (Mikkelson, Partch, & Megan, 1988) findings. The main focus of the study by Hsu et al, 2010 was on the price reaction of shares and they had developed two hypotheses to be tested: 1.) Successful completion of an IPO should have a negative impact on rival stock prices and 2.) The withdrawal of an IPO should have a positive impact on rival stock prices (Hsu, Reed, & Rocholl, Journal of Finance, 2010). A withdrawal of an IPO occurs when the minimum number of shares fails to be sold within a specified period and money is refunded to investors whereas the issuing firm receives no money. Hsu et al, (2010) separated the 4,188 completed IPOs and 1,630 withdrawn IPOs of 1980-2001 on the basis of small and large IPOs so as to reduce the contamination and domineering effects of large IPOs on small IPOs and obtained a final sample of 134 completed IPOs and 37 withdrawn IPOs. The event window used was -30 days and plus 30 days after the event which showed Cumulative Abnormal Returns that was an equally weighted market model excess return across each firm in an IPO event window. The results showed that the cumulative abnormal returns for the incumbents firms in completed and withdrawn IPOs 20 days before the IPO were similar however 10 days to the IPO event, the CAR of firms in industries with completed IPO were negative while those of the incumbents in withdrawn IPOs were positive. For instance, in the event window -10 days before the IPO and +10 days after the IPO, the mean CAR for the incumbent firms in completed IPOs was -0.82% and the mean CAR for the incumbent firms in withdrawn IPOs was +2.06%. Hsu et al, 2010 suggests that the fact that similar results were recorded for incumbents in completed and withdrawn IPOs 20 days to the IPO event is evidence that investors are uncertain about whether an IPO would occur or not. It will be of interest to see whether the same scenario observed by Hsu et al, (2010) will also be reflected in a test at the NSE. Furthermore, Hsu et al, (2010) calculated the loss for each incumbent firm by “multiplying the mean CAR of each incumbent by the market capitalization at the beginning of the event window” The results showed that the average loss for each incumbent was \$3.271 million around an IPO signaling that an IPO was bad news for industry rivals thus supporting the proposed hypothesis.

The Wall Street Journal documents there are various reasons for withdrawal of an IPO according to an interview done with managers (Mikkelson, Partch, & Megan, 1988). Unfavorable market conditions was the major reason for withdrawal of IPOs in

addition to other factors such as arrangement of private financing, legal action and proposed takeover of a firm.

Aigbe et al (2003) was the most similar study to that of (Hsu, Reed, & Rocholl, 2010). However, the results found were the opposite of that of Hsu et al, (2010) as the research showed an insignificant reaction of industry rivals to an IPO suggesting that an IPO was firm specific and with no impact on the industry. The reason for the different outcomes was that Aigbe et al, (2003) did an assessment of the overall effect without separating the large IPOs from the small IPOs. As a result, the large IPOs had a domineering effect over the small IPOs which caused a range of results that were insignificant averagely. Aigbe et al, (2010) used a sample of 2,493 IPOs between 1989 and 2000 that had at least one publicly traded rival firm and obtained the cumulative abnormal returns on both the trading day and filing day of the IPO. The research considered the filing day of the IPO to be important as firms will react to the first public announcement of an IPO.

Aigbe et al (2003) had developed two hypotheses to explain the rationale underlying the effect an IPO has on industry rivals; the “competitive effects” and “information effects”. “Competitive effects” suggested that an IPO made industry rivals to reassess their competitive landscape in context of the new entrant into the industry. The reason was that an IPO increased a firm’s gain to capital and funding and boosted confidence in its performance thus raising the possibility of the IPO negatively impacting on the share performance of rival firms in an industry. “Information effects” regarding a particular industry argued that an IPO could be a signal of market confidence for the whole industry thus causing an appreciation of shares of all rival firms in that industry. On the contrary, investors also have to weigh the possible effects of the unknown due to the information asymmetry between the managers and new investors, which might imply negative signals about an industry thus causing a depreciation of the share performance of the entire industry.

Ibbotson et al (1988) also explained that information asymmetry was one of the reasons why IPOs are underpriced. Asymmetric information among investors makes the less informed investors only to buy new shares if they are underpriced. History and academic research have proved this hypothesis, for instance, the social network Linked In started

trading in May 2011 at \$45 per share but closed the day at \$94.25, more than twice the initial trading price, and it had hit a high of \$122.7 on the same day (Fink, 2011). In addition to asymmetric information, Ibbotson et al (1988) argument proposed that investment bankers have proprietary adequate financial information about the market and would potentially underprice IPOs to reduce the effort and costs of getting investors. Similarly, the bandwagon hypothesis suggested that investors follow the actions of other investors even when they have proprietary information. In economics, the bandwagon effect happens when the preference for a commodity increases as more of the commodity is bought (Leibenstein, 1950); and since the market has more uninformed investors than informed investors, the uninformed investors who are a representation of the bandwagon will only buy the shares if they are underpriced or at a discount. Underpricing of IPOs can also be explained by theories regarding “hot issue market” and “windows of opportunity”. According to (Ritter, The "hot issue" market of 1980, 1984), a hot issue period has many IPOs since there is high demand for a stock causing the stock price to be traded above the initial price; high demand leads to an increase in prices. Ritter’s (1984) arguments were consistent with that of (Roger G. Ibbotson, 1975) when they studied the prediction of hot issue markets. Window of opportunity suggests that IPOs might be underpriced temporarily before its price rises drastically when traders become aware of the mispricing. Hence a window of opportunity might occur when an IPO is underpriced allowing informed investors to buy stocks at lower prices and sell them off at higher prices when the demand increases or rather the window of opportunity closes.

Spiegel and Tookes (2014) also found that an IPO leads to a decline in profits of industry rivals and makes it easier to steal customers from industry rivals. The data comprised IPOs of U.S stocks for the years 1983-2011 and found that the median industry profits decline by “10%-25%” and it becomes “3 to 4 times” easier to steal industry rivals’ customers. The reason is that an IPO makes the products in a particular industry more homogeneous which results in lower profits per product and it becomes easier for customers to move from one firm to another as the products reduce in uniqueness. Spiegel and Tookes (2014) used the mobile phone industry as an explanation to this scenario; “Unit sales of mobile phones increase but profits decline as products become more similar”

Slovin et al (1995) also studied the share price response of rival firms after an IPO and found that upon announcement, the average return for rival firms was negative 1.1 percent. However, Slovin et al (1995) had focused on equity carve outs, a special type IPO where a parent company sells the shares or equity stake of its subsidiary. The negative price reaction might be explained by the fact that an equity carve out allows the subsidiary to gain access to more funds that help it “operate more efficiently and compete more effectively”.

Ritter (1991) found that firms have long run dismal performance after an IPO. The results found were consistent with that of (Jain & Kini, 1994) who used matched pairs methodology in analysis of the post IPO performance of US firms. The firms under study exhibited a drop in post IPO performance as measured by operating return on assets and operating cash flow deflated by assets even though these firms exhibited a high growth in sales and capital expenditures (Jain & Kini, 1994). However, in a research of Saudi Arabian firms, (Alanazi, Liu, & Forster, 2011) found that performance of Saudi State Owned Enterprises increased after an IPO in comparison to the pre IPO period as showed by accounting measures, the ROA (Return on Assets) and ROS (Return on Sales) (Alanazi, Liu, & Forster, 2011). In the research by (Alanazi, Liu, & Forster, 2011) the 21 Saudi firms examined showed that the ROA increased by an average of 7.54% after an IPO and the post IPO ROS increased by an average of 19.22%. The research also used a matched pairs methodology similar to (Jain & Kini, 1994), a research design in which a researcher matches subjects on characteristics that might affect their reaction to a treatment (Vogt & Johnson, 2011).

### **2.3 Advantages and disadvantages of having an IPO**

As earlier mentioned in the literature, an IPO presents a number of advantages and disadvantages to both the firm listing and industry participants. According to (Pagano, Panneta, & Zingales, 1998) there are different advantages and disadvantages of an IPO. The first disadvantage was adverse selection due to information asymmetry between insiders and outsiders. It is with no doubt that insiders or owners of a business are more informed than outsiders and as a result IPOs are underpriced to compensate for the less informed investors. The adverse selection situation is similar to the classical problem of

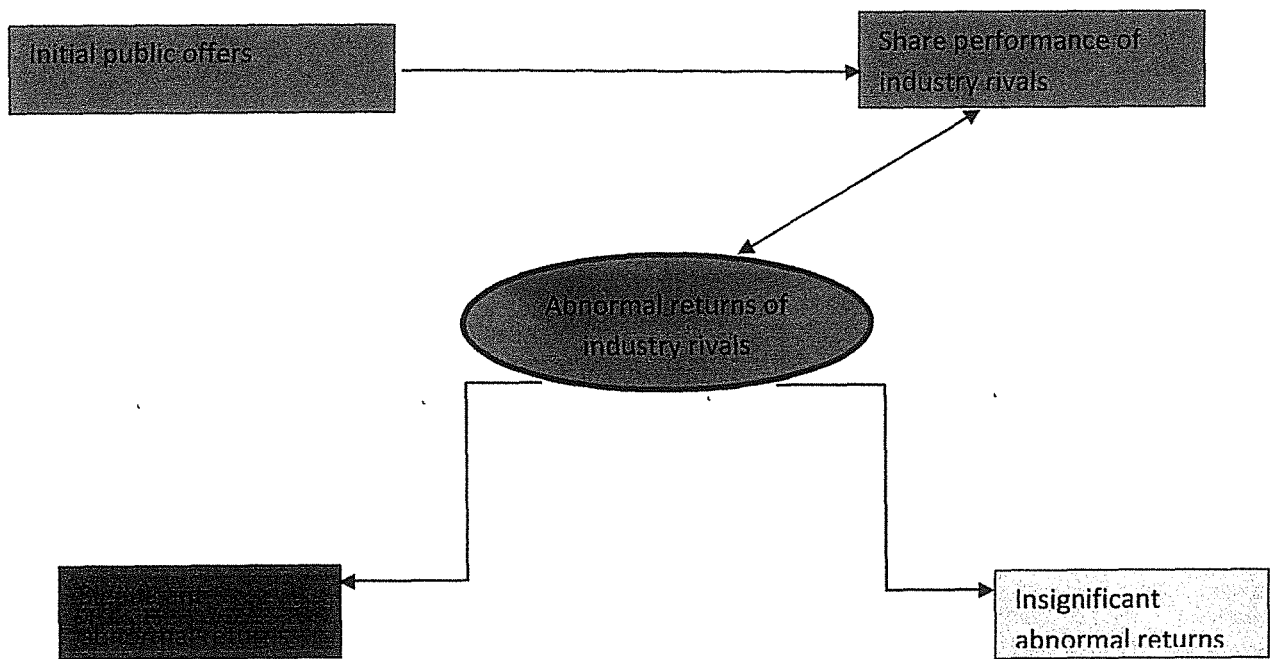
lemons in the car market as highlighted by (Akerlof, 1970). Hence, the presence of brokers such as investment bankers and underwriters is important to bridge the information gap. IPOs also come with a number of administrative expenses and fees such as underwriting fees, registration fees and legal fees. In addition, an IPO implies loss of confidentiality as the company has to release information to the public which might adversely affect the competitive advantage (Pagano, Panneta, & Zingales, 1998). The company will also be under close scrutiny by relevant authorities such as tax authorities and accounting authorities, which might seal any loopholes for making extra profits.

Pagano et al (1998) also highlighted the advantages of going public. In addition to an IPO signaling positive enthusiasm about an industry (Akhigbe, Borde, & Whyte, 2003), an IPO increases the channels to access funding. The company becomes more visible and can gain funds from other sources apart from banks and even at a lower cost of credit as it gives a company a stronger position when negotiating interest rates with banks. An IPO similarly presents an opportunity for owners to diversify their investments as they can use the proceeds from the IPO to invest in other companies. The money raised during an IPO also aids in diversifying the risk among a large group of shareholders. Managers of publicly traded companies are also under close monitoring which increases managerial discipline and professionalism at the work place. Hence, if an IPO makes the new firm stronger, it is expected that the IPO will negatively impact the performance of rivals. Therefore, going public requires companies to plan ahead of time so as to reduce the costs and maximize the benefits. Adoption of leading practices will help in ensuring the whole process runs smoothly.

## **2.4 Conceptual framework**

The research looks at the relationship between an IPO and the share performance of industry incumbents. The variable of interest will be the abnormal returns and whether or not the abnormal returns are significant in order to conclude if the IPO's effect was significant.

Figure 1: Conceptual Framework



## **Chapter 3: Methodology**

### **3.1 Research design**

The research uses an event study approach (Mackinlay, 1997). The research is explanatory in nature as it seeks to explain the impact an IPO has on the share performance of an industry cluster, both before an IPO and after an IPO.

### **3.2 Sampling design**

The sample used in the study will be all IPOs that have happened at the Nairobi Securities Exchange between 2004 and 2014<sup>1</sup>. The 10 year period has been used since it provides a wide data to be used that will result in significant results. The time period will also capture the different advancements that have happened at the NSE as well as the political regime shifts that have occurred.

### **3.3 Data sources**

The research will use secondary data collected from the Nairobi Securities Exchange and the Capital Markets Authority (CMA). Supplementary data will be collected from the websites of the companies that went public and other online sources such as Reuters and Bloomberg.

### **3.4 Data analysis**

The research will determine if there are any abnormal returns (AR) in the share prices of industry rivals on the event window an IPO. The announcement date is used since it is expected that industry rivals will react to the first public information of a company that want to list in a specific industry. Craig Mackinlay also documents that “new information is likely to impact share prices” (Mackinlay, 1997). As a result, the null hypothesis is that abnormal returns are equal to zero while the alternative hypothesis is that abnormal returns are not equal to zero

$$H_0: AR=0$$

$$H_1: AR \neq 0$$

---

<sup>1</sup> See appendix 1

The event window will be -10 days before the IPO is announced up to the first trading day of the stock on the NSE. The event date 0 will be when the company first makes the information public about the announcement of an IPO. The event date in this study is either the prospectus date or the offer open date based on data availability. The two dates can be used interchangeably with the prospectus date being given priority since they are relatively close in the Kenyan case thus would yield more or less similar results.

The abnormal returns (AR) will be calculated as the difference between the actual stock returns and the normal returns of the incumbents in a particular industry. The normal returns will be calculated using the standard market model used in event studies, which is computed as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it}$$

Where

$R_{it}$  Is the normal return of an incumbent stock i at date t

$R_{mt}$  Is the market return of the NSE 20 index at date t.

$\epsilon_{it}$  Is the statistical error term

$\alpha_i, \beta_i$  are the model parameters that will be estimated using Generalized Method of Moments (GMM). The estimation window will be 12 months before the event window.

The abnormal return (AR) is then computed as follows:

$$AR_{it} = R_{it} - E(R)_{it}$$

Where  $AR_{it}$  is the abnormal return,  $R_{it}$  is the actual return and  $E(R)_{it}$  is the normal or expected return of the shares of the incumbents of an industry.

The Cumulative Abnormal Return (CAR) will then be computed for each incumbent firm as shown below:

$$\overline{CAR}_{it} = \sum_{t=1}^T AR_{it}$$

The Cumulative Average Abnormal Return (CAAR) for the incumbent firms will then be computed as shown below:

$$CAAR = \sum_{t=1}^T C\tilde{A}R_{it} / N$$

Where N is the number of observations.

The CAAR is used since it has greater power to draw statistical inferences about the event in comparison to the AAR (Average Abnormal Return). The CAAR also gives an overall impact of the event.

A parametric test statistic will then be conducted based on the traditional t-stat of (Brown & Warner, 1985). The t-stat is computed as follows:

$$tstat = \frac{CAAR}{SE}$$

Where the numerator is the cumulative average abnormal returns and the denominator is the standard error of the Generalized Method of Moments regression.

If the *tstat* is greater than the critical value, the null hypothesis will be rejected showing that there are abnormal returns and the IPO has significant impact on the share performance of an industry cluster.

## **Chapter 4: Data analysis and presentation**

### **4.1 Introduction**

This chapter discusses the analysis of the data used for this study. The analysis and interpretation is based on abnormal returns calculated during the event window. The event window is the period 10 days before an IPO is announced or opened up to when the company starts to officially trade on the NSE. The dates of the announcement of the prospectus and opening of the offer are used interchangeably on the basis of data availability. Furthermore, the dating of the prospectus and offer date were found to be relatively close in the Kenyan case thus would yield more or less similar results. Appendix 2 shows the list of IPOs used in the analysis and the respective prospectus date or offer open date and official commencement trading day on the NSE<sup>2</sup>. Safaricom and Nairobi Securities Exchange Limited are excluded in the analysis since they are the only publicly listed companies in their industries. Access Kenya Group limited is excluded from the analysis due to data unavailability since it was delisted from the NSE.

It is important to note that since the prospectus date, offer open date and first trading day is dependent on a particular IPO, then the event window days are not similar across the different IPOs under analysis.

### **4.2 Firm's returns**

The returns were found using daily stock prices obtained from the Nairobi Securities Exchange (NSE). The returns are the daily change in price divided by the price of the preceding trading day. A GMM regression analysis was carried out using the daily stock returns and the market returns (NSE 20 index), during the estimation period of 1 year before the event window. The abnormal returns were tested using the below hypothesis:

*H0: AR = 0 Abnormal returns are non-significant*

*H1: AR ≠ 0 Abnormal returns are significant*

---

<sup>2</sup> See appendix 2

### 4.3 Market reaction to the IPO event

The Cumulative Abnormal Returns, Cumulative Average Abnormal Returns and the test statistic of the different industry rivals in a particular IPO event are presented below. A graphical representation of the CAR and CAAR is also shown and the results show that the IPOs had different impacts on the industry rivals. An IPO effect on industry rivals was significant if the test statistic exceeded the critical value and was insignificant if the test statistic was less than the critical value, then the IPO effect was insignificant. The absolute critical value used is 1.96 given a 95% confidence interval.

#### 4.3.1 Kengen IPO – Insurance Industry

Table 1

Company	CAR	CAAR	Test statistic
Total Kenya	0.007369967	-0.020986970	-1.57312
KPLC	0.0816798	0.048688	2.443336
Kenol Kobil	-0.14399	-0.04557	-2.26215

The results show that the Kengen IPO did not have a significant impact on the share performance of Total Kenya as evidenced by a t-stat of -1.57312. The IPO had a significant impact on KPLC (Kenya Power and Lightning Company) and Kenol Kobil. Kplc had a positive CAAR of 4.8688% significant at 5% level and Kenol Kobil had a negative share price reaction as evidenced by the -4.557% CAAR significant at 5% level.

Figure 2

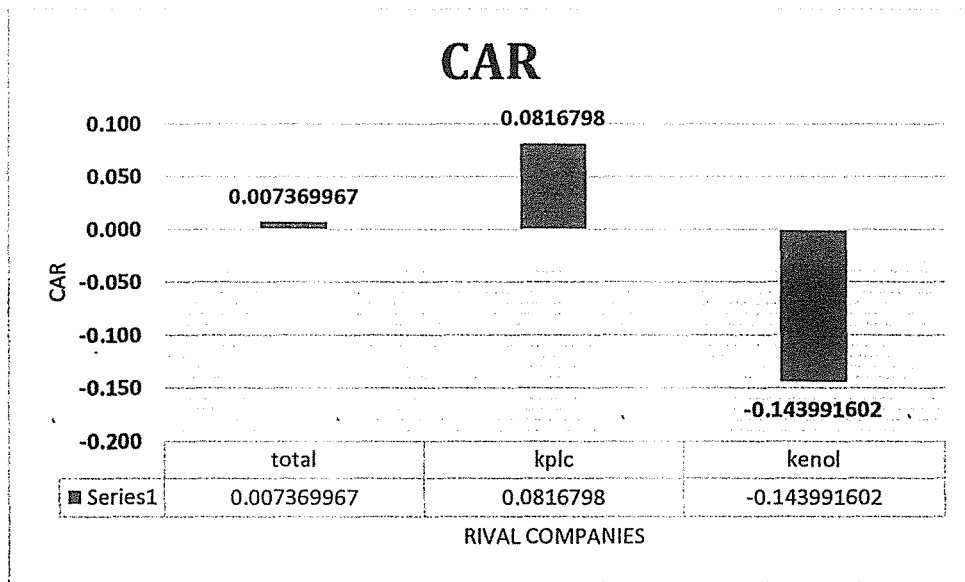
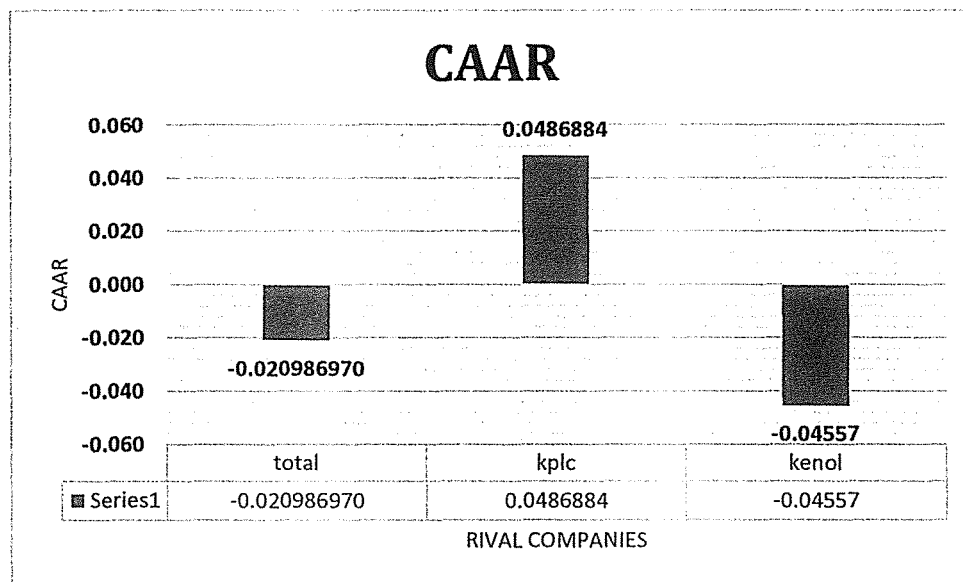


Figure 3



### 4.3.2 Britam IPO – Insurance Industry

Table 2

Company	CAR	CAAR	Test statistic
Jubilee	0.419627	0.188784	6.932677
Kenya Re	0.017474	-0.02204	-1.31617
Pan African	0.623368	0.180635	4.020633

Figure 4

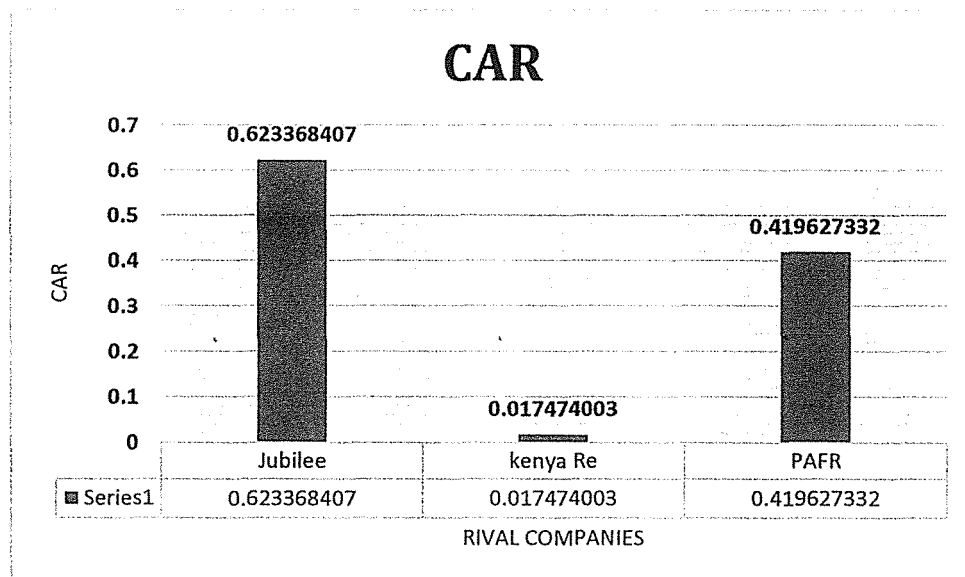
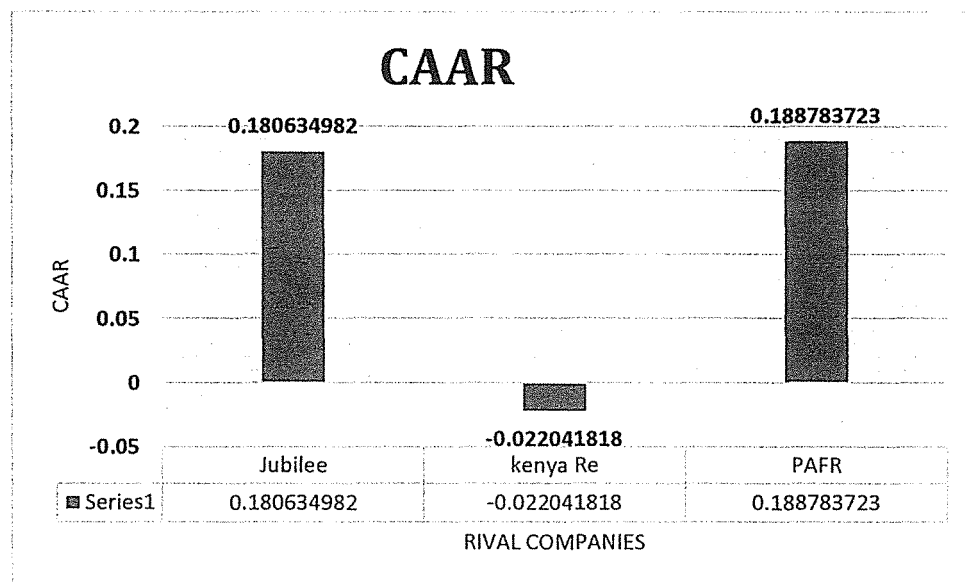


Figure 5



In the Britam IPO analysis, the CAAR for Kenya Reinsurance Company (Kenya Re) was found to be insignificant given a test statistic of -1.31617 compared to a critical value of 1.96. This makes a lot of sense since in spite of Kenya Re and Britam being in the insurance industry, they both offer very different services; Britam deals with insuring companies and individuals through offering general insurance and life insurance while Kenya Re is in the business of reinsuring insurance companies against suffering more

claims than expected. The Britam IPO had a positive share price impact on both Jubilee and Pan African Insurance as evidenced by the positive CAAR of 18.8784% and 18.0635%. This is probably due to the fact that the Britam IPO sends positive signals about the insurance industry making people gain confidence in the insurance stocks, supporting evidence of the information effects suggested by Aigbe et al, (2003).

#### 4.3.3 Kenya Re IPO – Insurance Industry

Table 3

Company	CAR	CAAR	Test statistic
Jubilee	0.057275	0.003531	0.09275
Pan African	-0.09653	-0.02902	-0.74535

Kenya Re IPO did not have a significant impact on Jubilee Insurance and Pan African Insurance as evidenced by the low t-stat probably due to the difference in nature of services offered by the incumbents and Kenya Reinsurance Company. The CAAR of Jubilee was 0.003531 and the CAAR of Pan African Insurance was -0.02902 and both were insignificant at 5% level.

Figure 6

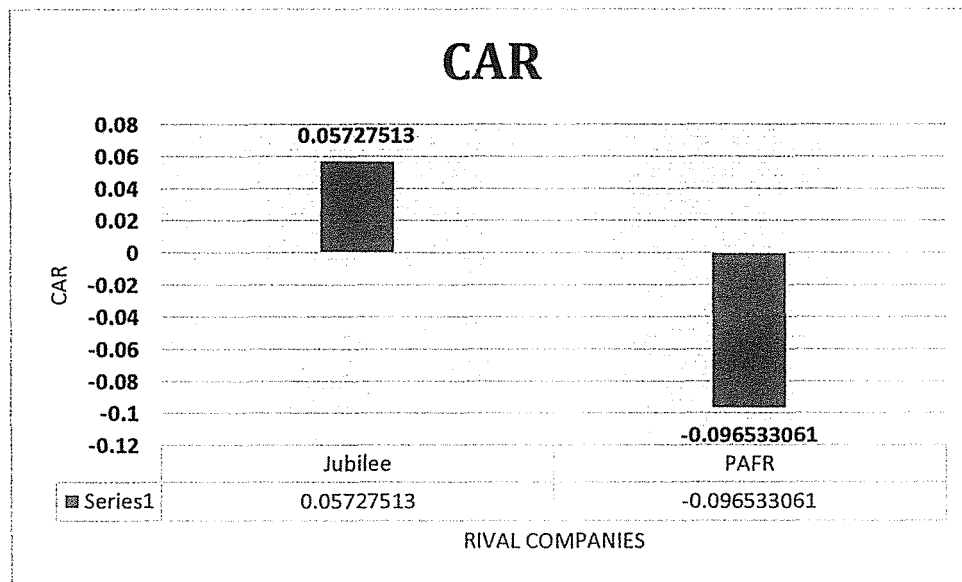
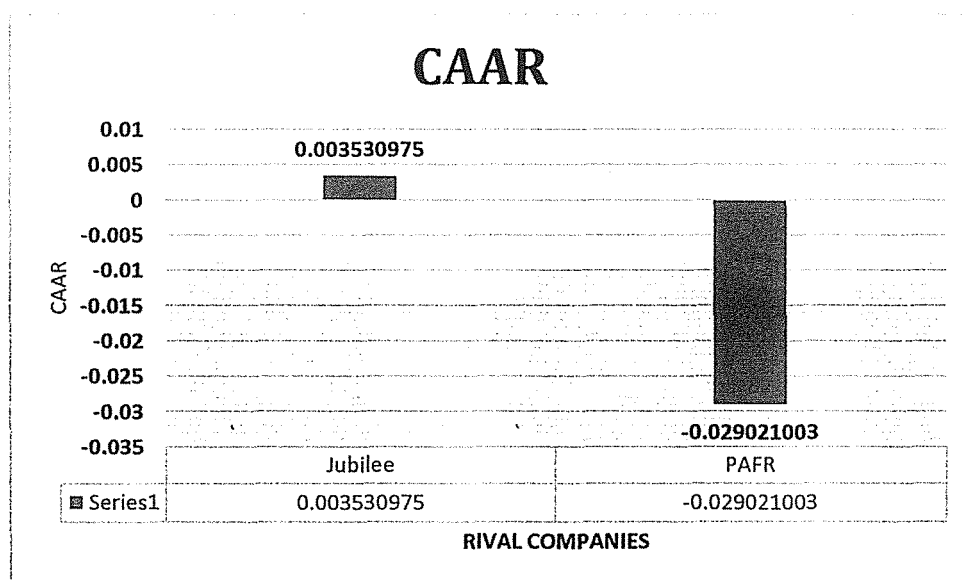


Figure 7



#### 4.3.4 Scan-group IPO – Commercial and Services Industry

Table 4

Company	CAR	CAAR	Test statistic
Hutchings Biemer	0	0	0
Kenya Airways	-0.31683	-0.13246	-5.48256
NMG	-0.00465	-0.01029	-0.43677
SGL	0.112931	0.034188	1.28784
TPSE	-0.26148	-0.11924	-5.71491
Uchumi	0.029361	0.027368	0.773805
Express	-0.18138	-0.09053	-2.93806

The scan group IPO had a significant impact on the share price behavior of KQ, TPSE, and Express Limited as shown by the t-stat. KQ experienced a negative price reaction as shown by the -13.246% CAAR. TPSE experienced a negative share price reaction as evidenced by the -11.924% CAAR. Similarly, Express Limited experienced a negative price reaction as evidenced by the -9.053% CAAR. There was no impact on the share price reaction of Hutchings Biemer as the share price remained constant during the whole event window of the Scan-group IPO. The effect was insignificant on KQ, NMG, SGL and TPSE

Figure 8

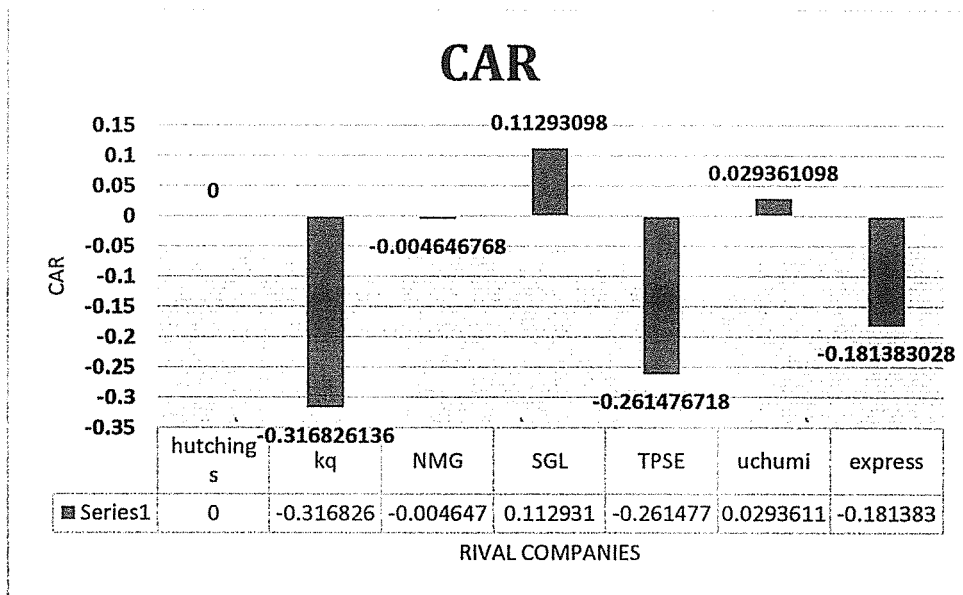
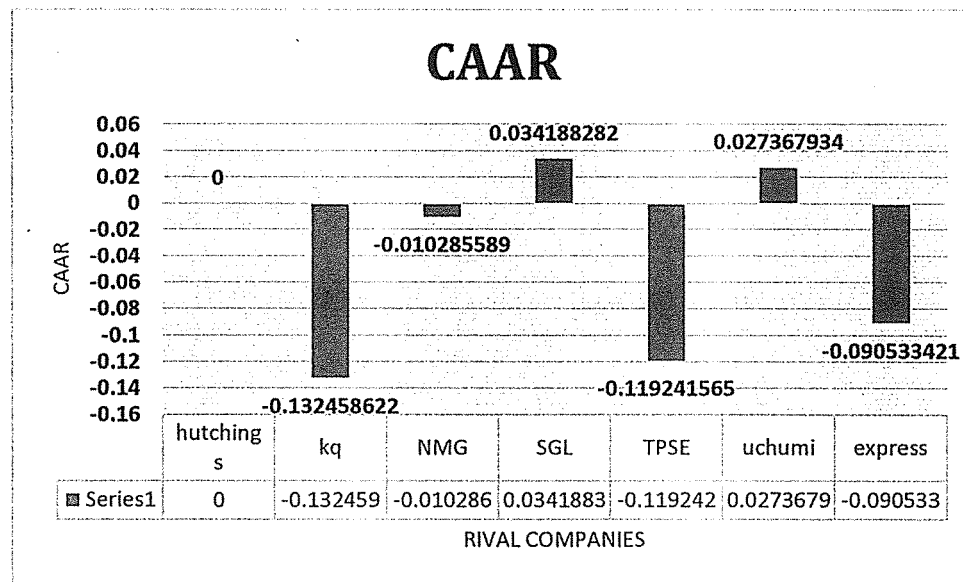


Figure 9



### 4.3.5 Cooperative Bank IPO – Banking Industry

Table 5

Company	CAR	CAAR	Test statistic
Barclays Bank	0.090817	0.04525	3.537371
CFC bank	-0.22731	-0.13687	-2.56955
DTB	-0.03672	-0.06643	-3.16963

<b>Equity</b>	-0.07101	-0.03999	-1.1438
<b>Housing Finance</b>	0.038188	0.027354	0.894296
<b>KCB</b>	0.095599	0.025824	1.571406
<b>National bank</b>	0.08124238	0.062194465	2.468426144
<b>NIC</b>	-0.231284651	-0.138616565	-1.017466364
<b>Standard Chartered</b>	-0.027878519	0.012454353	0.894773549

The Corporative Bank IPO had a significant impact on the share price reaction of 4 out of its 9 rivals; the 4 companies are Barclays bank, National bank, CFC bank and DTB bank. The IPO had a positive impact on Barclays Bank and National Bank as evidenced by a CAAR of 4.525% and 6.2194% respectively, which was significant at 5% level. CFC bank and DTB bank had a negative price reaction as evidenced by negative CAAR of -13.687% and -6.643% significant at 5% level. The positive share price reaction of Barclays bank and National bank could be due to positive information effects while the negative price reaction of CFC bank and DTB bank can be explained by competitive effects since the rivals have to reassess the competitive landscape according to Aigbe et al, (2003). The negative price reaction is also supporting evidence of research by Hsu et al., (2010). The IPO had an insignificant effect on the share performance of Equity bank, HF, Standard Chartered, NIC and KCB bank as evidenced by the CAAR that are insignificant at 5% level.

Figure 10

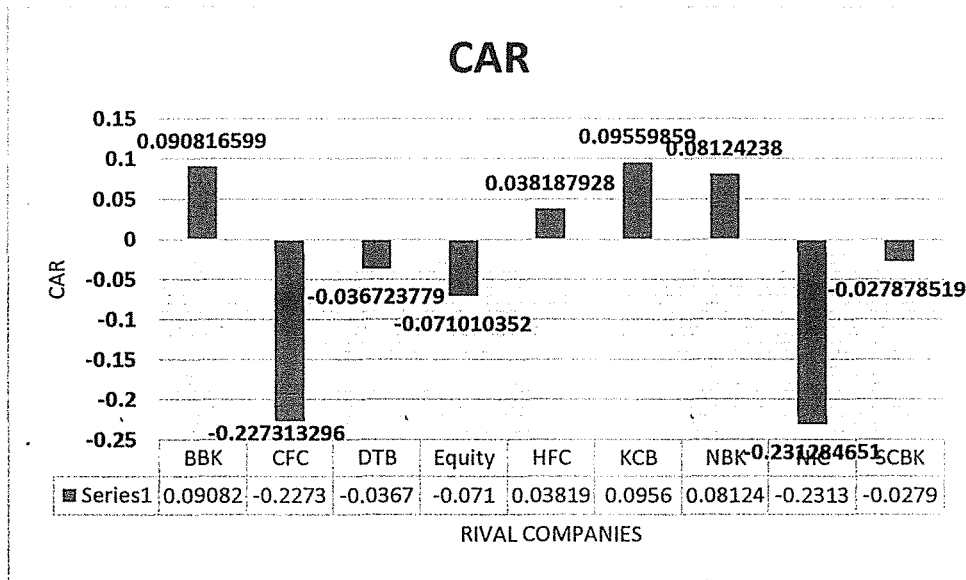
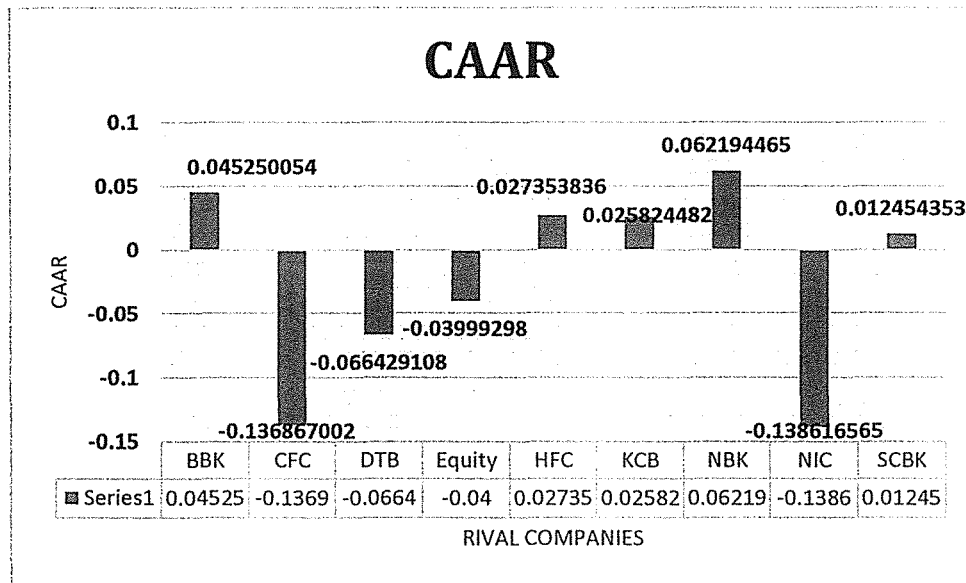


Figure 11



#### 4.3.6 Eveready IPO – Manufacturing and Allied Industry

Table 6

Company	CAR	CAAR	Test statistic
British American Tobacco	-0.009024119	-0.032710821	-2.424101181
Baumann	0.155616632	0.092277668	9.109345345
BOC	-0.011825359	-0.005291728	-1.42212524

<b>Carbacid</b>	0.000656475	-7.25676E-07	-0.00051068
<b>East African Breweries Limited</b>	-0.047920176	-0.027506667	-2.839837607
<b>Mumias Sugar</b>	-0.167057497	-0.163161575	-7.078900407
<b>ORCH</b>	0	0	0
<b>UNGA</b>	0.037143663	0.069939415	2.309222278

Eveready IPO had a significant impact on the share price reactions of 5 out of 9 rivals as evidenced by the t-stat and thus had an overall significant impact on the industry; the 5 industry rivals are BAT, Baumann, EABL, Mumias Sugar and Unga limited. There was no impact on the Orchard share price since the share price was constant during the whole event window. Baumann experienced the greatest positive share price reaction given a CAAR of 9.2278% significant at 5% level. Unga stock had a positive share price reaction as evidenced by a CAAR of 6.9939% significant at 5% level. Mumias Sugar Company experienced the highest negative price reaction as evidenced by a CAAR of -16.316% significant at 5% level. BAT stocks and EABL stocks had a negative price reaction as evidenced by a CAAR of -3.271% and -2.751% significant at 5% level. The Eveready IPO can be seen to have different impacts on the incumbent companies in the manufacturing and Allied industry segment. The IPOs had an insignificant impact on BOC, Carbacid and Orchard share prices.

Figure 12

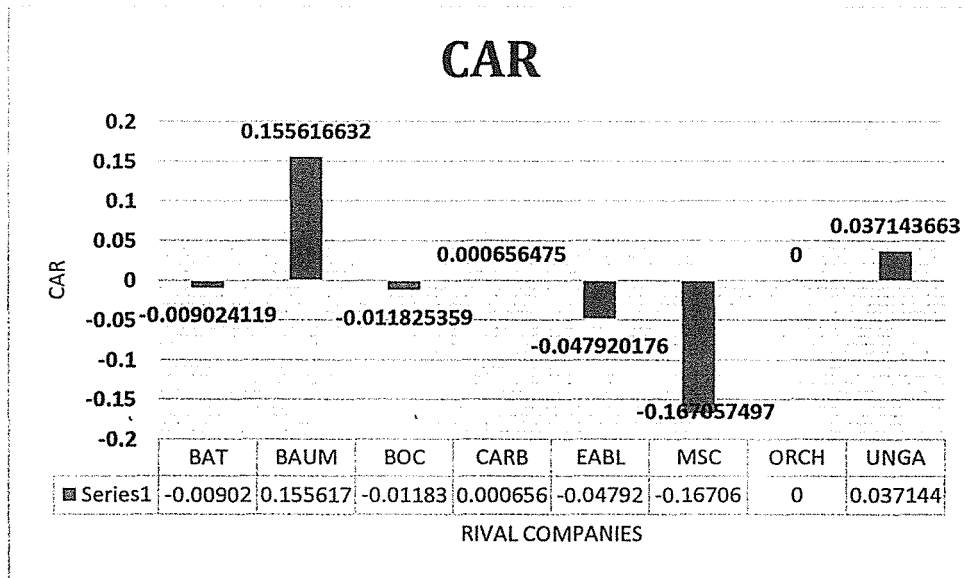
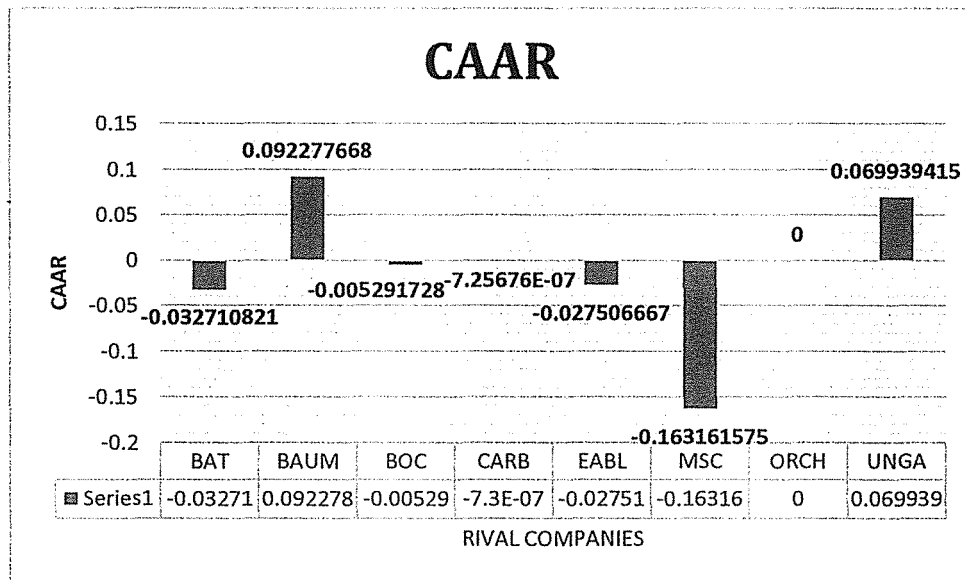


Figure 13



#### 4.4 Evidence from literature review

The results are consistent with the findings of Hsu et al (2010) who found that IPOs have a significant effect on industry rivals as evidenced by significant abnormal returns during a study of American IPOs. Similarly, situations where abnormal returns were found to be insignificant were consistent with the findings of Aigbe et al (2003). Information effects and competitive effects are also evident in the NSE market. Information effects is where an IPO signals positive information about an industry leading to increased confidence and

thus a positive share price reaction. Competitive effects suggested that an IPO made industry rivals to reassess their competitive landscape in context of the new entrant into the industry since an IPO increased funding for a company making the share performance of industry rivals to depreciate. However on average, the IPOs in the analysis are found to have significant effects on the share price returns of the industry rivals.

## Chapter 5: Conclusion

### 5.1 Summary

The research finds support the evidence that an IPO has an overall significant impact on the share price reaction of incumbent firms in a particular industry. The impact is either a positive share price reaction or negative price reaction. The findings show that a positive price reaction is more evident in a case where the listing company offers similar services as the incumbent companies as shown in the case of Britam IPO where both Jubilee insurance and Pan African Insurance experience a positive significant CAAR. On the contrary, a negative price reaction is also found where companies offer similar services as evidenced by the Cooperative Bank IPO.

Companies that had constant share prices during the event window that also extended to the estimation window were not affected at all by IPOs in their respective industries. This is evidenced by Kenya Orchards stock during the Eveready IPO and Hutchings Biemer stock during the Scan-group IPO. IPOs of companies that offer different services to that of incumbent firms in an industry have no significant impact on the share performance of incumbent firms as evidenced by the Kenya Re IPO.

The research also finds supporting evidence of information effects and competitive effects suggested by Aigbe et al., (2003). Information effects is evidenced by the significant positive CAAR of KPLC during the Ken-gen IPO and the positive significant CAAR of Jubilee and Pan African Insurance during the Britam IPO. Competitive effects are evident during the Corporative bank IPO where Diamond Trust Bank and CFC bank experienced a significant negative CAAR due to costs used in reassessing the competitive landscape. The Corporative bank IPO also signaled confidence in the banking industry as evidenced by the positive significant CAAR of Barclays Bank and National Bank stocks.

This research also finds that some of the IPOs had non-significant impact on the share performance of industry incumbents. The non-significant results occur more during IPOs of companies that are in the same industry segment but offer different services as evidenced by the Kenya Re IPO, Scan group IPO and Eveready IPO. In conclusion, the findings show that an IPO has significant impact on the incumbents share performance but also gives supporting evidence of previous research such as insignificant impact,

information effects and competitive effects as suggested by Aigbe et al, (2003) and negative share price reaction of incumbent firms as shown by Hsu et al, (2010). IPOs in the Kenyan market have different impacts on the incumbent firms.

## **5.2 Recommendations**

This study recommends that incumbent companies should be cautious of IPOs happening in the industry they exist. The findings show that the effect is much more significant for IPOs affecting companies that offer the same services, for example, in the Britam IPO the abnormal returns were found to be significant for both Jubilee Insurance and Pan African Insurance. The findings also show that an IPO does not have a significant impact on incumbent companies especially when the incumbent companies offer different kind of services in comparison to the company having an IPO. For example, The Kenya Re IPO did not have a significant effect on the incumbent companies; Jubilee Insurance and Pan African Insurance. Kenya Re offers reinsurance services to insurance companies while the incumbents offer general and life insurance services and products to individuals and companies.

This research also recommends that established incumbent firms should support IPOs of companies that offer similar services as evidenced by the Britam IPO and the Corporative Bank IPO since such an event sends positive signals about a particular market thus increasing investor confidence in the industry, which has a direct impact on the share performance appreciation. Incumbent firms that offer totally different services compared to the company having an IPO should not be worried since the IPO will have insignificant impact on their share performance.

The findings also recommend that there is need for further research on the topic and the Capital Markets Authority should facilitate more IPOs so that more companies can be studied. Evidence of share performance appreciation especially when the incumbents offer similar services as evidenced by the Britam IPO should encourage the Capital Markets Authority to set up infrastructure that will encourage competitors and rivals to go public through an IPO.

### **5.3 Limitations**

Missing data before 2004 limits the number of IPOs under study to 6 IPOs. However, the NSE market is not very developed and there have been only 9 IPOs since 2004. Therefore the final sample can give a true reflection of the population. The event windows are non-consistent thus making a cross sectional conclusion about the effect of an IPO on industry rivals in the NSE market will be biased. This allows for a research gap for further study that will be able to have consistent event windows so that a cross-sectional deduction can be justifiably made. In addition, Safaricom, one of the largest IPOs in the Kenyan market cannot be analyzed since Safaricom is the only listed company in the Telecommunications industry.

## References

- Aigbe Akhigbe, S. B. (2003). Does an industry effect exist for Initial Public Offerings. *Financial Review*, 531-551.
- Akerlof, G. A. (1970). The market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, 488-500.
- Akhigbe, A., Borde, S., & Whyte, A. M. (2003). Does an industry effect exist for Initial Public Offerings. *Financial Review*, 531-551.
- Alanazi, A., Liu, B., & Forster, J. (2011). Saudi Arabian IPOs and Privatized Firms. *Review of Middle East Economics and Finance*, 1-26.
- Brown, S., & Warner, J. (1985). Using daily stock returns: The case of event studies. *Journal of Financial Economics*, 3-31.
- Fink, J. (2011, May 20). *LinkedIn IPO Skyrockets: Huge Success or Shareholder Ripoff?* Retrieved August 18, 2015, from Investing Daily: <http://www.investingdaily.com/11268/linkedin-ipo-skyrockets-huge-success-or-shareholder-ripoff/>
- Harrison, J. (2015, July 29). *Kenya's Economy Boom-So What's Next?* Retrieved August 13, 2015, from Free Enterprise: <http://www.freeenterprise.com/kenyas-economy-boom-so-whats-next/>
- Hsu, H. C., Reed, A. V., & Rocholl, J. (2010). Journal of Finance. *The New Game in Town: Competitive Effects of IPOs*, 495-528.
- Hsu, H. C., Reed, A. V., & Rocholl, J. (2010). The New Game in Town: Competitive Effects of IPOs. *Journal of Finance*, 495-528.
- Ibbotson, R. G., & Jafe, J. F. (1975). "Hot issue" markets. *Journal of Finance*, 1027-1042.
- Ibbotson, R., Ritter, J., & Sindelar, J. (1988). Initial public offerings. *Journal of Applied Corporate Finance*, 37-45.
- Jain, B. A., & Kini, O. (1994). The post issue operating performance of IPO firms. *Journal of Finance*, 1699-1726.
- Lang, L., & Stulz, R. M. (1992). Contagion and competitive intra-industry effects of bankruptcy announcements. *Journal of Financial Economics*, 45-60.
- Larry H. P. Lang, R. M. (1992). Contagion and competitive intra-industry effects of bankruptcy announcements. *Journal of Financial Economics*, 45-60.

- Leibenstein, H. (1950). Bandwagon, Snob and Veblen Effects in the Theory of Consumer Demand. *Quarterly Journal of Economics*, 183-207.
- Loughran, T., Ritter, J. R., & Rydqvist, K. (1994). Initial Public Offering: International Insights. *Pacific-Basin Journal*, 165-199.
- Mackinlay, C. A. (1997). Event studies in economics and finance. *Journal of economic literature*, 13-39.
- Mikkelsen, W. H., Partch, & Megan, M. (1988). Withdrawn Security Offerings. *Journal of Financial and Quantitative Finance*, 119-133.
- Myers, S. (1984). Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have. *Journal of Financial Economics*, 187-221.
- Pagano, M., Panneta, F., & Zingales, L. (1998). Why Do Companies Go Public? An Empirical Analysis. *Journal of Finance*, 27-64.
- Polonchek, J., & Miller, R. K. (1999). Contagion Effects in the Insurance Industry. *The Journal of Risk and Insurance*, 459-475.
- Ritter, J. R. (1984). The "hot issue" market of 1980. *Journal of Business*, 215-240.
- Ritter, J. R. (1991). The long-run performance of Initial Public Offerings. *Journal of Finance*, 3-27.
- Roger G. Ibbotson, J. F. (1975). "Hot issue" markets. *Journal of Finance*, 1027-1042.
- Senelwa, K. (2015, January 31). *Kenya to have highest number of Initial Public Offerings in East Africa*. Retrieved August 13, 2015, from Business daily web site:  
<http://www.businessdailyafrica.com/Kenya-to-have-highest-number-of-IPOs-in-East-Africa-/-/539552/2608626/-/3rsvvn/-/index.html>
- Slovin, M. B., Sushka, M. E., & Ferraro, S. R. (1995). A comparison of the information conveyed by equity carve outs, spin offs and asset sell-offs. *Journal of Financial Economics*, 89-104.
- Spiegel, M., & Tookes, H. E. (2014, September 5). *How does an IPO affect rival firms?* Retrieved August 20, 2015, from Yale Insights: <http://www.insights.som.yale.edu/insights/how-does-ipo-affect-rival-firms>
- Vogt, P. W., & Johnson, B. (2011). *Dictionary of Statistics & Methodology: a nontechnical guide for the social sciences*. California: Thousand Oaks.

## Appendices

### Appendix 1

List of IPOs at the NSE since 2004

No.	Company	Year
1.	Scan group Limited	2006
2.	Ken Gen Company Limited	2006
3.	Eveready East Africa Limited	2006
4.	Access Kenya Group Limited	2007
5.	Kenya Re	2007
6.	Safaricom Limited	2008
7.	Corporative Bank	2008
8.	Britam IPO	2011
9.	Nairobi Securities Exchange Limited	2014

## Appendix 2

### List of IPOs under analysis

<b>IPO</b>	<b>Announcement date</b>	<b>Offer open date</b>	<b>Commencement of trading date at NSE</b>	<b>Industry Segment</b>
<b>Kengen</b>	20 <sup>th</sup> march 2006		17 <sup>th</sup> May 2006	Energy and Petroleum
<b>Scan-group</b>	13 <sup>th</sup> July 2006		29 <sup>th</sup> August 2006	Commercial and Services
<b>Eveready</b>		13 <sup>th</sup> November 2006	18 <sup>th</sup> December 2006	Manufacturing and Allied
<b>Kenya Re</b>	18 <sup>th</sup> July 2007		27 <sup>th</sup> August 2007	Insurance
<b>Cooperative bank</b>	27 <sup>th</sup> October 2008	30 <sup>th</sup> October 2008	22 <sup>nd</sup> December 2008	Banking
<b>Britam</b>	29 <sup>th</sup> June 2011		2 <sup>nd</sup> September 2011	Insurance