



Effects of firm characteristics on the post-IPO performance by listed companies on the Nairobi Securities Exchange (NSE), Kenya

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Abstract

Initial Public Offerings (IPO) are companies offering their stock to the public market for the first time. Studies reveal that the post – IPO performance of most companies around the world is characterized by two elements: an abnormal increase in share price on the first day of trading and a long-run decline in performance. However, few studies have looked at the predictors of post – IPO performance of listed companies in Kenya. This study investigated the effects of firm characteristics on the post-IPO performance of the companies listed on the NSE. An explanatory survey design was adopted for the study, with firm characteristics (firm size, company risk, nature of ownership, and industry type) as the explanatory variable while first-day return, cumulative abnormal returns (CAR), return on assets (ROA) and return on equity (ROE) measured post – IPO performance. The target population of the study was 12 companies that had sold shares to the public between January 1996 and December 2013 and 54 other companies on the Stock Exchange, which were used to compute benchmarks (NSE-20 share index), against which the companies that had issued IPOs in the study were compared. The entire population (census) of the companies was used in the study. The study analysed company data (prospectuses and annual statements). In addition, daily stock share prices, volumes and NSE indices were collected from the NSE. The study found an average under-pricing of 55.36% and a median under-pricing of 24.71%, with all companies except one, having had its offer price under-priced. The average CAR, $M = -0.98$, $SD = 2.08$, $t(11) = -1.97$, $p < .05$, and ROE, $M = -10.07$, $SD = 24.0$, $z = -1.96$, $p < .05$, were significantly less in three years after an offering than in three before the offering, suggesting a decline in company performance after the offering. Firm characteristics were found to affect the performance of a company, with underpricing more significant in newer (more riskier) firms ($\rho = -.58$, $p < .05$) while bigger firms experienced less CAR compared to smaller firms ($\rho = -.37$, $p < .05$). The study also found higher post-IPO ROE in companies owned by institutions rather than by individuals ($\rho = 0.41$, $P < .05$) and those in finance ($\rho = 0.41$, $p < .05$) compared to those in industrial and allied sector. The study recommends that investors looking for a long term investment should invest in IPOs of well established companies, bigger, institution owned companies, and those in finance and investment, if they want to maximize profits. On the other hand, short-term investors should consider investing in smaller and newer companies, since they have the greatest underpricing.

Key words: IPO, firm, under-pricing, CAR, ROA, and ROE

INTRODUCTION

Initial public offering (IPO) firms are organizations offering their stock to the public market for the first time, to raise capital or diversify ownership. Going public is an important watershed in the life of a company, which might be characterized by success or failure

(Demers and Joos, 2006). According to Loughran and Ritter (2002), once a company sells shares to the public, it becomes accountable to a larger group of relatively anonymous shareholders who will tend to vote with their feet (by selling the shares) rather than assist the company's decision-makers. Welbourne and Andrews (1996) acknowledged that going public for a firm is fraught with many pitfalls, requiring at least a year of effort to prepare and market the company and acquiring new obligations in the form of transparency and disclosure requirements.

Failure of an IPO results in the company being unable to access public equity capital, which may lower the cost of funding its operations and investments. It could also trigger a run on the company's shares, with jittery investors dumping the shares. Statistics indicate that not all companies that sell their shares to the public do well. For instance, of the 3,186 companies that went public in the 1980s, with stock listed on the New York or American stock exchanges or NASDAQ, only 58 percent were still listed by December 31, 1989 (Zeune, 1993). Statistics available on firms listed on the Nairobi Securities Exchange (NSE) paint a similar picture, with some companies doing relatively well after IPO while others have faltered. For instance, companies such as Kenya Cooperative Creameries (KCC), Uchumi Supermarkets, A Baumann and Company, Bulk medical limited, and Nyaga stockbrokers have suffered financial distress and bankruptcy (CMA, 2013).

Two themes usually characterize post – IPO performance of most companies around the world: an abnormal increase in share price on the first day of trading and a long-run decline in performance. Stoll and Curley (1970), Logue (1973), Reilly (1973) and Ibbotson (1975) were the first researchers to document a seemingly anomalous increase from the offer price to the first day closing price. This phenomenon is also called first-day return (initial return), as it signifies the share price on the first day of trading, or underpricing, since if the first day trading price truly represents the company's value as dictated by supply and demand, then the offer price was in reality below the actual value of the firm. Underpricing causes the issuing company (or major stockholders) to lose money, a phenomenon called "money left on the table", which is counterintuitive as to why the company went public in the first place, which was to raise capital. IPO, lampooned by Adams *et al.* (2008), as Instant Profit Opportunity, is also an enigma for the efficient market hypothesis, which envisages that security prices fully reflect all publicly and privately available information (Fama, 1998). The second element that has been found to characterize post – IPO performance of companies is the deterioration in the performance of the stock price in the years after the offering, a phenomenon termed long-run decline in performance. Researchers such as Jain and Kini (1994) in the USA and Coakley *et al.* (2007) for the UK market, all demonstrated a decline in newly issued public firms' return on assets relative to their pre-issue levels.

A multitude of theories has been proposed since the early 1980s to account for IPO underpricing and long-run decline in performance. Most of the earlier underpricing models were based on information asymmetries between owners, underwriters and outside investors while later theories, emerging in the late 1990s, make fewer assumptions about information distribution frictions and could be termed as information symmetry theories (Wan Hussin, 2005). The former includes adverse selection models, where uninformed investors are induced to participate in IPOs by lowering the offer price (Carter and Manaster, 1990), the signalling model, in which high-quality issuers 'signal' their quality by deliberately selling their shares at a lower price (Ritter & Welch, 2002), and the hazard model, where issuers compensate underwriters for their information (Eisenbeis and McEnally, 1995). Information

symmetry theories include prospect theory (Loughran and Ritter, 2002), in which managers don't care about losing the money during underpricing, since their unsold stock will gain when the share price jumps on the first day while Hughes and Thakor (1992) argued that issuers underprice their shares to reduce their legal liability. The major themes that pervade explanations for long-run decline in performance include, (1) as the most optimistic investors buy an IPO, with 'divergence of opinions and price', over time, as the variance of opinions decreases, the marginal investor's valuation will converge towards the mean valuation, and its price will fall (Miller, 1997), (2) poor companies take advantage of bullish markets (windows of opportunity) to issue IPO when investors have overly optimistic expectations about the firm's future prospects (Loughran and Ritter, 2002), and (3) a decrease in management ownership when a company goes public, leads to an increase in agency costs and reduces the managers' incentives for value maximization Morck *et al.* (1988).

Studies carried out elsewhere have suggested a plethora of factors that might predict either the success or failure of IPOs. These include characteristics of the firm issuing the IPO, for instance, its age, size (Weber & Willenborg, 2003), financial accounting variables and fundamental measures of risk in the firm (Hillegeist *et al.*, 2004) and demographic characteristics (Beckman *et al.*, 2007). For instance, Ritter (1984) found that larger firms (using sales as a surrogate for size) recorded lower initial abnormal returns compared with smaller firms. Bravo & Gompers (1997) also found that the underperformance was greatest for the smallest (by market value) initial public offerings. Fields (1995), in an investigation of 2793 IPO's from 1979-1989, found that firms aged over 16 years, outperformed comparison firms, aged less than 5 years when they went public. Few studies have looked at the predictors of success or failure of IPO listed in Kenya. The objective of this study was to investigate the effects of firm characteristics on the post-IPO performance of the companies listed on the NSE.

METHODOLOGY

An explanatory survey design was adopted for the study, with firm characteristics (firm size, company risk, nature of ownership, and industry type) as the explanatory variable while first-day return, cumulative abnormal returns (CAR), return on assets (ROA) and return on equity (ROE) measured post – IPO performance. A variable measuring the amount of funds raised from the public offering was used as a proxy for firm size. The age of the company, which was defined as the number of years since incorporation, was used as a surrogate for risk. Dummy variables were created to represent the extent of institutional ownership and the industry type for each company.

The target population of the study was 12 companies that had sold shares to the public between January 1996 and December 2013 and 54 other companies on the Stock Exchange, which were used to compute benchmarks (NSE-20 share index), against which the companies that had issued IPOs in the study were compared. The entire population (census) of the companies was used in the study, as the target population was small. The study analysed company data (prospectuses and annual statements). In addition, daily stock share prices, volumes and NSE indices were collected from the NSE.

The initial return was defined as, the difference between the price on offering date and the closing price on the first publicly traded day and was calculated as in equation 1 (Ritter (1991):

$$Rr_{i1} = \left[\left(\frac{P_{i1}}{P_{i0}} \right) - 1 \right] \times 100\% \quad (1)$$

Where, P_{i1} was the closing price of stock i on the first trading day, and P_{i0} was the prospectus price on the opening day.

CAR, ROA, and ROE measured long-run performance of each firm. The CAR was calculated from daily changes in a firm's stock price over a period of 36 months after an IPO compared to daily changes in the NSE 20 – Share index, a weighted index calculated from 20 selected companies on the NSE, which was used as a benchmark return. To calculate CAR, daily returns for each company stock and the NSE-20 share index were computed for the study period. A regression model (equation 2) was used to determine the relationship between the daily rate of return of a particular company and the daily market return.

$$R_t = a + bR_m \quad (2)$$

Where, R_t is the rate of return to the stock for each day, a is the intercept of the regression, b is the slope of the regression line, and R_m is the rate of market returns for each day. The expected returns computed using the equation 2 were subtracted from the actual stock returns to derive the abnormal returns for each day (equation 3):

$$AR_t = R_t - E(R_t) \quad (3)$$

Where, AR_t is the abnormal rate of return for each day, R_t is the rate of return on the stock, while $E(R_t)$ is the expected rate of return. The cumulative abnormal returns were then obtained by summing up the abnormal return for each company in the study period. It was expected that if the market was efficient, the cumulative abnormal returns for each firm in the study would equal to zero. A t-statistic was therefore computed to determine whether CAR were significantly different from zero.

In addition, two financial measures of profitability, ROA and ROE of the sample companies were computed for three years pre- and three years post- IPO to determine long-run performance. Means and medians in the study were compared by t-test and Mann Whitney tests, respectively. Relationships were tested using Pearson's correlation coefficient or when data contained outliers, the non-parametric Spearman's correlation was computed. All statistical tests were two-tailed. Significant levels were measured at 95% confidence level with significant differences recorded at $p < 0.05$.

RESULTS

Initial Return performance

The study found an average underpricing of 55.36% (Table 1) and a median underpricing of 24.71%. All companies in the study, except Britam, experienced an underpricing on the first day of trading. The abnormal return ranged from -11.11% for Britam to a maximum of 236.13% for Kengen. The highest underpricing was found with Kengen (236.13%), followed by Scangroup (139.23%), Eveready (105.26%), Kenya Reinsurance (68.42%) and Safaricom (47%) while the the lowest underpricing was observed in IPOs of Britam (-11.11%), ARM (2.86%), Mumias Sugar (5.45%), Cooperative Bank (10%), KQ (11.56%), and KCB (15%).

Table 1: Initial return performance

Company	IPO year	Prospectus price (P ₀) Ksh.	First day trading closing price (P ₁) Ksh.	Initial return	stock
Safaricom	2008	5.00	7.35	47.00	
Cooperative Bank	2008	9.50	10.45	10.00	
Britam/BA	2011	9.00	8.00	-11.11	
Scangroup	2006	10.45	25.00	139.23	
Access Kenya	2007	10.00	13.45	34.50	
Eveready	2006	9.50	19.50	105.26	
Kengen	2006	11.90	40.00	236.13	
Kenya Reinsurance	2007	9.50	16.00	68.42	
Mumias Sugar	2006	49.50	52.20	5.45	
KCB (3 rd IPO)	1998	65.00	74.75	15.00	
KQ	1996	11.25	12.55	11.56	
ARM	1997	12.25	12.60	2.86	
Mean		17.74	24.32	55.36	
Standard deviation		18.84	20.89	72.71	
Median		10.23	14.73	24.71	
Range		5.00 – 65.00	7.35 – 74.75	-11.11 – 236.13	
Skew		2.15	1.64	1.65	

Key: BA=Britam, KCB = Kenya Commercial Bank, KQ= Kenya Airways, ARM=Athi River Mining Company

Source: Author, 2018

Long run Performance of Companies

The cumulative abnormal returns (CAR) over a period of 3 years (including their t statistics) are summarised in Table 2.

Table 2: CAR for the twelve companies in study

Company	CAR	t-statistic
Safaricom	-3.45	2.04*
Cooperative	-1.72	-6.41*
Britam	-3.13	9.02*
Scangroup	0.0023	0.307
Access Kenya	2.98	3.39*
Eveready	-1.97	-5.49*
Kengen	-4.14	-1.15*
Kenya Reinsurance	0.22	0.76
Mumias Sugar	0.202	0.348
KCB	-0.0013	-5.79*
Kenya Airways	1.04	5.07*
Athi River Mining	-1.78	-1.10*
Average	-0.979	-1.97*

Key: * CAR is significantly different from 0 by the t-test ($p < 0.05$)

Source: Author, 2018

The average CAR for all the 12 companies was -0.979 and was significantly different from zero at $p < .05$, which indicated that the stock of the companies in the study generally underperformed the market index after issuing the IPO.

The mean and median ROA for all the companies in the post-IPO period was 5.77 and 6.09, respectively, whereas the mean and median ROA in the pre-IPO period was 7.27 and 7.11, respectively, suggesting a decline in ROA in the long run upon issuing an IPO. However, the difference was not significant by the Mann-Whitney test U test, $z = 0.13$, $p > .05$. Thus, overall, median ROA was found not to be significantly different between pre- and post-IPO periods. A Spearman's Rho correlation showed a moderate and negative correlation between the ROA differential (post-IPO ROA subtracted from pre-IPO ROA) and abnormal returns of the companies, $\rho = -0.62$, $p < 0.05$. Thus, companies with greater abnormal returns had higher ROA in the pre-IPO period but lower ROA in the post-IPO period. Therefore, companies with larger abnormal returns tended to underperform (with regard to ROA) in the post-IPO period.

The mean and median ROE for all the companies in the post-IPO period was 12.0% and 12.19%, respectively, whereas the mean and median ROE in the pre-IPO period was 22.16% and 20.23%, respectively. This difference was found to be statistically significant by the Mann-Whitney U test, $z = -1.96$, $p < .05$, suggesting that there was a general decrease in the ROE in the long run upon issuing a public offering. Thus, most companies performed poorly following IPO issue relative to before the offering. As with ROA, a moderate, negative, and statistically significant correlation ($r = -0.57$, $p = .049$) was found between abnormal return of the companies and ROE differential, indicating that companies with larger abnormal returns tended to underperform, with regard to ROE, in the post-IPO period.

Firm Characteristics

With respect to firm size, Safaricom was found to be the biggest company (Figure 1) having offered an IPO worth 40 billion shillings, followed by Kengen (8 billion shillings), and cooperative bank (5 billion shillings). The smallest companies were found to be ARM (281 million Kshs), Eveready (599 million Kshs) and Scangroup (721 million Kshs).

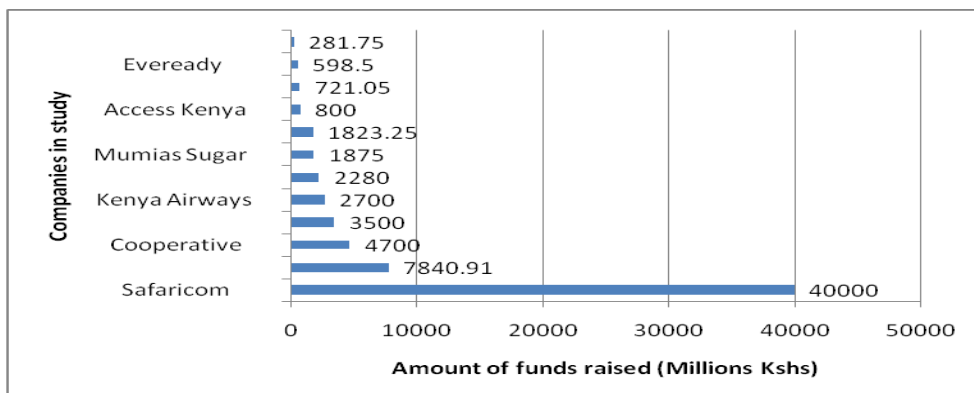


Figure 1: Size of firms as measured by amount of funds raised

Source: Author, 2018

The oldest company (from incorporation to the date of IPO offer) was found to be KCB (102 years old), followed by BA (46 years), Cooperative Bank (43 years) and Eveready (39 years) (Figure 2). The youngest was found to be Kengen (eight years), Scangroup and Safaricom (both ten years) and Access Kenya (12 years).

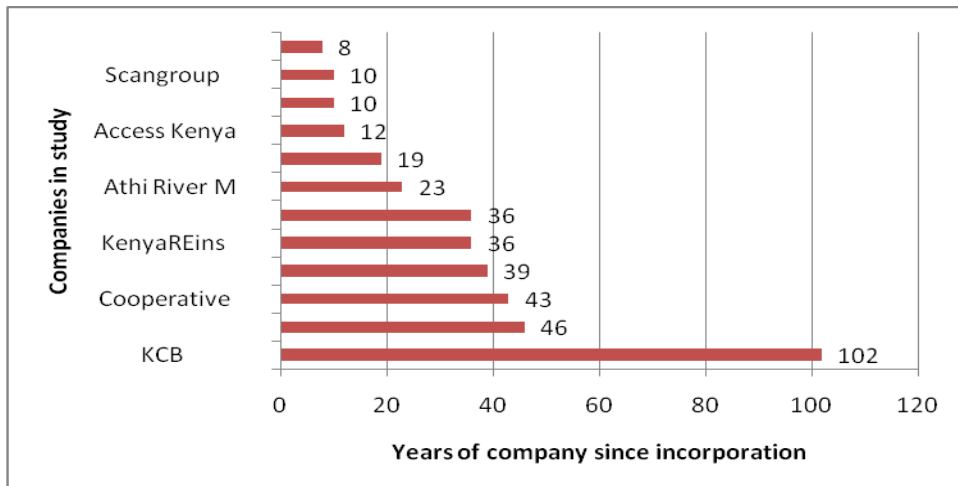


Figure 2: Company age from incorporation to IPO

Source: Author, 2018

Four companies (33.3%) in the study were owned wholly by private entities at the time of offering IPO. On the other hand, eight companies (66.7%) were partly owned by the Government of Kenya (GoK), which offloaded a proportion of the shares. The 12 companies in the study were distributed, four each, in the three major divisions of the NSE: industrial and allied, commercial and services, and finance and investment.

Relationship between Firm Characteristics and post-IPO performance

Age of the company was found to have a significant, negative and moderate relationship ($\rho = -.58$, $p < .05$) with initial abnormal return of a company, which implied that underpricing was more significant in newer (more riskier) firms than in older (less riskier) companies (Table 3).

Table 3: Spearman's correlations between dependent variables and firm characteristics

Variable (n = 12)	Abnor mal return	CAR	RO E diff.	ROA diff.	Own ers hip	Age	Com merc ial	Fina nce	Fund s raise d
Abnormal return	1								
CAR	-0.112	1							
ROE diff.	-	0.413	1						
ROA diff.	0.615	-	5*	0.20	1				
Ownership	*	0.051	0.40	5	-0.026	1			
Age	-0.154	0.053	9*	0.34	-0.25	-	1		
Commercial	-	0.359	0.37	0	0.125	0.61	-	1	
Finance	0.558*	0.00	9	-	0.409	7*	0.500	0.25	1
Funds raised	0.256	-	-	0.30		0.74	0.051	6	
	-0.307	0.370	0.10	7		5*			
	0.028	*	2	0.40		-			
			0.40	9*		0.15			
			0.44	1		4			
			1*						

Key: diff.=differential, * = correlation significant at .05 levels (2-tailed)

Source: Author, 2018

A significant, negative and moderate relationship ($\rho = -0.37$, $p < .05$) was found between the amount of funds raised by a company (that is, its size) and cumulative abnormal return. The results suggested that bigger firms experience less cumulative abnormal returns compared to smaller companies. Significant, positive and moderate relationships were found between ownership structure ($\rho = 0.41$, $P < .05$), finance ($\rho = 0.41$, $p < .05$), and amount of funds raised ($\rho = 0.44$, $p < .05$) with ROE differential. Companies whose ownership is dominated by institutions rather than by individuals, those in finance and investment rather than in industrial and allied, and those companies which are bigger experience higher ROE after going public. However, the age of the company and companies in the commercial sector had no significant effect on ROE at $p < .05$. This implied that ROE was not likely to be influenced by the perceived risk of the company. In addition, companies in the commercial sector are likely not to differ in their post-IPO ROE compared to those in the industrial and allied sector.

A significant, positive, and moderate relationship was found between companies in the finance sector and ROA differential ($\rho = 0.41$, $p < .05$). This implied that firms in finance and investment sector experience better ROA after going public compared to firms in the industrial and allied sector (the reference category). However, no significant relationships at $p < .05$ were found between ownership structure, company age, firms in the commercial sector, and amount of funds raised with ROA differential. These implied that these other ingredients of firm characteristics do not significantly affect ROA differential.

DISCUSSION

The study found an average underpricing of 55.36% and a median underpricing of 24.71%, with all companies except Britam having its offer price under-priced. This finding is in line with many studies that have documented underpricing of IPOs. The average underpricing of 55.36% in this study is only slightly higher than that found by Tenai *et al.* (2011) of 49.44% in a study of 13 companies, which offered IPOs at the NSE between 1994 and 2008. Although he did not document the exact value of underpricing of IPOs, Nderi (2009) acknowledged its existence on NSE in a survey of eight companies, which offered IPOs between January 2006 and December 2008 to investigate firm specific determinants of the phenomenon. Cheluget (2008) estimated that underpricing of newly issued IPOs on the NSE was over 40.28 per cent. In a sample of 25 IPO on the NSE, Fredrick (2012) found a mean and median underpricing of 42% and 15.49%, respectively, which reflects the results from this study. Underpricing has been found in other studies, for instance, Loughran and Ritter (2002) and Barker (1999).

This study found that underpricing was more significant in newer (more riskier) firms than in older (less risky) companies. This finding lends support to the adverse selection model, in which firms with little or no operating history would have a great deal of uncertainty regarding the appropriate offer price, causing them to underprice their issues. On the other hand, investors have little problem in evaluating established firms, causing the companies to leave less money 'on the table' to compensate the investors (Ritter, 1984).

The stock of the companies in this study generally underperformed (average CAR was -0.979) the market index after issuing the IPO. This finding is consistent with the one by Fredrick (2012) who in a study of 25 IPOs on the NSE found that 17 out of 25 sample IPOs have negative returns and in the long run underperform the market. Although the mean return for the sample was 10.23%, the median return in the same study was found to be -13.26%, showing that the sample as a whole significantly underperformed the market one year after issuance. This study also found that bigger firms experienced less cumulative abnormal returns compared to smaller companies. This is similar to the findings by Ritter (1984), Bravo & Gompers (1997), and Keloharju (1993). Since size of the company indicates risk and uncertainty, this study, therefore, found evidence for the divergence of opinions theory (Miller, 1997).

This study also found higher post-IPO ROE in companies owned by institutions rather than by individuals ($\rho=0.41$, $P<0.05$). This is similar to the findings by Fields (1995), in which IPOs larger institutional ownership outperformed those with smaller institutional ownership. Bravo and Gompers (2000) and Goergen *et al.* (1997) reported similar results. Institutional ownership can act as a surrogate for risk (Miller, 2000), and hence, this study's findings corroborates the divergence of opinions model, with more uncertainty present in small firms that are usually personally owned. The findings also support the 'block holder control' model, because as individual managers cede control to outsiders during an IPO, there is a decrease in management ownership, leading to an increase in agency costs and a reduction in the managers' incentives for value maximization (Morck *et al.*, 1988), and hence poor performance.

The study also found that companies in finance experienced both better ROA and ROE after going public compared to firms in the industrial and allied sector. This corroborates the

findings by Ritter (1991), in which financial institution's IPOs outperformed matching non-financial firms and Bravo (1998) study where significant underperformance was noted in every industry except those in finance, insurance, and restaurant chains. The type of industry a firm belongs to has been considered a plausible surrogate for difficulty in forecasting (Miller, 2000). Since Kenyan banks have performed relatively well compared with firms in other sectors (Kihara, 2015), the results suggest that there is less 'divergence of opinions' about the financial institutions' stock and hence, decreased deterioration in the performance of the companies.

CONCLUSION AND RECOMMENDATIONS

This study analysed the effects of firm characteristics on post-IPO performance by listed companies on the NSE. The study concluded that a significant underpricing of IPOs occurs on the NSE. The cumulative abnormal return of the stock of IPOs on the NSE generally underperforms the market index for a three-year period after issuance. Generally, there is a long run decline in ROA and ROE for companies in a three-year period after their public offering. The study found that certain aspects of firm characteristics could affect the performance of a company after it issues an IPO. Underpricing was more significant in newer (more risky) firms than in older (less risky) companies. Bigger firms experience less cumulative abnormal returns compared to smaller companies. Companies whose ownership is dominated by institutions rather than by individuals, those in finance and investment rather than in industrial and allied, and those companies which are bigger experience higher ROE after going public. Lastly, firms in finance and investment sector experience better ROA after going public compared to firms in the industrial and allied sector. The study's findings supported the 'adverse selection model', 'divergence of opinions and price', and 'block holder control' models.

The study recommends that investors looking for long-term investments should invest in IPOs of well-established companies, bigger, institution owned companies, and those in finance and investment, if they want to maximize profits. On the other hand, short-term investors should consider investing in smaller and newer companies, since they have the greatest underpricing.

REFERENCES

- Adams, M., Thornton, B., & Hall, G. (2008). IPO pricing phenomena: empirical evidence of behavioural biases. *Journal of Business & Economics research*, 6(4), 67 – 74.
- Barker, R. (1999). IPOs: The Cold Truth for Outsiders. *Business Week*. Nov. 22, 1999. p.188.
- Beckman, M., Burton, D. and O'Reilly, C. (2007). *Early teams: The impact of team demography on VC financing and going public*. Retrieved 15th October, 2016 from <http://digitalcommons.ilr.cornell.edu/articles/249/>
- Bravo, A. (1998). Inference in long horizon event studies: A Bayesian approach with application to initial public offerings. Working paper, Duke University. Retrieved 18th October, 2016 from <http://www.duke.edu/~brav/bayesian.pdf>.
- Bravo, A. and Gompers, A. (1997). Myth or reality? The long-run underperformance of initial public offerings: Evidence from venture and non-venture capital-backed companies. *Journal of Finance*, 52: 1701-1821.
- Capital Markets Authority (CMA) (2013). Retrieved 20th January 2015 from <http://www.cma.or.ke>.
- Carter R. and S. Manaster (1990). Initial public offerings and underwriter reputation. *The Journal of Finance*, 45(4), 1045-1067.
- Cheluguet, J. K. (2008). Investor's Demand for IPOs and First Day Performance: Evidence from Nairobi Stock Exchange. Unpublished MBA Project, University of Nairobi.
- Coakley, J., Hadass, L. and Wood, A. (2007). Post-IPO operating performance, venture capital and the bubble years. *Journal of Business Finance & Accounting*, 34(9-10): 1423-1446.
- Demers, E. and Joos, P. (2006). IPO failure risk. *Journal of Accounting Research*, 45(2): 333-372.

- Eisenbeis, R. and McEnally, R. W. (1995). *Initial Public Offerings: Findings and Theories*. University of North Carolina at Chapel Hill. Kluwer Academic Publishers. Norwell.
- Fama, E. F. (1998). Market efficiency, Long-run returns and behavioral finance. *Journal of Financial Economics*, 49(3):283-306.
- Fields, L. (1995). Is institutional investment in initial public offerings to long run performance of these firms? *Unpublished manuscript*, UCLA.
- Fredrick, O. (2012). An Investigation into the Existence of Fads in the Initial Public Offering Market in Kenya. *DBA Africa Management Review*, 2 (2): 31-44.
- Goergen, M., Khurshed, A. and Mudambi, R. (1997). The long-run performance of UK IPOs: can it be predicted? *Managerial Finance*, 33(6): 401-419.
- Hillegeist, S., Keating, E., Cram, D. and Lundstedt, K. (2004). Assessing the probability of bankruptcy. *Review of Accounting Studies*, 9(1): 5-34.
- Hughes, J., and Thakor, V. (1992). Litigation risk, intermediation, and the underpricing of initial public offerings. *Review of Financial Studies*, 5, 709-742.
- Ibbotson, R. G. (1975). Price performance of common stock new issues. *Journal of Financial Economics*, 2, 235-272.
- Jain, B.A. and Kini, O. (1994). The post-issue operating performance of IPO firms. *Journal of Finance*, 49, 1699-1726.
- Keloharju, M. (1993). The winner's curse, legal liability, and the long-run price performance of initial public offerings in Finland. *Journal of Financial Economics*, 34, 251-277.
- Kihara, S. (2015). The effect of mobile banking on the competitive advantage of commercial banks in Kenya (Master's thesis, United States International University – Africa).
- Logue, D. E. (1973). On the pricing of unseasoned equity issues: 1965-1969. *Journal of Financial and Quantitative Analysis*, 8, 91-103.
- Loughran, T. and Ritter, J.R. (2002). Why Don't Issuers Get Upset About Leaving Money on the Table in IPOs? *Review of Financial Studies*, 15(2), 413-443.
- Miller, M. (1997). Risk, uncertainty, and divergence of opinion. *Journal of Finance* 32, 1151-1168.
- Miller, M. (2000). Long run underperformance of initial public offerings: an explanation;" (2000). *Department of Economics and Finance Working Papers*, 1991-2006. Paper 16. http://scholarworks.uno.edu/econ_wp/16.
- Morck, R., Shleifer, A., and Vishny, R. (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics*, 20, 293-315.
- Nderi, T. (2009). Firm specific determinants of underpricing IPOs in Kenya: a survey of IPOs at the Nairobi Stock Exchange. *MSc Thesis, University of Nairobi* (Unpublished).
- Reilly, F. K. (1973). Further evidence on short-run results for new issues investors. *Journal of Financial and Quantitative Analysis*, 8, 83-90.
- Ritter, J. R. (1984). The "hot-issue" market of 1980. *Journal of Business*, 57: 215-240.
- Ritter, J.R. (1991). The long-run performance of initial public offerings. *Journal of Finance*, 46:3-27.
- Ritter, R. and Welch, I. (2002). A review of IPO activity, pricing, and allocations. *The Journal of Finance*, 57(4), 1795-1828.
- Stoll, H.R. and Curley, A.J. (1970). Small business and the new issues market for equities. *Journal of Financial and Quantitative Analysis*, 5: 309-322.
- Tenai, J.K., Bitok, J.K., Shibia, A.G., and Bett, J.K. (2011). *Determinants of initial public offer pricing in Kenya*. Paper presented at the Annual Conference on Innovations in Business and Management, London, UK.
- Wan Hussin, W.N. (2005). The effects of owner's participation and lockup on IPO underpricing in Malaysia. *Asian Academy of Management Journal*, 10(1), 19-36.
- Weber, J. and Willenborg, M. (2003). Do Expert Financial Intermediaries Add Value? Evidence from Auditors in Microcap Initial Public Offerings. *Journal of Accounting Research*, 41: 681-720.
- Welbourne, T. and Andrews, A. (1996). Predicting the performance of initial public offerings: should human resource management be in the equation? *The Academy of Management Journal*, 39(4): 891-919.
- Zeune, G. (1993). Ducks in a row: Orchestrating the flawless stock offering. *Corporate Cashflow*, 14: 18-21.