

Can Offer Size and Transaction Volume Predict IPO Underpricing? Evidence from Emerging Markets in Africa

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Abstract

The debate on why firms underprice initial public offering (IPO) has never been laid to rest. Driven by this phenomenon of IPO underpricing, this paper sought to examine the determinants of IPO underpricing in developing countries, using African countries as a case study. Specifically, the study examined the effect of offer size and transaction volume on IPO underpricing. Panel data was collected for all firms that issued IPOs in Nairobi Securities Exchange, Egyptian Exchange and Johannesburg Stock Exchange for a period of fifteen years (1996 to 2011). The results showed that transaction volume had a negative and significant effect on IPO underpricing ($\beta = -0.074$; $p < 0.05$) while offer size had no significant effect ($\beta = -0.035$; $p > 0.05$). The study recommends that issuers should take special consideration on transaction volume to maximize the return to investors.

Keywords: *IPO Underpricing, Offer Size, Transaction Volume, Emerging Markets & Africa.*

1.0 Introduction

Firms' investments and operations can be financed either internally, externally or both. Internal financing include retained earnings, while external financing include use of either debt or equity. The mix of equity and debt forms a firm's capital structure. Depending on the firm's choice of financing and capital structure, the firm can either issue debt or equity. These options have benefits and costs as expressed in the trade-off theory. Modigliani & Miller (1963) presented the debt tax shield (tax benefits of debt) as a trade off with the cost of financial distress (Bankruptcy costs). Jensen and Meckling's (1976) seminal paper "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure" presented the agency cost of equity and debt while Myers &

Majluf (1984) presented the pecking order of financing that ranks in order of priority the preferred sources of finance. These are internal equity, followed by debt and finally external equity. This order of preference is motivated by information asymmetry between managers and investors resulting in adverse selection.

Finance scholars have advanced varied reasons why firms opt to go public. According to Brau (2010) firms go public to overcome borrowing constraints. When firms go public, they increase their investments by lowering the proportions of debt. This implies that a firm will generate more funds which can be used to finance debt. This broadened capacity will increase the firm's bargaining power, which can help lower the cost of debt. Moreover, Sohail (2018) contend that firm issues securities to the public to raise capital for to expand business operations and promote the value of the firm.

Once a firm has decided to go public, the next question and perhaps the most important of all is the establishment of an offer price. This is crucial especially where the new issue is an Initial Public Offering (IPO). The firm should set and receive the right price for the stock. Pricing of equity during an IPO will trigger issues of mispricing of shares. Underpricing of IPO seems to be a common characteristic of IPOs predominant across the world as shown in extant literature. Studies have confirmed the presence of underpricing due to differences in valuation between the firm and the market (Beatty & Ritter 1986; Slovin *et al.*, 2000; Loughran & Ritter 2004; Aggarwal *et al.*, 2008; Brau & Fawcett 2006a and Banerjee *et al.*, 2012). Publicly traded firms depend on investor perception to win confidence in buying their shares. Mispricing of shares can result in either underpricing or overpricing. Underpricing occurs when the closing price of the shares on the closing day of the first day of trading in the securities market is higher than the offer price.

1.1 Statement of the problem

The motivation to issue equity through an Initial Public Offering (IPO) is to raise finance for expansion and growth. The firm in its quest to raise finance endeavors to offer the shares in the best price possible. The establishment of best price is dependent on valuation of the firm. Koop & Li (2001) argue that valuation plays an important role when setting the price of company's equity prices. Valuation should be determined by the market's future expectations of the firm's profitability which may result in valuation yielding prices that are equivalent to its intrinsic value. This means that the market value of the stocks should be equivalent to the issue price on the first day of trading, with the exception of the impact of irrational investors which should be minimal to the overall market behavior resulting in low first trading day returns, if not non-existent.

However, studies by Beatty & Ritter (1986); Ritter (1998); Slovin *et al.*, (2000); Loughran & Ritter (2004) and Engelen & Essen (2007) have shown that the market's and the company's valuations do not correspond, thus leading to underpricing. Indeed, IPOs underpricing has been widely researched over the years and the results have been inconclusive in terms of what determines underpricing. Holmén & Högfeldt (2004) presented a study of the Swedish underpricing, Burrowes & Jones (2004) document the U.K. underpricing and Loughran & Ritter (2004) the U.S. market's underpricing. Other studies by Koop & Li (2001) and Loughran & Ritter (2004) focused on other continents and in all the studies the consensus has been the existence of IPO underpricing. The determinants forwarded has been as wide ranging as the number of studies with little focus on Africa

Africa has received little attention on the studies related to IPO underpricing. The volatility of market conditions in Africa made this study best suited for ASEA, an African setting. This study

sought to establish the determinants of IPO underpricing and the moderating effects of market conditions in the African context.

2.0 Literature Review and Theoretical Perspective

2.1 IPO Underpricing

Underpricing is a frequently documented anomaly in the primary market. Tenai *et al.*, (2011) defined underpricing as the percentage change between the price at which the firm's stock was offered (offer price), and the stock's first trading day closing price. This anomaly was first investigated by Ibbotson (1975) and Ibbotson & Jaffe (1975). Ibbotson tabulated IPO initial underpricing for the period 1960 to 1969 and found the level of underpricing to be 11.4 percent. In his second paper together with Jaffe in the same year they found an average underpricing of 16.83 percent for the years 1960 to 1970. Both their measurements considered the difference between the offer price and the first trading day closing price as a fraction of the offer price. Ritter (1998) presented underpricing in terms of initial returns on first day of trading. The difference between the offer price and market price in the secondary market on the first day of trading gives the value of initial return.

The initial return for a cross section of countries was done by Lounghran and Ritter (1994), which was confirmed by Ritter 1998. This study covered a total of 33 countries in the world except Africa. The lowest initial return was seen in Europe, with France showing initial return of 4.2 percent and the highest was seen in Asia with China having the highest initial return of 288 percent. Loughran and Ritter (2004) did a study for the years 1980 to 2003 and found that there was a sharp swing on the level of underpricing starting at 7 percent in 1980, then increasing to 15 percent in the period 1990 to 1999, extremely high initial returns of 65 percent for the renown internet bubble period of 1999 to 2000 and reverting back to 12 percent in the post-bubble period of 2001 to 2003.

Wang (2010) studied the IPO market in the Chinese market for the period 1990 to 2009. The measure of underpricing used was consistent to Ibbotson and Jaffe study and found the market's overall underpricing was 236.7 percent. This was consistent with the findings of Ritter (1998) study that showed extremely high initial return for the Chinese IPOs. Tenai *et al.*, (2011) studied the Kenyan IPO market and showed that all the companies surveyed were underpriced; averaging 49.44% with the highest underpricing was recorded at 236.13 percent. This method of tabulating underpricing was consistently used in other studies (Rock, 1986; Ritter & Welch, 2002 and Daily *et al.*, 2003).

The second method used to tabulate underpricing is an improvement to Ibbotson approach. Kooli and Suret (2004) stated that Ibbotson's approach would be valid in a market where there is no time gap between the application closing date and the first day of trading. The time lag is short for USA, Canada and European markets, at an average of less than 7 days but longer for the emerging markets ending up to three months. This lengthened time lag makes it prudent to adjust for market return in the raw initial returns. Carter *et al.*, (1988) computed the raw initial return as the percentage difference between the first CRSP reported closing price and the offer price. The raw initial return was adjusted for the contemporaneous return on the market index. The market-adjusted initial return (MAIR) is computed using the value-weighted CRSP Index.

The mean MAIR is 8.08 percent. Kooli and Suret (2004) presented a summary of studies that used the same methodology to measure initial returns. These studies were done by Graves *et al.*, (1996) who measured the level of underpricing for U.S. IPOs during the period of 1975-1985, using the

non-adjusted and the market adjusted measures and found that there is no significant difference between the mean of the underpricing calculated by the two approaches. This was consistent given the case of U.S where the time gap between the offering and the listing is short.

Mok and Hui (1998) analyzed Chinese IPOs and found that taking account of the overall market effect would yield a substantial difference in the results if the time gap is large. This was validated by the results for the non-adjusted IPO underpricing for A-shares which was 362.3%, which was higher than the adjusted IPO underpricing for the same shares (which was 289.2%). The time gap for A-shares is 307 days. For B-shares new issues, where the time gap is only 20 days, the non-adjusted IPO underpricing is 26.2% and the adjusted IPO underpricing is 24.9%. Uddin (2008) did a study of Malaysia and Singapore IPOs.

The initial return in the Malaysian market stood at an average of 93.31 percent while for Singapore market was 31.73 percent. The average listing time lag for the two markets was 115 days in Malaysia and 19 days in Singapore. This is consistent with the findings of Mok & Hui (1988) in the Chinese market. The same methodology to measure initial returns was used in other studies (Aggarwal & Rivolli, 1990; Aggarwal, 1993; Aggarwal *et al.*, 2008; Sohail & Raheman, 2009; Boudrigaet *al.*, 2009 and Banerjee *et al.*, 2012).

2.2 Determinants of IPO underpricing

The determinants of IPO underpricing are as varied as the number of studies done in the field of IPO underpricing. The guiding factors on the choices made on the variables to incorporate in this study are informed by the presence of these variables in a developing market, and more specifically African setting. Some of the important determinants of IPO underpricing are transaction volume and offer size.

2.2.1 Transaction Volume

This is the trading volume on the first day of trading. Ofek and Richardson (2003) showed that high initial returns occur when institutions sell IPO shares to retail investors on first day. This means that there will be a higher trading volume considering the fact that institutional investors are largely bulk buyers of equity. Boubaker (2011) found a positive and significant association between transaction volume and underpricing, contrary to Gao (2010) findings that transaction volume is negatively and significantly correlated to underpricing. Cukur and Gumrah, (2012) indicated that trading volume may provide evidence of investors' interest on the new issue. This was used as a proxy for investor sentiment. The study employed the average 21 days pre-market trading volume. The study found a positive and significant relationship.

The equity market timing theory posits that managers are able to identify times when the firm is overvalued; hence the managers are likely to issue equity to take advantage of the opportunity to lower the cost of capital. Lucas and McDonald (1990) developed the information asymmetry model where managers postpone their equity issue if they are fully aware that they are currently undervalued, and speed up equity issue process when they know that the firm is overvalued. The practice of market timing has been labeled by different researchers using terms like exploitation of the "Windows of opportunity" by Aggarwal & Rivolli (1990); Ritter (1991); Loughran & Ritter (1995) and who called the tendencies to overvalue firms "Fads", creating room for market timing. This overvaluation is on the demand side of IPOs which is contrary to rational expectations. Thus, the study hypothesis that;

H₀₁ transaction volume has no significant effect on IPO underpricing

2.2.2 Offer Size

Cukur and Gumrah, (2012) stated that the increase in shares on offer may result in insufficient demand which may lead to price adjustment by the underwriters. This may prompt the underwriters to lower the price to attract investors. This means that the market will be experiencing excess supply in the pre-offer period. The net effect is lower post offer demand hence a decrease in initial returns and consequently lower degree of underpricing. The logarithm of gross proceeds was used as a proxy for offer size. A different explanation of the same results was articulated in Miller & Reilly (1987) and Clarkson & Merkley (1994) which indicated that the size of offer is negatively correlated with the pricing level. Kooli and Suret (2002) confirmed these findings by linking offer size to risk. They indicated that smaller IPO is riskier than larger IPO *ceteris paribus*. Aggarwal *et al.*, (2008) found the issue size is negatively related to initial return. Therefore the general consensus is that, a larger IPO is less underpriced than a smaller IPO. This variable has been measured consistently using the natural logarithm of the shares offered multiplied by the offer price, albeit differing results.

H₀₂ Offer size has no significant effect on IPO underpricing

2.3 Theoretical perspective

This study is grounded on market timing and signaling theories. The equity market timing theory posits that managers are able to identify times when the firm is overvalued; hence the managers are likely to issue equity to take advantage of the opportunity to lower the cost of capital. Lucas & McDonald (1990) developed the information asymmetry model where managers postpone their equity issue if they are fully aware that they are currently undervalued, and speed up equity issue process when they know that the firm is overvalued. The practice of market timing has been labeled by different researchers using terms like exploitation of the “Windows of opportunity” by Aggarwal & Rivolli (1990); Ritter (1991); Loughran & Ritter (1995) and who called the tendencies to overvalue firms “Fads”, creating room for market timing. This overvaluation is on the demand side of IPOs which is contrary to rational expectations.

Successful timing of the equity market lowers the firm’s cost of equity at the time of issue and this will benefit the existing shareholders at the expense of new shareholders. If managers are able to time the equity market, then the proxies for mis-valuation should be correlated with the timing of the IPO issuance decision. Some attempts have been made to document a relation between proxies for valuation and IPO issuance. Loughran & Ritter (1995) used post issuance returns as an indirect proxy for valuation and document greater equity issuances during periods of relatively high market values, where market values are assumed to be negatively correlated with ex-post returns.

This theory explains why IPO issue volume and returns are clustered together. The inference of these three labels of market timing is interestingly intertwined. The managers will postpone the issue of IPOs due their perceived undervaluation. This leads to reduced volume of offer and this scenario is what is commonly referred to as the cold market. On the contrary if the investors depict “fads” in the market, the firm will be overvalued which will trigger the managers to issue IPOs. The managers will see windows of opportunity in the equity issuance process. These increased IPOs will trigger positive sentiment in the market triggering more IPOs and higher demand. The aggregate of these events results in the hot market condition, otherwise referred to as the bullish market.

Ibbotson (1975) originated the signaling model of underpricing and was further refined by Allen & Faulhaber (1989) and Welch (1989). Ibbotson (1975) brought in the concept of pricing intended to “leave a good taste in investors mouths”, so that issuers can raise equity at higher share prices in the seasoned or subsequent issue. There are two types of firms in the world; ‘good’ (high quality firms) and ‘bad’ (low quality firms). Allen & Faulhaber (1989) demonstrated that the firm has the best information on its present value, risk and its future value than investors. When going public, good firms want to signal their good quality with a low IPO price (hence is a “money burning” signal) while the bad firms will want to imitate the good firms by signaling that they are good while essentially they are bad. Only ‘good’ firms are able to bear the cost of underpricing. ‘Bad’ firms will not be able to cope with the loss. They will either choose to stay private or go bankrupt attempting to go public, Demenint (2013).

In a subsequent offering the cost of signaling quality is recovered by good firms, while bad firms cannot afford to signal. Welch (1989) indicates that ‘good’ firms will separate themselves from the ‘bad’ firms (commonly phrased as a separation of men from boys) so as to be able to recoup the losses after their IPO performance with a highly priced and successful subsequent issue. The separation is instigated by the inability of bad firms to marshal the needed resources to sustain profitability to recoup initial losses from IPO underpricing. There is also a possibility that the quality of the firm is discovered before the subsequent equity offering, (Englen & Essen, 2007). The benefit to the bad firm is lost and the cost is higher through a higher level of underpricing which requires more resources in order to imitate the good firm. Welch (1989), observes that the issuing prices at the first seasoned equity offering after an IPO are on average three times higher than the IPO prices. This observation confirms the strive to recover the losses of underpriced IPO as a signal for quality of the firm. Therefore, the model provides an explanation for the IPO pricing as an equilibrium signal of firms quality (Allen & Faulhaber, 1989).

The general perception in the discussion above is that the IPO underpricing is a signal for preparation for a larger more successful subsequent issue. The question to ask then is how do firms not intending to make a subsequent issue benefit from underpricing of its IPO, although money burning will result in higher valuation of the issuer stock in the market post issue compared to the valuation at pooling equilibrium. This makes it possible for firms to benefit from signaling in the IPO. This is in agreement with Banerjee *et al.*, (2012). This study sought to confirm or otherwise reject the relevance of these theories in a developing market context.

3.0 Research design

A research design is a plan that specifies the methods and procedures for data collection and analysis for purposes of answering a research question. It provides a framework for the collection, measurement and analysis of data. There are several research designs that one can use depending on the nature of the study requirements. This can range from cross-sectional design, longitudinal design, experimental design, case study design or correlation design. This study used cross-sectional research design. This study examined several IPOs and observed their changes in price in relation to the identified exogenous variables and market conditions. This was tested on the closing price of the first trading day. A cross-sectional study entails the collection or examination of data across various segments of a population. Since the period of interest is fifteen years (1996 to 2011), multiple cross-sectional data was collected. Several IPO studies have used cross-sectional designs (Aggarwal & Rivoli, 1990; Carter *et al.*, 1998; Loughran & Ritter, 2004; Agarwal *et al.*, 2008; Uddin, 2008 and Gao, 2010).

3.1 Target Population and Sample

The target population was all firms that issued an IPO in twenty four African countries over the period 1996 to 2011. The selected countries are members of ASEA. ASEA is an association of African stock markets which comprise the following as it stands in the year 2013; Botswana Stock Exchange, Bolsa de Valores de Cabo Verde(Cape Verde), Bourse Regionale des Valeurs Mobilières, Bourse de Tunis, Casablanca Stock Exchange, Dar-Es Salaam Stock Exchange, Douala Stock Exchange, Egyptian Exchange, Ghana Stock Exchange, Johannesburg Stock Exchange, Khartoum Stock Exchange, Libyan Stock Market, Lusaka Stock Exchange, Malawi Stock Exchange, Mozambique Stock Exchange, Nairobi Securities Exchange, Namibian Stock Exchange, Nigerian Stock Exchange, Rwanda Stock Exchange, Sierra Leone Stock Exchange, Stock Exchange of Mauritius, Uganda Securities Exchange and Zimbabwe Stock Exchange. A number of countries were dropped from the study due to issuance of less than ten IPOs during the study period. The remaining countries selected using stratified random sampling.

The countries were broadly grouped into three categories based on their geographical locations namely northern region, central region and southern region. Based on this stratification one country was selected randomly from each strata. The countries selected were Egypt from the northern strata, Kenya from the central strata and South Africa from the southern strata. The number of firms that floated their shares for the first time (IPO) stands at 130 during the period January 1996 to December 2011. This data was obtained from ASEA yearbooks (1996-2011) and respective Stock Exchange websites. Table 3.1 gives a breakdown of the number of IPOs per country. A survey of all firms that offered shares in an IPO in the period 1996 to 2011, in the three identified ASEA member stock markets was carried out and studied. Firms which withdrew their IPOs before listing were excluded because they lacked sufficient information on the trading price on the 1st day of trading.

3.2 Empirical Model

$$IPO_u = \alpha_0 + \alpha_1 TranVol + \alpha_2 OfferSize + \alpha_3 Fage + \alpha_4 Fsize + \varepsilon$$

Where: IPO_u is the Market Adjusted Initial Return for underpricing

$Fage$ – Firm Age

$Fsize$ – Firm Size

$TranVol$ – Transaction Volume $CounDum2$ – Country

$OfferSize$ – Offer Size

α_1 to α_4 – coefficients of the various exogenous variables

ε – Error term

3.3 Measurement of Variable

There are several methods used in previous research to measure the level of IPO underpricing. This study measured IPO underpricing as shown below;

$IPO_u = \text{Market Adjusted Initial Return} = \text{Initial Return} - \text{Market Equivalent Return}$

$$MAIR = IR_u - MER$$

Where:

$$\text{Initial return Underpricing (IR}_u) = \frac{P_1 - P_0}{P_0}$$

Where: P_1 is the trading price at the close of first day of trading.

P_0 is the offer price

$$\text{Market Equivalent Return (MER)} = \frac{I_{m,1} - I_{m,0}}{I_{m,0}}$$

Where: $I_{m,1}$ is the market Index at the close of the first day of trading

$I_{m,0}$ is the market index on the application closing day of the relevant stock.

Transaction Volume (TranVol) is the trading volume on the first day of trading. Ofek & Richardson (2003) showed that high initial returns occur when institutions sell IPO shares to retail investors on first day. This means that there will be a higher trading volume considering the fact that institutional investors are largely bulk buyers of equity. Boubaker (2011) found a negative and significant association between transaction volume and underpricing. Gao (2010) found that transaction volume is positive and significantly correlated to overpricing. This was measured as the logarithm of shares traded in first day of trading times the offer price in US dollars.

Offer size (Offer size) is measured using the logarithm of gross proceeds in US dollars, Cukur & Gumrah, (2012). The results of the study showed that offer size is positively related to the level of initial returns. Miller & Reilly (1987) and Clarkson & Merkle (1994) indicated that the size of offer is negatively correlated with the pricing level. Boudriga *et al.*, (2009) measured offer size using the total gross proceeds raised from the markets. This study followed the Cukur & Gumrah, (2012) approach of measurement by using the logarithm of gross proceeds in US dollars.

Control variables

The following variables were controlled as they may have systematic influence on the level of underpricing. They were controlled to enable a clearer view of the influence of the exogenous variables on the endogenous variable. *Firm Size (Fsize)* is measured using the logarithm of total assets at the end of the year preceding the IPO (Boudriga *et al.*, 2009). Tenai *et al.*, (2011) indicated that firm size has significant impact on IPO pricing. Ritter (1984) argued that larger firms are easier to value because of ease of forecasting cash flows. On the other hand, small firms may attract less attention from investors and investment analysts creating room for information asymmetry in the event that they need to issue shares. Extant literature is in agreement on the role played by firm size.

Firm Age (Age) was controlled. This is defined and measured by the logarithm of the number of years between the year of incorporation and the year of IPO (Carter 1998; Daily 2005; Boudriga *et al.*, 2009; Tenai *et al.*, 2011; Cukur & Gumrah 2012 and Banerjee *et al.*, 2012)

3.4 Data analysis

Data analysis was done using both descriptive and inferential statistics. Descriptive statistics was used to show the degree of underpricing and relate this observation across years, country and industry. This was analyzed through the use of mean and standard deviation. To test the relationship and usability of variables in regression analysis, correlation analysis was done using

Pearson’s Product Moments correlation. Variables depicting a high level of correlation may indicate multicollinearity. The hypotheses were using regression analysis

4.0 Findings and Discussion

Table I provides the descriptive statistics of the research variables. From the table the average IPO underpricing for the period 1996 to 2011 was 0.203657. Also, the average firm age was 1.7332 while the mean firm size stood at 15.6857. Further, the table indicates that the mean transaction volume was 16.0575 while the mean offer size was 16.9469

Table 1: Descriptive statistics

	Mean	Std. Deviation	N
IPO Under-pricing	.203657	.3761923	128
Firm age	1.7332	1.31123	128
rm size	15.6857	2.91241	128
Transaction volume	16.0575	2.34234	128
Offer size	16.9469	1.24061	128

Table 2 shows that firm age and firm size indicates a negative correlation as shown by; firm age and IPO underpricing ($r = -0.228, \rho < 0.01$), firm size and IPO underpricing ($r = -0.048, \rho < 0.1$), offer size and IPO underpricing ($r = 0.016, \rho < 0.1$), transaction volume and IPO underpricing ($r = 0.179, \rho < 0.05$), firm size and firm age ($r = -0.213, \rho < 0.01$), firm size and offer size ($r = 0.445, \rho < 0.01$), firm age and offer size ($r = -0.012, \rho < 0.1$), transaction volume and offer size ($r = 0.662, \rho < 0.01$), transaction volume and firm size ($r = 0.361, \rho < 0.01$), and transaction volume and firm age ($r = -0.272, \rho < 0.01$)

Table 2: Pearson Correlation Coefficients Results

	IPOu	Fa	Fs	Os	Tv
IPO under-pricing (IPOU)	1				
Firm Age (Fa)	-.228***	1			
Firm Size (Fs)	-.048*	-0.213**	1		
Offer Size (Os)	.016*	-0.012*	.445***	1	
Transaction Volume (Tv)	.179**	-.272***	.361***	.662***	1

* $P < 0.1$, ** $P < 0.05$ and *** $P < 0.01$ (2 tailed)

Table 3 presents the regression results of the exogenous variables and the control variables. The study used fixed effect regression analysis.

Table 3: Regression Results

Variable	Coefficient	Std. Error	T	Prob.
Transaction Volume	0.074	0.022	3.359	0.001
Offer Size	-0.035	0.039	-0.916	0.362
Firm Age	-0.049	0.022	-2.232	0.028
Firm Size	-0.004	0.010	-0.354	0.724
_con	-0.120	0.563	-0.213	0.831
R-squared	0.490			
Adjusted R-squared	0.5121			
Std error of estimate	0.280			
Total Observations	128			

Firm age was found to have a negative and statistically significant effect on IPO underpricing ($\beta = -0.049$; $p < 0.05$). These results confirmed that older firms have a track record to use for risk assessment unlike younger firms, hence greater price spread for younger firm compared to older firms. The other control variable, firm Size ($\beta = -0.004$; $p > 0.1$) was found as having a negative and non-significant effect on IPO underpricing.

Hypothesis 1 postulated that; H_{01} transaction volume had no significant effect on the level of IPO underpricing.

The results indicated that there exist a positive and significant effect on IPO underpricing ($\beta = 0.074$; $p < 0.01$). This result rejected the hypothesis H_{01} . The results suggest that higher transaction volume leads to higher underpricing. The results suggest that higher transaction volume leads to higher underpricing. This can be attributed to institutional investors off-loading their shares on the first day of trading. The reasons why institutional investors may off-load the shares is associated with high returns in the market. This notion was supported by findings of Ofek & Richardson (2003) whose findings showed that high initial returns occur when institutions sell IPO shares to retail investors on first day. Chowdry & Sherman (1996) indicated that the allocation of more shares to the institutional investors or large investors enhances the winners curse scenario because this group of investors incurs information acquisition costs. They are informed and will be willing to order a large amount than the uninformed investor.

These results in crowding out of the uninformed investor who will be allotted a lower number of shares compared to an informed investor of similar wealth. The uninformed investor will be willing to buy more shares to meet their requirements post listing creating the heightened demand and the informed investors will also be willing to sell as long as they are able to make profits, given their cost of information generation and finance. A competing and equally plausible explanation for the effect of transaction volume is the development of interest by investors in the ownership of the firm. This can be due to support by fundamental analysis, technical analysis or the changes in market reception of changes in the firm. Other studies that concurred with the findings of the study were Boubaker (2011) and Cukur and Gumrah (2012).

Hypothesis 2 predicted that; H_{02} offer Size had no significant effect on the level of IPO underpricing.

The results found a negative and non-significant effect on IPO underpricing ($\beta = -0.035$; $p > 0.10$). The results failed to reject H_{02} . This finding seems to suggest that offer size had no significant relationship with IPO underpricing. The results which suggest that as offer size increases, the level of underpricing is expected to reduce. Although this is not significant, it confirms results obtained from correlation analysis which showed a non-significant relationship. Firms and underwriters should first assess the market to determine the investor demand or the market's absorption capacity before deciding the number of shares to offer. This will help avoid the problem of excess supply which as per the findings will result in price adjustment downwards.

5.0 Conclusion

The study found that transaction volume had a positive and significant effect on IPO underpricing. Thus, the study concludes that the investors and issuers can simulate the possible transaction levels which can be derived from the offer size and investor oversubscription. Where there is a low offer size and high demand, investor interest will not be met causing those left out to wait for the first day of trading to try and buy these shares resulting in a high transaction volume. High transaction volume that is not supply driven will most likely be as a result of excess demand.

This will push the price upwards resulting in IPO underpricing. Offer size was found to have a negative and significant effect on IPO underpricing. In addition, the study suggests that issue size should be revised up to the offer day to establish the optimum number of shares to offer, given the sensitivity of offer size to IPO underpricing. The results seem to suggest that offering less shares than what the market requires creates a scenario of oversubscription and may lead to severe excess demand. This scenario will not be good for the firm as the money left on the table will be very high and this will be a grave situation if the firm is not planning to offer a follow on offer to recover some of the lost cash as explained by the signaling theory (Welch, 1989).

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