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Determinants of subscription levels during Initial Public Offerings (IPO's) of East African listed firms

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DETERMINANTS OF SUBSCRIPTION LEVELS DURING INITIAL PUBLIC OFFFERINGS (IPO's) OF EAST AFRICAN LISTED FIRMS

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DECLARATION

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

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DEDICATION

This thesis is dedicated to my parents Dr. Meshack Aluvaala and Mrs. Rose Aluvaala who were the source of inspiration and dedication to work hard at all times as well as my husband Mwangi Wachira for always believing in me.

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ABSTRACT

An initial public offer enables a firm to transit from private ownership to public ownership. This was a cross sectional study of the factors that influence the uptake of IPOs in the East African region comprising of Kenya, Tanzania, Uganda and Rwanda on their respective Securities Exchanges. The study sought to establish what factors determine subscription levels during Initial Public Offerings (IPOs) of firms in the East African region. This study used descriptive research design and multiple regression analysis to determine key determinants of the level of subscription during IPOs. The period of the study was between 1990 and 2018 with a sample 47 firms, with 34 firms having their IPOs oversubscribed, 11 firms reported an undersubscription while 2 firms attained a full subscription. To corroborate the results, questionnaire data obtained the transactional advisors perspective on the same. The factors that were considered for this study were: offer price, par value, post issue promoter holding, past performance, age of the firm, length of offer period and investor participation. The study found that offer price, past performance and investor participation were statistically significant hence they were significant determinants of the subscription levels. However, par value, post issue promoter holding, age of the firm and the length of offer period were not statistically significant therefore they did not influence subscription levels. The study further made a distinction between Privatized Initial Public Offerings (PIPOs) and private Initial Public Offerings. PIPOs are firms where the government is offloading its share ownership to the general public while private IPOs are fully private firms that are going public. A comparative analysis was then made to establish whether investors prefer state owned firms or private firms. The findings revealed that there was no statistically significant difference on the subscription levels between an offer for sale by the Government and a private offer. Since the study relied extensively on information provided by prospectuses and disclosures in audited financial statements, a further study on other qualitative factors on what determines subscription levels may be necessary. Future studies can also focus on the specific company factors and behavioral factors investors consider that result to varying subscriptions levels as reported by various firms despite the market being the same and further determine whether these are the factors that influence the issuance of IPOs.

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ABBREVIATIONS AND ACRONYMS

IPO - Initial Public Offering

PIPO - Privatized Initial Public Offering

CMA - Capital Markets Authority

NSE - Nairobi Securities Exchange

DSE - Dar es Salaam Stock Exchange

USE - Uganda Securities Exchange

RSE – Rwanda Stock Exchange

DEFINITION OF TERMS

Initial Public Offering is the first public offering of equity carried out by a particular firm that not only fulfils the immediate capital requirements of the firm, but also allows the firm to make other future offerings that will build on their fixed capital. (Chemmanur, He, & Nandy, 2009).

Privatized Initial Public Offering involves the sale of state owned firms to the general public, (Lam, Tan, & Wee, 2007).

Private Initial Public Offering involves the transition of a firm from private ownership to public ownership, (Jain & Kini, 1994).

Subscription Level is defined as the ratio of the number of shares taken up by investors to the number of shares floated by the issuing firm, (Low & Yong, 2011).

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Initial Public Offerings (IPOs) have appealed to various scholars leading to numerous studies being conducted on the topic, (Banerjee & Rangamani, 2015; Higgins & Gulati, 2006 ; Marco Pagano, Fabio Panetta, & Luigi Zingales, 1998). According to Chemmanur et al. (2009) an IPO is the first public offering of equity carried out by a particular firm that not only fulfils the immediate capital requirements of the firm, but also allows the firm to make other future offerings that will build on their fixed capital. IPOs can further be categorized into two: Privatized Initial Public Offerings (PIPOs) and private Initial Public Offerings. Whereas a Privatized Initial Public Offering (PIPO) involves the sale of state owned firms to the general public, Lam et al. (2007) a private Initial Public Offering involves the transition of a firm from private ownership to public ownership, (Jain & Kini, 1994).

Academic theory recommends that the key motive of a firm going public is to raise capital for growth and to fund future investments. However, the government and the private sector may engage in IPOs for diverse reasons which may be attributed to their inherent characteristics. According to Dewenter & Malatesta (1997) PIPOs are predominantly issued by firms that are old, large, well known and are subject to policy risk while private IPOs are mainly issued by young firms in relatively new industries and are subject to less policy risk. Consequently, with Privatized Initial Public Offerings (PIPOs) the state is usually more concerned in turning around inefficient and unprofitable state owned firms to profit making firms by divesting from them, Government of Kenya (2005) while with private Initial Public Offerings the private firm aims at growth, ownership control and liquidity as identified by (Brau, Ryan, & DeGraw, 2006).

Initially the East African Community was made up of Kenya, Tanzania and Uganda. This was in the early 1950's before it collapsed in 1975 due to changes in political regimes. Currently, the East African region is made up of 10 countries. Kenya, Tanzania, Uganda, Rwanda, Burundi, Ethiopia, South Sudan, Djibouti, Eritrea and Somalia. Of these only 4 countries have stock exchanges that is Kenya, Tanzania, Uganda and Rwanda. There are 117 companies listed at these exchanges. In Appendix 1 and Appendix 2 a list of these firms is provided. Of the four countries, Kenya has the most developed market, the Nairobi Securities Exchange, NSE. It was incorporated in 1954. It has 65 companies with only 2 cross border listings. In Tanzania, the

Dar es Salaam Stock Exchange, DSE, has 28 listed companies having been incorporated in 1996 with 21 locally listed companies and 7 cross border listings. In Uganda, the Uganda Securities Exchange, USE, was incorporated in 1997. It has 16 listed companies, 8 of which are locally listed companies with the remaining 8 being cross border listings. In Rwanda, the Rwanda Stock Exchange, RSE, has only 8 listed companies having been incorporated in 2005. 4 companies were listed locally while the other 4 are cross listed companies. In Appendix 3, a further description of the similarities and differences of these stock exchanges is provided.

Subsequently, the respective East African countries stock exchanges provide an ideal platform from which the trend of IPOs that have been issued in East Africa can be observed. The East Africa capital market has been developed through the issuance of both privatized and private IPOs as presented in Table 1.1 for the study period 1990 to 2018. The privatized IPOs were issued upon the realization that state owned firms were not being professionally managed due to political influences and as a directive from foreign aid agencies. The main aim was to transfer economic and social control to citizens. Thus, the government of Kenya, Tanzania, Uganda and Rwanda systematically initiated privatization programs through the sale of shares to attend to the incompetence and weaknesses that was characteristic of these public firms as determined by the country's unique cultural, historical and financial situation.

Table 1.1: Listed Firms in East Africa by way of an IPO

Country	Privatized IPO	Private IPO	Total
Kenya	10	11	21
Tanzania	11	10	21
Uganda	5	3	8
Rwanda	4	-	4
Total	**30**	**24**	**54**

Source: (Author) 2019

The performance of an IPO is defined by the subscription levels. A study of IPOs listed in Malaysia to examine oversubscription in fixed price IPOs, Low & Yong (2011) likened investor demand to subscription levels and defined it as the ratio of the number of shares taken up by investors to the number of shares floated by the issuing firm. Similarly, Mwathi (2013) on seeking the relationship between investor demand for IPOs and long term return on shares postulated that investor demand is synonymous to the subscription rate of an IPO and further

describes the success of an IPO as an oversubscription while a failure is an undersubscription. Thus, whereas an oversubscription occurs when the demand for an IPO surpasses the total number of shares floated by the issuing firm, an undersubscription occurs when the demand for an IPO is less than the total number of shares floated by the issuing firm. A summary of the number of IPOs that have either been oversubscribed or undersubscribed is shown in the table below.

Table 1.2: Subscription Levels of IPOs in East Africa

Country	Oversubscription	Undersubscription	Full Subscription	Total
Kenya	17	4	-	21
Tanzania	12	7	2	21
Uganda	8	-	-	8
Rwanda	4	-	-	4
Total	**41**	**11**	**2**	**54**

Source: (Author) 2019

According to Rahim, Embi, & Yong (2012) there is sometimes an element of disinterest that hinders investors from participating in an IPO which has a direct effect on these subscription levels. Thus, measures have to be put in place by the issuing companies to ensure that the issue is successful. While state owned companies share the companies' information through gazette notices, newspapers, establishing regulatory frameworks as well as making changes to the top management to those with no political affiliations private companies use costly signals such as underpricing and retained equity. There is therefore the need to determine the factors that motivate investors to take part in an IPO. In both the developed and less developed markets, contradicting results have been achieved as far as the determinants of investor demand or subscription level of an IPO are concerned. The success or failure of an IPO can be attributed to several factors even though the specific factor is still a subject of academic debate.

Globally, several studies have looked into the determinants of subscription levels during IPOs. In the Asian market, studies done in the Indian context show that whereas Banerjee & Rangamani (2015) found these factors to include: pre issue financial position, reputation of the investment banker, analysts' recommendation and composition of the board of directors research by Kumar & Dhanda (2013) revealed these determinants to include age, index return, offer size, offer price and post issue promoter holding. Similarly, Low & Yong (2011) in the

Malaysian setting found that the level of IPO subscription can be influenced by the offer price, offer period, offer size and timing of the IPO. In addition, from the United States of America perspective Brau & Osteryoung (2001) pointed out marketing technique and cost, ownership and governance, phase of the business life cycle and signaling factors as some of the variables that can determine the performance of an IPO . However, Higgins & Gulati (2006) and Certo (2003) took a different approach and focused on the symbolic role that top management team and board structures have on potential IPO subscribers. To further build on this, in the European setting Kaustia & Knüpfer (2008) attested that investor attitude pushes IPO demand through learning by establishing that Finish investors are likely to engage in upcoming IPOs if they experienced favorable historical outcomes.

In Kenya various studies have also been carried out to establish what influences investors to subscribe to new shares. While Kaaria (2013) found these factors to be timing, governance issues, offer price and the economic situation of the country; Mutswenje (2014) revealed these factors to be the firm's financial position and performance, investment returns, economic condition, firms standing in the industry and the firm's reputation. With respect to investor behavior, whereas Kipngetich, Kibet, Guyo, & Kipkoskey (2011) proposed firm size, investor sentiment, age of the firm, post IPO ownership retention and board prestige as the decisive factors, Ndirangu, Ouma, & Munyaka (2014) considered investor demographics, capital appreciation, investor financial literacy and source of information as the determining factors. Comparatively, Mulu (2014) found these factors to include capital structure, profitability, size, age of the firm and market liquidity.

In both the developed and less developed markets, theoretical and empirical studies have been carried out to establish the determinants of subscription level of an IPO with contradicting results having been achieved. The performance of an IPO can be credited to a number of factors even though the specific factor is still a subject of academic debate. The current study builds on prior studies in determining the subscription levels as explained by quantitative factors established from previous literature including offer price, par value, post issue promoter holding, past performance, age of the firm, length of offer period and investor participation. Further, the study extends the IPO literature by evaluating unique data from the East African region for the period 1990 to 2018. In addition, the distinction made between IPOs is aimed at determining whether investors are likely to subscribe more to government owned firms or to privately owned firms.

1.2 Statement of the Problem

The IPO market is characterized by dynamism as postulated by Lowry (2003) and He (2007) who both agreed that the number of IPOs and the total amount collected from an offer vary extensively over time. The persistent change in investor demand on publicly issued shares due to personal characteristics or otherwise has greatly contributed to this vibrant market. The East African region respective stock exchanges represent this scenario where the distribution as well as the subscription levels of IPOs have relatively been unpredictable with unexpected surges of intensive investment and then relatively less successive periods until the next IPO, Nyasha & Odhiambo (2014) with the Capital Markets Authority statistics showing that Eveready East Africa (Kenya) had the highest subscription level at 830% and Mucoba Bank PLC (Tanzania) the lowest at 24%.

Although there is ample literature on the determinants of subscription levels both in developed and emerging markets, (Banerjee & Rangamani, 2015; Kumar & Dhanda, 2013; Chemmanur, Hu, & Huang, 2010) these researchers found mixed findings with some of the determinants having a positive effect on subscription levels while others had a negative effect. Studies done in Kenya include those of (Mutswenje, 2014; Mulu, 2014; Kaaria, 2013; Wachira, 2010). Similarly, these studies found contradicting findings. Thus, this research was motivated not only by the different findings that different researchers came up with but also the need to widen the market of study from the Kenyan market to the inclusion of other East African countries that is, Tanzania, Uganda and Rwanda.

Generally it is believed that state owned companies are mostly old, large and well known Dewenter & Malatesta (1997) whereas private owned companies are mainly young and small with limited track records that subject them to a situation described by Certo (2003) as 'liability of market newness'. This study provided an analysis as to whether this assumption holds by first grouping the sample into state owned IPOs and private IPOs and further determining whether investors prefer public offerings of state owned companies or of private firms by considering their subscription levels. Thus, unlike studies done by (Dewenter & Malatesta, 1997; Rizwan & Khan, 2007 and Lam et al., 2007) who provided a comparative analysis on the pricing, long run performance and policy risk during IPOs between government owned and privately owned companies using observations from different countries respectively, this research provided a comparative analysis on investor preference between government owned

and privately owned companies using observations from the East African region. This comparison provided a direct evidence on the assumption noted above.

This study therefore looked at the determinants and sought to answer some of the questions that have elicited mixed findings among scholars. Thus, what motivates potential investors to participate in IPOs in the East African region and is there a preference for government sponsored IPOs as opposed to private IPOs?

1.3 Research Objectives

1.3.1 General Objective

To investigate the determinants of subscription levels during IPOs with emphasis on East African listed companies.

1.3.2 Specific Objectives

1. To analyze the determinants of subscription levels during IPOs of East African listed companies.
2. To make a comparison between the IPO subscription levels of state owned companies and privately owned companies of East African listed companies.
3. To examine the perspectives of transactional advisors on the determinants of subscription levels during IPOs of East African listed companies.

1.4 Research Questions

1. What factors determine subscription levels during IPOs of East African listed firms?
2. Is there a difference between the IPO subscription levels of state owned companies and privately owned companies of East African listed companies?
3. What are the perspectives of transactional advisors on the determinants of subscription levels during IPOs of East African listed firms?

1.5 Scope of the Study

This research focused on the factors that determine subscription levels during IPOs of East African listed companies. Although there are 10 countries in the East Africa region, only Kenya, Tanzania, Uganda and Rwanda have stock exchanges. There were 117 firms listed at these exchanges as at December 2018. These four markets have similar laws governing them with a small number of differences arising from the level of market development. This arose

from the fact that during the early stages of the development of the capital market in East Africa, the NSE operated as a regional market for Tanzania and Uganda though Rwanda was admitted later. In addition, a unique feature in this market is the cross listing of firms across the four countries as a result of regional integration. This study was however limited to 47 companies which were listed at the respective exchanges through an IPO between 1990 and 2018. The study targeted this period because it covered a phase when the governments of these East African countries had initiated the privatization process with many firms being privatized owing to the responsive and conducive environment for investment at that time as well as influence from foreign aid agencies.

1.6 Significance of the Study

An analysis of the determinants of the subscription levels has important implications to a number of stakeholders in the market.

1.6.1 Academicians

The study intends to contribute to the current literature on the factors that determine the decisions to participate in IPOs in the East African setting and give explanations to the varying subscription levels. The findings and recommendations may be used to carry out further research in the field of initial public offers.

1.6.2 Potential Investors

The study will shed some light to investors and act as a guide when making such investment decisions by bringing out some of the factors which should be considered but would otherwise have been overlooked during an IPO offering. This will ensure that the investors will make better and informed decisions.

1.6.3 Regulatory Bodies

To the regulators such as the Capital Markets Authority (CMA), the study will provide additional knowledge on how to handle future IPOs. From the findings the regulators can come up with better ways of enhancing for instance how information is being relayed to investors especially through the prospectus which would improve investor confidence in the stock market thereby enhance the chances of successful IPOs.

1.6.4 Investment Advisors and Analysts

The findings of the study could assist the investment advisors to give well-informed advice to their clients in this case the potential IPO investors about investing in quality stocks while the investment analysts will be better placed to provide solutions to stockbrokers with regards to initial public offers.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covered both the theoretical and empirical review of existing literature. It was organized into the following sections: A discussion on the relevant theories that support this study was presented in Section 2.2 which were the Signaling, Agency and Pecking Order Theories. Section 2.3 covered the empirical review comprising of different aspects of the study done by previous researchers. The research gap was discussed in Section 2.4 and Section 2.5 has the conceptual framework. Section 2.6 has the operationalization of variables and Section 2.7 the chapter summary.

2.2 Theoretical Framework

This section discussed the relevant theories with regards to the subscription levels of IPOs. Although several theories have been used to support such studies, three theories were chosen to anchor this study. The Signaling Theory was applied to evaluate how investors due to information asymmetry improvise and interpret signals from those with private information to make investment decisions. Agency Theory was used to explain the problems that arise between managers and shareholders because of change in ownership structure while Pecking Order Theory gave an insight on how firms line up their sources of funds since the cost of financing increases with asymmetric information and how they end up financing their projects using equity.

2.2.1 Signaling Theory

One vital challenge facing firms that want to issue an IPO is resolving the information asymmetry problem that occurs when potential investors and initial shareholders of a firm have access to different sets of information. This necessitates the use of signals for communication and interpretation purposes since this information cannot be conveyed directly between the two parties. However, the signals used should have strategic effects with credible signals being judged by their ability to be observable and costly to imitate, observable in the sense that outsiders should be able to notice and react to the signal and costly to imitate in that false signals should not be able to bring in returns.

Michael Spence was the pioneer of the signaling theory. According to Spence, (1973) by using education as a signal for distinguishing between high quality and low quality potential employees he proposed that the job market can be compared to an investment decision being made under uncertainty. This is because at the time of hiring the potential employee's competencies are unknown and what follows is a hiring decision by the employer based on personal data that is available in form of observable characteristics and attributes such as education, job experience, race and gender. He further made a distinction between observable characteristics and classified them as indices and signals. Indices are the observable unalterable attributes which cannot be changed while signals are the observable characteristics which can be manipulated by an individual. Since signals are alterable, costs may have to be incurred to make these adjustments hence the term signaling costs.

Similarly, Brau & Fawcett (2006) by focusing on the signaling theory made a comparison between practice and theory on IPOs through an analysis of chief financial officers. They found that these chief financial officers particularly of large firms sight strong past performance as the most positive sign in the process. However, the sale of a great percentage of the company and insider shares were regarded as negative sign. Other scholars who employed signals in their studies include: Certo (2003) who came up with a distinctive approach to this theory by focusing on what he termed as 'liability of market newness' where he suggested that since IPOs are relatively unknown to investors, boards of such firms have a symbolic role to play in such instances and Higgins & Gulati (2006) who used top management teams as a signal to the IPO process.

All in all, the signaling process will only work if the potential investors know what they are looking for in a signal and therefore respond accordingly if they consider them to be true signals. Relying on signal interpretation from others will lead to a ripple effect where signals will be misinterpreted. This theory was instrumental in identifying post issue promoter holding, past performance, age of the firm, length of offer period and offer size as having potential influence on the subscription levels of IPOs.

2.2.2 Agency Theory

Traditionally, it was believed that the original owners of a firm preferred internal financing to external financing because they shunned the process of explaining the specifics of a project to outside investors and exposure to investor monitoring. However, subsequent studies reveal otherwise by suggesting that at times it is necessary for a firm to expose itself to outsiders

through the issuance of equity by engaging in external financing. It was with this in mind that the agency theory was developed with an aim of providing possible explanations and solutions on such issues like separation of ownership and information asymmetry that may arise as a result of this exposure.

Jensen & Meckling (1976) are the most prominent contributors of the agency theory. They defined an agency relationship as a contract between the principal (shareholders) and the agent (managers) to carry out a task in their interests. Since an agency problem is likely to arise from this relationship owing to the agent's possibility of acting in his own interests, there is the need to establish a contractual relationship that will encourage the agent to make decisions that will suit the principal. To demonstrate this relationship, they examined the significance of external equity on agency cost by relating the conduct of a manager when he has full ownership of the firm with his behavior when he is a part owner. They found that whereas in the former situation the manager will make decisions that will maximize his interests, in the latter there will be a decline in this interest because too much effort will be required on his part without an equivalent compensation for the spirited determination.

Unlike Jensen and Meckling, whose study focused on ownership and behavior, Fama & Jensen (1983) discussed agency theory with reference to ownership and control by regarding the board of directors as information systems that oversees the exploitation of top executives so as to safeguard the shareholder's interest. By relating founder share ownership with the authority bestowed upon them to direct the course of events in the issuing firm, they showed that when share ownership is low, founders are likely to make decisions that are in contrast with the interests of potential shareholders hence the need for the establishment of board of directors to control this agency problem. Thus, when boards provide more information, not only will top executives be rewarded based on their behavior rather than on performance but are also likely to be involved in behaviors that are consistent with shareholders' interests.

Other scholars who recognized agency problems in their studies include, Dharwadkar, George, & Brandes (2000) who argued that inadequate safeguarding of minority shareholders leads to the building up of the conventional principal agent problems and Gedajlovic & Shapiro (1998) who established that agency problems can also be created through privatization efforts in both advanced and evolving markets as a result of the change in ownership from the state to the citizens of that particular country. This study found agency theory relevant in guiding the choice of post issue promoter holding and investor participation as independent variables.

2.2.3 Pecking Order Theory

This is an influential theory in corporate finance. Since it is more of a guide to the progression of particular models and tests it is considered as a point of view theory rather than an explicit theory. Institutional literature reveals that it was pioneered by Donaldson who did a study on the financing practices based on a sample of large companies from which he observed that the management of such firms preferred to source new funds internally and avoided external funds except for special circumstances. The basic features underlying this theory include its comparative straightforwardness and linearity of the firm's objectives.

According to Myers (1984) a firm follows a pecking order if it favors internal to external funding and debt to equity if external financing is used. The scholar subsequently built on this idea while researching on the capital structure puzzle and suggested that although it is still relatively unknown how firms prioritize debt and equity, the traditional pecking order structure will still hold with the key issue being the strict ordering of financing. He further reiterated that dependence on internal finance is as a result of the separation of ownership and control with professional managers avoiding to bank on external finance because it would subject them to the restrictions of the capital market.

Extended research has further been done to establish the applicability of the pecking order theory with the scholars arriving at different opinions. For instance Vanacker & Manigart (2010) in a dataset that aimed at analyzing financing events of high growth businesses showed that whereas profit making companies favor retained earnings over debt to finance their investments external financing is imperative for unprofitable companies with inadequate cash streams thereby indicating consistency with the pecking order theory. Sheikh, Shakeel Ahmed, Iqbal, & Tahir Masood (2012) argue that due to low growth rate combined with under developed capital markets, firms in Pakistan do not observe the pecking order theory and instead fund their investment projects from the easiest possible sources.

Frank & Goyal (2003) purport that contrary to what is often suggested internal financing is inadequate to cover major investment projects, external financing is greatly used while debt financing does not dominate equity financing. Yan (2007) suggested that since mature firms have more internal funds they have access to cheaper credit hence they are inclined to follow the pecking order unlike young firms which have less internal funds. In the current study, pecking order theory informed the choice of offer price, par value, age of the firm and GDP growth rate as variables in the study.

2.3 Empirical Review

This section elaborates on the works and findings of different scholars in the context of the research objectives. The factors that were considered for this study were: offer price, par value, post issue promoter holding, past performance, age of the firm, length of offer period and investor participation. Previous studies on the factors that determine the subscription levels of IPOs helped in the selection of these determinants as informed by the theoretical framework. The determinant factors that were discussed were based on the rate of recurrence of previous research and were aimed at establishing whether they affect subscription levels during IPOs in East Africa.

2.3.1 Offer Price

This is the price at which an offer is issued and according to the Efficient Market Hypothesis it should be a reflection of all publicly and privately available information. For instance in the Kenyan market, information acquired from various prospectuses indicate that the offer price is an estimate of the fair value of the issued and fully paid shares based on the business valuation of the firm in consultation with transaction advisors. Further to this, the basis for setting the offer price is determined by taking into account certain factors that include: the market price of existing shares on the NSE, the country's macro- economic outlook, the earning potential of the firm, the performance of the shares of other comparable firms locally and other developing countries before the launch of the offer and an observation of the capital market performance indicators. Kipngetich et al (2011) using an alternative approach investigated determinants of IPO pricing in Kenya in relation to firm size, investor sentiment, board prestige, age of the firm and post-IPO ownership retention and found that these variables have no significant impact on IPO pricing.

Underpricing, also referred to as abnormal initial return is a common phenomenon experienced in almost all IPO markets, a sentiment that is supported by a number of researchers from their findings that the first day pricing of newly listed shares increases to a much higher level than the offer price, Amihud, Hauser, & Kirsh, (2003). This underpricing is essential to attract uninformed investors to purchase the issue and for the IPO to succeed. Amihud et al. (2003) by examining theories of underpricing in Israel found that since uninformed investors condition their involvement in IPOs on information that is publicly available such as the share price and by observing the behavior of informed investors, issuing firms will underprice their shares so as to create a flow of demand. Moreover, Chemmanur & Fulghieri (1994) agreed on the view

that since price is observable and demand unobservable, price can be used as a channel through which inside information is conveyed to the IPO market bearing in mind that the original shareholders are believed to have superior information that outside investors can imitate.

Consequently, it can be deduced that the offer price has an effect on the demand for an IPO that could lead to its success or failure. To show this relationship, Kumar & Dhanda (2013) examined the characteristics of IPOS in the Indian market using multivariate regression model and found that the offer price has a significant impact on subscription levels. A study by Chowdhry & Sherman (1996) on the UK-style IPOS suggest that one of the motives for issuing firms to underprice their IPOs is to reduce the likelihood that the issue fails. Kaaria (2013) on conducting a study on successful IPOs among NSE listed firms in Kenya found that offer price should be considered by the firms before going public. On the contrary Brau & Osteryoung (2001) found that in the United States of America the price per share is not significant in the determination of the possibility of a successful micro-IPO offering. This implies that there is a relationship between the offer price and the subscription levels to an IPO.

2.3.2 Par Value

An aspect in the pricing of a share price that can be considered is its par value, nominal value or face value. This is a determination of the expensiveness of shares during IPOs. Kee & Luh (1999) defined par value as the value specified for each share to show a corresponding amount that has been contributed by each founder. Thus, it is the value at which the founders of the firm subscribe for the shares at the inception of the firm thereby representing the actual amount invested by the founders. They further stated that the share price cannot be set below the par value as it will lower statutory liability of the new shareholders. The par value is meant to protect the creditors and to set the maximum liability of a shareholder. Therefore, they proposed that par value is an irrelevant concept given that it is historical and fixed since it is points out the amount of capital that shareholders have decided to contribute.

By buying shares through IPOs at a price often in excess of nominal prices, large amounts of funds are entrusted to the issuing firm. In Poland, a study done by Tadeusz (2014) revealed that investors do not make any comparison between the two prices using a sample of 100 companies between 2006 and 2008. Issuing firms take advantage of this behavioral bias exhibited by investors to maximize the ratio of the issue price to par value by nominal price that will ensure that old investors can maintain their ownership by acquiring a large amount of capital by selling minimal shares. This is a sentiment that is shared in the reviewed prospectuses where it is

collectively proposed that a higher par value might result in a firm using up its full allocation of authorised shares more quickly than one which has a lower par value meaning the higher the par value the lower the amount of authorised capital that will be available for an offer. Moreover, Baker & Wurgler (2007) in testing catering theory of nominal share prices recognised that boards of directors are free to set the nominal price so long as it is the most favorable but subject to listing requirements though trading costs and asymmetric information may also come into play. This implies that there is a relationship between the par value of a share and the subscription levels to an IPO.

2.3.3 Post Issue Promoter Holding (PIPH)

A promoter(s) refers to a person or a group of persons who is (are) involved in the incorporation of a business and therefore is (are) in a position to exert adequate control over the firm because of their substantial shareholding and management rights, Kumar & Singh (2013). In other words, promoters are the founders of the firm who make up the insider ownership structure. Sahoo & Rajib (2010) defined PIPH as the percentage of shares being retained by the initial owners after the IPO. It is therefore what the original owners of the firm maintain as their shareholding after the firm goes public. Due to change in ownership, particularly the reduction in management ownership, increased conflict of interest will arise resulting to the agency problem.

According to Zingales (1995) on their paper on insider ownership and going public, PIPH is considered by initial owners when deciding whether to undertake an IPO with regards to what fraction of ownership they intend to retain. This consequently leads to the balancing of two factors namely cash flow rights and control rights. Cash flow rights will come about as a result of concentrating the sale of shares to dispersed shareholders while control rights will be a consequence of negotiating with a potential buyer on matters relating to retaining ownership rights. Further research on ownership by Sahoo & Rajib (2010) documented that high ranking firms embrace ownership concentration as a signal to prospective investors about the superiority of the firm.

By using ownership as a signal to influence the outcome of an IPO, both Leland & Pyle and Brau & Fawcett reached the same conclusion that the willingness of the founders of a firm to invest in their own firm serves as signal of the firms' quality. On discussing the signaling model, Leland & Pyle (1977) showed that due to the presence of information asymmetry, potential investors may have to observe the actions of the initial owners who are believed to

have insider information hence when they sell a greater proportion of their shareholding potential investors will interpret it as a negative signal. Likewise, Brau & Fawcett (2006) by surveying chief financial officers established that the CFOs proposed that selling a significant share of the firm is viewed as a negative signal such that potential investors may fail to subscribe to shares when they get information that the promoters are disposing off majority of their shareholding and retaining only a small portion. On a different measure, whereas Brennan & Franks (1997) examined 69 IPOs in the UK to establish that the initial owners of a firm sell a majority of their shares at the IPO Jain & Kini (1994) investigated the post IPO operating performance of American firms for the period 1976 to 1988 noted that original shareholders retain a significant stake in the firm after the IPO meaning they are confident in the success of their project.

To further develop on this factor, other studies have been done to determine the impact of PIPH on the level of subscription of IPOs. For instance Kumar & Dhanda (2013) found that although PIPH has a positive impact on subscription it does not have a significant effect. Similarly Brau & Osteryoung (2001) listed PIPH as a determinants of a successful micro-IPO. In contrast, Kipngetich et al. (2011) found that PIPH is insignificant, so did Mikkelson, Partch, & Shah (1997) as they documented ownership characteristics and operating performance for a sample of 283 IPOs by American firms in the years 1980 to 1983. Not to mention, Josée St-Pierre (2000) who found contradicting results, that is both positive and negative findings depending on the method of analysis that they used in their investigation on the success of Montreal IPOs as predicted by the content of the prospectuses using a group of 40 firms for the period 1983 to 1988. From these findings it can be deduced that there is a relationship between PIPH and the subscription levels to an IPO.

2.3.4 Past Performance

Past performance was used in this research to refer to the financial performance of a firm preceding the year of issue. To measure the historical performance, Brau & Osteryoung (2001) proposed the use of after-tax earnings from the previous year which represent the pre IPO profits. However, Jain & Kini (1994) pointed out that it is not an easy task to obtain such valid accounting information before the IPO.

Several studies have documented that a possible explanation for why firms go public is the firms past performance. With reference to Jain & Kini (1994) study on post IPO performance, offerings are normally scheduled to happen at a time when the firm is performing well

financially to increase the chances of success. Marco Pagano et al. (1998) using a database of private firms in Italy observed that a firm that is undergoing a brief surge in profits may use the opportunity to list with the anticipation that investors will erroneously interpret its high profitability as a long-lasting state thereby increasing the likelihood of a successful IPO. Similarly, Brau & Fawcett (2006) determined that CFOs are aware of the significance of presenting good performance in the prospectus. The common thread running through these explanations is that initial owners of a firm may attempt to manipulate investors' beliefs by inflating pre-IPO earnings through window dressing their financial statements prior to going public to increase their chances of having a successful IPO.

Consequently, past performance may be considered as a determinant of subscription levels of an IPO with some scholars suggesting it has a positive effect while others support a negative influence. Proponents in the Kenyan market such as Kaaria (2013) and Mulu (2014) are of the argument that the higher the firms prior IPO profitability the higher the anticipated level of share subscription. However, Mushtaq (2014) concluded that profitability plays a small role in influencing the performance of IPOs at the NSE hence a negative relationship. Relating their studies to signaling theory other scholars such as Brau & Fawcett (2006) established that CFOs particularly of big firms view strong past earnings as the most positive sign in the IPO process. In the same way, Banerjee & Rangamani (2015) posited that financial performance of the firm prior to the issue plays an imperative role to signal to the prospective investors concerning the quality of the issue. Another line of research by Demers & Joos (2007) listed pre-IPO performance as one of the significant firm specific explanatory variables for explaining why some US IPOs in the past recorded undersubscriptions by developing an IPO failure prediction model using data dated January 1980 to December 2000. Similar views were shared by Brau & Osteryoung (2001) whereby through theory they were able to illustrate that investors favor companies with a successful track record in the American market. From these studies it can be implied that there is a relationship between past performance and the subscription levels to an IPO.

2.3.5 Age of the Firm

The age of the issuing firm at the time of the offering is defined as the interval between the offer date and the date of incorporation, (Carter, Dark, & Singh, 1998). Similarly, Kumar & Dhanda (2013) defined it as the difference between the year of incorporation and the year in which the IPO is issued. The number of years that a firm has been in business leads to the

establishment of track records, operating histories, capturing of investors' attention and reduction of uncertainties which will then influence the outcome of an IPO.

For instance, Carter et al. (1998) reported that older firms face less uncertainty because they have longer operating histories, an opinion that was echoed by Kim & Ritter (1998) who observed that younger firms face greater uncertainties owing to their shorter operating histories. Also, Thomas J. Chemmanur & Paolo Fulghieri (1999) developed a model on the going public decision of a firm and proposed that whereas older firms can establish a track record of successful operations hence are in a better position to attract numerous small investors during public offerings, younger firms are not able to capture the investors trust owing to their little track record.

Although two related studies by Nikolaj Bukh, Nielsen, Gormsen, & Mouritsen (2005) for the Danish market and Rimmel, Nielsen, & Yosano (2009) for the Japanese market, considered the age of the firm as an important factor to be disclosed in a firm's prospectus since it is regarded as a source of non-financial information, they had conflicting findings with Nikolaj Bukh et al. (2005) establishing that age is an insignificant factor in Danish IPO prospectuses on an analysis that covered the period 1999 to 2001 while Rimmel et al. (2009) found that age has a significant influence on the information that was being disclosed in the Japanese prospectuses in the year 2003.

That said, various studies have been carried out to determine whether the age of the firm will influence the subscription level of IPOs. Brau & Osteryoung (2001) determined that young firms should stay private and if they consider going public they are likely to have failed offerings. On determining the factors that influence a successful IPO in Kenya, using a sample of nine (9) IPOs issued at the NSE during the period 2001 to 2011, Mulu (2014) established that age of the firm has a positive influence on subscription with older firms recording higher subscription levels, Wachira (2010) found a negative relationship meaning younger firms command higher subscriptions for the period 2005 to 2009. Similar to this finding, Kumar & Dhanda, (2013) using multivariate regression models posited that not only does the age of the firm have a negative impact on subscription but it is also not significant. In addition to this, Josée St-Pierre (2000) identifies the age of the firm at the time of the IPO as one of the predictors of successful IPOs on the Montreal Stock Exchange. However, a negative relationship was obtained whereby younger firms were performing better than the older ones at the exchange meaning that investors prefer young growing firms to mature firms as they are

perceived to be more dynamic. From these studies it can be implied that there is a relationship between the age of the firm and the subscription levels to an IPO.

2.3.6 Length of Offer Period

The length of offer period also termed as IPO investment period as suggested by Cheng, Chan, & Mak (2005) is defined as the length of time from the IPO application deadline date to the listing day, Low & Yong (2011). They further suggested that this period should not only be considered as an important factor because it influences investor demand with regards to participation in an IPO but also should be of concern to the issuers due to the effect it will have if such demand fluctuates.

To determine the relationship between the length of offer period and the performance of an IPO several studies have been carried out by different scholars. Cheng et al. (2005) argued that pro longed investment periods are a sign of poor coordination of the IPO process and thus signals that the IPO is of low quality in Hong Kong by employing a sample of 267 IPOs from 1993 to 1997. Similarly, Guo & Brooks (2009) in their research to estimate the duration from offering to listing of Chinese A- share IPOs issued from 1994 to 2005 found that investors use this duration to assess their risks and consequently choose IPOs with shorter period to minimize their financing costs. In their study to explain oversubscription in fixed price IPOs in Malaysia Low & Yong (2011) determined that the longer the offer period the lower the subscription levels because longer offer periods increase the opportunity cost of funds of potential investors thereby reducing their interest in the IPO. However, this is only applicable to IPOs where investors make advance payment for share applications because during this period their funds will be tied up. Although these researches demonstrate a negative relationship between the length of offer period and subscription levels, Zouari, Boudriga, & Taktak (2009) using a sample of 34 companies covering the period 1992-2008 reported that in the Tunisian Stock Exchange the length of offer period is due to the type of offerings, regulatory clearances and controls. Thus, based on these findings there is an indication that there is a relationship between the length of offer period and the subscription levels to an IPO.

2.3.7 Investor Participation

The IPO market is described as having two types of investors; the small unsophisticated "irrational" investors or individual investors and the large sophisticated "rational" investors or the institutional investors. Laura Casares Field & Michelle Lowry (2009) consider institutional investors to be sophisticated with respect to IPOs because they have particular advantages over

individual investors. Institutional investors therefore have an edge over individual investors as a result of information asymmetry, underpricing and share allocation which in turn have an effect on how the two categories of investors subscribe to a public offering.

The findings of (Benveniste & Spindt, 1989 and Brau & Fawcett, 2006) suggest that the mechanism of underpricing of shares by issuers influence investors differently. Benveniste & Spindt (1989) suggested that it is a way of paying back institutional investors for sharing significant information that could be helpful in pricing shares. In another line of research, Brau & Fawcett (2006) surveyed 336 CFOs to compare practice to theory in the areas of IPO and found that CFOs regard underpricing as a means used by underwriters to win the confidence of institutional investors.

Other works argue that due to information asymmetry institutions are able to outperform individual investors. Proponents that subsequently built to this idea include Rock (1986) who proposed that because of information advantage over retail investors institutional investors are enabled to select better performing IPOs, Chemmanur et al. (2010) on the other hand by analyzing the role of institutional investors in IPOs using trading data for 419 different institutions from year 1999 to 2004 found that institutional investors can outperform individuals more when there is greater information asymmetry especially in instances where the firm issuing the IPO is young.

Further, with regards to share allocation, Chowdhry & Sherman (1996) developed a model on how IPOs should be allocated and determined that issuers in several countries tend to favor individual over institutional investors in terms of allocation so as to enhance fairness. In contrast, Aggarwal, Prabhala, & Puri (2002) on their study of institutional allocation of IPOs using a dataset of US offerings between 1997 and 1998 documented that institutional investors perform an important role in the IPO process due to the share allocation that is set aside for them, sentiments that are also supported by Ljungqvist & Wilhelm (2001) who found that out of 1,032 IPOs issued between 1990 and 2000 institutional investors were allocated twice as many shares as compared to individual investors. In addition, Chemmanur et al. (2009), illustrated that it is prudent to sell shares to a large number of investors in the equity market who are able to diversify their risks and have minimum share ownership with almost no bargaining power as opposed to few institutional investors who will take up majority of the shares which will increase their claim to the issuing firm hence are able to take over the control

of the firm. Thus, based on these findings there is a relationship between investor participation and subscription level.

2.4 Research Gap

The determinants of subscription levels have been well documented in past empirical researches both in the developed markets, (Josée St-Pierre, 2000; Brau & Osteryoung, 2001; Kumar & Dhanda, 2013) and emerging markets, (Mushtaq, 2014; Mutswenje, 2014; Kaaria, 2013 and Wachira, 2010). Other studies that have explored on the factors that determine subscription levels include (Brau & Fawcett, 2006; Chemmanur et al. 2010 and Tadeusz, 2014). However, these studies have resulted in conflicting conclusions with some of the variables including offer price, par value, PIPH, past performance, age of the firm, length of offer period and investors participation having a positive effect on subscription levels while others have a negative effect. Based on these mixed findings a research gap exists to explore further on what variables are key to a successful IPO in emerging economies.

The studies on emerging markets, (Mushtaq, 2014; Mutswenje, 2014; Kaaria, 2013 and Wachira, 2010) have been done to cover the Kenyan market to explore on the factors that determine subscription levels during an IPO. This study identified a research gap with regards to the sample size and therefore incorporated the entire East African region in the sample to include all the firms that have issued IPOs in Kenya, Tanzania, Uganda and Rwanda.

A distinction can be made on the type of IPO on offer in terms of government issued shares and private offers. Generally, the IPOs issued in the East African market can be categorized as Privatized Initial Public Offerings (PIPOs) which are the government issued shares and private Initial Public Offerings which are private offers. This study identified this distinction and formed the basis for further research to determine whether there is a preference between government issued shares and private offers in terms of subscription levels and if a distinction is made between the two before committing funds to such an investment.

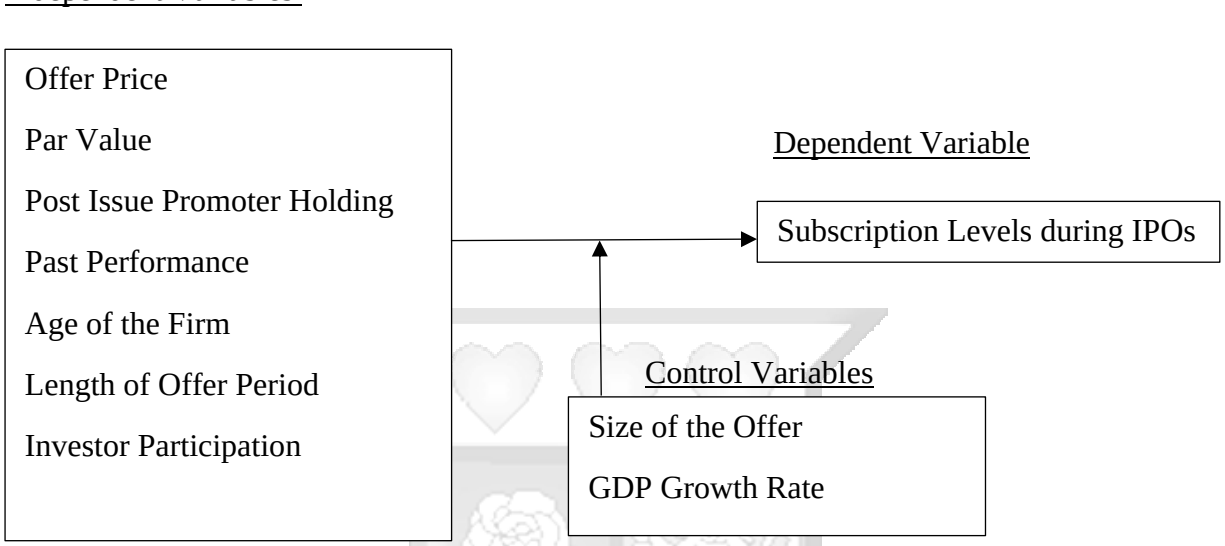
2.5 Conceptual Framework

This section conceptualizes the study by bringing out the relationship between the variables under investigation diagrammatically. The conceptual framework specifically demonstrates the relationship between the independent variables and the dependent variable, (Kothari, 2004).

In this study the dependent variable was the subscription levels during IPOs while the independent variables were offer price, par value, PIPH, past performance, age of the firm,

length of offer period and investor participation. The control variables were size of the offer and GDP growth rate. These factors were chosen based on previous studies and availability of consistent data.

Figure 2.1 Conceptual Framework



Source: (Author) 2019

2.6 Operationalization of Variables

This section described how each variable was measured.

Table 2.1: Measurement of Variables

	VARIABLES	OPERATIONALIZATION	REFERRENCES
	Dependent Variable		
1.	Subscription Level of IPOs	No. of Shares Subscribed *100 No. of Shares Offered to the Public	Low & Yong (2011)
	Independent Variables		
2.	Offer Price	Value of share as determined by an underwriter and stated in the prospectus	(Lowry & Schwert, 2002)
3.	Par Value	Value given to each share as stated in the prospectus	(Kee & Luh, 1999)
4.	Post Issue Promoter Holding	No. of Shares Maintained by Owners*100 Total Subscribed Shares	(Leland & Pyle, 1977).

		Promoter holding, proportion of total equity possession of the owner group in the company	(Kumar & Singh, 2013)
5.	Past Performance	Profitability of the firm is the Profit After Tax	(Pagano, Panetta, & Zingales, 1998)
6.	Age of the Company	Year the IPO was Offered minus Year of Incorporation	Ritter, (1991).
7.	Length of the Offer Period	The length of time from the IPO application deadline date to the listing day	(Cheng et al, 2005)
8.	Investor Participation	Proportion of Institutional Investors *100 Total Investor Participation Proportion of Individual Investors *100 Total Investor Participation	(Pollock, Porac, & Wade, 2004).
	Control Variables		
9.	Size of the Offer	Quantity of Shares Offered by the Firm	(Carter et al., 1998)
10.	Gross Domestic Product Growth Rate	Current Yr. GDP-Previous Yr. GDP*100 Previous Year GDP	Kenya National Bureau of Statistics Tanzania National Bureau of Statistics Uganda Bureau of Statistics National Institute of Statistics of Rwanda

2.7 Chapter Summary

This chapter commenced with a discussion on the relevant theories underpinning the research followed by the empirical review with focus on the variables that have an effect on subscription levels the conceptual framework and finally concluded on operationalization of variables.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covered the methodology for collecting and analyzing the data for testing the objectives of the study. It discussed research philosophy, research design, population and sampling, data collection, data analysis, research quality and ethical consideration. The chapter discussed the primary and secondary data collection methods and how the data obtained was analyzed data from both sources. Saunders, Lewis, & Thornhill (2009) defined research methodology as the valid and reliable procedures and techniques used to find and analyze data.

3.2 Research Philosophy

Research philosophy is a structure of views and assumptions on the development of knowledge that one embarks on doing when carrying out a research so as to develop knowledge in a particular field either by introducing a new theory or answering a specific problem, Saunders et al. (2009). Hence, it focuses on the way things are perceived in the world.

This research adopted the Positivism research philosophy. Saunders et al. (2009) define positivism to be of the view that the only accurate knowledge is scientific knowledge which comes from the positive verification of existing theories as tested by hypotheses and generalizations made from the findings. The positivist approach gives emphasis to the use of statistical and mathematical procedures to make inferences from the study. Hence, this approach was suitable for this study because the research objectives had the ability to be investigated using secondary data by means of statistical procedures to establish the relationship between variables which ensured the researcher was unbiased and objective when conducting the study.

3.3 Research Design

Research design is a guide in the gathering, measurement and analysis of data within which a study is conducted, (Kothari, 2004). It is a plan that shows how the problem under investigation will be solved. In this study analysis was done on the relationship between subscription levels and possible determinants: offer price, par value, PIPH, past performance, age of the firm, length of offer period and investor participation. This study therefore took on a descriptive research design since it assessed whether subscription levels are explained by these possible

determinants. Cross sectional data was obtained from listed companies at the Nairobi Securities Exchange, the Uganda Securities Exchange, the Dar es Salaam Stock Exchange, and the Rwanda Stock Exchange over the period 1990-2018. Semi structured questionnaires were administered to transactional advisors. They had both closed ended and open ended questions.

3.4 Population and Sampling

The population of this study comprised of all the firms that went public between 1990 and 2018 in the East African Region. According to CMA Kenya (2018), the Nairobi Securities Exchange has 65 listed companies. The CMSA Tanzania (2018) indicated that the Dar es Salaam Stock Exchange has 28 listed companies while CMA Uganda (2018) reports that the Uganda Securities Exchange has 16 listed companies. The Rwanda Stock Exchange has 8 listed companies according to CMA Rwanda (2018). This gave a population of 117 companies listed at the respective stock exchanges, (Appendix 1 and Appendix 2). Authorized trading advisors formed the target population for purposes of primary data. A complete list of the East African region according to the respective exchanges show a total of 47 advisors with Kenya having 21 nominated advisors, Tanzania 17, Uganda 7 and Rwanda 2, as listed in Appendix 4.

Purposive sampling was adopted for the purposes of collecting secondary data for this study. Purposive sampling is a non-probability sampling procedure whereby the researcher decides on what particular elements of the entire population will qualify to constitute the sample, (Kothari, 2004). For this research, the sample was obtained from across the East Africa Region stock exchanges subject to sampling criteria. The criteria considered companies which have issued an IPO through the period of this study (1990 -2018) which was a total of 54 companies. Therefore, for a company to be eligible as a sampling unit it must have issued an IPO during this period with a published prospectus that is in agreement with the rules of the Companies Act of the respective countries and had approval of the Capital Markets Authority of their respective countries. Other filtering rules included data availability and consistency in the disclosure information. Therefore, the sample of study was 47 companies as 7 companies did not qualify as viable items of the sample. Table 3.1 presents the countries where the sample was drawn. Kenya had 18 companies, Tanzania had 17 companies, Uganda had 8 companies and Rwanda had 4 companies.

Table 3.1: Country Distribution of IPO Listed Companies in the Sample

Country	Number of Listed Companies	Number of IPO Listed Companies	Number of IPO Listed Companies in the Sample
Kenya	65	21	18
Tanzania	28	21	17
Uganda	16	8	8
Rwanda	8	4	4
	117	**54**	**47**

Source: (Author) 2019

3.5 Data Collection

This study utilized both primary and secondary data. Secondary data was gathered from various sources including the database and handbooks of the securities exchanges for the respective countries, prospectuses, the regulators that is the respective Capital Market Authorities Bulletins, audited annual financial reports of the respective companies and other research material on share subscription levels from the various company websites. The data collected included offer price, par value, post issue promoter holding, past performance, age of the firm, length of offer period, investor participation, size of the offer and the GDP growth rate, Appendix 6-9. The data obtained was for the purpose of answering objectives one and two with diagnostic tests having been carried out before the data was subjected to further analysis.

Primary data was obtained from semi structured questionnaires duly filled by authorized transactional advisors from the respective countries who were 47 in total as compiled from the Nairobi Securities Exchange (21), the Dar es Salaam Stock Exchange (17), the Uganda Securities Exchange (7) and the Rwanda Stock Exchange (2). Data collected from these firms included their views on the extent they felt that the offer price, par value, PIPH, past performance, age of the firm, length of offer period, investor participation, size of the offer and the GDP growth rate influences IPO subscription levels, Appendix 10. The primary data obtained was for purposes of the third objective.

3.6 Data Analysis

Data analysis refers to the methodical application of statistical tools to process data into meaningful information, (Saunders et al., 2009). The data collected was cleaned, coded and sorted before additional analysis was done. Multiple regression was performed using

quantitative data obtained from prospectuses. Descriptive statistics were used to analyze the primary data.

In this study, a multiple regression model was determined and used in determining the relationship between the dependent and independent variables. Multiple regression is a statistical method that a researcher can use to analyze the relationship between one dependent variable and many independent variables, (Gujarati, 2003). It further provides a means of objectively evaluating the extent and nature of this relationship, the importance of the independent variables and the interrelationship among the variables using the regression coefficient of each independent variable.

The researcher chose the subscription level during IPOs as the dependent variable. Independent variables were offer price, par value, PIPH, past performance, age of the firm, length of the offer period and investor participation. To establish the significant determinants of subscription levels, the following regression model was utilized:

$$SUBL_{it} = \beta_0 + \beta_1 PRICE + \beta_2 PAR + \beta_3 PIPH + \beta_4 PASTPERF + \beta_5 AGE + \beta_6 LENGTH + \beta_7 INVEST + \varepsilon$$

A test for control variables was necessary to confirm if they were significant in the model. The control variables that were included in the final model were: size of the offer and the Gross Domestic Product growth rate. These variables were used to establish if the form of the independent-dependent variable relationship established could be affected by another variable thereby changing the form of the relationship. By doing it was possible to make a comparison of the results of the two alternative model sets. The multiple regression model employed was of the form:

$$SUBL_{it} = \beta_0 + \beta_1 PRICE + \beta_2 PAR + \beta_3 PIPH + \beta_4 PASTPERF + \beta_5 AGE + \beta_6 LENGTH + \beta_7 INVEST + \beta_8 CSIZE + \beta_9 CGDP + \varepsilon$$

Where:

$SUBL_{it}$ - Subscription Level during IPOs

PRICE - Offer Price

PAR – Par Value

PIPH - Post Issue Promoter Holding

PASTPERF - Past Performance

AGE - Age of the Company

LENGTH - Length of the Offer Period

INVEST – Investor Participation

CSIZE - Size of the Offer

CGDP – Gross Domestic Product Growth Rate

ε – Error term

β_0 – Intercept or Constant

β – Regression Coefficients

To ensure that the number of independent variables used were sufficient for generalization of the results, the researcher used a common rule that the proportion of observations to independent variables should not be lower than 5:1 (Hair, 2014). In this study the ratio is 47:7, which translates to 6:1 and 47:9 which translates to 5:1, thus in both cases the number of independent variables are adequate for the analysis.

The significance of each independent variable was tested using p-values to establish how they fit in the model. In this study the critical p-value was 0.05, $p<0.05$. According to Saunders et al. (2009) for most management and business research, researchers estimate the population's characteristics at 95% confidence level hence the p-value of 0.05. The overall statistical significance of both regression models were determined and compared using the R^2 and the Adjusted R^2. An independent samples t-test was used to make a comparison of the means between government sponsored IPO and privately sponsored IPOs to test the second objective.

3.7 Diagnostics Tests

For the multiple regression analysis to be undertaken, the OLS (Ordinary Least Squares) underlying assumptions about the relationship between the dependent and independent variables have to be ascertained and confirmed, otherwise an alternative model would be used, (Gujarati, 2003). The assumptions that were examined were in four areas: the normality of the distribution, linearity of the model, independence and the constant variance of the error term. In this study normality assumptions were ascertained using a histogram of residuals and a normal probability plot. The absence of autocorrelation was tested using the Durbin-Watson *d*

Statistic. Multicollinearity was measured using tolerance and variance inflation factor while heteroscedasticity was tested using the Lagrange Multiplier (LM) Statistic.

3.8 Research Quality

3.8.1 Internal Validity

Internal validity is the capability of a research design to measure what it intends to evaluate (Kothari, 2004). To ensure internal validity the researcher conducted a pilot study before issuance of the questionnaires to the intended respondents. The questionnaire was issued to 5 MCOM students and 3 investors who have taken part in an IPO. Feedback from the respondents was used to improve the questionnaire.

3.8.2 External Validity

External validity is the ability to generalize research findings to populations. To ensure external validity the study included in the sample all the firms listed at the respective stock exchanges as a result of an IPO as long as they met the researcher's desired criteria.

3.9 Ethical Considerations

Ethics in research is the suitability of the researchers' behavior in terms of the rights of the respondents and how the research findings are written in a responsible and moral manner, (Saunders et al., 2009). Throughout the research process, the research was guided by the university's ethical guidance that ensured all referenced material was duly cited and no plagiarism occurred. The researcher obtained an approved consent from the university which ensured proper authorization was sought before data was gathered from the respondents. Participation was also voluntary and the identities of the respondents were kept private and confidential.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter showed the data collected, the analysis of the data and the results attained. The general objective of this research was to investigate the determinants of subscription levels during IPOs in the East African region with a distinction being made between an offer for sale by state owned companies and a private offer for subscription by private companies. The analysis was done as per the specific objectives of the study. The chapter was organized in the following sections: Section 4.2 illustrates general information with respect to the primary and secondary data Section 4.3 Reliability and Viability Tests Section 4.4 Diagnostic Tests Section 4.5 Model Estimation and Regression Results Section 4.6 Factors Determining Subscription Levels Section 4.7 Comparative Analysis of the Subscription Levels Section 4.8 Perception of Transactional Advisors on Subscription Levels and lastly Section 4.9 presents the Chapter Summary.

4.2 General Information

This research utilized both primary and secondary data. Secondary data was mostly acquired from the prospectuses of the respective firms with additional information being acquired from the respective stock exchanges database and handbooks, CMA Quarterly Bulletins, yearly financial reports of the firms and other research material on share subscription levels to cover the entire period from 1990 to 2018. The sample was made up of 47 firms.

Primary data was obtained from personally administered semi structured questionnaire to the registered transactional advisors. 47 questionnaires were issued to transactional advisors who comprised of the entire East Africa region. The researcher was able to collect back 32 questionnaires which were analyzed representing a response rate of 68%. According to Kothari (2004) a response rate of above 50% was considered appropriate and reasonable to analyze data. The response rate was therefore adequate.

4.3 Reliability and Validity Tests

4.3.1 Reliability Test

Reliability is an evaluation of the extent of consistency among multiple variables. The reliability of the primary data was tested using the Cronbach Alpha.

4.3.2 Validity Test

The validity of the study was established by using variables and research methods that have been adopted in past studies. The validity of the primary data was established by borrowing the questionnaire items from past studies, (Mutswenje, 2014; Mulu, 2014; Kaaria, 2013; Wachira, 2010). The validity of the secondary data was established by gathering data from published prospectuses, audited financial reports, the databases from the various stock exchanges and the respective capital market authorities.

4.4 Diagnostic Tests

These tests were done to determine whether the assumptions of multiple linear regression were adhered to. These tests included normality, autocorrelation, multicollinearity and heteroscedasticity.

4.4.1 Normality Tests

A histogram and a normal probability plot were used to check whether the variables were normally distributed graphically. Both graphs showed that the variables underlying the data was normally distributed with the histogram of residuals displaying a bell shape and the normal probability plot illustrating that the fitted line is roughly a straight line as illustrated in Appendix 11.

4.4.2 Autocorrelation

Autocorrelation tests whether the error terms are correlated with one another. The Durbin-Watson *d* Statistic was used to carry out this test. The *d* should lie between 0 and 4. If there is no autocorrelation, *d* is expected to be about 2. For both models, the *d* statistic were close to 2 signifying that the error terms were not correlated with one another hence there was no autocorrelation in both models as indicated in Appendix 12.

4.4.3 Multicollinearity

Multicollinearity is measured to establish whether there is a linear relationship among the independent variables. It was detected by examining the tolerance (TOL) and Variance Inflation Factor (VIF) for each independent variable. The tolerance values and VIF for both Model 1 and Model 2 were all greater than 0.1 and below 10 respectively hence there was no multicollinearity among the independent variables as presented in Table 4.1 below.

Table 4.1: Tolerance and VIF Results on Multicollinearity

Coefficients[a]					
	Collinearity Statistics			Collinearity Statistics	
Model 1	**Tolerance**	**VIF**	**Model 2**	**Tolerance**	**VIF**
(Constant)			(Constant)		
LOG_OFFER_PRICE	0.546	1.832	LOG_OFFER_PRICE	0.283	3.533
PAR VALUE	0.595	1.680	PAR VALUE	0.574	1.742
PAST PERFORMANCE	0.766	1.305	PAST PERFOMANCE	0.537	1.863
AGE OF FIRM	0.836	1.196	AGE OF RIRM	0.828	1.207
LENGTH OFFER PRD	0.937	1.067	LENGTH OFFER PRD	0.937	1.067
INVESTOR PARTICIPTN	0.903	1.107	INVESTOR PARTICIPTN	0.882	1.133
TYPE	0.836	1.197	TYPE	0.804	1.244
			LOG_OFFER_SIZE	0.398	2.511
			GDP RATE	0.596	1.677
a. Dependent Variable: LOG_SUBSCRIPTION_LEVEL					

Multicollinearity results can further be supported by a correlation matrix as determined by Pearson's correlation coefficient. The presence of high correlation is indicated by values that are greater than 0.9 as illustrated in Table 4.2 below. The correlation coefficients were less than 0.9 meaning there was no multicollinearity among the independent variables.

Table 4.2: Correlation Matrix

	LOG_SL	LOG_OFFER_PRICE	AGE OF THE FIRM	INVESTPART.	LOG_OFFER_SIZE	GDP RATE	PAR VALUE	PAST PERF	LENGTH OFFER PRD
LOG_SL	1.0000								
LOG_OFFER_PRICE	-0.3606	1.0000							
AGE OF THE FIRM	0.1546	-0.1741	1.0000						
INVESTOR PARTICIPATION	0.3640	-0.1911	-0.1030	1.0000					
LOG_OFFER_SIZE	0.0473	-0.4550	0.0043	0.1131	1.0000				
GDP RATE	-0.0359	0.5321	-0.0904	0.0054	0.0171	1.0000			
PAR VALUE	-0.1602	0.5121	-0.1022	-0.0152	-0.4916	0.2578	1.0000		
PAST PERFORMANCE	0.1297	0.2783	-0.0190	-0.0315	0.3170	0.2326	-0.1657	1.0000	
LENGTH OFFER PERIOD	-0.0582	0.0511	0.0608	0.1258	0.0810	0.0499	-0.0029	0.1211	1.0000

4.4.4 Heteroscedasticity

Heteroscedasticity is a problem that exists when the variance of the errors is not constant. It was tested using the Lagrange Multiplier (LM) Statistic. The Lagrange Multiplier is calculated by multiplying R^2 by the number of observations. According to Wooldridge (2012) to determine whether the data has heteroscedasticity the calculated LM value is compared to the appropriate critical value (c) in a chi square distribution where if the LM > c, then the there is no relationship. According to these findings the calculated LM for Model 1 was 15.03 and the 5% critical value from the χ^2 was 14.07 and the LM for Model 2 was 20.86 and the 5% critical value from the χ^2 was 16.92 which led to the conclusion that there was no heteroscedasticity in both models since the LM value obtained was greater than the critical chi-square value at the chosen level of significance as shown in Appendix 13.

4.5 Model Estimation and Regression Results

The first objective sought to analyze the determinants of subscription levels to an IPO in the East African region for the period 1990-2018. This was done using multiple regression so as to determine the statistical dependence among the variables hence establish the extent to which these factors had on the subscription levels of an IPO. This model was consistent with other studies such as Banerjee & Rangamani (2015) and Kumar & Dhanda (2013).

To maximize the prediction from the given number of independent variables the researcher looked for variables that had low multicollinearity but with high correlations with the dependent variable. Hence post issue promoter holding and investor participation-institutional investors were removed from the model because of multicollinearity effect. Though it was established that there was a relationship among the variables, the relationship was not statistically significant. This is illustrated in Appendix 14.

The researcher then selected the most significant variables to be used. Two models were established. Model 1 included only the independent variables while Model 2 included both the independent and control variables. Table 4.3 below presents the variables as used in the model.

Table 4.3: Model Variables

Model	Variables Entered
1	LOG_OFFER_PRICE, PAR VALUE, PAST PERFORMANCE, AGE, LENGTH OFFER PRD, INVESTOR PARTICIPATION
2	GDP RATE, LOG OFFER SHARE[b]
a. Dependent Variable: LOG_SUBSCRIPTION_LEVEL	
b. All requested variables entered.	

Multiple regression was performed to establish the specific and significant determinants in the model. Table 4.4 shows the results of the model summary.

Table 4.4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.572[a]	0.327	0.203	0.75411
2	.673[b]	0.453	0.317	0.69809
a. Predictors: (Constant), LOG_OFFER_PRICE, PAR VALUE, PAST PERFORMANCE, AGE, LENGTH OFFER PRD, INVESTOR PARTICIPATION				
b. Predictors: (Constant), LOG_OFFER_PRICE, PAR VALUE, PAST PERFORMANCE, AGE, LENGTH OFFER PRD, , INVESTOR PARTICIPATION ,LOG_OFFER_SIZE, GDP				
c. Dependent Variable: LOG_SUBSCRIPTION _LEVEL				

Model 1 summary indicates that the correlation coefficient (R) was 0.572 and the coefficient of determination (R^2) was 0.327. The R^2 reveals what percentage of the independent variables can be made use of to predict the dependent variable. Thus, the independent variables used in the model that is offer price, par value, past performance, age of the firm, length of offer period as well as investor participation-individual investors explained only 32.7% of the subscription levels. The adjusted R square 0.203 indicates that only 20.3% of variation of the dependent variable was explained by the independent variables.

Model 2 summary indicates that the R was 0.673 and R^2 was 0.453. Therefore, the independent variables and the control variables that is offer size and GDP growth rate used in the model explained only 45.3% of the subscription levels. The adjusted R square was 0.317 meaning that only 31.7% of variation of the dependent variable was explained by the independent variables.

A comparison of the above two models indicate that Model 2 was better than Model 1. The inclusion of offer size and GDP growth rate in the regression analysis increased the prediction by 12.6% in the case of R^2 (32.7% for Model 1 to 45.3% for Model 2) and 11.4% in the case of the adjusted R square, because of the distinctive incremental predictive power of the control variables.

Thus, an increase in prediction accuracy was gained in adding control variables. Although the R square can be used for comparing two models so long as the sample size and the dependent variable are the same the adjusted R square is a better measure than the R^2 because it takes into account the number of estimated variables which have been increased from 7 to 9. The researcher then attempted to add an additional variables to further increase the prediction accuracy. It was established that the model did not improve as presented in Appendix 15.

Therefore, Model 2 was used for the analysis. Based on the model summary the independent variables were not good predictors of the model as they explained only 45.3% of the subscription levels as measured by the R square. This could be attributed to the presence of errors in measuring the variables as well as the fact that subscription level could be influenced by many other determinants with only a few having been incorporated in the model.

Once it was confirmed that there was a relationship between the variables, the next step was to establish if the relationship was statistically significant. This was realized by assessing the overall significance of the models using analysis of variance (ANOVA) as presented in Table 4.5 below.

Table 4.5 ANOVA

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	10.492	7	1.499	2.636	.025[b]
	Residual	21.610	38	0.569		
	Total	32.102	45			
2	Regression	14.558	9	1.618	3.319	.005[c]
	Residual	17.544	36	0.487		
	Total	32.102	45			
a. Dependent Variable: LOG_ SUBSCRIPTION_LEVEL						
b. Predictors: (Constant),), LOG_OFFER_PRICE, PAR VALUE, PAST PERFORMANCE, AGE, LENGTH OFFER PRD, , INVESTOR PARTICIPATION						
c. Predictors: (Constant),), LOG_OFFER_PRICE, PAR VALUE, PAST PERFORMANCE, AGE, LENGTH OFFER PRD, , INVESTOR PARTICIPATION ,LOG_OFFER_SIZE, GDP						

From the table, the ANOVA for Model 1 revealed an F statistic of 2.636 with a significance level of 0.025 which was greater than 0.05, at 5% level of significance, while Model 2 revealed an F statistic of 3.319 with a significance level of 0.005 which was less than 0.05, at 5% level of significance. Thus, Model 1 was statistically not significant while Model 2 was statistically significant.

A further examination of the significance of each variable in the regression models was done as presented in Table 4.6

Table 4.6 Regression Analysis Results

Coefficients[a]					
		Unstandardized Coefficients			
Model		B	Std. Error	t	Sig.
1	(Constant)	4.963	0.617	8.040	0.000
	LOG_OFFER_PRICE	-0.194	0.081	-2.384	0.022
	INVESTOR PARTICIPATION	0.014	0.006	2.196	0.034
	AGE OF THE FIRM	0.003	0.008	0.336	0.739
	PAST PERFORMANCE	2.539E-11	0.000	1.869	0.069
	OFFER PERIOD	-0.008	0.008	-0.934	0.356
	PAR VALUE	0.001	0.001	0.928	0.359
2	(Constant)	9.180	1.813	5.064	0.000
	LOG_OFFER_PRICE	-0.403	0.105	-3.858	0.000
	INVESTOR PARTICIPATION	0.013	0.006	2.208	0.034
	AGE OF THE FIRM	0.001	0.007	0.145	0.886
	PAST PERFORMANCE	4.401E-11	0.000	2.928	0.006
	OFFER PERIOD	-0.008	0.008	-0.974	0.337
	PAR VALUE	0.000	0.001	0.549	0.586
	LOG_OFFER_SIZE	-0.222	0.088	-2.519	0.016
	GDP RATE	0.120	0.054	2.196	0.035
a. Dependent Variable: log_sl					

Based on the nature of the data it can be observed that some variables such as offer price, offer size and subscription levels were transformed so as to improve the relationship between the variables. In this case logarithms were used to help rescale the data. From table 4.6 it can be observed that offer price and investor participation-individual investors were statistically significant in Model 1 while offer price, past performance and investor participation-individual investors were statistically significant in Model 2. The other variables; par value, age of the firm, length of offer period and investor participation-institutional investors were not statistically significant since they had a p value that was greater than 0.05. The overall Model 2 with the significant variables was therefore derived as follows:

$$SUBL_{it} = \beta_0 + \beta_1 PRICE + \beta_2 PASTPERF + \beta_3 INVEST$$

$$SUBL_{it} = \beta_0 - 0.403\, PRICE + 4.401E\text{-}11 PASTPERF + 0.013 INVEST$$

4.6 Factors Determining Subscription Levels

4.6.1 Offer Price and Subscription Levels

The objective was to determine if there was a relationship between offer price and subscription levels. A negative relationship was found between offer price and subscription levels as revealed by the regression results. The findings revealed that the beta coefficient of the offer price was -0.403 which was less than zero with a t-statistic of -3.858. The p-value for offer price was 0.000 which was less than 0.05, p-value = 0.000 < 0.05. This implies that the offer price was a significant determinant of the subscription levels. The beta coefficient reveals that one percent decrease in the offer price is associated with a -0.403 percentage increase in subscription levels. Thus, there was a relationship between offer price and subscription levels. The findings demonstrated that as the offer price decreases the subscription level increases. These results are consistent with (Chowdhry & Sherman, 1996; Kumar & Dhanda, 2013; Kaaria, 2013) who all found that the offer price strongly influences the subscription levels of IPOs. However, the findings were inconsistent with a study done by Brau & Osteryoung (2001) who found that the price per share during an IPO is not a significant factor. This negative relationship could be attributed to the perception that IPO share offers are mostly underpriced and therefore the potential investors are getting a bargain by participating in the offer as the shares are being offered at a discount. Consequently, lower prices will be more appealing to potential investors as it also signals affordability hence many investors can be able to subscribe to the IPO thereby increasing the subscription levels.

4.6.2 Past Performance and Subscription Levels

The objective was to determine if there was a relationship between past performance and subscription levels. The regression results indicate that a positive relationship was established between past performance and subscription levels. The findings revealed that the beta coefficient of past performance was 4.401E-11 which was less than zero with a t-statistic of 2.928. The p-value for past performance was 0.006 which was less than 0.05, p-value = 0.006 < 0.05. This implied that past performance was a significant determinant of the subscription levels. The beta coefficient reveals that one unit increase in the financial earnings of a firm in a particular year is associated with a 4.401E-9 percentage increase in subscription levels. Therefore, there was a relationship between past performance and subscription levels. The findings demonstrated that as the past performance of a firm improved resulting to higher earnings the subscription level also increased. These findings were consistent with (Brau &

Fawcett, 2006; Kaaria, 2013 and Mulu, 2014) who were of the argument that the higher the firms prior profitability the higher the anticipated level of share subscription. However, these findings contradict those of Mushtaq (2014) who proposed that profitability plays a small role in influencing the performance of initial public offering hence a negative relationship. Past performance as a significant factor in terms of subscription levels could be attributed to two things. First, the ease with which this information can be obtained from prospectuses and secondly most potential investors can interpret the financial performance of a firm in terms of profit and loss without much difficulty.

4.6.3 Investor Participation and Subscription Levels

The objective was to determine if there was a relationship between investor participation and subscription levels. The regression results indicate that a positive relationship was established between investor participation-individual investor and subscription levels. The findings revealed that the coefficient on the variable investor participation-individual investor was 0.013. The t-statistic was 2.208 with a p-value of 0.034 which was less than 0.05. This implied that investor participation with regards to individual investor was a significant determinant of the subscription levels. Thus individual investors have more influence on subscription levels as compared to institutional investors.The beta coefficient reveals that one unit increase in the portion allocated to individual investors is associated with a 1.3 percentage increase in subscription levels. It was established that there was a relationship between investor participation and subscription levels. These findings were similar to Chowdhry & Sherman (1996) who determined that issuing firms in various countries tend to favor individual over institutional investors in terms of allocation so as to enhance fairness. However, these findings contradict those of Rock (1986) and Laura Casares Field & Michelle Lowry (2009) who proposed that because of information advantage over retail investors institutional investors are enabled to select better performing IPOs. Similarly, Aggarwal et al. (2002) documented that institutional investors play a pivotal role in the IPO process since they are apportioned a bulk of the equity available in IPOs. This inclination can be attributed to the individual investors' behavior of acting according to the actions of others rather than their own private decisions as well as their ability to purchase small quantities of the shares offered.

4.7 Comparative Analysis of the Subscription Levels

The second objective aimed at determining whether there was a difference in the subscription levels of an offer for sale by the Government and a private offer for subscription by privately owned companies. This was established using the Levene's Test, Equality Test and ANOVA.

4.7.1 Levene Test

The Levene Test is a test for homogeneity of variance. It measures the likeness of variances for a single pair of variables. It is a statistical test for homoscedasticity. Thus it was used to assess whether the variance of subscription levels were significantly different as shown in the table 4.7 below.

Table 4.7: Levene Test

Levene Test for Equality of Variances			
		F	Sig.
Subscription level	Equal variances assumed	0.614	0.437
	Equal variances not assumed		

Based on the table above, if the p value < 0.05 it is assumed that the variance are not equal. In our case the p value is 0.437 > 0.05 hence it is assumed that the variance for subscription levels of state owned companies and privately owned companies of East African listed companies are equal.

4.7.2 Equality Test

Once it was established that the subscription levels display equal levels of variance across the range of independent variables, an Equality Test was carried out. This test was performed to determine whether there was a difference between subscription levels. If the p value < 0.05 it means that there is a difference in the means of the two groups.

Table 4.8: Equality Test

Independent Samples Test							
	t-test for Equality of Means						
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Equal variances assumed	1.859	45	0.070	0.45762	0.24615	-0.03816	0.95339
Equal variances not assumed	1.801	35.993	0.080	0.45762	0.25409	-0.05770	0.97294

From the table above the p value is 0.07 > 0.05 hence it is concluded that there was no difference between subscription levels of state owned companies and privately owned companies of East African listed companies.

The general belief that since most state owned companies are large and well known they are likely to attract more subscribers and as private owned companies are mainly young and small with limited track records are likely to attract less subscribers due to uncertainties does not hold in this study. Subsequently, there is no guarantee that state owned companies are likely to get oversubscriptions when they offer IPOs as opposed to private companies. Share uptake is random thus the government should not be overconfident when issuing shares otherwise they will end up extending the offer periods or look for institutional investors to take up the unsubscribed shares which will in turn lead to management ownership concerns as negotiations have to be made on matters relating to ownership rights. Few institutional investors are able to take control of the firm.

4.7.3 ANOVA: Individual Country Analysis

A further analysis on whether this comparison is made in individual countries was made. From table 4.9 below the p value was 0.133 > 0.05 thus the conclusion that there was no difference between subscription levels of state owned companies and privately owned companies of East African listed companies even within individual countries.

Table 4.9 ANOVA

ANOVA					
Variable: log_sl					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.120	3	1.373	1.969	0.133
Within Groups	29.987	43	0.697		
Total	34.107	46			

4.8 Transactional Advisors Perception on Subscription Levels

This objective aimed at determining the transactional advisors opinion on the determinants of subscription levels. This study used descriptive statistics that included percentages and frequency tables to analyze the results of the questionnaire. Descriptive statistics was carried out to establish how respondents valued the questions. From Appendix 16 it can be established

that all questions were relevant with the most valued questions having a mode of 5 with the least valued question having a mode of 2.

4.8.1 Demographic Characteristics

4.8.1.1 Educational Background

Table 4.10 displays a summary of the educational background of the respondents. The findings revealed that most of the advisors had a bachelor's degree as cited by 53.1% of the sample with 46.9% having a master's degree.

Table 4.10 Educational Background

Educational Background	Frequency	Percent
Post Graduate	15	46.9
Graduate	17	53.1
Total	32	100.0

4.8.1.2 Professional Qualification

The findings illustrated in the table below show that 65.6% of the respondents had CPA qualification, 9.4 & had ACCA qualification while 25% had other qualifications.

Table 4.11 Professional Qualification

Professional Qualification	Frequency	Percent
CPA	21	65.6
ACCA	3	9.4
OTHER	8	25.0
Total	32	100.0

4.8.1.3 Work Experience

The table below shows the findings in terms of the work experience. 40.6% had a work experience of below 5 years, 28.1% had a work experience of 6-10 years and 31.3% had a work experience of over 10 years.

Table 4.12 Work Experience

Work Experience	Frequency	Percent
5 Years and Below	13	40.6
6 -10 Years	9	28.1
Over 10 Years	10	31.3
Total	32	100.0

4.8.1.4 Age Group

With respect to the age group of investors, the findings showed that according to the transactional advisors majority of investors were in ages 26 – 35 years who accounted for 87.5% of the sample. Investors who were over 35 years represented 12.5% of the sample as shown in the table below.

Table 4.13 Age Group

Age Group of Investors	Frequency	Percent
26 - 35 years	28	87.5
Over 35 years	4	12.5
Total	32	100.0

A further summary on questions relating to the extent to which the selected variables were relevant to investors when deciding to participate in an IPO is as shown in the table below. Appendix 17 shows this in detail.

Table 4.14 Transactional Advisors Opinion on Determinants of Subscription Levels

Determinant	Percentage Perceived to a Great Extent	Percentage Perceived to Least Extent
Offer Price	68.8%	9.4%
Par Value	12.5%	25%
PIPH	15.6%	31.3%
Past Performance	78.1%	3.1%
Age of the Company	18.8%	12.5%
Length of Offer Period	37.5%	3.1%
Investor Participation	40.6%	28.1%

Table 4.14 shows that past performance and offer price were perceived to a great extent to influence subscription levels according to a 5 point Likert scale. This meant that these variables were the most influencing determinants of subscription levels at 78.1% and 68.8% respectively hence they affect the performance of an IPO to a considerable degree. This was consistent with the multiple regression results. PIPH, par value and investor participation were perceived to the least extent to influence on subscription meaning these variables had the slightest influence on the performance of an IPO. Other than investor participation, the other determinants were consistent with the findings of the multiple regression. However, the impact of the age of the company was perceived to be very close to those who perceived it not being an influencing factor. The regression result established that the age of the company was not significant.

In addition, it was found that according to the respondents' there is a distinction between an offer for sale by state owned companies and an offer for subscription by private companies. As presented in the table below, the findings show that 93.8% of the respondents believed that a distinction was made between the two IPOs while only 6.3% believed that this distinction was not made. This was not consistent with the regression results where it was found that the distinction was not significant.

Table 4.15 Distinction between a PIPO and a Private IPO

Is there a distinction between a PIPO and a Private IPO		
	Frequency	**Percent**
Yes	30	93.8
No	2	6.2
Total	32	100.0

Consequently, according to the respondents opinion there is a preference for an offer for subscription by private firms at 53.3% compared to offer for sale by state owned firms at 46.7% as shown in the table below. This was also not consistent with the regression results where it was found that there was no preference.

Table 4.16 Preferred Offer

Which Offer do they Prefer?		
	Frequency	Percent
Offer for sale by state owned companies	14	43.8
Offer for subscription by private companies	16	50.0
Total	30	93.8
System	2	6.2
	32	100.0

4.9 Chapter Summary

The chapter analyzed secondary data and then primary data. Diagnostic tests were carried out on the secondary data to ensure that the analyses done did not lead to spurious relationships after which regression analysis was carried out. The primary data was tested using Cronbach's Alpha Test and the data was further analyzed with descriptive statistics.

The study sought to answer three objectives, to analyze the determinants of subscription levels during IPOs of East African listed companies, to make a comparison between the IPO subscription levels of state owned companies and privately owned companies of East African listed companies and finally to examine the perspectives of transactional advisors on the determinants of subscription levels.

From the analysis, with regards to secondary data the significant determinants of subscription levels were offer price, past performance and investor paricipation. However, primary data revealed offer price and past performance to be the most influencing determinants. On comparison of subscription levels, there were contradicting findings between the secondary data and the primary data with the secondary data finding that there is no significant difference in IPO subscription levels of state owned companies and privately owned companies of East African listed firms while the primary data findings revealing that investors subscribe more to privately owned companies as opposed to state owned companies.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion of the findings, conclusions and recommendations derived from the study and existing literature. Section 5.2 presents the summary of the findings as per the objectives stated in chapter one. Section 5.3 presents the conclusion of the study, Section 5.4 covers areas for further research and Section 5.5 the limitations experienced during the study.

5.2 Discussion of the Findings

The study aimed at determining the factors that influence the subscription levels of IPOs in the East African region. This part of the chapter therefore gives a discussion of the findings based on the three objectives of the study which were arrived at using secondary and primary data.

5.2.1 Analysis of the Determinants of Subscription Levels

In the first objective, the study sought to analyze the determinants of subscription levels during IPOs of East African listed companies. The determinants to be analyzed were offer price, par value, post issue promoter holding, past performance, age of the firm, length of offer period and institutional and individual investor participation. Post issue promoter holding did not fit in the model therefore it was excluded from the model. The findings of the regression analysis indicated that the independent variables that significantly influenced the dependent variable which was the subscription level were the offer price, past performance and investor participation. Par value, age of the firm and the length of offer period were insignificant.

The offer price which is the value of a share as determined by an underwriter and stated in the prospectus was found to be a significant determinant of subscription levels of IPOs ($p = 0.000$). The study concluded that the price at which a share is fixed had a significant impact on the uptake of shares by investors during an IPO. The study found a significant negative relationship between the offer price and subscription levels thus the lower the price the higher the subscription levels and the higher the price the lower the subscription levels. These findings were consistent with Chowdhry & Sherman (1996) and Kaaria (2013) who concluded that lower priced shares are likely to increase the chance of having a successful IPO. The findings implies that investors are likely to take part in an issue that they perceive has a low offer price and is being offered at a discount. Therefore, by ensuring that the offer price is a true reflection of all publicly and privately available information hence an estimate of the fair value of the

issued and fully paid shares, the issuing firm will be increasing the likelihood of a successful IPO.

The par value which is defined as the value specified for each share to show a corresponding amount that has been contributed by each founder was found to be an insignificant determinant of subscription levels ($p = 0.586$). The study concluded that there was no significant difference in the success or failure of an IPO with regards to the par value. These findings were consistent with (Tadeusz, 2014) who demonstrated that investors do not make a comparison of the par value with the issue price. This may be due to the consideration of par value as an irrelevant concept given that its aim is to indicate the capital that the founders settled to pay which is historical and fixed. The findings implies that investors do not consider the par value when taking part in an IPO thus issuing firms are free to select any nominal price they deem is optimal but subject to listing requirements.

Past performance is the profitability of the firm as measured by Profit After Tax. However, with regards to this study it refers to the financial performance of a firm preceding the year of the issue. It was found to be a significant determinant of subscription levels ($p = 0.006$). The study concluded there was a significant difference between subscription levels of highly profitable firms and less profitable firms. It revealed a positive relationship between subscription levels and past performance. The findings are consistent with (Jain & Kini, 1994; Marco Pagano et al. 1998 and Brau & Fawcett, 2006) who recognized the importance of presenting strong earnings in the prospectus. This implies that prospective investors regard the financial performance of the firm preceding the issue as a strong positive signal on the quality of the issue. Consequently, the issuing firm is likely to schedule an IPO to coincide with a period in which the firm is performing well financially to increase the chances of a successful IPO.

The age of the firm as measured by the interval between the offer date and its date of incorporation was an insignificant determinant of subscription levels ($p = 0.886$). The study concluded that there was no significant difference between the subscription levels for old companies and young companies. These findings were consistent with Nikolaj Bukh et al. (2005) who established that although age is a source of non-financial information it is an insignificant factor when considering the purchase of shares that have been issued during an IPO. Kumar & Dhanda (2013) also found age to be an insignificant factor. This implies that although it is expected that older firms will attract more investors during an IPO because they

have longer operating histories and faceless uncertainties, in this particular region the age of the firm does not capture the investors' attention. Thus relatively young firms whose founders would wish to issue IPOs should not shy away from listing their companies because of uncertainties and lack of track records associated with young firms as the age of the firm will not influence the outcome of the IPO.

The length of the offer period as defined as the length of time from the IPO application deadline date to the listing day was an insignificant determinant of subscription levels (p = 0.337). The study concluded that the length of the offer period whether long or short had no impact on subscription levels. This finding contradicts that of (Cheng et al. 2005: Guo & Brooks, 2009 and Low & Yong, 2011) who found a significant negative relationship between the length of offer period and subscription levels. This implies that since there is no link between the length of offer period and the performance of an IPO issuing firms this period could therefore be associated to regulatory clearances and controls as opposed to the argument that pro longed investment periods are an indication of poor organization of the IPO process. This signals that the IPO is of low quality leading to lower subscription levels.

Investor participation consisted of both institutional and individual investor participation. An individual investor who is viewed as a small unsophisticated "irrational" investors who is prone to episodes of optimistic or pessimistic sentiments about the stock market was found to be a significant determinant of subscription levels (p = 0.034). The study found that there was a positive relationship between individual investor participation and subscription levels. This implies that the allocation given to individual investors as opposed to institutional investors has a greater impact on the success of an IPO. These findings are consistent with Chowdhry & Sherman (1996) and Chemmanur et al. (2009). Thus, issuing firms should favor individual investors in terms of share allocation because such investors who only take a small stake in the firm are likely to be greater risk takers since they can fully diversify their investments unlike institutional investors who are believed to be rational may not be willing to take up a large shareholding with uncertain returns that could lead to low subscription levels.

5.2.2 Comparative Analysis of the Subscription Levels

The second objective of this study was to make a comparative analysis of the IPO subscription levels of state owned companies and privately owned companies of East African listed companies. In the East African region, the government through privatization programs have assisted in the growth of the stock market through public offerings. The private sector has also

had its share in this development with a number of companies having issued their shares to the public for the first time. In this study 21 companies were classified as private and 26 as public. However, in Rwanda all the companies that issued an IPO were state owned. Although the two data sets were not paired the Levene and Equality tests showed that the variance was not significant and therefore the two data sets could be compared. The findings established that there was no significant difference in IPO subscription levels of state owned companies and privately owned companies of East African listed companies.

This finding implied that there is no general tendency for privatized IPOs to be preferred to private IPOs by potential investors. This is despite the assumption academic literature suggests that investors would generally prefer to invest in state owned corporations rather than private companies. There are two reasons that support this assumption. First, private company IPOs often entail young firms in fairly new industries but privatized state owned firms are typically old, large and well known. Thus potential investors are probably going to invest in well-established firms that have long track records from which they can analyze and make informed decisions. Secondly, owing to persistent ineffectiveness, financial misconduct and waste in many state owned corporations many investors expect that once this management has been transferred to the private sector they will turn around the operations of these companies to profit making companies and therefore the investors will gain from a steady growth of dividends and capital gains. Thus, since investors do not make a distinction between the two IPOs issuing firms should consequently not rely on this distinction to have an impact on subscription levels.

5.2.3 Perception of Transactional Advisors on Share Subscription

In the third objective, the researcher sought to establish the perception of investment advisors on the factors that influence participation in IPOs. From the questionnaire, offer price and past performance were the most influencing factors that determine subscription levels with past performance having the most impact at 78.1%. This implied that potential investment advisors are of the view that strong historical financial performance is the most regarded positive signal during an IPO hence the higher the profitability the higher the chances that investors will participate in the IPO. This is consistent with the findings of (Brau & Fawcett, 2006; Kaaria, 2013 and Mulu, 2014) The reason behind this high rate of significance may perhaps be because this variable is readily available and the most understood by the potential investors. The other determinants; par value, post issue promoter holding, age of the firm, length of the offer period and investor participation were not highly considered as relevant factors in influencing

subscription levels with par value being the least influencing factor at 12.5%. This implied that par value is the least regarded factor that can influence the outcome of an IPO thus further supporting the sentiment that par value is an irrelevant concept that is overlooked by many investors, (Kee & Luh, 1999).

With regards to the comparison on subscription levels of state owned companies and privately owned companies, according to the respondents they prefer offer for subscription by private firms to offer for sale by state owned companies. This was inconsistent with the findings of secondary data where the distinction did not have any significance. This means that according to the transactional advisors there is no confidence in government owned companies possibly because of the historical inefficiencies and political interference associated with them as opposed to the young vibrant firms which come up with new ideas and management styles that seem to appeal more to the investors.

5.3 Conclusions

The study established that offer price and past performance are the most significant factors that potential investors take into consideration before participating in an IPO. These two variables are readily available in all prospectuses and easily understood by potential shareholders. Thus, when the offer price is being established, the issuing firm should take into consideration that the lower the offer price the higher the probability of a successful IPO and the higher the price the higher the probability of an IPO. Similarly, whereas strong historical performance is a positive signal of possible future performance and firms tend to go public at the peak of their performance, firms should avoid window dressing their accounts to portray artificial good performance that will appeal to the members of the public to invest in shares now then one listed the firm cannot sustain this performance in future resulting to firms being delisted and consequently destabilizing the stock exchange market.

The study also established that the capital market in East Africa was developed by both privatized IPOs and private IPOs. Although these IPOs can be categorized into two potential shareholders do not make a distinction between the two therefore it is not necessary to categorize them because investors do not have any preference. However, the responses from the questionnaire indicate that most investors are young and therefore will likely purchase shares offered by private companies as opposed to state owned companies. This could be a challenge to the government to instill confidence to the younger generation by isolating management of such companies from political associations and convincing them that not all

such companies have been mismanaged and therefore need funding to remain going concerns but rather the issue is aimed at transferring economic and social control to its citizens who should in turn take advantage of the opportunity and invest in the companies. By so doing, the government will avoid transferring majority shareholding to institutional investors who will eventually be in control of the companies as opposed to having many small scale individual shareholders.

5.4 Recommendations

For academicians, although studies on IPOs have been researched extensively, this study contributes further to the existing body of knowledge by making a distinction between subscription levels between Government sponsored IPOs and a private IPOs thereby giving a platform for future research. It also establishes the importance of behavioral finance in the IPO process.

For potential investors, this study is a source of knowledge in making informed rational investment decisions as they grow their investment portfolio. It is therefore an eye opener to the importance of reading a prospectus and the key information that should be keenly examined before making the investment decision. This is because some factors are normally ignored that may have an effect on future returns.

For regulatory bodies, this study has established that signaling variables play an important role during the IPO process. Thus, they should ensure that information that has been published in the prospectus is not only clearly laid out but also is the correct information. This is so that the right interpretation is made more so because this is the only document that has almost all the information that an investor requires and it is at no cost. By improving such communication investor confidence in the stock market will improve thereby enhancing the chance of successful IPOs in future.

For the investment advisors and analysts, this study equips them with knowledge on how to advice the issuing firms before going public. This is made possible by highlighting the key factors that are likely to entice investors to participate in an IPO and consequently leading to successful IPOs and putting less focus on the factors that do not motivate participation.

5.5 Limitations of the Study

The East Africa region is a developing market with relatively few companies that have issued IPOs. As a result the study period had to be stretched from 1990 to 2018 to increase the sample

size. Although 54 companies had issued IPOs in the selected period the researcher managed to get data for 47 companies. Compared to similar studies in other predominantly developed countries, these are relatively few companies and thus the findings of the study may not be used to conclusively make recommendations since the sample size may have had an effect on the findings.

On collection of primary data from transactional advisors, only one respondent responded from Tanzania with no response from Uganda and Rwanda. This created some bias in the primary data collected as the researcher had to issue multiple questionnaires to the Kenyan transactional advisors as opposed to one for each transactional advisory firms to be able to obtain the recommended response rate and desired response.

The study considered variables that had mixed findings from previous empirical studies. These variables were limited to the availability of information and thus some variables which would have otherwise improved the model such as expected corporate earnings and expected dividends had to be dropped from the analysis. The data collected was also not subject to the control of the researcher as it was data collected at one point in time hence the results of the research were only as good as the quality of the data.

5.6 Suggestions for Further Research

This study focused on the determinants of subscription levels during IPOs of East African listed companies. The study relied mainly on the respective companies prospectuses as the main source of information for obtaining these predetermined quantitative factors. Further studies could explore qualitative factors that could lead to individual biases such as corporate governance, past personal experience of investors, performance of other IPOs, the role of investment banks in endorsing issuing firms, reputation of the issuing firm and the role of publicity to determine the impact they may have on subscription levels. A combined study of both quantitative and qualitative factors could also be done.

Another study could focus on why the subscription levels are always different despite the market being the same that is why an IPO can be oversubscribed at one instance yet in another it is undersubscribed. A comparison can then be made to establish which determinants had the most influence during an oversubscription and which determinant had the most influence during an undersubscription. It can further be extended to determine whether these factors are what have led to the dry spell of IPOs in the respective stock exchanges.

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APPENDICES

Appendix 1: Listed Companies at the Nairobi Securities Exchange

	AGRICULTURAL	37.	E.A Portland Cement
1.	Eaagads		
2.	Kakuzi		**ENERGY & PETROLEUM**
3.	Kapchorua Tea	38.	Kengen
4.	Limuru Tea	39.	KenolKobil
5.	Sasini Ltd	40.	Kenya Power & Lighting Company
6.	Williamson Tea Kenya	41.	Total Kenya
		42.	Umeme
	AUTOMOBILES & ACCESSORIES		
7.	Car & General (K)		**INSURANCE**
		43.	Britam Holdings
	BANKING	44.	CIC Insurance
8.	Barclays Bank	45.	Jubilee Holdings
9.	Bank of Kigali	46.	Kenya Re Corporation
10.	Diamond Trust Bank	47.	Liberty Kenya Holdings
11.	Equity Group Holdings	48.	Sanlam Kenya Plc
12.	HF Group Plc		
13.	I & M Holdings Ltd		**INVESTMENT**
14.	KCB Group	49.	Centum Investment
15.	National Bank	50.	Home Africa
16.	NIC Bank	51.	Kurwitu Ventures Ltd
17.	Stanbic Holdings	52.	Olympia Capital Holdings
18.	Standard Chartered	53.	Trans-Century Ltd
19.	The Co-operative Bank		
			INVESTMENT SERVICES
	COMMERCIAL & SERVICES	54.	Nairobi Securities Exchange
20.	Atlas African Industries		
21.	Deacons (East Africa)		**MANUFACTURING & ALLIED**
22.	Eveready EA	55.	B.O.C Kenya
23.	Express Kenya	56.	British American Tobacco Kenya
24.	Kenya Airways	57.	Carbacid Investments
25.	Longhorn Publishers	58.	East African Breweries
26.	Nairobi Business Ventures	59.	Flame Tree Group Holdings
27.	Nation Media Group Plc	60.	Kenya Orchards
28.	Sameer Africa	61.	Mumias Sugar
29.	Standard Group	62.	Unga Group
30.	TPS Eastern Africa		
31.	Uchumi Supermarket		**TELECOMM & TECHNOLOGY**
32.	ScanGroup Plc	63.	Safaricom
	CONSTRUCTION & ALLIED		**REAL ESTATE INVEST TRUSTS**
33.	ARM Cement	64.	Stanlib Fahari I
34.	Bamburi Cement		
35.	Crown Paints Kenya		**EXCHANGE TRADE FUNDS**
36.	E.A Cables	65.	Barclays New Gold ETF

Appendix 2: Listed Companies at the Dar es Salaam Stock Exchange (DSE), Uganda Securities Exchange (USE) and Rwanda Stock Exchange (RSE).

	DSE - TANZANIA		**USE - UGANDA**
1.	Tanzania Oxygen Limited	1.	Uganda Clays Limited
2.	Tanzania Breweries Limited	2.	British American Tobacco Uganda
3.	Tanzania Tea Packers Limited	3.	East African Breweries Limited
4.	The Tanzania Cigarette Company	4.	Kenya Airways
5.	Tanga Cement Company Plc	5.	Bank Of Baroda (Uganda)
6.	Swissport Tanzania Plc	6.	Development Finance Co. Of Uganda
7.	Kenya Airways	7.	New Vision Printing & Publishing Co
8.	East African Breweries Limited	8.	Jubilee Holdings
9.	Jubilee Holdings Limited	9.	Stanbic Bank Uganda
10.	Tanzania Portland Cement Co. Limited	10.	Kenya Commercial Bank
11.	Dar es Salaam Commercial Bank Ltd	11.	National Insurance Corporation
12.	National Investments Company Ltd	12.	Nation Media Group
13.	National Microfinance Bank	13.	Centum Investment Company
14.	Kenya Commercial Bank	14.	Equity Group Holdings
15.	CRDB Bank Plc	15.	Umeme Limited
16.	Precision Air Plc	16.	Uchumi Supermarket
17.	Nation Media Group		
18.	Acacia		
19.	Maendeleo Bank Plc		
20.	Swala Oil And Gas Tanzania Plc		**RSE - RWANDA**
21.	Mkombozi Commercial Bank Plc	1.	BRALIRWA
22.	Uchumi Supermarket Limited	2.	Bank of Kigali
23.	Mwalimu Commercial Bank Plc	3.	Crystal Telecommunication
24.	Mufindi Community Bank Limited	4.	I &M Bank Rwanda
25.	The Dar Es Salaam Stock Exchange	5.	Equity Group
26.	Yetu Micro Finance Bank	6.	KCB Group
27.	Tanzania Chamber Of Commerce	7.	Nation Media Group
28.	Vodacom Tanzania Limited	8.	Uchumi Supermarkets

Appendix 3: Similarities and Differences of the East African Stock Exchanges

		NSE – KENYA	DSE - TANZANIA	USE - UGANDA	RSE - RWANDA
1.	**Founded**	1954	1996	1997	2005
2.	**Demutualization**	2014	2015	2017	2011
3.	**Self-Listing**	Self-Listed	Self-Listed	Not Self-Listed	Not Self-Listed
4.	**Trade**	Stocks and Bonds	Stocks and Bonds	Stocks and Bonds	Stocks and Bonds
5.	**Sectors**	13	5	5	4
6.	**System**	Automated	Automated	Automated	Not Automated
7.	**Listed Companies**	65	28	16	8
8.	**Membership**	ASEA; EASEA	ASEA; EASEA	ASEA; EASEA	ASEA; EASEA
9.	**Market Regulator**	Capital Markets Authority	Capital Markets and Securities Authority	Capital Markets Authority	Capital Markets Authority
10.	**Segments**	MIMS, AIMS, FISMS,GEMS	MIMS,EGM	MIMS,FIMS,GEMS	SMEMS,AMS
11.	**Index**	NSE 20 , NSE 25, NASI, FTSE 15, FTSE 25	DSE ASI	USE ASI	RSE ASI
12.	**Cross Listed Companies**	2 Umeme, Bank of Kigali	7 KCB, NMG, KQ, EABL, Jubilee Holdings, Uchumi, Acacia	8 KCB, NMG, KQ, EABL, Jubilee Holdings, Uchumi, Equity, Centum	4 KCB, NMG, Uchumi, Equity
13.	**Privatization Program**	Privatization and Divestiture of State Corporations	Presidential Parastatal Sector Reform Commission	Public Enterprises Reform and Divestiture	Privatization Program

Source: NSE 2018; DSE 2018; USE 2018; RSE 2018

Appendix 4: List of Authorized Trading Advisors in East Africa

	KENYA	4.	Core Capital Limited
1.	FidelityCorp Advisory Limited	5.	Tanzania Securities Limited
2.	NIC Capital Limited	6.	Ernst & Young Advisory Services
3.	Standard and Mutual Limited	7.	National Bank of Commerce Limited
4.	African Alliance Investment Bank Ltd	8.	Equity for Tanzania Limited
5.	Faida Investment Bank	9.	Stanbic Bank (T) Limited
6.	Kingdom Securities Limited	10.	Zan Securities
7.	Dyer and Blair Investment Bank	11.	Tanzania Mortgage Refinance Co.
8.	Dry Associates	12.	M Capital Partners Limited
9.	AIB Capital Limited	13.	Smart Stock Brokers Limited
10.	SBG Securities Limited	14.	Vervet Global Limited
11.	Standard Investment Bank	15.	Prudential Capital Group Limited
12.	Horizon Africa Capital Limited	16.	Victory Financial Services Limited
13.	Kestrel Capital EA Limited	17.	NMB Bank PLC
14.	StratLink Africa Limited		
15.	Entrust Advisory Limited		**UGANDA**
16.	Synesis Capital Limited	1.	African Alliance Capital Markets
17.	Genghis Capital Limited	2.	Baroda Capital Markets (U) Limited
18.	Burbidge Capital Limited	3.	Crested Capital
19.	Scribe Services	4.	Dyer & Blair Investment Bank
20.	Viva Africa Consulting	5.	Equity Stock Brokers
21.	ABC Capital Limited	6.	SBG Securities
		7.	UAP
	TANZANIA		
1.	Orbit Securities Company Limited		**RWANDA**
2.	Standard Chartered Bank Tanzania Ltd	1.	Business Development Fund
3.	TIB Rasilimali Limited	2.	Renaissance Capital

Appendix 5: Introduction Letter

Strathmore UNIVERSITY

19 December, 2018

TO WHOM IT MAY CONCERN

Academic Reference for Aluvaala Sharon Iposhe Student No. 093919

Ms Aluvaala Sharon Iposhe is a postgraduate student in our Master of Commerce (MCom) programme. In partial fulfilment of the MCom degree, students are required to carry out a research project and write a thesis on a contemporary subject within their field of specialisation. Among other activities, the project involves data collection and analysis.

Sharon is requesting to gather information to be used in her research. The information she will obtain from your organization will be used for this academic purpose only and will be kept confidential. The results of the survey will be in summary form and will not disclose any individual, company name or company information in any way.

The research study is entitled **"Determinants of Subscription levels during Initial Public Offerings (IPO) OF East African listed Firms."**
We hope that your organization can assist by providing information to the above named student.

Yours faithfully,

Quindos Karanja
Coordinator – Master of Commerce (MCom)
School University Business School
Email: qkaranja@strathmore.edu

Appendix 6: Secondary Data Collected from Kenya

		INDEPENDENT								DEPENDENT		CONTROL		
		KSH	KSH	YEARS	KSH	DAYS	INVESTORS AS A %		PIPH (%)	AS A %			AS A (%)	
	FIRM	OFFER PRICE	PAR VALUE	AGE	PRE ISSUE FIN PSTN	OFFER PRD	INDIV	INSTIT.	AFTER	SUBS. LEVEL	GOVT/PRIVATE	OFFER SHARES	GDP RATE	YEAR
1	HOUSING FINANCE	7.00	5.00	27	19,985,000	29	39	61	30	400	GOVERNMENT	18,000,000	0.5	1992
2	UCHUMI SUPERMARKET	14.50	5.00	17	76,827,000	54	66	34	44	103.2	GOVERNMENT	16,000,000	0.5	1992
3	CROWN BERGER	16.00	5.00	34	15,500,000	23	40	60	60	104	PRIVATE	8,638,000	0.5	1992
4	FIRESTONE EA LTD	35.50	5.00	25	657,749,000	38	35	65	0	101	GOVERNMENT	40,000,000	3.0	1994
5	KENYA AIRWAYS	11.25	5.00	19	1,540,000,000	45	66	34	49	194.5	GOVERNMENT	235,423,896	4.6	1996
6	TPS SERENA	13.00	5.00	26	41,222,000	22	66	34	0	400	GOVERNMENT	12,893,000	2.4	1997
7	ATHI RIVER MINING	12.25	5.00	24	28,147,000	23	73	27	69	250	PRIVATE	23,000,000	2.4	1997
8	MUMIAS SUGAR	6.25	2.00	30	482,800,000	26	45	55	21	60	GOVERNMENT	300,000,000	1.2	2001
9	KENGEN	11.90	2.50	52	1,753,000,000	35	55	45	70	333	GOVERNMENT	659,508,437	6.3	2006
10	SCAN GROUP	10.45	1.00	7	148,192,000	32	55	45	57	620	PRIVATE	69,000,000	6.3	2006
11	EVEREADY	9.50	1.00	39	187,000,000	35	70	30	35	830	GOVERNMENT	63,000,000	6.3	2006
12	ACCESS KENYA	10.00	1.00	12	46,906,000	35	70	30	48	363	PRIVATE	80,000,000	7.0	2007
13	KENYA RE	9.50	2.50	37	390,400,000	27	70	30	30	334	GOVERNMENT	240,000,000	7.0	2007
14	SAFARICOM	5.00	0.05	6	12,010,000,000	47	58	42	35	532	GOVERNMENT	10,000,000,000	1.6	2008
15	CO-OPERATIVE BANK	9.50	1.00	40	1,242,000,000	39	70	30	62	81	PRIVATE	701,300,000	1.6	2008
16	BRITAM HOLDINGS	9.00	0.10	46	2,714,000,000	89	63	37	37	60	PRIVATE	650,000,000	5.8	2011
17	NSE	9.50	4.00	17	262,264,000	28	100	0	66	764	PRIVATE	66,000,000	5.4	2014
18	STANLIB REIT	20.00	20.00	12	218,000,000	12	25	75	53.6	28.96	PRIVATE	625,000,000	5.7	2015

Source: NSE Data Base, Prospectuses and Financial Statements

Appendix 7: Secondary Data Collected from Tanzania

		INDEPENDENT								DEPENDENT		CONTROL		
		TSH	TSH	YEARS	TSH	DAYS	INVESTORS AS A %		PIPH (%)	AS A %			AS A (%)	
	FIRM	OFFER PRICE	PAR VALUE	AGE	PRE ISSUE FIN PSTN	OFFER PRD	INDIV.	INSTIT.	AFTER	SUBS. LEVEL	GOVT/PRIVATE	OFFER SHARES	GDP RATE	YEAR
1	TANZANIA OXYGEN	500	100	4	-562,562,000	44	90	10	40	100	GOVERNMENT	7,500,000	4.9	1998
2	TANZANIA BREWERIES	550	100	34	18,414,000,000	55	37	63	30	74	GOVERNMENT	23,594,277	4.9	1998
3	TANZANIA CIGARETTE	410	20	39	15,300,000,000	31	25	75	0	118	GOVERNMENT	19,500,000	4.9	2000
4	TANGA CEMENT	300	20	22	4,680,000,000	34	37	63	0	390	GOVERNMENT	20,693,090	7.2	2002
5	TANZANIA PORTLAND	435	20	40	15,628,386,000	31	69	31	0	368	GOVERNMENT	53,975,900	6.9	2006
6	NATIONAL MICROFIN	600	40	11	38,835,000,000	59	80	20	30	431	GOVERNMENT	105,000,000	7.4	2008
7	NATIONAL INVEST	400	125	5	(72,500,000)	48	44	56	51	37	PRIVATE	1,600,000,000	7.4	2008
8	PRECISION AIR	475	20	20	1,285,115,000	41	49	51	70	43	PRIVATE	58,841,750	7.9	2011
9	MAENDELEO BANK	500	500	2	-350,624,264	60	36	67	0	113	PRIVATE	8,000,000	7.3	2013
10	SWALA OIL AND GAS	500	0.02	3	-5,581,312	21	23	77	54	138	PRIVATE	9,600,000	7.0	2014
11	MKOMBOZI COMM	1000	1000	5	119,019,000	23	51	49	49	75	PRIVATE	5,000,000	7.0	2014
12	MWALIMU COMM	500	500	11	649,202,000	35	80	20	16	124	PRIVATE	50,000,000	7.0	2015
13	YETU	500	250	2	576,817,916	18	80	20	20	50	PRIVATE	25,193,213	7.0	2015
14	MUCOBA BANK PLC	250	50	17	314,805,000	31	30	70	23	24	PRIVATE	20,000,000	7.0	2015
15	THE DAR STOCK EXCH	500	400	20	1,942,848,178	39	55	45	70	477	PRIVATE	15,000,000	7.0	2016
16	TANZANIA CHAMBER	400	20	18	394,927,000	31	60	40	1.2	77.3	GOVERNMENT	112,500,000	7.1	2017
17	VODACOM TANZANIA	850	50	18	29,104,000,000	27	25	75	75	100	PRIVATE	560,000,100	7.1	2017

Source: DSE Data Base, Prospectuses and Financial Statements

Appendix 8: Secondary Data Collected from Uganda

		INDEPENDENT								DEPENDENT		CONTROL		
		USH	USH	YEARS	USH	DAYS	INVESTORS AS A %		PIPH (%)	AS A %			AS A (%)	
	FIRM	OFFER PRICE	PAR VALUE	AGE	PRE ISSUE FIN PSTN	OFFER PRD	INDIV.	INSTIT.	AFTER	SUBS. LEVEL	GOVT/PRIVATE	OFFER SHARES	GDP RATE	YEAR
1	UGANDA CLAYS	4000	1000	49	98,613,000	38	50	50	0	115	GOVERNMENT	325,000	8.05	1999
2	BRITISH AMERICA	1000	1.25	16	6,509,987,000	55	50	50	0	105	GOVERNMENT	4,907,984	3.14	2000
3	BANK OF BARODA	600	100	30	4,449,374,000	48	50	50	80	116.7	PRIVATE	8,000,000	8.73	2002
4	DEVELOPMENT FIN.	230	20	40	9,318,219,000	27	50	50	60	101.5	GOVERNMENT	79,509,743	6.81	2004
5	NEW VISION PRINTING	200	19.66	2	1,878,690,000	27	50	50	80	101	GOVERNMENT	10,200,000	6.81	2004
6	STANBIC BANK	70	1	13	35,176,000,000	34	50	50	80	200	PRIVATE	1,023,773,394	10.79	2006
7	NATIONAL INSURANCE	45	5	9	2,147,085,000	48	50	50	0	132	GOVERNMENT	161,552,000	6.80	2009
8	UMEME LIMITED	275	17.09	8	23,011,000,000	23	75	25	60	130	PRIVATE	622,378,000	3.83	2012

Source: USE Data Base, Prospectuses and Financial Statements

Appendix 9: Secondary Data Collected from Rwanda

		INDEPENDENT								DEPENDENT		CONTROL		
		RWF	RWF	YEARS	RWF	DAYS	INVESTORS AS A %		PIPH (%)	AS A %			AS A (%)	
	FIRM	OFFER PRICE	PAR VALUE	AGE	PRE ISSUE FIN PSTN	OFFER PRD	INDIVID.	INSTIT.	AFTER	SUBS. LEVEL	GOVT/PRIVATE	OFFER SHARES	GDP RATE	YEAR
1	BRALIRWA LTD	136	0.75	47	6,589,119,000	45	70	30	0	174	GOVERNMENT	128,570,000	7.3	2010
2	BANK OF KIGALI	125	10	45	6,178,582,000	31	70	30	55	274	GOVERNMENT	300,304,400	8.6	2011
3	CRYSTAL TEL	105	50	2	6,089,634,000	42	75	25	0	123	GOVERNMENT	270,177,320	8.9	2015
4	I & M BANK	90	10	54	5,803,151,000	28	20	80	0	209	GOVERNMENT	99,030,400	6.1	2017

Source: RSE Data Base, Prospectuses and Financial Statements

Appendix 10: Questionnaire

I am a Master of Commerce student at Strathmore University doing a study titled "Determinants of Subscription Levels during Initial Public Offerings of East African Listed Firms" in partial fulfillment of the requirements of my Master's Program.

This questionnaire has been designed to gather information from investment analysts who have offered advice on a personal level to potential investors during an IPO in the East African market at the respective exchanges. It is meant for academic purposes only. Therefore, all the responses will be held in confidence by ensuring that no specific reference is linked to a particular feedback. I look forward to your participation. Thank you.

SECTION 1: GENERAL INFORMATION

Name of the Transactional Advisor/ Firm (Optional)……..…….

Please indicate your educational background

Post Graduate [ ] Graduate [ ] Diploma [ ] Certificate [ ]

Please indicate your professional qualification(s)

CPA [ ] ACCA [ ] CIFA [ ] CFA [ ] Other [ ] ……

Kindly indicate your years of experience as a transactional advisor

5 years and below [ ] 6-10 years [ ] Over 10 years [ ]

Kindly tick against the age group most investors correspond to:

25 years and below [ ]

26-35 years [ ]

Over 35 years [ ]

SECTION 2: FACTORS INFLUENCING THE SUBSCRIPTION LEVELS

The following statements relate to the determinants of subscription levels during IPO's. Kindly indicate the extent to which you agree or disagree with the statements on a Likert scale of 1-5 by ticking in the appropriate space.

The numbers labeled indicate; **1** No Extent, **2** Low Extent, **3** Moderate Extent, **4** High Extent, **5** Great Extent

Determinants	**Statement**	**1**	**2**	**3**	**4**	**5**
Offer Price	The offer price influences subscription levels					
	Offer price reflects all publicly and privately available information					
	High priced IPOs report lower subscription levels					
	Low priced IPOs report higher subscription levels					
Par Value	The par value influences the subscription levels					
	The spread between the par value and offer price is a reflection of the expensiveness of a share					
	IPOs with higher spreads report lower subscription levels					
	IPOs with lower spreads report higher subscription levels					
Post Issue Promoter Holding	Post issue promoter holding influences subscription levels					
	Ownership concentration by the promoters is a signal of the quality of the firm					
	Higher ownership concentration levels leads to higher subscription levels					
	Lower ownership concentration levels leads to lower subscription levels					
Past Performance	Past performance of a firm influences subscription levels					
	Pre IPO financial performance are manipulated to influence subscription levels					

	Investors are enticed to invest in a firm that has previously reported strong financial performance					
	Investors associate good past performance with a successful company in future					
Age of the Firm	The age of the firm influences subscription levels					
	The older the firm the higher the subscription levels					
	The younger the firm the lower the subscription levels					
	The number of years that a firm has been in business is a reflection of its abilities					
Length of Offer Period	The length of the offer period influences subscription levels					
	Investors prefer IPOs with longer offer periods					
	Investors prefer IPOs with shorter offer periods					
	The length of time from the IPO deadline date to listing day interests investors					
Institutional & Individual Investors	Does the type of investor influence subscription levels					
	Institutional investors are more likely to be allocated a greater portion of the shares					
	Individual investors are more likely to be allocated a smaller portion of the shares					
	It is important for an issuing firm to categorize investors into institutional and individual investors					
Size of the Offer	The size of the offer will affect the relationship between the IPO subscription levels and its determinants					

	The greater the number of shares offered the higher the subscription levels					
	The smaller the number of shares offered the lower the subscription levels					
Gross Domestic Product (GDP) Growth Rate	The GDP growth rate of an economy at a particular time will affect the relationship between the IPO subscription levels and its determinants					
	The higher the GDP growth rate the higher the subscription levels					
	The lower the GDP growth rate the lower the subscription levels					

From the above, in your opinion, which factor would you consider as the most influential?

…….....

From the above, in your opinion, which factor would you consider as the least influential?

…….....

Kindly specify any other factor(s) that you think might influence such decisions other than the ones listed above.

.....

.....

SECTION 3

What is your take on the performance of IPOs in East Africa?

Excellent [ ] Good [ ] Poor [ ] No idea [ ]

Do you make a distinction between an offer for sale by state owned companies and an offer for subscription by private companies?

Yes [ ] No [ ]

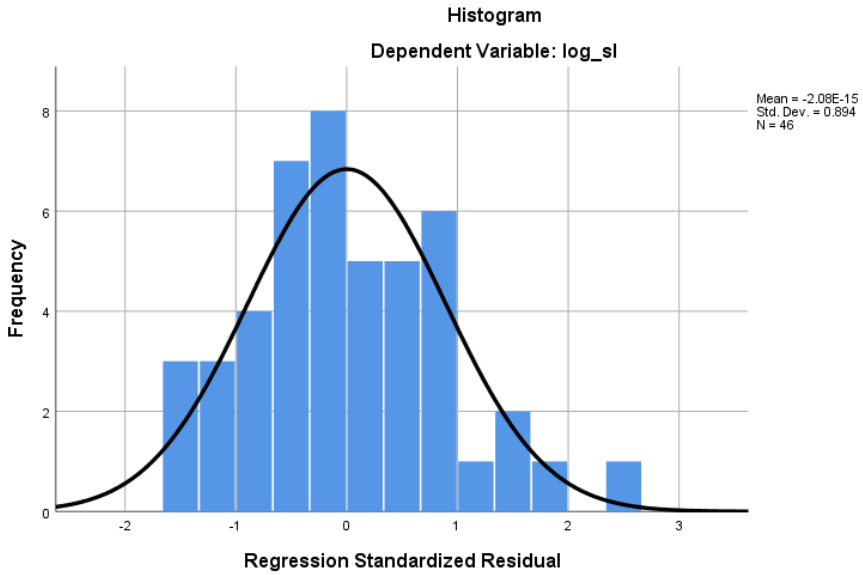
If yes, which offer do you prefer?

Offer for sale by state owned companies [ ] Offer for subscription by private companies [ ]

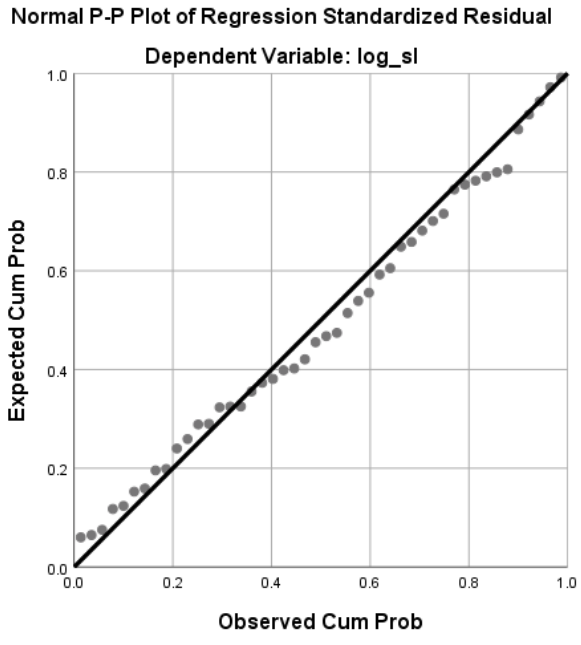
Thank you for your time.

Appendix 11: Normality Tests

Histogram on Standardized Residual



Normal Probability Plot



Appendix 12: Durbin-Watson *d* Statistic Result on Autocorrelation

Model	R	R Square	Durbin-Watson
1	.572[a]	0.327	2.158
2	.673[b]	0.453	2.306
a. Predictors: (Constant), LOG_OFFER_PRICE, PAR VALUE,PAST PERFORMANCE, AGE OF FIRM, OFFER PERIOD, INVESTOR PARTICIPATION			
b. Predictors: (Constant), LOG_OFFER_PRICE, PAR VALUE,PAST PERFORMANCE, AGE OF FIRM, OFFER PERIOD,INVESTOR PARTICIPATION, TYPE, GDP RATE, LOG_OFFER_SIZE			
c. Dependent Variable: LOG_SUBSCRIPTION_LEVEL			

Appendix 13: Lagrange Multiplier (LM) Statistic Result on Heteroscedasticity

Model	R^2	No. of Observations	LM	Tabulated value (χ^2) at 5%
1	0.327	46	15.03376	(7, 0.05) = 14.07
2	0.453	46	20.86031	(9, 0.05) = 16.92

Appendix 14: Selection of Model Variables

Model Variables

Model	Variables Entered
1	log_PIPH, log_age, log_Investor_individual, PRE ISSUE FIN PSTN, log_par_value, TYPE, log_offer_price[b]
2	GDP RATE, log_offer_share[b]
a. Dependent Variable: log_sl	
b. All requested variables entered.	

Model Summary

Model Summary[c]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.641[a]	0.411	0.252	0.80770
2	.709[b]	0.503	0.317	0.77191
a. Predictors: (Constant), log_PIPH, log_age, log_Investor_individual, PRE ISSUE FIN PSTN, log_par_value, TYPE, log_offer_price				
b. Predictors: (Constant), log_PIPH, log_age, log_Investor_individual, PRE ISSUE FIN PSTN, log_par_value, TYPE, log_offer_price, GDP RATE, log_offer_share				
c. Dependent Variable: log_sl				

ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.826	7	1.689	2.590	.036[b]
	Residual	16.962	26	0.652		
	Total	28.788	33			
2	Regression	14.488	9	1.610	2.702	.025[c]
	Residual	14.300	24	0.596		
	Total	28.788	33			
a. Dependent Variable: log_sl						
b. Predictors: (Constant), log_PIPH, log_age, log_Investor_individual, PRE ISSUE FIN PSTN, log_par_value, TYPE, log_offer_price						
c. Predictors: (Constant), log_PIPH, log_age, log_Investor_individual, PRE ISSUE FIN PSTN, log_par_value, TYPE, log_offer_price, GDP RATE, log_offer_share						

Appendix 15: Model Summary on Robustness of the Variables

Model Variables

Variables Entered/Removed[a]	
Model	Variables Entered
1	log_PIPH, PAR VALUE, log_offer_period, log_instit, PRE ISSUE FIN PSTN, log_age, log_offer_price, INVESTORS INDIVIDUAL[b]
2	log_gdp, log_ta , log_spread[b]
a. Dependent Variable: log_sl	
b. All requested variables entered.	

Model Summary

Model Summary[d]				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.496[a]	0.246	0.086	0.77135
2	.652[b]	0.426	0.234	0.70588
a. Predictors: (Constant), INVESTORS INDIVIDUAL, PAR VALUE, PRE ISSUE FIN PSTN, log_offer_period, log_age, log_offer_price, log_instit				
b. Predictors: (Constant), INVESTORS INDIVIDUAL, PAR VALUE, PRE ISSUE FIN PSTN, log_offer_period, log_age, log_offer_price, log_instit, log_gdp, log_ta , log_spread				
d. Dependent Variable: log_sl				

ANOVA

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	6.391	7	0.913	1.534	.190[b]
	Residual	19.634	33	0.595		
	Total	26.025	40			
2	Regression	11.077	10	1.108	2.223	.044[c]
	Residual	14.948	30	0.498		
	Total	26.025	40			
a. Dependent Variable: log_sl						
b. Predictors: (Constant), INVESTORS INDIVIDUAL, PAR VALUE, PRE ISSUE FIN PSTN, log_offer_period, log_age, log_offer_price, log_instit						
c. Predictors: (Constant), INVESTORS INDIVIDUAL, PAR VALUE, PRE ISSUE FIN PSTN, log_offer_period, log_age, log_offer_price, log_instit, log_gdp, log_ta , log_spread						

Regression Analysis Results

Coefficients[a]					
Model		t	Sig.	Collinearity Statistics	
				Tolerance	VIF
1	(Constant)	0.284	0.779		
	log_offer_price	-2.175	0.041	0.419	2.386
	PAR VALUE	1.120	0.275	0.645	1.550
	PRE ISSUE FIN PSTN	1.616	0.121	0.718	1.393
	log_age	-0.328	0.746	0.699	1.431
	log_offer_period	-0.460	0.650	0.828	1.208
	log_instit	0.465	0.647	0.056	17.921
	INVESTORS INDIVIDUAL	0.695	0.494	0.055	18.235
	log_PIPH	0.718	0.481	0.926	1.080
2	(Constant)	0.291	0.774		
	log_offer_price	1.099	0.286	0.008	129.422
	PAR VALUE	-0.593	0.560	0.201	4.971
	PRE ISSUE FIN PSTN	2.759	0.013	0.403	2.481
	log_age	0.044	0.965	0.578	1.729
	log_offer_period	-0.007	0.995	0.770	1.299
	log_instit	0.761	0.456	0.046	21.679
	INVESTORS INDIVIDUAL	1.018	0.322	0.043	22.996
	log_PIPH	0.629	0.537	0.914	1.094
	log_gdp	2.178	0.043	0.481	2.080
	log_ta	-1.944	0.068	0.287	3.489
	log_spread	-1.424	0.172	0.008	121.392
a. Dependent Variable: log_sl					

Appendix 16: Summary of Responses from Transactional Advisors

Offer Price	N	Missing	Mean	Mode	Std. Deviation	Min.	Max.
The offer price influences subscription levels	32	0	4.59	5	0.665	3	5
Offer price reflects all publicly and privately available information	32	0	3.28	4	0.924	1	4
High priced IPOs report lower subscription levels	32	0	3.91	4	0.734	3	5
Low priced IPOs report higher subscription levels	32	0	4.09	4	0.689	3	5
Par Value	N	Missing	Mean	Mode	Std. Deviation	Min.	Max.
The par value influences the subscription levels	32	0	3.25	3	0.984	2	5
The spread between the par value and offer price is a reflection of the expensiveness of a share	32	0	3.28	4	0.729	2	4
IPOs with higher spreads report lower subscription levels	32	0	3.09	3	0.689	2	4
IPOs with lower spreads report higher subscription levels	32	0	3.28	3	0.729	2	5
Post Issue Promoter Holding	N	Missing	Mean	Mode	Std. Deviation	Min.	Max.
Post issue promoter holding influences subscription levels	32	0	3.84	4	0.677	3	5
Ownership concentration by the promoters is a signal of the quality of the firm	32	0	3.97	4	0.782	3	5
Higher ownership concentration levels leads to higher subscription levels	32	0	3.63	3	0.751	3	5
Lower ownership concentration levels leads to lower subscription levels	32	0	3.56	4	0.840	2	5
Past Performance	N	Missing	Mean	Mode	Std. Deviation	Min	Max

Past performance of a firm influences subscription levels	32	0	4.75	5	0.508	3	5
Pre IPO financial performance are manipulated to influence subscription levels	32	0	3.41	3[a]	0.615	2	4
Investors are enticed to invest in a firm that has previously reported strong financial performance	32	0	4.06	4	0.840	2	5
Investors associate good past performance with a successful company in future	32	0	3.78	4	0.975	2	5
Age of the Firm	N	Missing	Mean	Mode	Std. Deviation	Min	Max
The age of the firm influences subscription levels	32	0	3.59	3	0.946	2	5
The older the firm the higher the subscription levels	32	0	3.69	3	1.061	2	5
The younger the firm the lower the subscription levels	32	0	3.44	3	0.982	2	5
The number of years that a firm has been in business is a reflection of its abilities	32	0	3.47	4	0.671	2	4
Length of Offer Period	N	Missing	Mean	Mode	Std. Deviation	Min	Max
The length of the offer period influences subscription levels	32	0	3.91	3	0.963	2	5
Investors prefer IPOs with longer offer periods	32	0	2.91	2	0.856	2	4
Investors prefer IPOs with shorter offer periods	32	0	3.09	4	0.893	2	4
The length of time from the IPO deadline date to listing day interests investors	32	0	3.50	3[a]	1.164	2	5
Investor Participation	N	Missing	Mean	Mode	Std. Deviation	Min	Max
Does the type of investor influence subscription levels	32	0	4.13	5	0.833	3	5

Institutional investors are more likely to be allocated a greater portion of the shares	32	0	3.84	4	0.628	3	5
Individual investors are more likely to be allocated a smaller portion of the shares	32	0	3.78	4	0.553	2	5
It is important for an issuing firm to categorize investors into institutional and individual investors	32	0	3.72	4	0.888	1	5
Size of the Offer	N	Missing	Mean	Mode	Std. Deviation	Min	Max
The size of the offer will affect the relationship between the IPO subscription levels and its determinants	32	0	4.19	5	0.998	2	5
The greater the number of shares offered the higher the subscription levels	32	0	3.59	4	0.911	1	5
The smaller the number of shares offered the lower the subscription levels	32	0	3.66	4	0.827	2	5
Gross Domestic Product (GDP) Growth Rate	N	Missing	Mean	Mode	Std. Deviation	Min	Max
The GDP growth rate of an economy at a particular time will affect the relationship between the IPO subscription levels and its determinants	32	0	4.25	5	0.803	3	5
The higher the GDP growth rate the higher the subscription levels	32	0	3.59	4	0.560	3	5
The lower the GDP growth rate the lower the subscription levels	32	0	3.59	4	0.560	3	5

Appendix 17: Summary of Respondents' Opinion on Determinants of Subscription Levels

	Frequency	Percent
Offer Price and Subscription Levels		
Moderate Extent	3	9.4
High Extent	7	21.9
Great Extent	22	68.8
Total	32	100
Par Value and Subscription Levels		
Low Extent	8	25
Moderate Extent	12	37.5
High Extent	8	25
Great Extent	4	12.5
Total	32	100
Post Issue Promoter Holding and Subscription Levels		
Moderate Extent	10	31.3
High Extent	17	53.1
Great Extent	5	15.6
Total	32	100
Past Performance and Subscription Levels		
Moderate Extent	1	3.1
High Extent	6	18.8
Great Extent	25	78.1
Total	32	100
Age of the Firm and Subscription Levels		
Low Extent	4	12.5
Moderate Extent	11	34.4
High Extent	11	34.4
Great Extent	6	18.8
Total	32	100
Length of Offer Period and Subscription Levels		
Low Extent	1	3.1
Moderate Extent	13	40.6
High Extent	6	18.8
Great Extent	12	37.5
Total	32	100
Investor Participation and Subscription Levels		
Moderate Extent	9	28.1
High Extent	10	31.3
Great Extent	13	40.6

Total	32	100
Size of the Offer and Subscription Levels		
Low Extent	4	12.5
Moderate Extent	1	3.1
High Extent	12	37.5
Great Extent	15	46.9
Total	32	100
Gross Domestic Product and Subscription Levels		
Moderate Extent	7	21.9
High Extent	10	31.3
Great Extent	15	46.9
Total	32	100