A TWO-PART STUDY ON THE ALTERNATIVE EXCHANGE OF SOUTH AFRICA (AltX):

A STUDY ON THE UNDERPRICING OF NEW EQUITY ISSUES LISTED ON THE ALTERNATIVE EXCHANGE OF SOUTH AFRICA

AND

THE EFFECT OF SPECIFIC USE OF DISCLOSURE ON UNDERPRICING

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DECLARATION

I, Gerald Moses Kuziwakwashe Gondo, hereby declare that this study is my own original work and that all references have been duly acknowledged.

I further declare that this thesis in part or in its entirety has not been submitted to any other University for degree purposes or any other educational purposes.

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ABSTRACT

Extensive research has been conducted in a variety of countries investigating the extent of underpricing of initially listed companies. In addition, various studies have been conducted in an attempt to try and establish the relationship between disclosure and underpricing. Underpricing remains a vexing issue that continues to stimulate rigorous debate within economic and accounting research. This study seeks to remedy the omission of recent South African research on this subject.

The study looks to establish whether underpricing has occurred on the Alternative Exchange of South Africa, (AltX). The AltX was launched on 27 October 2003, as the junior exchange to the larger Johannesburg Stock Exchange (JSE).

The study follows the methodology of a previous South African study, by Barlow and Sparks (1986), which looked at the underpricing of shares on the JSE between the periods 1972 to 1986. This study looks at establishing underpricing on the AltX, during the periods October 2003 to March 2007.

The findings of the study showed that underpricing was evident on the AltX during the period of review, with the average recorded underpricing being 33.21%.

Research is also conducted to investigate the relationship between disclosure and underpricing, with specific focus on the use of proceeds disclosures within the listing prospectus of a firm. The primary aim of the research, in this regard, was to establish the validity of posited theory that increased disclosure by firms should be associated with reduced underpricing.

During the period of review [October 2003 – March 2007], 41 firms listed on the AltX, therefore rendering a limited universe of firms to draw a sample to investigate the relationship between disclosure and underpricing.

The study draws on the methodology of Leone, Rock and Willenborg (2006) and investigates the relationship between use of proceeds disclosure and underpricing. This relationship was tested statistically using a simple linear regression, as well as using forward stepwise regression techniques.

The results of the test of the relationship between use of proceeds disclosure and underpricing were not statistically significant. The method of drafting the prospectuses of the majority of firms may have had a significant impact on the extent of detail provided by companies within prospectuses.

Further analysis was undertaken to study the relationship of selected variables such as firm size, book to market ratios and ownership retention to the level of underpricing.

The results of the tests found that the relationship between the level of underpricing and any of the selected variables was not significantly significant.

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CHAPTER 1: INTRODUCTION

1.1 Research Aims

The issue of underpricing of new issuances has been the subject of a number of theoretical and empirical research papers. Early writers, notably Logue (1973) and Ibbotson (1975) document the underpricing of newly issued common stock. Ibbotson focused on the period 1960 to 1969, with the objective of proving initial average positive returns for registered new issuances on the (US) Securities and Exchange Commission (SEC). Within this period, Ibbotson recorded that the average initial performance is positive [11.4%], indicating that new issue offerings are underpriced.

For the purposes of this research, the definition of underpricing as proposed by Ljungqvist is used. Specifically; this is presented by the percentage difference between the price at which the Initial Public Offering (IPO) shares were sold to investors, [the offer price], and the price at which the shares subsequently trade in the market. Ljungqvist (2006) The period of measurement of underpricing is limited to the end of the first day of trading.

There have been a number of empirical papers written on the subject of underpricing subsequent to Ibbotson's research; documenting the underpricing of new issuances in the United States, Europe as well as Asian IPO markets. Suffice to contend that empirical IPO literature on underpricing is advanced within the above-mentioned developed markets.

In contrast, there has been limited research conducted on this subject within South Africa. Research that specifically investigates the underpricing of new issuances on the Alternative Exchange of South Africa [the AltX] will expand current South African literature on underpricing of newly issued shares. The absence of recent research on underpricing specifically focussed on the AltX, motivates the primary research objective of this dissertation.

The primary objective of this research endeavour is to investigate and establish whether new listings to the AltX were underpriced. The time-period for this investigation is 27 October 2003 to 31 March 2007. The AltX was launched on 27 October 2003; this therefore provides a period of analysis of over three years.

The secondary objective of this research endeavor is to examine the assertion made within disclosure theory, which implies that firms benefit from increased disclosure. The specific benefit being analyzed is reduced underpricing. As proposed by Schrand and Verrecchia, underpricing can be viewed as a proxy for the cost of capital for issuing firms. Disclosure theory, therefore forwards the notion that with increased disclosure firms can actually reduce the cost of capital, by reducing the extent of underpricing Schrand and Verrecchia (2004).

This study adopts the approach of researchers Leone, Rock and Willenborg (2006) in defining disclosure as only being the specific reference of the use of IPO proceeds within the prospectus.

Within an IPO setting, it is assumed that there is limited public historical information regarding the firm or its management. It is also assumed that management possesses superior information with regards to the performance of the firm and its future prospects. These and other important factors lead to a high degree of valuation uncertainty of the firm looking to list for the first time.

Relative to investors, managers of a firm have superior information about the firm. This difference in information between the two parties is called information asymmetry. The differing level of information between managers and investors also makes it difficult for investors to value the firm

The research will specifically look at investigating whether the disclosure within the listing prospectus published by firms looking to list on the AltX has a measurable and observable impact on the level of underpricing experienced at the time of listing. This study will attempt to establish whether it is observable that for those firms where reduced underpricing is recorded, that these firms will also have employed more effective disclosure policies. In contrast, for those firms where greater underpricing is recorded, it will be observed that these firms will have employed inferior disclosure mechanisms within their prospectus. The measure of effective disclosure is observed in the extent to which firms specify the use of proceeds.

1.2 Why Was The Research Carried Out?

1.2.1 The AltX

This research endeavour is motivated by the absence of contemporary empirical research output related to underpricing of shares listed on the AltX.

The AltX will have been in existence for over three years by 31 March 2007, with 41 recorded listings as at 31 March 2007. The AltX was formed to allow for the smaller companies not yet able to list on the JSE, access to a wider pool of investment capital for the development of their business. In addition to this, the AltX also aims to facilitate and promote Black Economic Empowerment in South Africa. The primary role of the AltX is to provide a fair and efficient market for the trading securities.

Documenting the first day performance of a newly listed share, can serve as an indication of the efficiency of the market evidenced by the level at which the market values the firm, based on the latest available information.

It is proposed that through employing more effective disclosures within the official listing prospectus, firms can ensure more effective dissemination of information within the market.

Market efficiency can be described in terms of how share prices react to new information. This implies that share prices are affected by information disclosure, therefore signifying the importance of information disclosure on the capital market Strom (2006).

1.2.2 Research on the underpricing phenomenon within South Africa

Underpricing is a phenomenon that has received extensive research coverage in developed financial markets, of North America and Europe. Early papers on the subject from writers, Logue (1973) and Ibbotson (1975), document that when companies go public, the shares they sell tend to be underpriced. The authors document that the share price jumps substantially on the first day of trading. There is limited recent research on this phenomenon within South Africa.

Barlow and Sparks (1986) found a mean first day return of 32.1% during the period 1972 to 1986, for IPO's listed on the Johannesburg Stock Exchange (JSE). Page and Reyneke (1997) documented the long-run performance for a sample of 118 South African initial public offerings listed on the JSE between January 1980 and December 1991.

International research on underpricing within emerging markets is available, although not to the same extent as research available on developed markets. Kiymaz (1999), records underpricing of Turkish IPO's; Lee et al. (1996b) investigate IPO's in Singapore; Kazantzis and Levis (1995) in Greece; Kim et al. (1995) in Korea, Aggarwal et al. (1993) in Chile, Mexico and Brazil; and Dawson (1987) in Hong-Kong, Singapore and Malaysia. These studies all report the existence of initial underpricing of shares within each respective market.

During the period October 2003 to March 2007, 41 companies have listed their shares on the AltX for the first time. The writer is unaware of recent studies that document the level of underpricing (if any) has occurred for firms listing on the AltX. This research will look to expand on the international literature available on underpricing within emerging markets, with a particular focus on the AltX.

As more companies list on the AltX it is important for empirical research to be formulated to record the initial performance of IPO's, as well as document whether new listings on the AltX are underpriced as is the case in other researched global markets.

1.3 What are the Research Questions?

Based on the research conducted by Ibbotson on the risk and performance (measured by risk-adjusted returns) on newly issued common stocks which were offered to the public for the first time during the period 1960 through 1969, Ibbotson found on average, an 11.4% discount to the offer price. The conclusion to the study was such that new issue offerings within that specific period of review were underpriced Ibbotson, (1975:1).

The first question that we will seek to answer is:
"Were unseasoned equity offerings on the AltX during the period 27 October 2003 to 31 March 2007, underpriced?"

The first hypothesis is that new issue offerings on the AltX were not underpriced during the period of review of 27 October 2003 to 31March 2007.

The second question that this research seeks to answer is whether it can be inferred that through effective disclosure employed within the prospectus; with specific reference to use of proceeds, results in reduced underpricing of issued shares for companies listing on the AltX.

The second hypothesis is that it cannot be inferred that through use of effective disclosure within the prospectus of firms that listed on the AltX, the extent of underpricing is reduced.

1.4 Why Disclosure Mechanisms within the Prospectus?

DISCLOSURE MECHANISMS

As proposed by earlier researchers like Verrecchia (2001), Jensen and Meckling (1976), this research will look to investigate whether information disclosure mitigates the information asymmetry between management of the firm and investors. The difference in information between the two parties is called information asymmetry. It is proposed that through use of disclosure mechanisms within the prospectus, firms can decrease information asymmetry, and in turn, reduce the level extent of underpricing.

Information asymmetry models are evidenced through the research conducted by Rock (1986). Rock posits within a modelled IPO environment, there is a group of informed investors whose information is superior to uninformed investors. With newly issued stocks, informed investors' crowd out uninformed investors when good issues (underpriced issues) are offered and they withdraw from the market when bad issues (overpriced) are offered.

Because the informed investors only apply for what they view to be underpriced stock, this results in oversubscription of the issue and a lesser allocation to the uninformed investor. The uninformed investor inevitably ends up with a disproportionately large amount of overpriced issues and fewer underpriced issues. Rock refers to this phenomenon as the "winner's curse problem", which is an extension to the "Lemon's problem" as highlighted by Akerlof (1990). In order to resolve the "winner's curse problem", the issuing firm must price the shares at a discount in order to guarantee that the uniformed investors purchase the issue.

Empirical studies have shown that underpricing is associated with various costly communications devices, such as underwriter and auditor quality and managerial retained ownership Verrecchia and Schrand (2005). A study conducted by Leone, Rock and Willenborg (2003), records a relationship between underpricing and the specificity of the prospectus discussion about the intended use of the IPO proceeds.

However, rather little is known, of what types of information are important within a prospectus, that in their inclusion, listing firms experience reduced underpricing, whilst in their absence, greater underpricing is recorded.

The research objective is therefore premised on the assumption that due to limited analyst coverage of such firms looking to list on the Alternative Exchange of South Africa, these firms are more likely to use their prospectus as an important communication mechanism to influence market perceptions. The extent of disclosures utilised within the prospectus will determine the effectiveness of the prospectus in influencing market perceptions; this will be evidenced in the extent of underpricing of that particular issuance.

It is acknowledged that drawing a causal link between disclosure mechanisms and underpricing is difficult and it is unlikely that a definitive causal result can be established with regards to disclosure and price change. However, this research endeavour will attempt to offer a logical framework from which it is possible to observe the effectiveness of a disclosure mechanism utilised by firm within its prospectus, when listing on the AltX.

1.5 Research Limitations

The report examines the various aspects of the pricing of new equity issues on the AltX, as well as investigates the level of disclosure within the prospectus of each listing firm. The report focuses on establishing whether firms that listed on the AltX experienced underpricing during the period 27 October 2003 to 31 March 2007. This study also aims to establish whether specificity as a measure of disclosure plays a significant role in reducing information asymmetry, evidenced through reduced underpricing.

This research will review specific international theoretical and empirical studies as well as contemporary local research on underpricing of newly issued shares. The research will differ from the majority of empirical studies in terms of using the prospectus as the primary source of disclosure information, as opposed to annual financial reports.

Certain parameters were employed, to ensure that only variables relevant to this report were included:

- Only the issuance of ordinary shares was considered in underpricing research and disclosure research;
- Only new listings were taken into consideration. The definition of new listings excludes companies that migrated from the [Development Capital Market] DCM and [Venture Capital Market] VCM boards of the JSE, within the period of review;
- Reverse takeovers and cash shells methods of listing were not included within the research; introductions where there is no issue or sale of shares were also not included within this study;
- Other forms of announcements of communication by the firm, such as newspapers inserts, media briefings or road shows, were not included as part of disclosure, the prospectus, was taken to be primary document of information.

There are many aspects to underpricing and disclosure research, however, this report restricts itself to considering aspects of underpricing and the contents of the prospectus.

1.6 Background and Historical Overview

This chapter provides a brief background to the Alternative Exchange of South Africa (AltX), the parallel exchange, to the larger Johannesburg Stock Exchange (JSE); reasons for and methods of listing; the listing requirements and costs of a listing on the AltX.

1.6.1 History of the AltX

Forerunners to the AltX were the Development Capital Market and the Venture Capital Market (launched in 1984) of the JSE. These boards were launched with the intention of meeting the needs of less mature companies which were unable to qualify for a listing on the main board. The Development Capital and Venture Capital boards were largely unsuccessful in meeting their envisaged objectives. Critical failures to these boards were their inability to attract quality companies and investors. The AltX is envisaged to be a superior and suitable replacement to these failed bourses.

The AltX is a division of the JSE, and was launched in October 2003. It was formed on the basis that it would represent a "parallel exchange" because it operates alongside the Main Board, [the JSE], but targets small and medium growing companies Magliolo (2004).

The objective of the AltX is to provide high quality migratory platform to the main board of the JSE.

The AltX performs essentially two roles.

I. It provides a capital market for small, medium and start-up companies, whereby these companies can raise capital.

II. It also provides a secondary market whereby the securities of these companies can be traded.

The AltX was modelled of the successful Alternative Investment Market (AIM), the London Stock Exchange's global market for smaller, growing companies Magliolo (2004). AIM was launched in 1995, and has admitted over 1200 companies to the exchange and has assisted companies to raise over US$14 Billion whilst listed on AIM.

Since its inception three years ago, the AltX has successfully listed over 30 companies, with a number of companies with plans to list in the immediate near future. The total capital raised from listing by the firms included within this study was over ZAR1 Billion. The current market capitalization of the AltX is ZAR5 Billion. (AltX Media Release, October 2005)

1.6.2 Reasons for listing shares

Listed below is an overview of the main reasons provided by firms in the listing prospectuses reviewed.

I. Raising of capital

   The issuance of shares through listing enables the company to access a much wider pool of capital that it otherwise would not have been able to, had it remained unlisted. Listing also enables the firm to access funding at a later stage from the capital market with relative ease, either through rights issues, or further public offerings.

II. Unlocking of wealth

Listing affords the existing shareholders an efficient means of realising their wealth. The existing shareholders have the option to sell a proportion of the shares either at the time of initially listing or at a later stage to the open market. Listing on the AltX also affords venture capitalists, angel investors or minority shareholders, the opportunity to sell their stake in the company with greater ease, than if they were to try sell their holding in an unlisted company.

III. Elevating the image of the company

Throughout the listing process and thereafter, the image of the company is can be improved within the following areas: media profile, employee/personnel profile and financing profile.

In the process leading up to the IPO and the period thereafter, the company receives an increased amount of media coverage, particularly within the financial press. The elevated media profile raises awareness of the company and its future prospects, which can lead to further interest from potential investors.

Employee recruitment and motivation can be enhanced by elevating the company from being an unlisted company, to one that is listed. Listing will also provide the opportunity to the company to introduce employee share schemes, which are attractive incentives for employee's long-term objectives.

Heightened awareness of the company can be beneficial in terms of increased liquidity, due to greater interest in the firm. The company can also receive better terms from suppliers and provide better goods and service to customers as a result of become a listed entity.

Listing on the AltX provides the additional benefit to investors in that the AltX listing requirements place great emphasis not just on initial, but ongoing disclosure of company information. There is also a focus on the enhancement of the skills of directors on AltX companies, thus ensuring adherence to good corporate governance and reporting by companies, where very little historical information is available to investors.

1.6.3 Methods of listing on the AltX

Public Offer

An offer to the public may be an offer for subscription or an offer for sale.
In an offer for subscription, members of the public are invited to subscribe for un-issued shares and the proceeds accrue to the company. In an offer for sale, existing shareholders invite subscribers to purchase their shares and therefore the proceeds accrue to the sellers. This method requires the publication of a prospectus, which must be approved by and registered with the Registrar of Companies and the Companies Act of 1973.

Private Placing

A private placing is an offer of shares to selected parties where shares are "placed" or offered to subscribers by the company as the result of private negotiations.

A private placing with an institution may help to ensure a stable, long term shareholding in the company and can facilitate the raising of funds in the event that the company wishes to raise additional capital in the future by way of a rights offer. This method is most widely used by firms looking to list on the AltX.

A Combination of private placing and public offer

This is often the most suitable method, and is the most widely used vehicle used by firms looking to list in the AltX. This hybrid issuing method ensures that the firm derives the benefits of both methods.

Cash Shell

A listed cash shell company acquires a viable business, either for cash, or for the issue of additional shares in the cash shell company. A cash shell is a listed company whose assets consist wholly or mostly of cash or shares because it has disposed of all, or a substantial part of its business.

Reverse Takeover

A listed company acquires a larger but unlisted company or business. This results in a change of control of the shareholding of the listed company, and also requires the publication of a transmuted listing statement.

In a reverse takeover a compatible listed company will acquire the unlisted company with the purchase consideration being paid by the issue of new shares in the listed company. These new shares must be sufficient in number and value to ensure that the shareholders in question have a controlling interest in the listed company after the issue of new shares.

An Introduction

An introduction is suitable where a company does not need to raise capital and has an existing wide spread of shareholders. In order to list on the AltX, a pre-listing statement is required that contains salient information about the company

An introduction does not involve the issue or sale of shares and therefore does not fall within the scope of this research endeavour.

The cash shell and reverse take-over methods involve using existing listed companies as a means for obtaining listing, these methods fall outside the scope of this research endeavour are therefore not discussed further within the submission Magliolo (2004).

1.7 Overview of the Dissertation

The remainder of this study unfolds as follows:

Chapter 2 is the literature review section of the thesis and is structured in two sections. The first section introduces the background the various theories that have been forwarded on the subject of underpricing. This first section presents an analysis of the various theories and draws on the findings relevant empirical studies that have been conducted to test the validity of certain theories of underpricing.

The second section of Chapter 2, presents theories related to disclosure, with specific focus on theories forwarded on disclosure and the relationship to underpricing. Chapter 2 is concluded with a summary of significant empirical studies which look to tests the validity of disclosure proxies having an effect on the underpricing.

Chapter 3 reviews the methodology employed within the present study, to test for underpricing on the AltX, as well as to test the relationship between use of proceeds disclosure and underpricing. The methodology employed for testing for underpricing draws on certain techniques employed by Barlow and Sparks (1986). The present study also draws on methodologies detailed by Leone, Rock and Willenborg (2006), utilised to test if there is a significant relationship between uses of proceeds disclosure and underpricing, for AltX listed firms.

Chapter 4 presents and discusses the results of the statistical analyses performed. The results are integrated with international research findings, with relevant commentary on the key points of features that differentiate the observed results of this South African study, to international findings.

Finally, in Chapter 5 conclusions are drawn and areas of future research work are suggested.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Within the research reviewed on the underpricing of initially listed shares in both developed and developing countries; various theories have been forwarded in an attempt to provide rationale for this phenomenon.

The literature review will be structured into two parts. The first section will focus on theoretical and empirical literature on underpricing, the stated primary research objective of the thesis. The overview of existing empirical literature on underpricing, will allow for an understanding of how the primary research objective of this dissertation was derived.

It is beyond the scope of this paper to exhaustively probe each theory relating to underpricing; the main emphasis will be on literature which is premised on the asymmetric information model. The asymmetric information models assumes that one party knows more than the other party, and as a result of this difference, underpricing occurs.

The second part of the literature review will focus on disclosure research, with specific reference to research and literature findings related to the topic of information asymmetry. Of particular interest to this research endeavour, is the proposed relationship between disclosure and information asymmetry, where a number of researchers test the assertion that increased disclosure results in reduced information asymmetry, evidenced through reduced underpricing at the time of listing.

2.2 Underpricing

Introduction

This section of the literature review will analyse and discuss key theories and empirical tests that fall under asymmetric information model. This model is premised on one party possessing more information than others, and thus the resulting information frictions give rise to underpricing in equilibrium Ljungqvist, (2006).

This study will look at those companies that have listed on the AltX, junior bourse to the Johannesburg Stock Exchange (JSE). The study will look to analyze the level of underpricing experienced on the day of listing of each company. The AltX celebrated more than three years of existence by March 2007, with over forty listings up to that date.

Contemporary financial research on underpricing continues to support the early empirical findings, notably Logue (1973) and Ibbotson (1975). These researchers noted; when companies go public the shares they sell tend to be underpriced. Loughran and Ritter (1994) document international evidence of underpricing, reviewing 39 countries. Since the 1960's, underpricing in the United States alone has averaged 19%.

Thus, international research gives credence to the assertion that underpricing remains an important research topic for better understanding of capital market dynamics, particularly at the time of listing.

Defining Underpricing

Where underpricing occurs, companies received less money for the shares of stock than the market perceived price Brennan (1996).

In the majority of empirical research papers reviewed, authors calculated the amount of underpricing or initial return as the return from the offer price to the closing price on the first day of trading, expressed as a percentage.

An alternative to calculating the initial return as a percentage is by measuring the extent of underpricing by means of monetary value. This is measured as the difference between the closing price and the offer price, multiplied by the number of shares sold at the IPO.

2.2.1 Theoretical Review of Underpricing – Asymmetric Information Model

2.2.1.1 The Winner's Curse

According to the Efficient Market Hypothesis (EMH), this hypothesis states that a market is efficient if prices always fully reflect all available information Fama (1970). Within the setting of an Initial Public Offering, the prices of new shares on offer to investors are not set by the interaction of demand and supply, as suggested by the Efficient Market Hypothesis.

Within an inefficient market, the informed investors are therefore in a superior position to uninformed investors. Informed investors can therefore profit from their knowledge advantage, by bidding for underpriced shares. The informed investor will not bid for overpriced shares or the issuances of companies that he perceives as lesser quality, given the benefit of this superior knowledge. In instances where shares are either overpriced or are poor quality shares, informed investors withdraw from the market.

On the other hand, uninformed investors are assumed to bid equal amounts for all shares issued. Uninformed investors possess lesser knowledge with regards to the correct valuation and assessment of the quality of firms, as they have not taken the time nor expense to become more informed. Thus, a scenario arises where, due to their superior knowledge, informed investors will place large orders on those shares identified to have been issued at a discount to fair value.

It is assumed that shares are allocated to subscribers on some systematic basis. Informed investors "crowd out" uninformed investors, thus uninformed investors receive few of the underpriced shares. However, uninformed investors will receive a disproportionate amount (if not all) of the overpriced shares, [as informed investors have withdrawn from the market].

Ritter (1984) cites the above phenomenon as a plausible rationale as to why underpricing occurs, calling it the "winner's curse". Uninformed investors receive a disproportionately high allocation of issues that are overpriced in comparison with those that are underpriced Ritter (1984a:220).

2.2.1.2 Issuing Shares at a Discount in order to attract uninformed investors to the market

Rock (1986) advanced the theory of the "winner's curse", by proposing that an issuer should price shares at a discount in order to attract uninformed investors to the offering. This discount can be viewed as incentive or compensation for uninformed investors for receiving a disproportionate number of overpriced shares – evidence of the winner's curse.

Within this model, the allocation of the shares is not based on market forces of demand and supply and therefore adjusting the share price until the market clears, but rather on quantity – allocation. It is due to this institutional feature, that adverse selection arises (Ritter, 1984).

Therefore, underpricing of shares can be viewed as a correction to the inefficient allocation of share issuance, by compensating uninformed investors for an over allocation of overpriced shares. It is posited that should this not occur, the uninformed investor will choose not to participate in the market for initial public offerings until the price falls to such an level [on average] in order to compensate him for the allocation bias.

This theory also implies that underpricing of shares [on average] is also compensation to those investors who do become informed, for the costs of becoming informed. Ritter proposes that the greater the fundamental uncertainty about the issue, the greater is the required compensation to investors for becoming informed Ritter (1984). This implies that firms that are considered to be of higher risk, in terms of the difficulty in valuing these firms, the greater research required to become informed. Following from this line of reasoning, firms that are more difficult to value and understand should be underpriced more than firms which are simpler to understand and value.

In summation, Rock concludes this theory for why underpricing occurs as being a consequence of a model that incorporates asymmetric information and quantity rationing (Rock, 1986).

2.2.1.3 Ex – ante uncertainty and underpricing

Beaty and Ritter (1986) posit that as ex ante uncertainty increases about the value of shares, so too does the expected underpricing demanded by investors. This scenario is particular to an initial public offering where the issuing firm will not have an established market valuation for its stock.

In addition to this, as uncertainty increases, the winner's curse problem is further intensified and as a consequence; uninformed investors will demand that more money be "left on the table", in an expected value sense, via underpricing.

Beaty and Ritter (1986) tested this hypothesis empirically and found that a relationship does exist between ex ante uncertainty and underpricing. However, the authors did stress that ex ante uncertainty that leads to underpricing does not correspond to systematic risk in the CAPM. An investor who diversifies his risk by subscribing for many different unseasoned issues will realise a lower than average return due to the winner's curse.

A key finding in relation to ex ante uncertainty drawn by the authors is such that because of the positive relationship between underpricing and uncertainty, voluntary disclosure of information is found to reduce uncertainty, which is beneficial to the issuer.

Habib and Ljungqvist (2001) generalize the notion that issuers have an incentive to reduce underpricing. The authors argue if issuers can take costly actions that reduce underpricing, they will do so up to the point where the marginal cost of reducing underpricing further just equals the marginal benefit. This marginal benefit is not measured by underpricing itself, but by the reduction in the issuer's wealth loss that underpricing implies.

2.2.1.4 Underwriters and Underpricing

A theory posited by Beaty and Ritter (1986), proposes that underwriters play an important role in enforcing an underpricing equilibrium. Because companies looking to list are looking to maximize the proceeds from listing, they do not have an incentive to underprice. In contrast, in order to attract investors to the unseasoned issues market, such issues on average need to be underpriced.

Beaty and Ritter (1986) propose that in order to enforce the equilibrium relationship between the motives of investor and issuer within an unseasoned equity market, there should be an intermediary who has an incentive to appropriately price issues.

This role is fulfilled by investment bankers, [in South Africa, on the AltX – a Designated Advisor]. In theory, it is proposed that through repeat business, the Investment Banker can develop and earn a return on his reputation.

According to the above writers, in order for the Investment Banker to have an interest in enforcing the underpricing equilibrium, there are three necessary conditions:

1. The Investment Banker must be uncertain of what the market price of the share will be, once it starts trading.
2. The Investment Banker has non-salvagable reputation capital at stake, on which it can earn a return.
3. The ability to earn a return on its reputation capital is eroded if the Investment Banker "cheats" by underpricing too much or too little.

The second and third conditions are summarized by the following conclusion arrived at by Beaty and Ritter (1986:217):

> "future quasi - rents that a reputable investment banker can expect to earn exceeds the short-run gain from opportunistic behaviour. This willingness to not behave opportunistically is what is meant, we feel, by having a good reputation. An investment banker will find that it is not in its interest to behave opportunistically if it has a stock of reputation capital (goodwill) built-up, on which it is earning a return in the form of (for example) having lower distribution costs, or being able to charge higher underwriting fees"

An empirical study conducted by Dunbar (2000), found that banks subsequently lose IPO market share if they either underprice or overprice too much, supporting the above claim made by Beaty and Ritter (1986).

This section concludes an overview of the main theories forwarded as reasons for the occurrence of underpricing within an IPO setting. The section which follows provides insights into other underpricing theories, which do not specifically fall under the information asymmetric model. These are discussed in some detail below.

2.2.2 Theoretical Review of Underpricing – Other Theories

2.2.2.1 Underpricing of unseasoned issues as a liquidity concession

In a paper written by Logue (1973), the researcher posits that underpricing is necessary to induce investors to switch or change the composition of their current portfolio holdings, to also include newly issued shares. In order to attract investors to switch their portfolios and invest in new issues, a price concession is provided. The prospective investor compares the merits of the offered shares and the merits of seasoned shares in terms of earnings, growth prospects, risk etc.

The author cites the necessity of a liquidity concession in order to:

- Move a large number of shares within a short period of time;
- Reduce exposure to the risk of adverse market movement;
- Obviate the need for extensive investor search, for holding shares for extended periods, and for engaging in costly post-listing price stabilisation activities.

It is questionable whether the reasoning provided above regarding liquidity concessions, would sufficiently justify the widespread documentation of substantial underpricing, in a number of world markets, including the United States. Research conducted by Scholes (1972) showed that the price concessions necessary to move large blocks of shares quickly within the US market of seasoned issues, averaged two percent. This average is substantially less that the average underpricing experienced within the United States of 19%.

2.2.2.2 Institutional Lag Hypothesis

This hypothesis posits that if the offering price was set at an early stage of the listing process, and the market rose before the first day of listing on the stock exchange, underpricing would result. Such periods have been referred to as "hot issue" periods, by Ritter (1984). Ritter tested this hypothesis by regressing initial returns on changes in the Natural Resources Index (NRI). Ritter provides as motivation for analysing specific initial public offerings of natural resource shares, that changing risk composition failed to explain high average initial returns during a hot issue period. Instead, high average initial returns were attributed predominantly to one particular industry sector, natural resource issues. Ritter (1984) found that the institutional lag hypothesis failed to explain the hot issue market. In addition to this, the underpricing phenomenon has also been observed in "cold issue" periods which suggest that the institutional lag hypothesis is not the main reason for underpricing.

2.2.2.3 The Speculative Bubble Hypothesis

Speculative investors tend to drive the price up on the first day of trading in an attempt to acquire the stock which they were unsuccessful in acquiring because of over-subscription and the quantity-rationing of the stock. This speculation in the after-market temporarily pushes the price of the stock above its intrinsic value. This theory, posits that there should also be periods of sharp price drops in the after-market (when the bubble bursts). Ritter (1984) examined average aftermarket returns for unseasoned issues and NRI returns respectively for various holding periods between January 1980 and August 1982, but could find no evidence of any bubble bursting. The speculative bubble hypothesis was therefore rejected.

2.2.2.4 Monopsony Power Hypothesis

This hypothesis implies that underwriters underprice issues so that they can earn a profit by allocating these issues to favoured customers Ritter (1984:232). The implication of this action is that Investment Bankers intentionally underprice the issue and thus ration the issue to their larger clients who would regularly purchase other investment banking services from the Investment Bank.

Evidence in support of this hypothesis is not widespread; monopsony power is likely to be witnessed in small segmented markets, where investment banking competition is limited and thus issuers are limited in their selection choices, of investment banker. Ritter (1984) corroborates this viewpoint in his study where he examined the price level of natural resource issues in relation to book values and the level of the Natural Resources Index (NRI), over three periods. Although underwriters appeared to underprice the natural resource companies during the hot issue market of 1980, Ritter notes that this was due to a segmented market where:

"natural resource issues, especially small natural resource issues, were at the mercy of exploitive underwriters and other issuers were not. Such a situation is inherently unstable, and so it is not surprising that it did not last" Ritter (1984:239).

2.2.2.5 Law-suit avoidance

Ibbotson (1975) suggested that IPO's may be underpriced so that the issuing company is less exposed to legal liability arising from possible misleading or incomplete information in the prospectus. However, in rebuttal to this hypothesis, it can be proven that listing requirements and the compilation of prospectus information are invariably comprehensive, and therefore it is unlikely that law-suit avoidance mounts a credible explanation for underpricing.

2.2.2.6 Insurance hypothesis

According to this hypothesis, underpricing represents the risk premium investors demand because the lack of performance history of the initial public offering increases the uncertainty about the future performance. Given this inherent risk, the issuing company fears that it may not list successfully if the offer price is pitched at what is perceived to be an excessive price considering the largely unknown track-record of the company. An alternative explanation is that the issuing company intentionally underpricing at initial issuance, in knowledge that the company will return to equity markets for second and third rounds of funding. Underpricing is therefore used as a strategy to induce investors to continue to purchase the company's shares in later rounds of funding.

2.2.2.7 Risk-averse underwriter hypothesis

This hypothesis is an extension of the insurance hypothesis, in that investment bankers may have difficulty in valuing the stock and their reputation could be put at risk if the listing is considered to be unsuccessful. The notion that underpricing serves as an insurance against damage to the reputation of investment bankers is forwarded by Tinic (1998:789). However, this argument remains unconvincing as a reason for underpricing, due to the fact that issuers would tend to look at securing the services of more experienced investment banks, where empirical evidence shows that underpricing is lower for more experienced or prestigious investment bankers.

2.3 Review of Empirical Research on Underpricing

INTRODUCTION

This chapter reviews major empirical studies on underpricing of new share issuance with, specific focus on empirical studies that have tested the various theories proposed in the previous section. This review will also include the results of research conducted to ascertain the extent of underpricing recorded within the South African market (prior studies have been based on the JSE) and other global equity markets.

2.3.1 Empirical studies on underpricing of IPO's

The United States IPO market is possibly the most studied market, with regards to IPO research and underpricing. Ibbotson and Jaffe studied all initial public offerings within the United States from 1960 to 1970 (Ibbotson and Jaffe, 1975). This study is considered a milestone research endeavour for both American and global advancement of IPO research. The study was the first comprehensive and long-period research endeavour within IPO research. The data sample consisted of 2883 issues (Ibbotson and Jaffe,1975).

The researchers measured the initial return as the excess by which the difference between the issue price and the market price [at the end of the first calendar month of trading] exceeded the return on the market during the same period. The proxy used for the market was the Standard and Poor 500 index.

The results of this study found that the average underpricing of the initial public offerings was 16.8%. Several studies have been conducted in other markets around the globe; the general consensus from such studies has shown that underpricing is similarly experienced in other markets. Loughran, Ritter and Rydqvist (2006), discuss evidence of underpricing of issuances in many countries world-wide.

A review of research which tests the implications and empirical evidence of the theories previously mentioned shall follow.

2.3.2 Empirical research on the Winner's Curse Theory

A paper by Koh and Walter (1989) directly tests the Winner's Curse theory with the intent of assessing the extent to which shares are rationed on the offer date. The authors were looking to test whether the Winner's Curse model is correct in predicting that weighting the returns by the probability of receiving an allocation, the uninformed investor should earn the riskless rate. This study found that the rate of return is taken to be just enough to ensure the uninformed investors' continued participation in the market.

The Singapore capital market was selected as the institutional setting for this research on unseasoned equity offerings; a key feature of this market is that the basis used for rationing when issues are oversubscribed is disclosed publicly and allocated by random ballot. Thus two investors bidding for the same number of shares have an equal chance of receiving an allocation. Using data on 66 IPO's, Koh and Walter established a negative relationship between allocation and the degree of underpricing, and that average initial returns fall substantially from 27% to 1%, when adjusted for rationing.

Keasy and Short (1982) cite a criticism regarding the empirical testing of the Winner's Curse model, in that the distinction of informed and uninformed defies precise empirical testing. Within their study, Koh and Walters (1989) use the size of the application as a proxy for the distinction between informed and uninformed investors. However, it cannot be ruled out that information asymmetry is most severe "within" groups as opposed to between informed (assumed institutional investors) and uninformed (assumed retail investors).

Other empirical tests of the Winner's Curse model have been conducted and Levis (1990) conducts a similar analysis to that of Koh and Walters, by analyzing the underpricing of 123 IPO's in the United Kingdom during the period January 1985 to December 1988. In Levi's sample, the recorded unconditional average degree of underpricing was 8.6%, but declined to 5.14% or less for medium and small-sized applications conditional on being allocated stock. Thus while rationing was recorded to have an impact on reducing initial returns among small or uninformed investors, within this particular study, the returns were found to still be above zero.

Similar studies conducted in Finland by Keloharju (1993) and in Israel by Amihud, Hauser and Kirsh (2003) generally found that uninformed IPO investors do not appear to break even at all. Interestingly, within Israel, empirical research found that uninformed investors actually earned a negative allocation-weighted initial return of (1.2%) on average.

Looking at South African research, Hyslop (1990), looked at the returns achieved for unseasoned new issues on the Johannesburg Stock Exchange during the period 1983 to 1990. The study took into consideration the probability of obtaining an allocation and the opportunity cost associated with subscription.

In South Africa, the allocation of shares for over-subscribed new issues is required to be done in a "fair and equitable" manner. New issues that are over-subscribed are either allocated on the basis of a fixed percentage of the shares applied for or for a minimum quantity of shares based on a sliding scale ballot system. The chance of obtaining an allocation depends on the number of times the offer is over-subscribed.

Hyslop's results show that the smallest category of uninformed investors earn a return equal to the riskless rate, however, a greater proportion of uninformed investors earn an increasingly negative return. Hyslop categorized uninformed investors according to the rand value of affordability:

	Can afford to invest:
Small	R250.00 up to R500.00
Medium	R1000.00 up to R5000.00
Large	R10 000 up to R50 000

In another study, Brown (1995) studied the returns achieved by uninformed investors that applied for all initial public offers on the Johannesburg Stock Exchange during the period 1983 to 1995. Transaction costs and the probability of obtaining a share allocation were taken into account. The result of the study indicate, in general, the actual returns of uninformed investors were not significantly different from zero once transaction costs and the probability of obtaining a share allocation were taken into account. Interestingly, Brown records as part of his results, that the study suggests that the larger investors are probably less informed and thus more selective in their stock picking.

The above assertion levelled by Brown continues to receive vigorous debate amongst researchers and practitioners. Hanley and Wilhelm (1995) show that institutional investors balance their apparent preferential treatment in

underpriced offerings; however, institutional investors take similarly large positions in overpriced offerings. Thus, according to this study [although limited to the US market], arrives at the conclusion that institutions do not appear to cherry-pick the best offerings. Aggarwal, Prabhala and Puri (2002) find that institutional investors earn greater returns on their IPO allocations than do retail investors.

Research also shows that underwriters can favour preferred investors by allocating them more issues in "hot issues" that are expected to trade up sharply in the aftermarket.

2.3.3 Empirical research on ex – ante uncertainty and underpricing

It is posited that the primary testable implication of the Winner's Curse model is the degree of underpricing given the greater "ex ante uncertainty". Fundamental to this prediction is that as *ex ante* uncertainty increases the Winner's Curse problem is further intensified. The consequence is such that "in order to be willing to submit a purchase order for shares in an offering with greater ex ante uncertainty, a representative [uninformed] investor will demand that more money be left on the table, in an expected value sense, via underpricing" Beaty and Ritter (1986:216).

The key challenge cited by the majority of researchers that focus on underpricing and ex ante uncertainty, is the difficulty in controlling for ex ante uncertainty. In this instance, ex ante uncertainty is defined as uncertainty about the offerings value once it starts trading, thus the investor is uncertain of the after-market price Clarkson (1994). As noted by Beaty and Ritter (1984), a common finding that is expected to emerge from empirical tests, is such that the greater ex ante uncertainty observed should result in the researcher also witnessing greater variability of initial returns, given the higher risk. In addition to this, the efficacy of the proxies selected to measure ex ante uncertainty will also be observed.

The various proxies that have been used can be categorized into four broad categories; Company characteristics; Offering characteristics; Prospectus disclosure; Aftermarket variables.

Examples of proxies that have been tested in prior research papers include:

Company characteristics:
Firm Age
Sales/Firm size
Retained Equity

Offering characteristics
Underwriter quality/reputation
Auditor reputation
Firm commitment offering
Gross proceeds from the offering

Prospectus disclosure
Risk factors listed in the prospectus
The uses of proceeds from the IPO

Aftermarket variables
Trading Volume
Volatility

A brief review of empirical research conducted on proxies that are listed within the above-listed shall follow. This review is not exhaustive; it provides a subjective selection of published empirical research papers that have focused on some of the proxies listed.

2.3.3.1 Company characteristics – Retained Equity

The amount of equity retained by the owners/founders of the firm, at the time of an IPO is one of the more researched signals investigated in IPO research. The extent, to which the owners retain equity within the company, is also a disclosure revealed in the prospectus, and thus is considered an observable signal that is known prior to listing.

Potential investors in an IPO would take into consideration any significant changes in ownership prior to the IPO, and may consider divesture by firm insiders prior to listing as a possible warning signal to the success of the IPO. The level of retained equity therefore serves as a signal to investors of the confidence that the management/owners have in the future prospects of the firm, the higher level of ownership, signaling greater confidence. Greater retained equity should therefore result in reduced underpricing (Leland and Pyle, 1977).

Empirical support for the above explanation posited by Leland and Pyle has been mixed. Downes and Heinkel (1982) conducted a study using American data; whilst Clarkson et al. (1991) conducted a similar research study using Canadian data. These studies produced results that supported a positive relationship between retained ownership and higher market valuation achieved at the time of listing.

Keasey and McGuinness (1992) using British data, found some support for a positive relationship between market valuation and retained ownership. Keasy and McGuinness (1992) contribute an important consideration to the topic, in that the size of the firm and hence firm value can have an influence on equity retention levels in new listings. Smaller firms may need to issue more equity to create a larger market in their shares and thus reduce the possibility of thin trading volumes post-listing.

In contrast, the empirical research conducted by Speiss and Pettway (1997), produces inconsistent results in regards to the implied logic of the signaling model of retained ownership. Within their findings, the researchers observe that pre-IPO shareholders sell personal shares at the time of the IPO in half of all the IPO's included within their sample. This phenomenon occurred predominantly amongst those firms categorized as "high quality" firms within this particular study. These findings suggest that insiders within high-quality firms do not wait to realize the benefit of their underpricing signal by delaying to sell a portion of their holdings within the listing firm. In a Canadian study conducted by Krinsky and Rotenberg (1989), these researchers did not observe any relationship, between retained equity by owners and underpricing.

An additional observation is that the motives for listing also need to be taken into consideration, with respect to the retained ownership proxy. It is assumed that the primary aim of the owners of the firm is to maximize the value of proceeds from listing; whilst underwriters are looking to ensure that there are no liquidity problems in the trading of the firm's shares post-listing. The differing motive of these two key stakeholders is an important consideration that needs to be factored into the analysis of the equity retention levels.

2.3.3.2 Offering characteristics – Auditor prestige

In their study published in 1986, Titman and Trueman propose that entrepreneurs with favorable inside information to present to investors will hire high-quality auditors. Corroborating these findings, Feltman, Hughes and Simunic (1991), found that the selection of auditors by a company looking to list for the first time, was a positive signal to investors, as high-quality auditors will be less subject to pressures from firm management, as well as being more discriminating in their audit.

It is proposed that the auditor has substantial reputational capital at risk, as well as possible legal risk, should it be found that the firm failed to reveal potentially negative IPO information. As a result, the selection of auditor is also taken to reveal the confidence that the management has of the firm's current and future prospects. It is proposed that entrepreneurs who believe that unfavorable information about the firm and its prospects will negatively impact investors' perceptions are unlikely to hire high-quality auditors (Daily, Certo, Dalton and Roengpitya, 2003). As a result, it is proposed that the selection of auditors provides a credible signal of the quality of the IPO offering.

Although auditor quality can serve as an important signal regarding the quality of the issuance, the majority of empirical studies base the "quality" of an auditing firm on what is termed "reputational effect". Within South Africa, the Big Four Audit firms (Deloitte, Price Waterhouse Coopers, KPMG and Ernst and Young) would be considered the "High Quality" Audit firms, premised on the fact that they wield a greater global as well as local reputation.

This is not to say that those audit firms considered second-tier, do not follow GAAP/IFRS standards. More importantly, the recent corporate governance scandals that include but are not limited to Enron (Arthur Andersen - USA), Health and Racket Club (Deloitte - South Africa) and more recently Fidentia Holdings (KPMG - South Africa) have involved audit and accounting firms that would otherwise be considered "high quality" firms. This therefore calls to question the validity of the claim that the "high quality" audit firms are less likely to bow to management pressure and can be relied upon to provide independent audits.

This proxy has also been criticized on the basis that smaller firms may not be able to afford the high audit fees charged by the first-tier audit firms. Furthermore, for those firms that auditing firms consider being "high risk clients", large audit firms charge a fee that is sufficient to cover potential reputational and litigation costs. Hogan (1997) posits that issuing firms perform a trade-off between contracting the services of a high quality firm (thereby reducing underpricing) and cost and thus select an audit firm that minimizes the sum of these costs. This trade-off may result in high risk clients selecting a low quality audit firm.

2.3.3.3 Prospectus disclosure – Use of proceeds

It is proposed that an inverse relationship should exist between use of proceeds specificity and underpricing. Use of proceeds disclosure aids investors in evaluating IPO's, in the sense that it helps them to narrow their estimate of the dispersion of the share's price after listing (Leone, Rock and Willenborg, 2006). Firms are reluctant to provide full disclosure, because of fear of giving away proprietary information thereby losing some competitive advantage. Firms are also reluctant to provide full disclosure due to potential legal liabilities that may arise from such disclosures.

A widely cited paper with regards to use of proceeds, is that of Leone et al (2006) who observe that increased specificity of intended use of proceeds in the prospectus leads to lower underpricing. However, a common problem highlighted in the use of this proxy, is the absence of standardized rules regarding what uses must be disclosed. Due to this, it remains unclear whether variation in these measures reflects underlying differences in uncertainty or merely in drafting (Ljungqvist, 2006).

As a possible remedy to this problem, Ljungqvist and Wilhelm (2003) propose that a better assessment of the use of proceeds measure would be to differentiate whether firms are to use the proceeds to fund "operating expenses", where it may be construed that the firm is looking to investors to fund management's inability to effectively control costs, and thus presenting greater risk, versus, use of proceeds funding investment or reducing debt which could be considered to be of potentially less risk.

2.3.3.4 Aftermarket Variables

The above listed proxies of trading volume and volatility are measurable based on information available only after time of listing.

Clarkson (1984) advances the notion of a hierarchy of proxies. Those proxies that provide strongest evidence in the prediction of increasing ex ante uncertainty should result in an increase in underpricing. This study involved a sample of 420 US IPO's during the period 1976 to 1985. The outcome of the research established that there was hierarchy of proxies with the dominant being, firm age and risk factors identified within the prospectus.

2.4 Disclosure

2.4.1 Introduction

An IPO setting would be characterized by a certain degree of information asymmetry, and thus, this setting should see firms involved in the IPO process, disclose a high level of information in order to reduce the information asymmetry between management and potential investors. (Strom, 2004)

Early studies (see Rock (1986), Beaty and Ritter (1986)) that deal with the topic of disclosure within an IPO setting, give mention to the reasoning that an issuer may choose to give detail within the prospectus, (or relevant listing material) in order to reduce *ex ante* uncertainty. Uncertainty is primarily regarding the value of their shares and the extent to which the IPO is underpriced (Rock 1986; Beaty and Ritter 1986).

The alternative is such that companies may fear revealing proprietary information to competitors and therefore limit the extent of detail included within the prospectus.

The focus of this literature review will be to analyze this trade-off faced by issuing firms. The majority of accounting and finance theory examined is in general agreement that by disclosing more information, a firm can lower its cost of capital. Certain researchers do however cite the possibility of losses being sustained by firms through disclosure of proprietary information. Empirical research to date, gives mixed results in providing concrete evidence of a causal link between disclosure and a reduction in the cost of capital, evidenced through reduced underpricing.

In addition to this, proxies for disclosure vary between studies, with limited research available utilizing the prospectus as a source of disclosure information. This paper will look to advance current understanding on a vexing issue in accounting and finance research, whether firm disclosure exhibits any measurable economic consequences (Schrand and Verrecchia, 2004)

2.4.2 Defining Disclosure

The definitions for "corporate disclosure" are varied. The majority of contemporary empirical studies rely on the definition proffered by the Association of Investment and Management Research (AIMR). AIMR whose objective is to improve corporate communication, categorises corporate disclosure into three categories: Published information, Investor Relations, and Annual Reports. (The Reports of the Financial Analysts {FAE Report} in Lang and Lundholm 1993).

Strom (2004) categorises disclosure as either regulated information (i.e. annual reports) or non-regulated information; non-regulated information is regarded as optional or voluntary information, supplied as additional information to regulated information.

The above definitions are limited in that they either make specific reference to the annual report, or other communications tools, for instance, press releases. However, the prospectus serves as both a type of direct communication tool that can contain voluntary information, whilst remaining a document strictly regulated in terms of its compilation and statutory information requirements.

In South Africa, the prospectus is issued subject to compliance to the JSE "Listing Requirements" and in compliance with the listing requirements of the Companies Act, 1973 (Act 61 of 1973). Both sets of compliance documents give emphasis to adherence to specific statutory disclosures in compilation of the prospectus. Companies looking to list on the AltX would need to demonstrate, in addition to adhering to common law duty of disclosure of all material information in the prospectus, adherence to section 148(1)(a) of the Companies Act (South Africa, 1973).

This section imposes a statutory duty of disclosure on those responsible for the issue of a prospectus. In terms of this section 'every prospectus shall contain a fair presentation of the state of the affairs of the company, the shares of which are being offered and shall state at least the matters specified in, and set out the reports referred to in, Part I and Part II of Schedule 3.

Although providing specific guidelines with regards to the statutory information to be included within the prospectus, the discretion regarding the level of detail within the prospectus lies with the directors of each company.

The variability in the level of detail provided within the prospectus of each issuing company, gives motivation to this study. An issuer can satisfy the requirements by providing specific details, vague overview, or something in-between (Leone, Rock and Willenborg, 2006).

2.4.3 Review of theoretical literature supporting a negative association between disclosure level and cost of equity capital

The main focus of this section will on be on theoretical research papers that are directly related to the topic of information asymmetry. The paper will primarily review theories which are underpinned by the rationale that greater disclosure will result in beneficial capital market effects. On a firm level, these benefits would be a reduction in the cost of capital as evidenced through reduced underpricing.

Some of the benefits of increased disclosure cited within the theoretical disclosure research studies are as follows:

i. Overcoming adverse selection
ii. Reducing transaction costs in the market, and;
iii. Reducing expected legal costs

Although this research paper does not directly research the topic of capital costs, it does present research relating to the topic. This will facilitate later analysis and interpretation of the empirical research findings of the study. Of primary interest in the review of literature supporting the above motivations, is whether the theories provide credibility to the assertion, greater disclosure has positive economic consequences for the firm, specifically, the reduction of underpricing. An analysis of the main theories is presented below, with a discussion on the rationale supporting each theory.

Theoretical research regarding the benefit that accrues to firms that increase disclosure, posits that greater disclosure will allow for more accurate forecasting by investors of the future cashflows of a company. In addition, increased and better disclosure should also result in a reduction in the uncertainty component within the discount rate applied by investors when determining the value of the firm, using discounted cashflow analysis.

The same rationale regarding a reduction in the discount rate, would apply in the risk premium charged by financial institutions lending to the firm. Better disclosure should also encourage lenders to reduce the risk premium (spread) applied when lending funds to the firm. Myers and Majluf (1994), highlight that if information asymmetry is not resolved, firms will view making public equity offers to be costly for existing shareholders. There is therefore an incentive for managers who anticipate raising funds through equity issuance in the capital market, to provide disclosures in order to reduce the information asymmetry problem, thereby reducing the firm's cost of external financing.

2.4.3.1 Improved After-market Liquidity

Theories that support a negative association between disclosure level and cost of equity capital have followed mainly two related themes (Botosan, 1997). The initial theme deals with stock market liquidity and describes how enhanced disclosure can improve the market liquidity for a particular firm's shares, thereby reducing the equity cost of capital of that firm. This is achieved either through reduced transaction costs or an increase in the demand for a firm's shares.

Diamond and Verrecchia (1991) further developed this proposition, in putting forward the notion that in a low information environment, a trade is expected to reveal private information. The authors suggest that greater disclosure adds to the amount of information revealed by a trade.

The resulting effect is such that investors would be more willing to take larger equity stakes in a company than they would otherwise do.

This should increase the demand for a company's shares, thereby increasing liquidity, increasing the share price of that company, and reducing the cost of equity capital.

2.4.3.2 Disclosure and Ex-ante Uncertainty

This second theme proposes that with greater information, the uncertainty experienced by investors in assessing the future return profile can be reduced; hence a negative relationship between disclosure policy and estimation risk. Should this be achieved, it is expected that the discount rate applied by investors in their valuation of the firm would be reduced, which would subsequently reduce the cost of equity capital.

In assessing whether to invest in a particular company, the investor must adjudge the company's return profile and its ability to generate returns in excess of its cost of capital. Investors would also take into account the company's history and other sources of information on the company, however, in a low information environment, or in an IPO-setting where there may be limited historical information on the firm; greater uncertainty exists. According to Clarkson, Guedes & Thompson (1996), if estimation risk is non-diversifiable, investors would therefore require additional compensation for this risk.

2.4.3.3 Legal Liability

Certain researchers have forwarded a theory of legal liability as motivation for disclosure. The rationale behind this theory is that firms can mitigate adverse price volatility or a negative price response by releasing earnings forecasts prior to the mandatory disclosure. In this way, the firm is able to reduce expected legal costs that may arise on release of the mandatory disclosure.

The pre-release of the bad earnings news, mitigates the impact of a negative price response and therefore the potential reduction in firm value (Lang and Lundholm, 2003).

This hypothesis presumes, in the absence of litigation, that managers have an incentive to time the disclosure of good news and bad news symmetrically. It is assumed that rationale investors would focus on whether there were delays in the announcement of poor earnings forecasts.

Healy and Palepu (2001) highlight an important question regarding the validity of the rationale that underpins this theory. The question of whether delaying bad news until a required earnings announcement is evidence that management did not disclose information to investors in a timely manner? Furthermore, it can be argued that in some instances litigation could potentially reduce the incentive to disclose if management believes that the participants within the capital market penalize forecasts in any event, due to their inability to distinguish between unexpected forecast errors due to chance and deliberate management bias.

Although a valid management concern, the aforementioned argument fails to give mention to the credibility of the disclosure policy of the firm. As suggested by Kothari (2001), the fact that stock prices react to earnings announcements, suggests that overall, investors regard accounting information as credible

However, the author poses the question as to whether the credibility of such information arises from the potential legal liability firm management is exposed to, for misleading disclosures.

The theory of legal liability is also largely dependent on a number of considerations, such as the current financial situation of the company, whether it is in financial distress or not; whether the firm has previously followed a consistent disclosure policy or not; whether the motivation for the disclosure is to correct overvaluation or undervaluation of the firm's share price. Due to the need to take into consideration a number of other variables in order to validate legal liability as motivation for disclosure, the effectiveness of this theory remains unclear.

2.4.4 Review of Empirical Research on Disclosure

2.4.4.1 Introduction

Although existing empirical research tends to support a negative association between disclosure level and cost of equity capital, the extent to which firms benefit from increased disclosure remains a controversial issue. Empirical results have yielded mixed evidence of an association between disclosure and the reduction of the equity cost of capital.

In most cases, prior researchers have examined the impact of disclosure on variables that are expected to be associated to the cost of equity capital (Botosan, 1997). This indirect approach at measuring the association between disclosure and equity cost of capital estimates, highlights the difficulties faced by many researchers establishing this association.

Expanding on the aforementioned difficulty; to date, the majority of research output has primarily utilised data from the United States. As stated by Leuz and Verrecchia (2000), this environment is information rich, in terms of having more participants and intermediaries involved in the generation of information, such that fewer resources are spent on acquiring information on a particular firm.

2.4.4.2 The impact of Analyst following on Disclosure and Underpricing research

The observed affluence in availability of information within the United States is partly attributable to having a very high number of analysts and research firms that generate research output on the firms (Botosan, 1997) documents a disclosure policy effect on the cost of equity capital, but only for companies with low analyst coverage. From this research, it can be inferred that when a company is followed or researched by a high proportion of analysts, the availability of information on that company is so rich, that measuring a disclosure policy effect on the equity cost of capital becomes difficult.

Lang and Lundholm (1993) argue that increased disclosure lowers the cost of information acquisition for analysts, and therefore induces greater analyst following of such firms. Thus, if firms increase disclosure, this should lead to greater analyst following, resulting in more information being made available to the investing public, thereby reducing information asymmetry. In theory, this reasoning is valid, however, in most instances; investors rely on the research output generated by analysts, as part of their investment decision to buy the issuance in an IPO.

The dispersion in the recommendation and research reports of analysts can also add to uncertainty in the investor's investment decision and assessment. Thus, increased analyst coverage can result in more information being made available, with little effect on reducing the uncertainty surrounding the IPO, if there is substantial dispersion in analyst recommendations.

2.4.4.3 Subjectivity in approach to Disclosure and Underpricing research

In their study, Lang and Lundholm (2000:67) cite the following: "we limit our sample to small firms, given their limited analyst following; they are most likely to use their disclosure policy to influence market perceptions."

Although empirical results substantiate this reasoning, a possible drawback to this approach in verifying the effect of disclosure on reducing asymmetry is such that the types of disclosures measured are subjective, as is the sample selection of companies. Neither disclosure level nor cost of capital can be observed directly and both variables rely heavily on individual perception rather than actual use (Hail, 2001).

In addition, the measure of disclosure in the majority of papers reviewed thus far, record the presence or lack thereof, of a specific disclosure item/category. This was evident in the present study of the disclosure content within the prospectuses of firms listing on the AltX within the period of review. There were distinct variances amongst the firms regarding the depth of disclosure. This approach therefore is limited in measuring the quality of disclosure items.

2.4.4.4 The impact of the Institutional Environment on Disclosure and Underpricing research

The institutional environment is another important factor in measuring a disclosure policy effect. Hail (2001), hypothesises the effect of disclosure policy on the cost of capital, using the Swiss capital market. This market was selected for the high degree of freedom in setting disclosure policy, given the low levels of mandatory accounting standards.

This capital market is small, highly concentrated, and to a certain extent, illiquid. The intention of the researcher was two-fold; to provide indirect evidence as to the difficulty experienced in measuring a disclosure policy effect, and to test the hypothesis within a capital market environment that provides substantial discretion to companies as to the extent of overall information content.

In the study of the Swiss capital markets, Hail (2001), summarises four key problems:

1. The quality of corporate disclosures cannot be assessed objectively and relies heavily on the perception and not the actual use of disclosure;
2. Firms might not choose disclosure levels independently, which makes the variable subject to self-selection bias;
3. There is no direct measure of the firm's prospective cost of capital nor of its components;
4. The relationship between a firm's disclosure level and the market's profitability expectations might be weak or confounded by several other factors so that no significant association is found.

2.4.4.5 Disclosure and Information Asymmetry Components

Previous studies have provided limited research guidance in establishing the most appropriate proxies for the information asymmetry component of the Cost of Capital (Core, 2001). In most cases the authors try to relate corporate disclosures, the information asymmetry component, and not the entire cost of capital, as this procedure offers a more direct test of the predicted association (Hail, 2001). This section provides a review of the three dominant proxies for information asymmetry; they are provided in order of prominence on the basis of the reviewed research, where greater proportions of statistically significant results were achieved. The three proxies are Bid-ask spread; Trading volume; and Share price volatility.

1. Bid-Ask Spread

The bid-ask spread is the difference between the "bid price" [the highest price a buyer of a share is willing to pay], whilst the "ask price" [the lowest price a seller of a share is willing to sell]. In order for a transaction to occur, the price at which the seller [asking price] is willing to sell, and the price at which a buyer [bid price] is willing to pay, need to be the same. The analysis of the difference between the bids and asking prices of particular shares should reveal the perceptions of both buyers and sellers and thereby reveal the extent of information asymmetry.

Large spreads imply lower trading volume for a share, whilst lower spreads, will imply higher trading volumes. Literature to date has established that one way to measure transaction costs is through analyzing the bid-ask spread.

A number of researchers posit that information asymmetry manifests itself in transaction costs. In addition, the bid-ask spread is easily observable and measured, thus its prominence in use as a proxy for measuring information asymmetry.

Although most frequently cited in the majority of papers reviewed, the bid-ask spread as a proxy for information asymmetry has come under criticism as it is influenced by a number of other determinants other than disclosure policy (Leuz and Verrecchia, 2000). This study also recorded a negative relationship between bid-ask spread and trading volume, share price and market maker competition, and recorded a positive relationship to share price volatility and the presence of insiders.

An alternative method of assessing the extent of information asymmetry in relation to the bid-ask spread, is by measuring liquidity. Bid ask spreads can be used as a proxy for market liquidity.

Despite on-going debate with regards to the appropriateness of the bid-ask spread as a suitable measure of information asymmetry, it remains widely used and referenced proxy, due to its ease of measurement.

Within South Africa, a study conducted by Negash (2001) disaggregated the bid-ask spread into three components: order-processing costs, inventory holding costs and an information related element. This study observed that the spread's information component for JSE listed firms is between 54% and 71%. Such results give credence to the use of the bid-ask spread as a suitable tool of analysis of the disclosure policy effect on information asymmetry in South Africa, with particular focus on the AltX.

2. Trading Volume

The trading volume of a share is another frequently used proxy used for information asymmetry. The greater the amount of information available on a specific share, then investors can, with greater ease, price and trade the share. Trading volume is therefore a proxy that can demonstrate investors' willingness to trade shares of a firm. The willingness of investors to trade the shares will in turn be influenced to a certain extent by the level of information asymmetry regarding the share (Welker, 1995).

As with the bid-ask spread, trading volume as a proxy for information asymmetry is affected by other factors other than information-related factors. These factors include portfolio rebalancing, liquidity shocks and changes in risk preferences Leuz and Verrecchia (2000). Research conducted by Bartov and Bodnar (1996) indicates how trading volume around certain information events can actually be positively related to disagreement between market participants with regards to the future prospects of a company. Such findings do indicate that trading volume may not exclusively capture adverse selection amongst investors.

3. Share Price Volatility

In the absence of information asymmetry, share price movements should be smooth. This is the underlying reasoning to the third (although lesser used) proxy for information asymmetry. Hence low levels of share price volatility suggest little information asymmetry. The volatility of a firm's share price can be perceived to present an elevated investment risk of that particular firm, and thus increase the cost of capital of the firm Bushee and Noe (2000). In addition, the researchers also recorded that higher share volatility is related to a greater likelihood of shareholder class action lawsuits.

Lang and Lundholm (1993) cite that firms with volatile share prices might change their disclosure policy to address potential litigation costs that might arise from sudden price shocks.

It is noted, however, that a number of non-information related factors can influence the volatility of a firm's share price. Leuz and Verrecchia (2000) record this proxy as the noisiest measure of information asymmetry. These researchers were unable to document a statistically significant disclosure policy effect on share price volatility.

Share price volatility is the least popular measure of information asymmetry, primarily due to the elevated exposure to "noise" that is factored into share price volatility. Some empirical findings, have actually found that too much information disclosure, can also cause greater share price volatility. This is evidenced in studies conducted by Bushee and Noe (2000) as well as Botosan and Plumlee (2002), where they link timely disclosure to a higher cost of equity capital.

This section concludes an overview of the key theoretical and empirical research papers on the subject of underpricing, disclosure and information asymmetry. This literature review, although not exhaustive, offers an indication of where this current research endeavour is placed within this area of research.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter considers the primary research objective of this study which is to measure the extent of underpricing of the 41 IPO's that have taken place on the AltX during the period October 2003 to 31 March 2007. As far as the author is aware, this study will be the first study of its kind, in terms of reviewing the underpricing of firms listed on the AltX during the selected time period.

The secondary objective of this research thesis is to ascertain whether disclosure has an effect on the extent of underpricing experienced by firms. The research will specifically look at examining the relation between the extent of detail the issuer provides within the prospectus, regarding the use of the proceeds they will raise from the offering, and compare this to the first-day underpricing recorded by each firm. It is proposed that an increase in specificity is associated with lower underpricing (Leone, Rock and Willenborg, 2006).

3.2 Research Process

3.2.1 Research Process with regards to Hypothesis 1

In order to test the hypothesis of whether new listings to the AltX were underpriced, the following stages of research were undertaken:

Stage 1: Literature Review

The literature review was conducted with an aim to determine what research has been undertaken on the research topic. The existing literature dealing with underpricing of unseasoned equity offerings was reviewed. This was necessary in order to obtain an understanding of the theories forwarded to describe why underpricing occurs, as well as to understand the approach taken by various empirical studies performed to date, that have attempted to measure underpricing.

This study follows a similar approach to a previous eminent South African study conducted by Barlow and Sparks in 1986. Barlow and Sparks (1986) consider the extent of underpricing of 105 newly issued shares on the JSE during the period 1972 to 1986.

It should be noted that their investigation entailed a longer time period [fourteen years] and included a larger sample of firms. As mentioned previously, their study looked only at new listings on the JSE.

The present study identifies 41 firms that have listed on the AltX during the period October 2003 and March 2007. The process of elimination applied to the overall population is specified in Section 1.5 (Research Limitations), is restated as follows:

- Only the issuance of ordinary shares were considered in underpricing research and disclosure research;
- Only new listings were taken into consideration. The definition of new listings excludes companies that migrated from the DCM and VCM boards of the JSE, within the period of review;
- Reverse takeovers and cash shells methods of listing were not include within the research; introductions where there is no issue or sale of shares were also not included within this study;
- Other forms of announcements of communication by the firm, such as newspaper inserts, media briefings or road shows, were not included as part of disclosures. The prospectus was taken to be primary document of information.

On application of the above selection criteria; sixteen firms were removed from the population and resulting in a sample of twenty-five firms. Of this sample of twenty-five firms, each firm is tested for underpricing utilising the same approach as that of Barlow and Sparks (1986). According to the study conducted by Barlow and Sparks (1986), underpricing was calculated as:

" *the last transaction price on the first day of trading divided by the issue price, minus one."*

An identified key difference between the present study and that of Barlow and Sparks (1986) is that the preferred method of listing on the AltX is by Private Placement as opposed to a direct equity issuance to the general public. Private Placement entails companies placing the newly issued shares with selected parties through private negotiation Magliolo (2004:25). It is therefore not a direct issuance of unseasoned equity to the general public. In addition to this, all companies listing on the AltX must make use of a Designated Advisor (DA), as opposed to the traditional Merchant Banks or Sponsors utilised on the JSE. However, all references in the listing requirements to sponsors apply *mutatis mutandis* to DA's for companies that are applying for or which have a listing on the AltX Magliolo (2004:135).

Stage 2: Data Gathering

The data gathering with respect to testing Hypothesis 1 used the following information sources:

The primary source of data with regards to sourcing the full company names, listing dates and the names of Designated Advisor assigned to each listed company, was the Alternative Exchange of South Africa website: www.altx.co.za

According to the AltX list of companies on the AltX website, 42 companies have been listed on the AltX from its inception. 41 companies were extracted from this population and identified as companies listed within the period of study, being 27 October 2003 to 31 March 2007.

Within the sample, is a range of companies representing a number of different sectors, such as chemical, building and construction, engineering, retail and food, financial and mining sectors.

The primary source of data, with regards to sourcing the opening and closing prices on the first day of trade for each share, was the website: www.sharedata.co.za.

Stage 3: Data Preparation and Analysis

The collected data was compiled and collated on a Microsoft Excel spreadsheet. Manipulations were performed to create the following fields:

- Company Name
- JSE - Share Code
- Listing Date
- Issue Price
- Closing share price
- Percentage level of underpricing

The company name, JSE Share Code and listing date were obtained from the company list available on the AltX website, www.altx.co.za.

The opening and closing prices of shares on their first day of listing were obtained from the website, www.sharedata.co.za.

In order to measure the extent of underpricing of each share, the following calculation was applied:

$$\frac{Issue\ price}{Closing\ share\ price} - 1$$

Scope and Limitation

The empirical investigation envisaged in this study is limited to a three year period, specifically 27 October 2003 to 31 March 2007. This period covers the first three and a half years of existence of the AltX, and was considered to provide a sufficient time-period. The proposed time period also provided an adequate number of firms to include within a sample, from which statistically robust results can be inferred.

The study excludes all firms that listed on the AltX that were transferred from the Development Capital or Venture Capital Boards of the JSE. The focus of this research report was to record and analyse the underpricing of unseasoned equity listings on the AltX; thus, it was considered prudent to exclude those firms that would have recorded a previous trading history on the Development and Venture Capital Boards of the JSE. This criterion was also extended to those firms that were or are currently listed on the United Kingdom, Alternative Investment Market (AIM). AIM is based in London, and is the junior stock exchange to the London Stock Exchange. The AltX is modelled very closely on AIM.

The number of firms that were direct transfers from Development and Venture Capital Boards of the JSE totalled seven. The number of firms that listed on the AltX by means of a reverse listing, totalled, seven. One firm was excluded on the basis of having traded for over one year on London's Alternative Investment Market (AIM). One firm was excluded on the basis of the "offer" constituting Participatory Interests within a Fund, as opposed to ordinary shares.

Eliminations can therefore be summarised as follows:

Elimination (DVB or VCB of JSE)	7
Elimination (Reverse listing or other)	7
Elimination (AIM)	1
Elimination (Not ordinary shares)	1
TOTAL	**16**

This research focuses only on the measurement of underpricing based on the issue price and the last transaction price on the first day of trading. This measurement method is consistent with the method utilised within a previous research paper conducted by Barlow and Sparks (1986). The analysis does not take into consideration the impact that over-subscription may have.

The present study also differs in approach to another South African research paper, authored by Page and Reyneke (1997), where they incorporate the examination of the initial opening premium, from the viewpoint of an investor who is forced to purchase shares in the aftermarket. Their calculation of the initial return takes the closing day price on the last day of the first month-post listing, less the closing price on the first day of listing, divided by the closing price on the first day of listing.

This section concludes the process followed to establish the sample of firms which could be analysed to assess the extent of underpricing on the AltX during the period under review of 27 October 2003 to 31 March 2007.

3.2.2 Research Process with regards to Hypothesis 2

Stage 1: Literature Review

The primary area of focus when reviewing literature relating to the second hypothesis was to identify empirical research which tested the relationship between disclosure and underpricing. Particular attention was given to identifying references to the specific use of proceeds within the prospectus. Previous literature was reviewed with a focus on those studies where researchers looked to record observable evidence of economic consequences of firm disclosure through measuring underpricing.

The present study draws on the research of Leone Rock and Willenborg (2006). These researchers examined the relation between the extent of dollar detail an IPO issuer provides regarding their intended use of proceeds and the first day underpricing.

The present study attempts to establish whether there is an observed relationship between the levels of disclosure evidenced by specific use of proceeds and underpricing.

The tests conducted by Leone Rock and Willenborg (2006), go further in that the authors regress underpricing on determinants highlighted in previous literature, such as company size, age, book-to-market, high technology, exchange listing, ownership retention, pre-IPO price-setting, the number of risk factors, underwriter reputation, venture capital backing, auditor size, standard deviation of first year post returns and insider selling.

In addition, the research by Leone, Rock and Willenborg (2006) focuses on the US Market, with the sample constituting 787 firm-commitment Initial Public Offerings by domestic, commercial companies; the time period for their study being January 1993 to December 1994. Although their study is over a shorter time period [two years], it does include a larger sample of firms. Identified similarities between the present research and that of Leone, Rock and Willenborg are:

1. Both studies look to record variation in disclosure, through recording specific use of proceeds, and;
2. Both studies look to establish whether a higher measure of specificity within the prospectus is matched by an observed lower underpricing of a share.

As with the study by Leone, Rock and Willenborg (2006), the present study also relies on a self-constructed disclosure measure. A similar approach is applied in the present study, whereby the variable for disclosure being "specificity", is constructed on the basis of identifying specific references made by companies, with regards to the actual rand value usage and break down, of the proceeds from listing.

From reviewed literature, it is posited that disclosure indices are widely used in order to accurately capture the level of disclosure in a set of company-related documents, such as annual reports, management reports or listing prospectus. The use of a self-disclosure index is argued to allow for the researcher to precisely seize the information required (Strom, 2006). In the context of this research study, the self-constructed index was considered a better proxy for the measurement of disclosure, when compared to two other proxies used in prior research. The two other measures cited in previous studies were management forecasts and AIMR disclosure ratings.

Management forecasts are included within the prospectuses of companies looking to list on the AltX. The accuracy and validity of all financial information, including management forecasts remain the responsibility of the directors of the company. The auditors of the company will provide limited assurance reports on the forecasts prepared by management, ensuring that the assumptions used are fair and reasonable. Criticisms have been levelled against the use of management forecasts as a proxy for disclosure, as they represent a small fraction of the entire information set that firms could produce and therefore they fail to capture much information Strom (2006).

The second proxy, highlighted in a number or papers, is the use of the AIMR ratings. The AIMR ratings are used as a measure of disclosure quality used by analysts and provide a general measure of disclosure. AIMR uses a survey by which analysts respond about a firm's disclosure practices. These ratings are limited to the United States' equity market and that they have not been published since 1997.

The "Specificity" measure devised by Leone, Rock and Willenborg (2006), focuses on the extent to which companies elucidate the use of the proceeds they receive from their listing. Although this criterion involves a certain degree of subjectivity, with regards to the interpretation as to what constitutes "specificity", the authors clearly delineate their assessment as to what is considered a specific reference.

Stage 2: Data Gathering

The prospectus of each firm served as the primary information source for data gathered in order to test Hypothesis 2. Each company's website was accessed to check whether the company had an electronic PDF copy of the prospectus, alternatively, physical copies were requested via e-mail communications from the Company Secretary, the Investor Relations representative, the Transfer Secretaries for each company, or the Designated Advisor. The same sample utilised in testing the first hypothesis was also used in testing the second hypothesis.

Stage 3: Data Preparation and Analysis

On obtaining each prospectus, the researcher read each prospectus from cover to cover. The main focus of the research was to identify the uses of proceeds from the listing process, outlined in the prospectus. As with Leone, Rock and Willenborg (2006), this research paper established two main classifications of use of proceeds, debt and non-debt usage. For consistency in research approach, the same classifications of usage were replicated in this study and are listed as follows:

Specificity – Debt:

Fraction of company IPO proceeds for which amounts are designated for debt repayments.

Specificity – Non Debt

Fraction of company IPO proceeds for which amounts are designated for purposes other than debt repayment.

Sub-categories of Specificity – Non Debt

- Specificity – ExpAcq

  Fraction of company IPO proceeds for which amounts are designated for expansion or acquisitions.

- Specificity – R&D

  Fraction of company IPO proceeds for which amounts are designated for R&D or product development.

- Specificity – Shrhlds

  Fraction of company's IPO proceeds for which amounts are designated for distribution to pre – IPO shareholders.

- Specificity - AMPS

  Fraction of company IPO proceeds for which amounts are designated for advertising, marketing, promotion or sales.

- Specificity – WC

  Fraction of company IPO proceeds for which amounts are designated for particular working capital uses.

- Specificity – Other

  Fraction of IPO proceeds for which amounts are designated for other uses.

This study applied the same rationale as that of Leone, Rock and Willenborg (2006) in that; vague references were classified as being commentary within the prospectus which is non specific in identifying actual rand-value usage of proceeds. Thus, "working capital and general corporate purposes" are not categorized as a specific use because this reference is too general Leone, Rock and Willenborg (2006).

The "Specificity" variable serves as a proxy for disclosure. Some of the advantages for use of this variable as a proxy for disclosure are that it is relatively easy to measure and that its timing precedes the offering date.

In order to capture the above information, the following salient features were entered on a Microsoft Excel spreadsheet:

- Issue price
- No. of shares to be issued
- Estimated total proceeds
- Costs related to listing
- Net Proceeds from listing after expenses
- Identified Rand value specific use of proceeds
- A self-constructed calculation expressed as a percentage, for measuring the specificity of use pf proceeds.

The "Specificity" calculation was as follows:

SUM of:

Total Proceeds specified to go towards reducing debt obligations,

Plus

Total Proceeds specified to go towards non-debt obligations (excluding general reference to working capital)

Divided by:

Gross Proceeds (less expenses from listing)

Scope and Limitation

The use of a disclosure index is subjective and depends on the items included in the index and the interpretation of the specific items. The index reliability is dependent on replication, i.e. if the results can be replicated. A problem arises because of the researcher's subjectivity whether an item is included in the index or not (Marston and Shrives, 1991). The interpretation of the items included or excluded in the index involves a judgment by the researcher, which could lead to difficulties in replicating results.

The self constructed measure as used in this thesis has the benefit of identifying and capturing exactly what the researcher intends. However, a limitation in the approach adopted by Leone, Rock and Willenborg (2006) and of self-constructed indexes of similar design is that the measured variables are calculated as an index of actual (applicable) disclosure, with no reference to total possible (applicable) disclosure.

The consequence of the key assumption that disclosure is jointly determined by managers' ability to formulate plans regarding the uses of proceeds and their decisions to disclose. Therefore, it is possible that in some instances where underpricing is observed, this underpricing may have nothing to do with a lack of disclosure.

In addition, managers may not provide specific disclosures because they either do not know what they will do with the proceeds or the riskiness of the business is such that they require additional funding for flexibility.

Given this scenario, although underpricing may be observed, it would be incorrect to draw a causal link, between observed underpricing and the lack of disclosure.

The above-mentioned dilemma highlights one of many alternative variables that can have an effect on the results of a study of this nature. The focus of this research was to establish whether it can be inferred that there is an observable negative relationship between specificity and underpricing (given the limitations of a small sample).

This study deviates from the methodology used by Leone, Rock and Willenborg, by not conducting comprehensive regressions on a full list of factors identified in previous studies. Previous research suggests that these explanatory variables can affect underpricing and therefore could confound the results related to underpricing and disclosure.

The list utilized by Leone, Rock and Willenborg, includes:

Assets:	Pre – IPO total assets
Age:	Years from founding or incorporation, if founding date is unavailable, to IPO
Book/Market:	Pre IPO shareholder's equity / (Gross IPO Proceeds/ (1 - %Retained)
HighTech:	One if a high tech firm and zero otherwise
%Retained	% of voting common stock retained by pre – IPO shareholders
Price Update:	IPO price per share/Mid-point of initial share price range
Risk Factors:	Number of risk factors listed in the IPO prospectus
VC	One, if issue is backed by venture capitalists and zero otherwise
Big4:	One, if Big4 audit firm and zero if otherwise
SD (Returns):	Std Deviation of stock returns for the first year of trading defined as trading day +6 to trading day 260 relative to IPO date.
%Insider:	Shares sold by selling shareholders/Total shares sold in the IPO

CHAPTER 4: FINDINGS AND ANALYSIS

4.1 Introduction

This chapter presents the primary results of the tests conducted to attempt to answer the primary research question, that of establishing whether new issues on the AltX are underpriced. This chapter will also discuss the findings of the tests conducted through replication of the methodology utilized by Leone, Rock and Willenborg (2006), in order to address the secondary research question, examining whether firms benefit from increased disclosure evidenced by reduced underpricing. For the purpose of this study, disclosure was defined as firms making reference to specific use of proceeds within the prospectus.

4.2 Findings and Analysis

4.2.1 Underpricing

With regards to establishing whether underpricing has occurred on the AltX, the study analysed a sample of 25 firms that listed on the AltX within the period commencing October 2003 to 31 March 2007. The method utilized to measure underpricing was by taking the last transaction price on the first day of trading divided by the issue price, minus one.

The average underpricing for the sample was 33.21%., the maximum recorded underpricing percentage was 150%, with a total of 22 firms recorded as having been underpriced. One firm was recorded as overpriced, with the issue price recorded as having exceeded the last transaction price on the first day of trading by 6.67%.Two firms were recorded as being “on the money”, recording no underpricing or overpricing. On the face of it, it appears that underpricing is evident on the AltX.

The present study included those factors considered applicable to AltX listed firms. The final selected factors were:

Assets:	Pre – IPO total assets
Age:	Years from founding or incorporation, if founding date is unavailable, to IPO
Book/Market:	Pre IPO shareholder's equity / (Gross IPO Proceeds/(1 - %Retained)
%Retained	% of voting common stock retained by pre – IPO shareholders

The above variables were all standardized to remove the bias of scale. The present study utilized a forward step-wise linear regression, at the 95% confidence level, incorporating the above listed variables as independent variables. The Specificity variable was included alongside the above independent variables. The recorded underpricing was used as the dependent variables.

The study also conducted a simple linear regression of underpricing and the Specificity variable.

This section concludes the research process followed to establish whether disclosure mechanisms (specifically, use of proceeds disclosure) utilised within the respective prospectus of firms that listed on the AltX during the period of review do not reduce the extent of underpricing.

Table 1: Summary results (Underpricing)

	SUMMARY RESULTS	
Total population	41	
Firms excluded	16	
Total results unavailable	0	
Total no. of fims in sample	25	
Total no. recorded underpriced	22	88%
Total no. recorded overpriced	1	4%
Total no. recorded no under/over pricing	2	8%
		100%
Average Underpricing	33.21%	
MaX	150.00%	
Min	-6.67%	
Median	20.00%	
Std Deviation	35.39%	

The above results are similar to the results of previous studies focused on the South African market, albeit comprising larger samples extracted from the JSE. Barlow and Sparks (1986) recorded a simple weighted mean underpricing of 32.1%. More recently, Brown (1995) recorded an average underpricing of 30.64%. The study conducted by Brown (1995) contained a sample of 107 newly listed firms to the JSE during the period 1983-1995.

Further comparison of the present study to the study conducted by Barlow and Sparks (1986) was conducted, comparing the mean underpricing and standard deviation of the Development Capital Market (DCM) group of shares as compiled by Barlow and Sparks and the present AltX study.

Comparing the findings indicates that the present-day AltX carries a lesser underpricing premium and standard deviation than the DCM in 1986. Further research could be conducted to ascertain the salient features that could be used to better understand the differences between the DCM and AltX, given the results tabulated below:

Comparison of Barlow and Sparks (1986) findings to the present study

Sector	Mean Premium	Std Deviation	No. of shares
DCM (1986)	54.9%	45.1%	14
AltX (2006/7)	33.21%	35.39%	25

Similar reasoning was applied to the present study, as implied by Barlow and Sparks, in that the AltX, as with the DCM, should represent elevated risk profiles in comparison to the larger JSE sectors, given the shorter profit history of the majority of shares on the AltX.

Although the above-mentioned alternate studies infer their results from a larger sample size and longer period of analysis, this does not preclude the evidence of underpricing on the AltX.

As further analysis and comparison between the two studies, a test of significance of unequal variances was undertaken. The null hypothesis in this instance was that the variances were the same; the t-statistic figure calculated was 1.663.

$$t = \frac{\overline{X}_1 - \overline{X}_2}{s_{\overline{X}_1 - \overline{X}_2}} \text{ where } s_{\overline{X}_1 - \overline{X}_2} = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$$

Based on a 95% confidence level, the null hypothesis was rejected, confirming the difference in variance between the two groups.

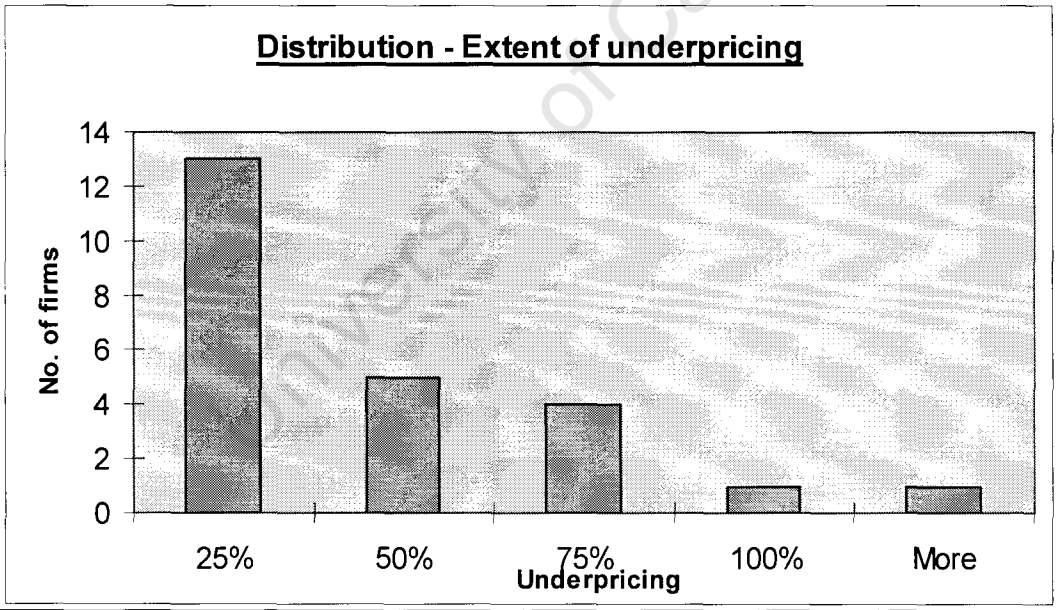
These findings indicate that the average level of underpricing has decreased, possibly suggestive of a more efficient market mechanism at work with respect to the AltX in comparison to the DCM. In addition, the level of analysis and scrutiny applied to potential listings on the AltX, by the AltX Advisory Board is more thorough, when compared to the conditions for listing on the DCM. This provides greater confidence to the investment community of the quality of listings; evidenced the by the reduced level of underpricing on the AltX.

From Figure 1, it can be seen that approximately 50% of the shares listed on the AltX were offered to the public at a discount of up to, but not exceeding 25%. Approximately 20% of the newly issued shares were listed at a discount of up to, but not exceeding 50%, four firms with a discount of up to, but not exceeding 75%. Only one firm was recorded with underpricing of greater than 100%.

Figure 1

Distribution – Extent of underpricing

	Frequency
25%	13
50%	5
75%	4
100%	1
More	1



Further analysis into underpricing was conducted, with the intention of analysing the extent of underpricing during specific periods. The sample was segmented according to time, splitting the listings into one year periods, with the final period being six months:

1 October 2003 – 30 September 2004 (12 months)

1 October 2004 – 30 September 2005 (12 months)

1 October 2005 – 30 September 2006 (12 months)

1 October 2006 – 31 March 2007 (6 months)

The average underpricing of the selected group of companies which listed within the specific year was calculated, the results were as follows:

Table 2:

Analysis of Underpricing–Segmented according to time period

	October 2003 - 30 Septemebr 2004	Listing	Underpricing	Avg
1	Simeka BSG Ltd	20-Aug-04	16.00%	16.00%
	October 2004 - 30 September 2005			
1	Arch Equity Ltd	10-Dec-04	10.56%	
2	Alliance Data Corporation Ltd	30-Mar-05	52.00%	
3	Chrometco Ltd	12-Aug-05	3.20%	
4	Enaleni	10-Jun-05	20.00%	
5	Wescoal Holdings Ltd	20-Jul-05	10.00%	
6	WellCo Health	22-Sep-05	50.00%	
				24.29%
	October 2005 - 30 September 2006			
1	Acc-Ross Holdings Ltd	16-Feb-06	10.00%	
2	WG Wearne Ltd	21-Feb-06	71.00%	
3	Esor	14-Mar-06	100.00%	
4	Sanyati Holdings Ltd	02-Jun-06	32.00%	
5	Taste Holdings Ltd	21-Jun-06	-6.67%	
6	Dialogue Group Holdings Ltd	19-Sep-06	21.00%	
7	Gooderson Leisure Corporation Ltd	26-Sep-06	0.00%	
				32.48%
	October 2006 - 31 March 2007			
1	Blue Financial Services Ltd	12-Oct-06	45.00%	
2	Myriad Medical Holdings Ltd	17-Oct-06	11.76%	
3	Workforce Holdings Ltd	21-Nov-06	30.00%	
4	Celcom Group Ltd	22-Nov-06	10.00%	
5	SAFIC Holdings Ltd	23-Nov-06	0.00%	
6	African Cellular Towers	29-Nov-06	20.00%	
7	Top Fix Holdings	06-Dec-06	63.00%	
8	IFCA Technologies Ltd	08-Dec-06	16.00%	
9	Immuniti Holdings Ltd	12-Dec-06	150.00%	
10	Rare Holdings	23-Feb-07	42.50%	
11	Alert Steel	01-Mar-07	53.00%	
				40.11%

Barlow and Sparks (1986) premia over time

Period	Mean Premium	No. of shares
1972 – 1974	10.2%	21
1975 – 1977	24.4%	5
1978 – 1980	26.7%	12
1981 – 1983	22.3%	13
1984 – 1986	44.8%	54
Population	**32.1%**	**105**

AltX (2006-2007) premia over time

Period	Mean Premium	No. of shares
Oct 2003 – 30 Sept 2004	16.00%	1
Oct 2004 – 30 Sept 2005	24.29%	6
Oct 2005 – 30 Sept 2006	32.48%	7
Oct 2006 – 31 Mar 2007	40.11%	11
Population	**33.21%**	**25**

The AltX carries the legacy of the failed Development and Venture Capital Boards of the JSE. It can be argued that this legacy remains an important factor in the perceptions held by local investors of these types of smaller listings.

With the increase in the number of new listings on the AltX, Table 2 illustrates an observed increase in the recorded average underpricing for each specified time period. It cannot be inferred that the recorded increase in average underpricing per period is a function of the number of firms that list; however, the observed greater underpricing per period may serve as an indicator of greater ex ante uncertainty expressed of AltX listings from the market.

The results above, appear to support the "Winner's Curse Theory". The fundamental prediction of this theory is that as ex ante uncertainty increases the Winner's Curse problem is further intensified. Thus in order for more "uninformed" investors to be willing to submit purchase orders for shares, in which they perceive greater ex ante uncertainty, the firm looking to list must leave more "money on the table".

An alternative explanation for the escalation in underpricing through the years may be that during the period of review, the AltX would be viewed to exhibit features of a "Hot Issue Market", where, the market perceives higher risk in the profile of the number of firms being introduced to the market. With regards to the AltX, it may be such that during the period October 2006 to the end of March 2007, the market may have viewed a higher proportion of firms that have listed, as firms of an elevated risk profile.

The data suggests that during the period of review October 2003 – March 2007, firms that listed on the AltX were underpriced. On further analysis of the extent of underpricing in view of the time period in which firms listed, the level of underpricing increased as new firms sought to list on the AltX.

The following section will discuss the results of the second hypothesis, where it is tested whether it can be inferred that increased specificity of the use of proceeds reduced underpricing on the first day of listing.

4.2.2 Disclosure – Specific Use of Proceeds

The results show only a handful of firms looking to list on the AltX, specify the intended use of proceeds, within the prospectus. Table 4 depicts, 36% of the sample were recorded as providing specific rand value figures, for key identified areas to which the proceeds of the IPO will be utilized towards. Thus, 64% of the sampled companies provide no specific details (i.e. were completely) vague. Only one firm recorded specificity of greater than 90%.

Table 3

Summary results (SPECIFICITY)

SUMMARY RESULTS - SPECIFICITY		
Total population	41	
Firms excluded	16	
Total results unavailable	0	
Total no. of firms in sample	25	
Total no.recorded (SPECIFICITY)	9	36%
Total no. recorded (NO SPECIFICITY)	16	64%
		100%
Average Specificity	25.79%	
Max	98.00%	
Min	0.00%	
Median	0.00%	
Std Deviation	37.11%	

Of the nine firms with recorded specificity, the primary usage for funds raised from an initial public offering was expansion or acquisitions. The average specificity within the group of nine firms was 70.73%. The results indicate that the greatest proportion of funds raised from an IPO, amongst those firms that do provide disclosure, are used primarily toward the expansion or funding of growth prospects of the firm. The table below illustrates the use of proceeds as disclosed by these nine firms:

COMPANY	ACC ROSS	ALERT	ACT	CHROMETCO	DIALOGUE	GOODERSON	MYRIAD	TOPFIX	WESCOAL
TOTAL PROCEEDS (less listing costs)	R 316,074,286	R 68,255,000	R 103,250,000	R 17,000,000	R 48,930,300	R 15,829,000	R 89,332,000	R 22,500,000	R 5,650,000
DEBT	R 116,500,000	R -	R -	R -	R -	R -			
NON-DEBT	R 199,574,286	R 68,255,000	R 103,250,000	R 15,500,000	R 48,930,300	R 15,829,000	R 89,332,000	R 22,500,000	R 5,650,000
- EXPACQ	R 144,200,000	R -	R -	R 5,000,000	R -	R 15,500,000	R 75,350,000	R 19,000,000	R 3,000,000
- R&D	R -	R -	R -		R -	R -	R -	R -	R -
- SHRHLDS	R -	R 50,000,000	R 55,750,000		R 16,000,000	R -	R -	R -	R -
- AMPS	R -	R -	R -		R -	R -	R -	R -	R -
- WC	R 35,374,286	R 18,255,000	R 47,500,000	R 3,500,000	R 32,930,300	R 329,000	R 13,982,000	R 3,500,000	R 2,650,000
- OTHER	R 20,000,000	R -	R -	R 7,000,000	R -	R -	R -	R -	R -
% Specificity	89%	73%	54%	71%	33%	98%	84%	84%	53%

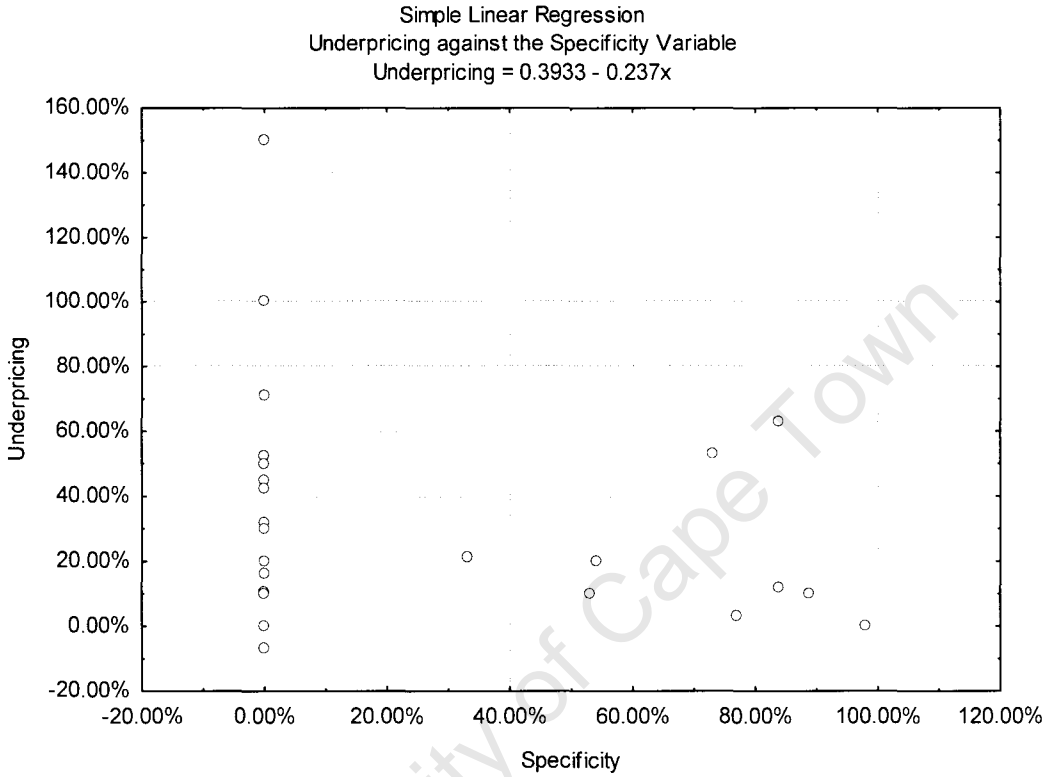
These results contrast to those of Leone, Rock and Willenborg (2006) who find the major use of proceeds from their US-based sample was for deleveraging/reduction of debt. The average specificity for the entire sample of 25 firms was 25.79%.

The limitation of sample size and general lack of disclosure, provided for weak statistically significant results. However, the simple linear regression between Underpricing and the Specificity variable returned an estimating equation that is consistent with the literature. From the estimating equation, it can be inferred if companies improve their disclosure, by increasing the specificity of use of proceeds by 1%, this is associated with a 0.237% decrease in underpricing. However, taking into consideration the small sample size, this result is weak, statistically. Further research will need to be undertaken on this issue as the number of listings on the AltX increases over time.

Figure 2

Simple Linear Regression

[Underpricing against the Specificity Variable]



The above findings were not found to be statistically significant, however, did lend to the notion that issuers that disclose such details reduce the ex ante uncertainty about the true value of their shares Leone, Rock and Willenborg (2006). [Refer to Appendix D for Linear regression]

Further analysis was conducted to the regression, for better insight of the clustering that emerged, where, clustering at the 0% Specificity, exhibited greater dispersion in underpricing. In contrast, clustering of those firms that did specify use of proceeds, did not exhibit dispersion of underpricing measures.

A t-test of the two samples was performed assuming equal variances, with the null hypothesis assuming the means of the two selected groups being equal. The outcome of this test was such that the null hypothesis was rejected, confirming a difference in the means of the two selected groups.

t-Test: Two-Sample Assuming Equal Variances		
	0% Specificity	*0%<Specificity*
Mean	0.39899375	0.213288889
Variance	0.161312603	0.048415551
Observations	16	9
Pooled Variance	0.122044063	
Hypothesized Mean Difference	0	
df	23	
t Stat	1.27578116	
P(T<=t) one-tail	0.107383735	
t Critical one-tail	1.713871517	
P(T<=t) two-tail	0.21476747	
t Critical two-tail	2.068657599	

Due to the small sample size, the outlier variables have a disproportionate impact on the regression, also resulting in 0% Specificity readings varying right across the Underpricing spectrum. Thus the regression model of this small sample was considerably impacted by some of the extreme observations, for example:

FIRM	UNDERPRICING	SPECIFICITY	PROCEEDS FROM LISTING
IMMUNITI	150%	0%	R44 050 000
ALLIANCE DATA CORP	52%	0%	R2 500 000
TASTE HOLDINGS	-6.67%	0%	R22 500 000

Although, the general trend –line of the regression may lend some support to the notion that specific use of proceeds disclosure can increase the accuracy associated with share valuation, generally, the results indicate that disclosure of the uses of the proceeds and the level of specificity did not affect the level of underpricing. [See Appendix D]

4.2.3 Underpricing – Independent Variables

Further analysis on how underpricing varied with selected independent variables was conducted. The variables were selected with due consideration of the content provided within each prospectus, and being able to collate sufficient data from such content. The variables were as follows:

Pre-IPO Assets:	Proxy (Size)
Years since being incorporated:	Proxy (Age)
Book/Market:	Proxy (Valuation uncertainty)
% Retained	Proxy (Ownership Retention)

The tests were conducted in order to assess whether AltX listings adhered to predictions of theories posited on each of the above variables, and to ascertain the effect each variable should have on underpricing.

The tests produced mixed results, offering no clear trend, on terms of illuminating the effect that the variable has on underpricing. This is possibly due to the limitations imposed on the tests by the small sample and timeframes. However, useful insights were drawn from the tests that contribute to the empirical literature on the topic of underpricing within South Africa and more specifically, on the AltX.

Size

Table 5

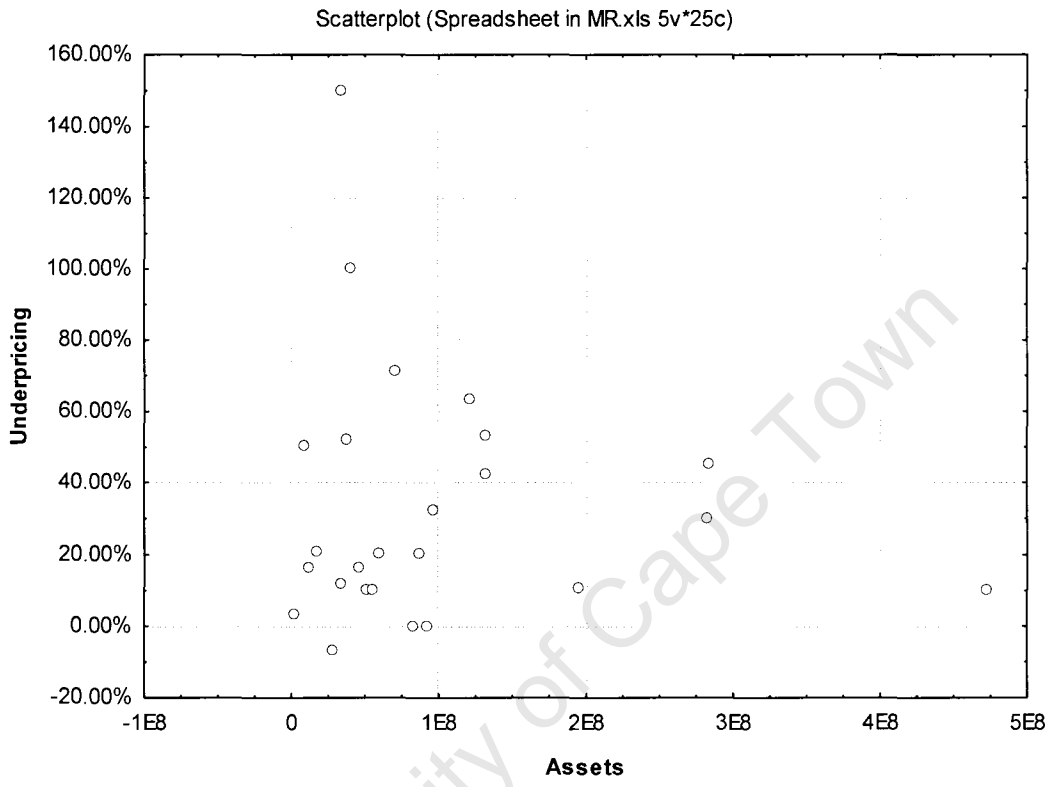
Analysis of Underpricing-Segmented according to Pre-IPO Total Assets

Company	Company Assets		Underpricing	Average Underpricing
Acc-Ross	R	473,303,917	10.00%	
Blue	R	283,812,000	45.00%	
Workforce	R	282,187,000	30.00%	
Arch Equity	R	194,650,000	10.56%	
Rare	R	132,632,095	42.50%	**27.61%**
Alert Steel	R	131,884,953	53.00%	
Top Fix	R	121,020,415	63.00%	
Sanyati	R	96,699,000	32.00%	
Gooderson	R	92,473,000	0.00%	
ACT	R	86,993,179	20.00%	**33.60%**
Safic	R	82,535,000	0.00%	
WG Wearne	R	70,748,698	71.00%	
Enaleni	R	59,334,096	20.00%	
Wescoal	R	55,197,000	10.00%	
Celcom	R	52,123,666	10.00%	**22.20%**
IFCA	R	46,463,152	16.00%	
Esor	R	41,234,796	100.00%	
Alliance Data	R	37,430,632	52.00%	
IMMUNITI	R	34,129,326	150.00%	
Taste	R	28,897,684	-6.67%	**62.27%**
Dialogue Group	R	17,028,000	21.00%	
Simeka	R	11,665,000	16.00%	
WellCo	R	8,963,433	50.00%	
Chrometco	R	3,127,627	3.20%	
Myriad	R	72,000	11.76%	**20.39%**

Figure 3

Simple Linear Regression

[Underpricing against Pre - IPO Asset Variable]



The above data illustrates the large variation within the sample, with regards to the pre-IPO total asset-base. The sample of firms taken from the AltX, provide results somewhat inconsistent to applied logic. The observed average underpricing per "size" for the group of firms with the smallest pre-IPO asset base within the entire sample, also records the lowest average underpricing. This is indicative of other factors, other than "company size", that have an influence of investors' perception of valuation uncertainty of a particular company.

The regression indicates there is no relationship between the size of the company and the level of underpricing. [See Appendix E.i]

The sample was proportioned on the basis of asset base, as a proxy for size. Theory posits that larger companies, on the basis of larger asset base should experience less underpricing than smaller firms. The size of the firm provides investors with a measure of the uncertainty or risk of the firm, the larger firs viewed to present less risk than the smaller firms.

A comparison was undertaken between the present study on the AltX and the findings of Barlow and Sparks (1986). Although the present study features fewer firms per size grouping (5 firms per size grouping) compared to 21 firms per size grouping of Barlow and Sparks (1986); the findings are similar in both instances; that there is no clear trend illustrating that smaller companies, carry a greater risk premium, as evidenced by greater underpricing.

Barlow and Sparks (1986) suggest a possible reason for contrary results to suggested theory, being that larger firms feature greater underpricing, not because they are of greater risk, but rather because they need to attract more capital. The authors posit that larger firms can better exercise the ability to offer more generous underpricing than smaller firms as they are confident in their ability to attract further capital.

Barlow and Sparks (1986): Population was divided into quintiles based on market capitalizations (as a proxy for size) and findings are shown below:

Quintile	Mean Premium	No. of shares
1st (largest)	37.1%	21
2nd	33.6%	21
3rd	38.4%	21
4th	18.8%	21
5th	32.4%	21
Population	**32.10%**	**105**

AltX (2006/7): Population was divided into quintiles based on Pre-IPO total asset base (as a proxy for size) and findings are shown below:

Quintile	Mean Premium	No. of shares
1st (largest)	27.61%	5
2nd	33.60%	5
3rd	22.20%	5
4th	62.27%	5
5th	20.39%	5
Population	**33.21%**	**25**

Valuation uncertainty

In the study by Leone Rock and Willenborg (2006), the authors utilize the book-to-market ratio as a proxy for valuation uncertainty. This study defines book-to-market as:

Pre-IPO shareholders equity ÷ (Gross IPO proceeds ÷ (1 - %Retained))

Leone Rock and Willenborg (2006) make use of an earlier study by Loughran and Ritter (2004), which records that during the 1980's, within the United States, the average first-day return on IPO's was 7%. The average first-day return doubled to almost 15% during 1990-1998, before jumping to 65% during the internet bubble years of 1999-2000.

Loughran and Ritter (2004) contend that if the proportion of IPO's that represent risky stocks increases, the average underpricing should increase. Loughran and Ritter (2004) posit as valuations increase, so to does the associated valuation uncertainty.

A similar approach to that utilized by Leone, Rock and Willenborg (2006) was applied to the present study, in regressing the book-to-market variable against underpricing, in order to observe whether the contentions of Loughran and Ritter (2004), hold true for the AltX.

Table 6

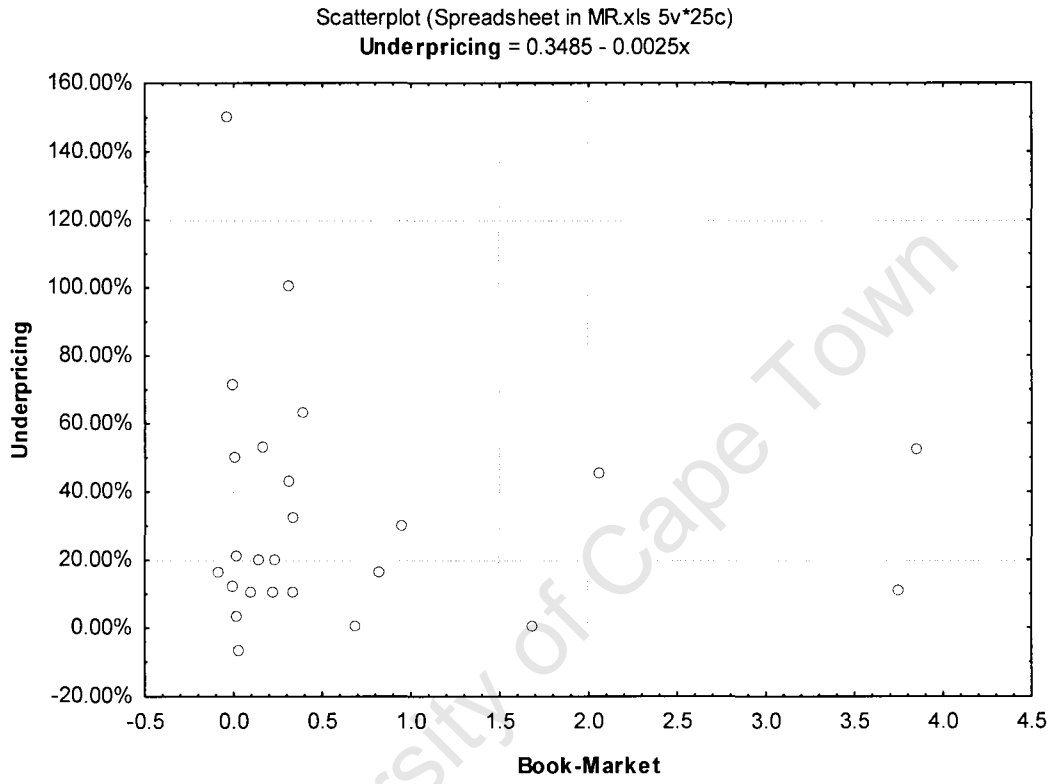
Analysis of Underpricing-Segmented according to Book-to-Market Valuation

Company	Book to Market	Underpricing	Average Underpricing
Alliance Data	3.86	52.00%	
Arch Equity	3.75	10.56%	
Blue	2.06	45.00%	
Safic	1.69	0.00%	
Workforce	0.95	30.00%	**27.51%**
IFCA	0.83	16.00%	
Gooderson	0.69	0.00%	
Top Fix	0.40	63.00%	
Sanyati	0.34	32.00%	
Wescoal	0.34	10.00%	**24.20%**
Esor	0.32	100.00%	
Rare	0.31	42.50%	
ACT	0.24	20.00%	
Acc-Ross	0.22	10.00%	
Alert Steel	0.17	53.00%	**45.10%**
Enaleni	0.14	20.00%	
Celcom	0.11	10.00%	
Taste	0.04	-6.67%	
Dialogue Group	0.02	21.00%	
Chrometco	0.02	3.20%	**9.51%**
WellCo	0.01	50.00%	
Myriad	0.00	11.76%	
WG Wearne	0.00	71.00%	
IMMUNITI	-0.03	150.00%	
IFCA	-0.08	16.00%	**59.75%**

Figure 4

Simple Linear Regression

[Underpricing against Book – Market Variable]



The findings of the present study provide weak support for the above theory. If the ratio is above 1 then the share is undervalued; if it is less than 1, the share is overvalued. The logic to this measurement is such that where an issue price is not supported by the fundamental value of the company (in this instance the net asset value prior to listing), the risk for the investor increases.

There is marked underpricing for those firms where the book-to-market ratios are closer to zero; implying that these shares are closer to being overpriced relative to their book value of equity and are therefore likely to exhibit greater underpricing. Interestingly, the one firm with the highest recorded underpricing within the entire sample, also exhibits a negative book-to-market valuation; recording negative pre-IPO shareholder's equity.

Barlow and Sparks (1986) conducted a similar study, testing the hypothesis that underpricing is positively related to the ratio of the issue price to the net asset value. This hypothesis implies that the shares which are overpriced relative to their disclosed net asset values (nav) are likely to exhibit greater underpricing than those not overpriced to the same extent. Therefore, because underpricing and risk are positively related and it is expected that as the ratio of the issue price to net asset value increases, the underpricing will increase Barlow and Sparks (1986).

The following table summarizes the results obtained by Barlow and Sparks (1986):

Ratio of issue price to NAV	Mean Premium	No. of shares
,<1.0	18.3%	17
>1.0 but <1.25	26.9%	29
>1.25 but <2.0	30.2%	28
>2.0	47.7%	30
Population	32.4%	104

The following table summarizes the results obtained from the present study of the AltX (2006/7):

Ratio of issue price to NAV:	Mean Premium	No. of shares
<1.0	39.17%	9
>1.0 but <1.25	10.88%	2
>1.25 but <2.0	46.93%	7
>2.0	18.22%	7
Population	33.21%	25

The results derived from the AltX were incongruent to those achieved by Barlow and Sparks (1986). The implication of these findings is such that, at present, the AltX provides results that do not support the logic that shares which are overpriced relative to their net asset values are likely to exhibit greater underpricing. However, as more firms list on the AltX, further research can be conducted, incorporating larger samples, where the results are not as adversely impacted by single outliers, as is the case with the present study.

Ownership Retention

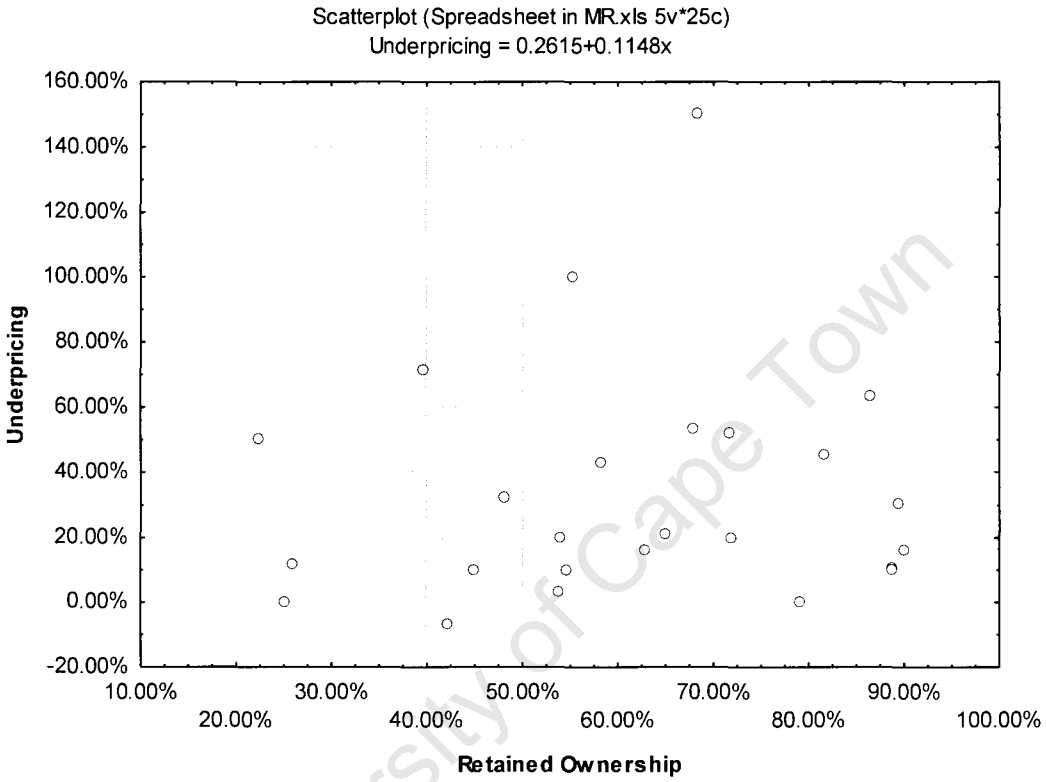
The ownership variable is utilised as a proxy for gauging the continued confidence that existing shareholders have in that particular firm. Theory suggests less ownership by existing shareholders, post-IPO, serves as an indicator of elevated risk for investors in that particular company.

An important consideration taken, when analyzing this particular variable, in the context of the AltX, is that a key motivation expressed by all firms looking to list on the AltX, is the ability for the listing to enable empowerment, through the transfer of shareholding within the company to an empowerment partner. In addition to this, closely held companies, would look to the listing to allow for a broader shareholding within the firm, as well as to allow for greater liquidity in the shares traded.

Figure 5

Simple Linear Regression

[Underpricing against Ownership Retention



The observed results illustrate that there is no relationship between ownership retention and the level of underpricing as indicated by the scattergraph, and the results of the regression.

Table 7

Analysis of Underpricing-Segmented according to Ownership Retention

% Retained	Underpricing	Average Underpricing
90.00%	16.00%	
89.40%	30.00%	
88.87%	10.56%	
88.76%	10.00%	
86.49%	63.00%	**25.91%**
81.76%	45.00%	
79.17%	0.00%	
71.90%	20.00%	
71.78%	52.00%	
68.40%	150.00%	**53.40%**
68.00%	53.00%	
64.96%	21.00%	
63.00%	16.00%	
58.20%	42.50%	
55.40%	100.00%	**46.50%**
54.59%	10.00%	
54.00%	20.00%	
53.80%	3.20%	
48.23%	32.00%	
44.96%	10.00%	**15.04%**
42.20%	-6.67%	
39.70%	71.00%	
26.10%	11.76%	
25.27%	0.00%	
22.34%	50.00%	**25.22%**

This section concludes the findings and analysis section related to the second hypothesis. The limited sample size inhibited finding statistically significant results, the above data motivates for further research within this area. The above findings highlight the fact that disclosure policy, with a focus on specific use of proceeds, offers only limited amount of explanation for underpricing. As indicated by Welker (1995), it is unique to the area of research in underpricing and disclosure theory, that there is a substantial proportion of information that is not captured within the prospectus that can affect the level of underpricing.

Currently, the listing requirements of the AltX do not provide clear instructions with regards to the level of content that companies must provide with regards to the use of proceeds. The AltX listing requirements give mention only to ensuring that the information provided is accurate, complete and not misleading or false. As a result, this discretion afforded to firms allows for the variability in the extent of detail provided in the prospectus, as witnessed within the current study.

As previously cited in research conducted by Ljungqvist (2006), in the absence of standardized rules regarding disclosure, it remains unclear whether variation in disclosure (e.g. Specificity) reflects underlying differences in uncertainty or merely in the drafting of the prospectus.

At this point in time, listing firms on the AltX, that offer specific information (the level of specificity) does not appear to affect the level of underpricing. The study does highlight limited variation amongst firms in terms of the use of proceeds, the majority using funds raised from listing for expansion and acquisition purposes. This contrasts to the results of Leone, Rock and Willenborg (2006), that recorded the majority of firms in the United States utilized proceeds raised from listing, towards settling of debt.

The present research study on the AltX fails to produce statistically significant results when measuring a relationship between underpricing and independent variables, size, valuation uncertainty and ownership retention. The present findings can however serve as preliminary findings supporting for future research on new issuances on the AltX, as more firms list on the AltX.

CHAPTER 5: RESEARCH CONCLUSIONS AND RECOMMENDATIONS

5.1 RESEARCH CONCLUSIONS

This research presents a maiden attempt at empirically testing the level of underpricing and the extent of disclosure within the listing prospectus. The primary hypothesis looked to establish whether underpricing had occurred on the AltX during a specific period of review, being 27 October 2007 to 31 March 2007.

The second aspect of the research was to determine whether it is possible to infer that there is a relationship between increased disclosures and reduced underpricing. Use of proceeds disclosure within the prospectus was utilized as a proxy for disclosure, and measured against the recorded underpricing of the selected sample of shares. Additional tests were also conducted to evaluate for possible relationships between the level of underpricing and independent variables size, valuation uncertainty and ownership retention.

Prior South African as well as international research shows evidence of underpricing of new issuances on the first day of trade. The present study provides similar findings to prior research, recording underpricing of new share issuances to the AltX.

The methodology followed within this study attempted to follow on that of Leone, Rock and Willenborg (2006), in attempting to test whether it is evident that increased disclosure through use of proceeds results in reduced underpricing of shares.

The study attempted to test the relationship between the extent of underpricing and the following variables: pre-listing total assets, book-market value, retained ownership and specificity. The results of the regression analysis failed to provide statistically significant results.

Limited sample size did impact the study; however drafting of the prospectuses may have been of greater importance, in the sense that firms that failed to indicate use of funds, resulted in a specificity measure of zero. The results are interesting as a lack of disclosure on the uses of the proceeds did not affect the level of underpricing. However, only nine out of twenty-five firms included within this study, recorded a measure of specificity. Therefore the drafting of the prospectus may have had a preemptive impact on the study, in that drafting may have had a greater impact on the study than the actual firm decision regarding the extent of disclosure.

5.2 FUTURE RESEARCH

Designated Advisors perform a critical function during the pre listing process; tasked with ensuring that the firms that are brought before the AltX listing committee, are firms of suitable quality. An interesting area for future research may look into rating and ranking Designated Advisors. In this way, it is possible to conduct similar studies to international researchers, whereby the underwriter or promoters are benchmarked according a predetermined criterion. In addition to this, the Designated Advisors can therefore be compared on similar basis to Investment Banks, adjudging the high quality Designated Advisors from those of lesser quality or experience. This data can therefore be utilized to assess whether a relationship exists between the extent of underpricing and the selected Designated Advisor. A similar approach could also be followed for assessing the auditing and legal firms involved in the listing process of the AltX.

The present study limits the number of firms included within the study, in accordance to specific limitations. Future research could look at mitigating some of the exclusionary factors highlighted in (Section 3.2.1), in order to accommodate for a larger sample size. Firms gave reference to funds being used towards the "general" operations of the company as well as often gave reference to raising funds in order to have access to opportunities when they arrive. In both instances, within this study, references to some of these activities we treated as "vague" disclosure and therefore not included as a valid disclosure.

Disclosure as a topic is very wide-ranging, and allows for other aspects of disclosure being explored, and measured against underpricing. Over-time, an interesting area of research would be to measure the variability in specificity of the various companies that on the AltX. The deterioration or improvement in the level of specificity can therefore be compared to the level of underpricing of the matching firms, in order to establish whether specificity can explain the changes in observed underpricing over time.

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APPENDICES

Appendix A

List of companies 27 October 2003 – 31 March 2007

	COMPANY	SHARE CODE	LISTING DATE	REASON FOR EXCLUSION
1	Acc-Ross Holdings Ltd	ACC	16-Feb-06	
2	African Dawn Capital Ltd	ADW	05-May-04	Transfer from the JSE Mainboard
3	All Joy Foods Ltd	ALJ	08-Jul-04	Transfer from the JSE Mainboard
4	Alliance Data Corporation Ltd	ACD	30-Mar-05	
5	Arch Equity		10-Dec-04	
6	Beige Holdings Ltd	BEG	29-Jan-04	Transfer from the JSE Mainboard
7	Blue Financial Services Ltd	BFS	12-Oct-06	
8	Chrometco Limited	CMO	12-Aug-05	
9	DataPro Group Ltd	DTP	18-Oct-04	Reverse Listing
10	Dialogue Group Holdings Ltd	DLG	19-Sep-06	
11	Enaleni	ENL	10-Jun-05	
12	Esor Ltd	ESR	14-Mar-06	
13	Gooderson Leisure Corporation Ltd	GDN	26-Sep-06	
14	Insurance Outsourcing		29-Jan-04	Transfer from the JSE Mainboard
15	IPSA Group PLC	IPS	19-Oct-06	Trading already on AIM
16	Milkworx Ltd	MKX	27-Sep-04	Reverse Listing
17	Myriad Medical Holdings Ltd	MYD	17-Oct-06	
18	Oasis Crescent Property Fund	OAS	23-Nov-05	Unit Offering
19	OneLogix Group Ltd	OLG	27-May-04	Transfer from the JSE Mainboard
20	Sanyati Holdings Ltd	SAN	02-Jun-06	
21	Simeka BSG Ltd	SBG	20-Aug-04	
22	Spectrum Shipping Ltd	SUM	27-Jun-06	Reverse Listing
23	Taste Holdings Ltd	TAS	21-Jun-06	
24	WG Wearne Ltd	WEA	21-Feb-06	
25	Wellco Health Ltd	WLL	22-Sep-05	
26	Wescoal Holdings Ltd	WSL	20-Jul-05	
27	Yomhlaba Resources Ltd (SUSPENDED)	YBA	29-Nov-04	Reverse Listing
28	Zaptronix Ltd	ZPT	27-Jun-06	Reverse Listing
29	Alert Steel Holdings Ltd	AET	01-Mar-07	
30	African Cellular Towers Ltd	ATR	29-Nov-06	
31	Celcom Group Ltd	CEL	22-Nov-06	
32	IFCA Technologies Ltd	IFC	08-Dec-06	
33	Immuniti Holdings Ltd	IMU	12-Dec-06	
34	RareHoldings	RAR	23-Feb-07	
35	SAB&T Ubuntu Holdings Ltd	SUL	30-Nov-06	Introduction
36	SAFIC Holdings Ltd	SIC	23-Nov-06	
37	Telemasters Holdings LTD	TLM	12-Mar-07	Introductiom
38	Top Fix Holdings Ltd	TFX	06-Dec-06	
39	Workforce Holdings Ltd	WKF	21-Nov-06	
40	MoneyWeb Holdings Ltd	MNY	08-Nov-06	Transfer from the JSE Mainboard
41	SilverBridge Holdings Ltd	SVB	27-Nov-06	Reverse Listing

Appendix B

Sample of companies – Hypothesis 1 and 2

		Underpricing	Specificity	Proceeds	Assets	Age	Book/Market	%Retained
1	Acc-Ross	10.00%	88.81%	R 326,000,000	R 473,303,917	6 yrs	0.22	54.59%
2	Alert Steel	53.00%	73.00%	R 70,000,000	R 131,884,953	4 years	0.17	68.00%
3	ACT	20.00%	54.00%	R 105,750,000	R 86,993,179	7 yrs	0.24	54.00%
4	Alliance Data	52.00%	0.00%	R 2,500,000	R 37,430,632	8 yrs	3.86	71.78%
5	Arch Equity	10.56%	0.00%	R 36,000,000	R 194,650,000	1 yr	3.75	88.87%
6	Blue	45.00%	0.00%	R 20,000,000	R 283,812,000	10 yrs	2.06	81.76%
7	Celcom	10.00%	0.00%	R 23,000,000	R 52,123,666	8 yrs	0.11	88.76%
8	Chrometco	3.20%	77.00%	R 22,000,000	R 3,127,627	3 yrs	0.02	53.80%
9	Dialogue Group	21.00%	33.00%	R 50,999,300	R 17,028,000	11 yrs	0.02	64.96%
10	Enaleni	20.00%	0.00%	R 10,000,000	R 59,334,096	3 yrs	0.14	71.90%
11	Esor	100.00%	0.00%	R 20,000,000	R 41,234,796	12 yrs	0.32	55.40%
12	Gooderson	0.00%	97.92%	R 17,000,000	R 92,473,000	34 yrs	0.69	79.17%
13	IFCA	16.00%	0.00%	R 5,000,000	R 46,463,152	1 yr	0.83	90.00%
14	IMMUNITI	150.00%	0.00%	R 44,050,000	R 34,129,326	2 yrs	-0.03	68.40%
15	Myriad	11.76%	84.00%	R 95,000,000	R 72,000	1 yr	0.00	26.10%
16	Rare	42.50%	0.00%	R 37,500,000	R 132,632,095	5 yrs	0.31	58.20%
17	Safic	0.00%	0.00%	R 15,000,000	R 82,535,000	2 yrs	1.69	25.27%
18	Sanyati	32.00%	0.00%	R 35,000,000	R 96,699,000	18 yrs	0.34	48.23%
19	Simeka	16.00%	0.00%	R 5,000,000	R 11,665,000	1 yr	-0.08	63.00%
20	Taste	-6.67%	0.00%	R 22,500,000	R 28,897,684	6 yrs	0.04	42.20%
21	Top Fix	63.00%	84.00%	R 25,000,000	R 121,020,415	1 yr	0.40	86.49%
22	WG Wearne	71.00%	0.00%	R 25,000,000	R 70,748,698	12 yrs	0.00	39.70%
23	WellCo	50.00%	0.00%	R 9,000,000	R 8,963,433	1 yr	0.01	22.34%
24	Wescoal	10.00%	53.00%	R 7,000,000	R 55,197,000	1 yr	0.34	44.96%
25	Workforce	30.00%	0.00%	R 24,000,000	R 282,187,000	1 yr	0.95	89.40%

Appendix C

Categorization use of proceeds disclosure and calculating the "Specificity" variable

- The definitions for the categorization that constituted the variable "Specificity" are listed below.
- The listing prospectus would need to contain rand value specifications for the use of proceeds from listing that would then be classified under one of the categories below. The two broad categories used were Debt and non-Debt usage.
- The non-Debt categorization of "Working Capital" was defined as a vague description, which would not be considered as a specification.
- Other commonly used "uses of proceeds" references within South African prospectuses were as follows:
    - Allow the company have capital available for future strategic acquisitions

Specificity – Non Debt

Fraction of company IPO proceeds for which amounts are designated for purposes other than debt repayment.

Sub-categories of Specificity – Non Debt

Specificity – ExpAcq

Fraction of company IPO proceeds for which amounts are designated for expansion or acquisitions.

Specificity – R&D

Fraction of company IPO proceeds for which amounts are designated for R&D or product development.

Specificity – Shrhlds

Fraction of company's IPO proceeds for which amounts are designated for distribution to pre – IPO shareholders.

Specificity - AMPS

Fraction of company IPO proceeds for which amounts are designated for advertising, marketing, promotion or sales.

Specificity – WC

Fraction of company IPO proceeds for which amounts are designated for particular working capital uses.

Specificity – Other

Fraction of IPO proceeds for which amounts are designated for other uses.

Example 1: Esor Ltd (14/03/2006) *Specificity* = 0.0%

The purpose of the placement and listing are to:

- raise capital and to have the flexibility of listed shares to allow the company to take advantage of potential acquisition opportunities.
- A listing on the AltX improves the company's ability to raise capital for strategic acquisitions.

Example 2: Wescoal Holdings Ltd (20/07/2005) *Specificity* = 53.10%

[*Specificity – ExpAcq 53.10%*]

The purpose of the placement and listing are to:

- An amount of R7 000 000, before share issue and listing expenses will be raised by the issue of shares for cash to private individuals, corporations and institutions. The proceeds will be utilized for feasibility studies, exploration activities and acquisition of mining equipment.
- It is anticipated that a further R3 000 000 will be utilized from the private placement funds on the moving and upgrading of the washing plant.

Example 3: Gooderson Leisure Corp Ltd (26/09/2006) *Specificity* = 97.92%

[*Specificity – ExpAcq 97.92%*]

The purpose of the placement and listing are to:

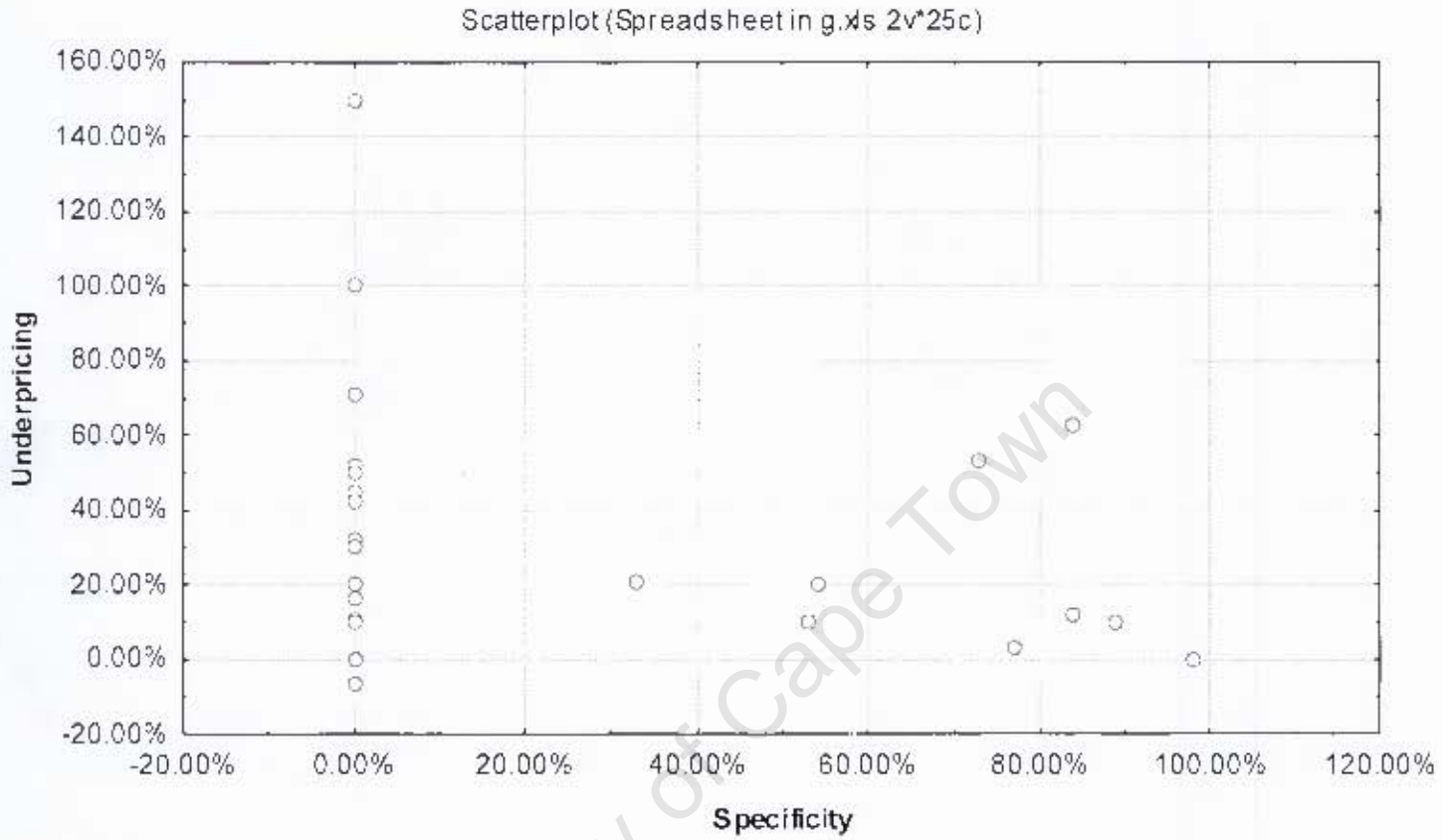
- It is intended that an amount of R17 000 000, before share issue and listing expenses, will be raised by the issue of shares for cash to private individuals, corporations and institutions. The proceeds will be utilized for capital expenditure and strategic acquisitions.
- Details of material proposed acquisitions by Gooderson are set out below:

R13 000 000 Natal Spa

R2 500 000 land situated on remainder of Erf 167, Mtunzini

The acquisitions will be paid in cash from funds raised through the Private Placement.

Appendix D
Linear Regression: Specificity variable and Underpricing



	Test Linear Regression [Specificity and Underpricing								
Effect	Underpricing Param.	Underpricing Std Err	Underpricing t	Underpricing p	-95.00% Cnf.Lmt	+95.00% Cnf.Lmt	Underpricing Beta (ß)	Underpricing St.Err.ß	-95.00 Cnf.Lm
Interce	0.393260	0.085866	4.57992	0.000133	0.215632	0.570887			
Specif	-0.236968	0.192629	-1.23018	0.231065	-0.635452	0.161515	-0.248466	0.201976	-0.6662

Step-wise Regression: Specificity variable and Underpricing

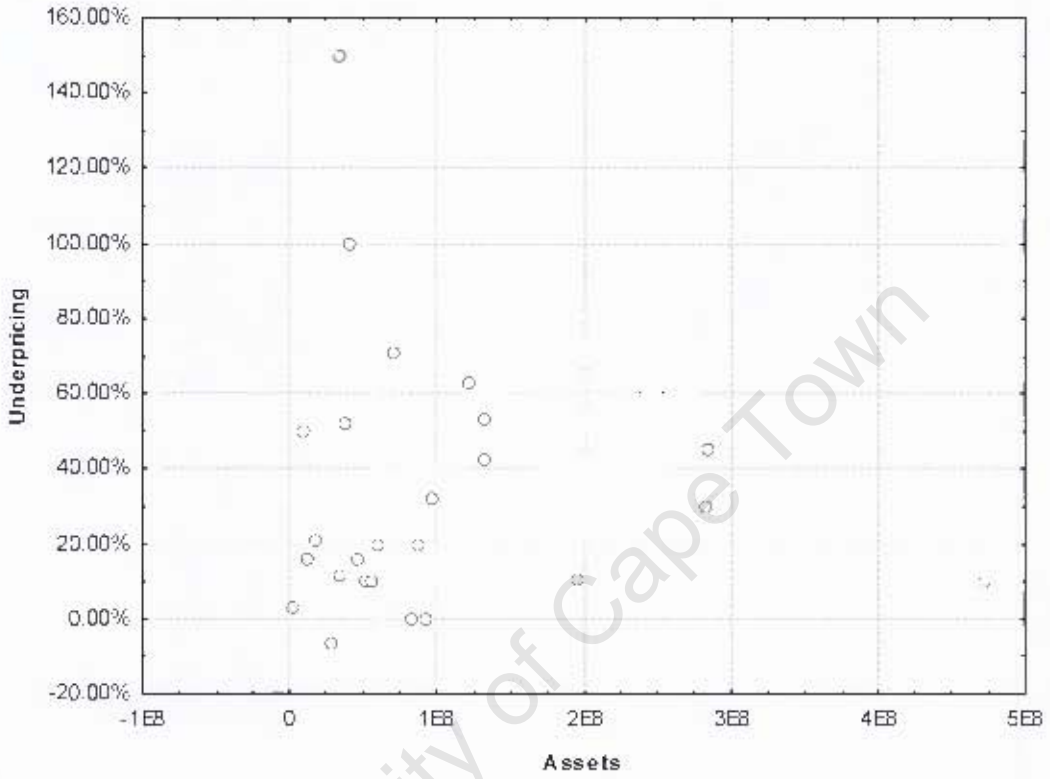
N=25	Regression Summary for Dependent Variable: Underpricing R= .28916541 R²= .08361664 Adjusted R²= .00030906 F(2.22)=1.0037 p<.38269 Std.Error of estimate: .35383					
	Beta	Std.Err. of Beta	B	Std.Err. of B	t(22)	p-level
Intercept			0.332140	0.070766	4.69347	0.000111
Specificity	-0.289227	0.211699	-0.102353	0.074917	-1.36622	0.185675
Book/Market	-0.153436	0.211699	-0.054299	0.074917	-0.72479	0.476222

The results from the regression were not statically significant. The small sample size compromised the strength of the predictive power of the model. The model did however identify Specificity and Book/market independent variables, as the stronger variables within the model

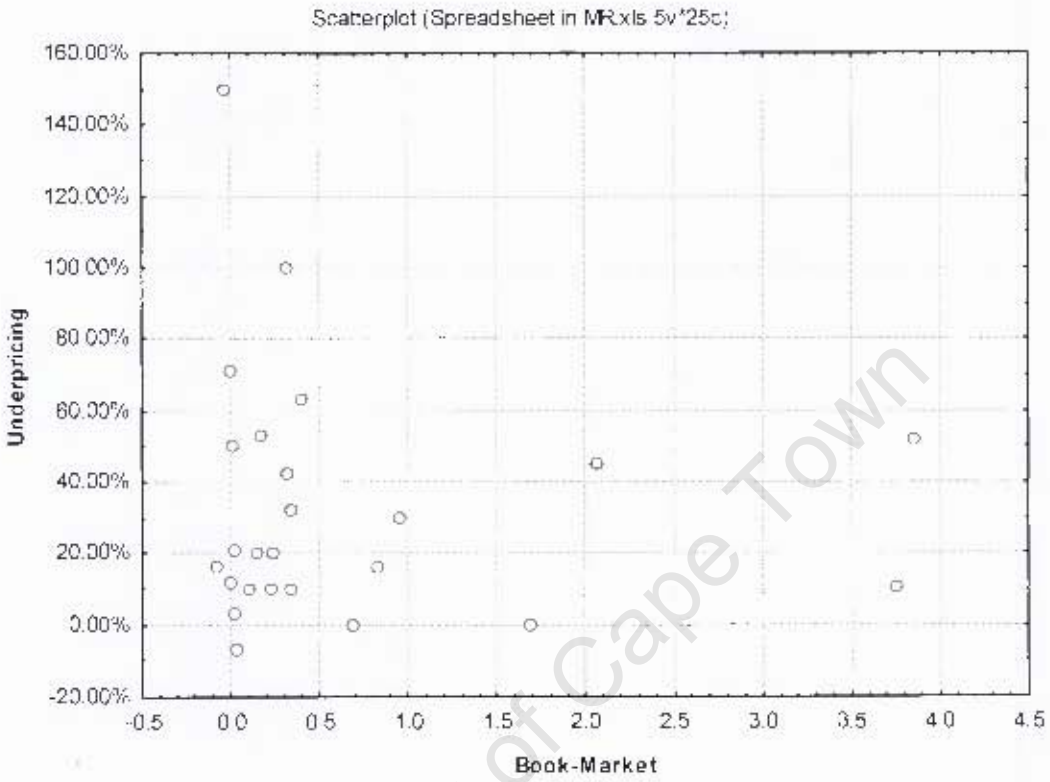
Appendix E

Regression Independent variables and Underpricing

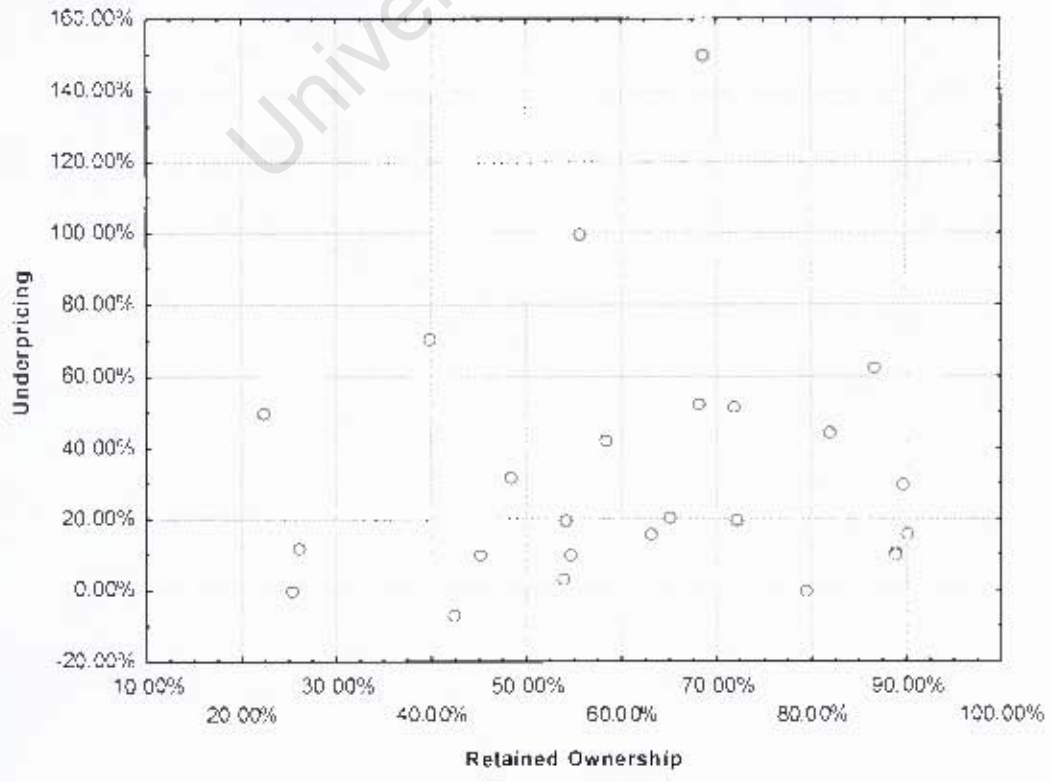
E.i Underpricing and Assets



E.ii Underpricing and Book-Market



E.iii Underpricing and Retained Ownership



Appendix F

t-Test: Two-Sample Assuming Equal Variances		
	0% Specificity	*0%<Specificity*
Mean	0.39899375	0.213288889
Variance	0.161312603	0.048415551
Observations	16	9
Pooled Variance	0.122044063	
Hypothesized Mean Difference	0	
df	23	
t Stat	1.27578116	
P(T<=t) one-tail	0.107383735	
t Critical one-tail	1.713871517	
P(T<=t) two-tail	0.21476747	
t Critical two-tail	2.068657599	

TABLES

Table 1

Summary results - Underpricing

	SUMMARY RESULTS	
Total population	41	
Firms excluded	16	
Total results unavailable	0	
Total no. of fims in sample	25	
Total no. recorded underpriced	22	88%
Total no. recorded overpriced	1	4%
Total no. recorded no under/over pricing	2	8%
		100%
Average Underpricing	33.21%	
MaX	150.00%	
Min	-6.67%	
Median	20.00%	
Std Deviation	35.39%	

Table 2

Analysis of Underpricing–Segmented according to time period

	October 2003 - 30 Septemebr 2004	Listing	Underpricing	Avg
1	Simeka BSG Ltd	20-Aug-04	16.00%	16.00%
	October 2004 - 30 September 2005			
1	Arch Equity Ltd	10-Dec-04	10.56%	
2	Alliance Data Corporation Ltd	30-Mar-05	52.00%	
3	Chrometco Ltd	12-Aug-05	3.20%	
4	Enaleni	10-Jun-05	20.00%	
5	Wescoal Holdings Ltd	20-Jul-05	10.00%	
6	WellCo Health	22-Sep-05	50.00%	
				24.29%
	October 2005 - 30 September 2006			
1	Acc-Ross Holdings Ltd	16-Feb-06	10.00%	
2	WG Wearne Ltd	21-Feb-06	71.00%	
3	Esor	14-Mar-06	100.00%	
4	Sanyati Holdings Ltd	02-Jun-06	32.00%	
5	Taste Holdings Ltd	21-Jun-06	-6.67%	
6	Dialogue Group Holdings Ltd	19-Sep-06	21.00%	
7	Gooderson Leisure Corporation Ltd	26-Sep-06	0.00%	
				32.48%
	October 2006 - 31 March 2007			
1	Blue Financial Services Ltd	12-Oct-06	45.00%	
2	Myriad Medical Holdings Ltd	17-Oct-06	11.76%	
3	Workforce Holdings Ltd	21-Nov-06	30.00%	
4	Celcom Group Ltd	22-Nov-06	10.00%	
5	SAFIC Holdings Ltd	23-Nov-06	0.00%	
6	African Cellular Towers	29-Nov-06	20.00%	
7	Top Fix Holdings	06-Dec-06	63.00%	
8	IFCA Technologies Ltd	08-Dec-06	16.00%	
9	Immuniti Holdings Ltd	12-Dec-06	150.00%	
10	Rare Holdings	23-Feb-07	42.50%	
11	Alert Steel	01-Mar-07	53.00%	
				40.11%

Table 3

Summary results (SPECIFICITY)

SUMMARY RESULTS - SPECIFICITY		
Total population	41	
Firms excluded	16	
Total results unavailable	0	
Total no. of firms in sample	25	
Total no.recorded (SPECIFICITY)	9	36%
Total no. recorded (NO SPECIFICITY)	16	64%
		100%
Average Specificity	25.79%	
Max	98.00%	
Min	0.00%	
Median	0.00%	
Std Deviation	37.11%	

Table 4

Summary results [STEPWISE REGRESSION]

N = 25	Beta	Std Error of Beta	B	Std Error of B	t(22)	p-level
Intercept			**0.332140**	**0.070766**	**4.69347**	**0.000111**
Specificity	**-0.289227**	**0.211699**	**-0.102353**	**0.074917**	**-1.36622**	**0.185675**
Book/market	**-0.153436**	**0.211699**	**-0.054299**	**0.074917**	**-0.72479**	**0.476222**

Table 5

Analysis of Underpricing-Segmented according to Pre-IPO Total Assets

Company	Company Assets		Underpricing	Average Underpricing
Acc-Ross	R	473,303,917	10.00%	
Blue	R	283,812,000	45.00%	
Workforce	R	282,187,000	30.00%	
Arch Equity	R	194,650,000	10.56%	
Rare	R	132,632,095	42.50%	**27.61%**
Alert Steel	R	131,884,953	53.00%	
Top Fix	R	121,020,415	63.00%	
Sanyati	R	96,699,000	32.00%	
Gooderson	R	92,473,000	0.00%	
ACT	R	86,993,179	20.00%	**33.60%**
Safic	R	82,535,000	0.00%	
WG Wearne	R	70,748,698	71.00%	
Enaleni	R	59,334,096	20.00%	
Wescoal	R	55,197,000	10.00%	
Celcom	R	52,123,666	10.00%	**22.20%**
IFCA	R	46,463,152	16.00%	
Esor	R	41,234,796	100.00%	
Alliance Data	R	37,430,632	52.00%	
IMMUNITI	R	34,129,326	150.00%	
Taste	R	28,897,684	-6.67%	**62.27%**
Dialogue Group	R	17,028,000	21.00%	
Simeka	R	11,665,000	16.00%	
WellCo	R	8,963,433	50.00%	
Chrometco	R	3,127,627	3.20%	
Myriad	R	72,000	11.76%	**20.39%**

Table 6

Analysis of Underpricing-Segmented according to Book-to-Market Valuation

% Retained	Underpricing	Average Underpricing
90.00%	16.00%	
89.40%	30.00%	
88.87%	10.56%	
88.76%	10.00%	
86.49%	63.00%	**25.91%**
81.76%	45.00%	
79.17%	0.00%	
71.90%	20.00%	
71.78%	52.00%	
68.40%	150.00%	**53.40%**
68.00%	53.00%	
64.96%	21.00%	
63.00%	16.00%	
58.20%	42.50%	
55.40%	100.00%	**46.50%**
54.59%	10.00%	
54.00%	20.00%	
53.80%	3.20%	
48.23%	32.00%	
44.96%	10.00%	**15.04%**
42.20%	-6.67%	
39.70%	71.00%	
26.10%	11.76%	
25.27%	0.00%	
22.34%	50.00%	**25.22%**

Table 7

Analysis of Underpricing-Segmented according to Ownership Retention

% Retained	Underpricing	Average Underpricing
90.00%	16.00%	
89.40%	30.00%	
88.87%	10.56%	
88.76%	10.00%	
86.49%	63.00%	**25.91%**
81.76%	45.00%	
79.17%	0.00%	
71.90%	20.00%	
71.78%	52.00%	
68.40%	150.00%	**53.40%**
68.00%	53.00%	
64.96%	21.00%	
63.00%	16.00%	
58.20%	42.50%	
55.40%	100.00%	**46.50%**
54.59%	10.00%	
54.00%	20.00%	
53.80%	3.20%	
48.23%	32.00%	
44.96%	10.00%	**15.04%**
42.20%	-6.67%	
39.70%	71.00%	
26.10%	11.76%	
25.27%	0.00%	
22.34%	50.00%	**25.22%**

FIGURES

Figure 1

Distribution – Extent of underpricing

	Frequency
25%	13
50%	5
75%	4
100%	1
More	1

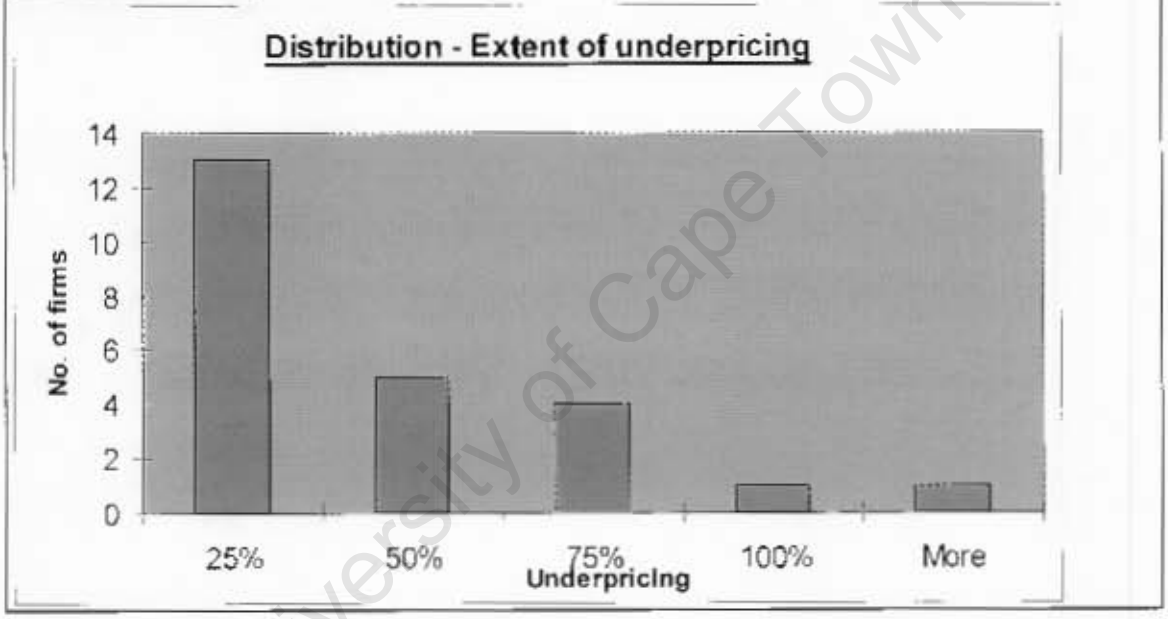


Figure 2

Simple Linear Regression

[Underpricing against the Specificity Variable]

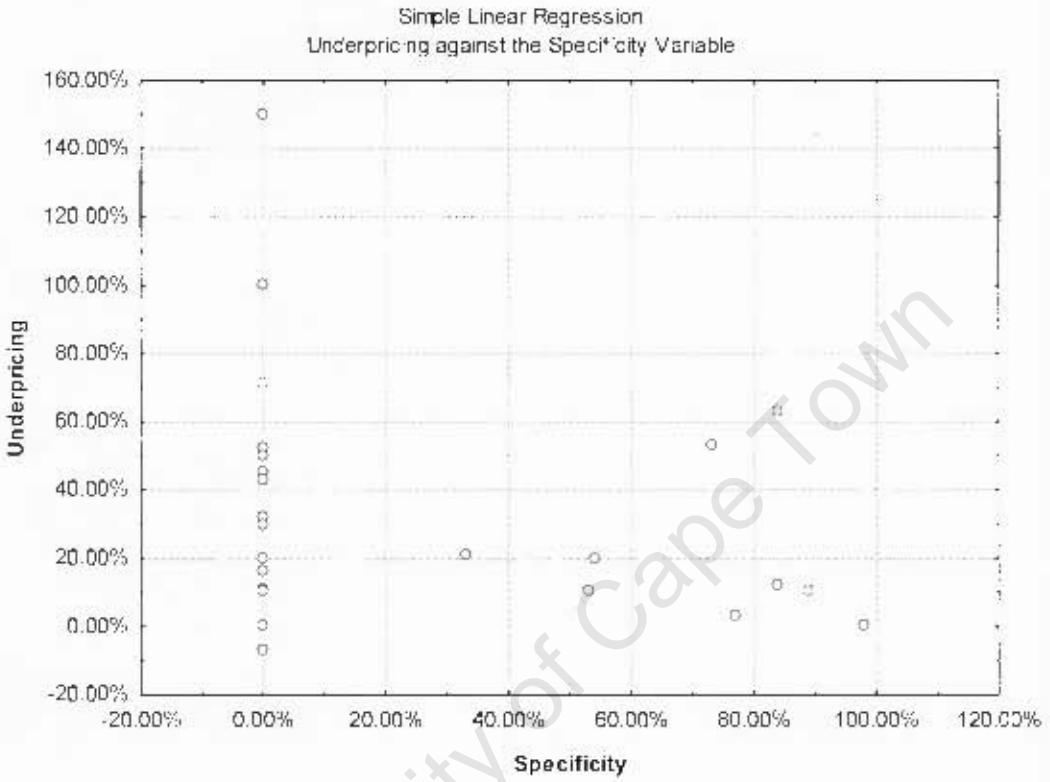


Figure 3

Simple Linear Regression

[Underpricing against Pre - IPO Asset Variable]

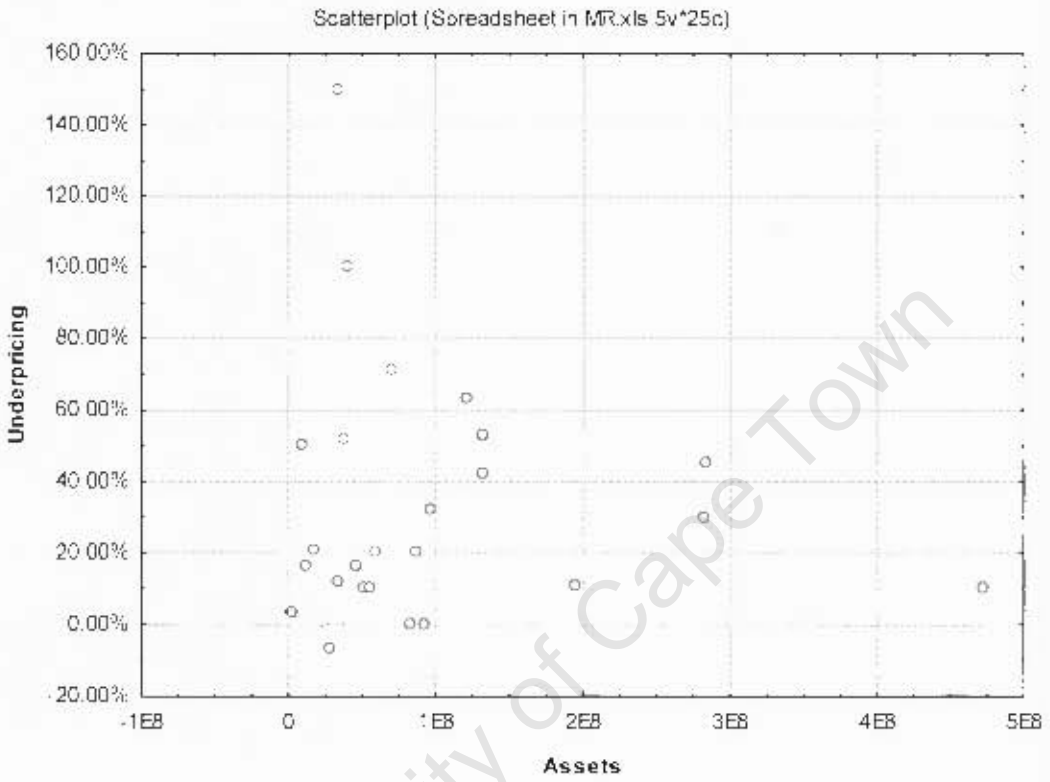


Figure 4

Simple Linear Regression

[Underpricing against Book – Market Variable]

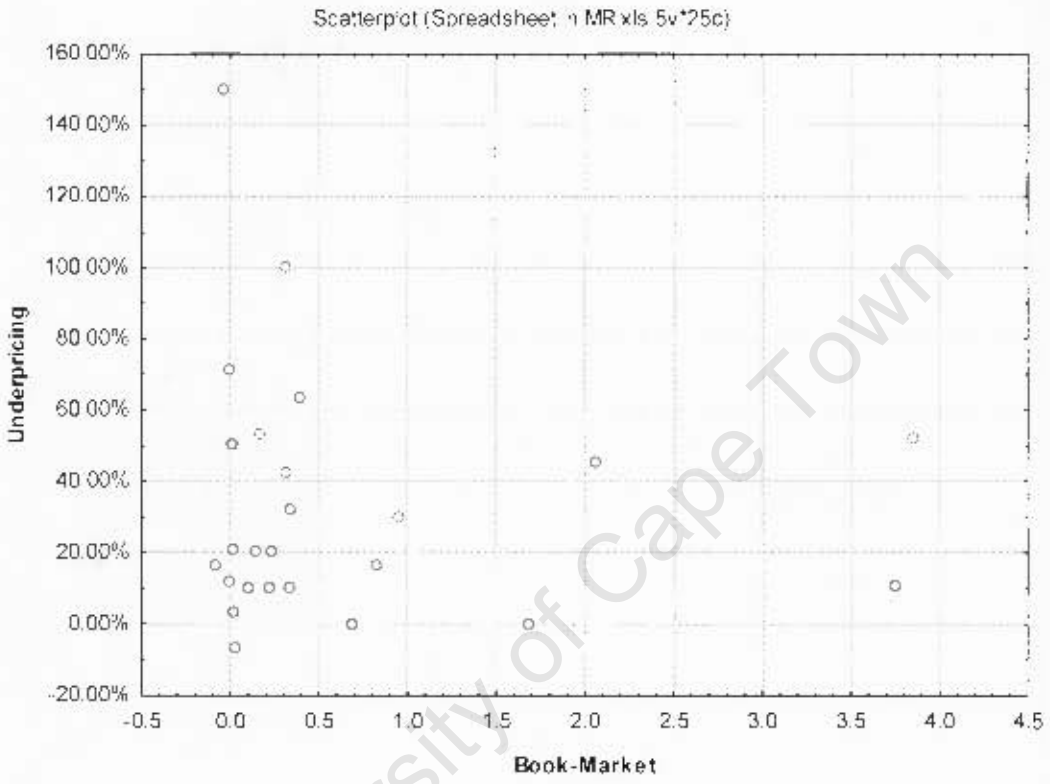


Figure 5

Simple Linear Regression

[Underpricing against Ownership Retention