Underpricing of IPOs in New Zealand

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Abstract

This study provides further evidence of 'underpricing' of initial public offerings ("IPOs") in New Zealand. IPOs are frequently issued at prices substantially less than the market price on the first day of listing. Recent literature has widely documented such IPO 'underpricing' and adequately established that IPOs of common stock are underpriced.

This study examines the underpricing of 148 New Zealand IPOs between 1982 and 1997. The average market adjusted underpricing was 16.44% (median 10.05%), measured from offering date to list date, a level consistent with underpricing experienced in other markets,[1] but lower than previous studies of the New Zealand market.

This study makes two contributions to the existing IPO literature. First it performs a thorough univariate analysis of commonly cited reasons for underpricing with respect to the New Zealand market, and secondly it develops a multiple regression model. The model provides increased understanding of underpricing but due to a low R^2, is not recommended to be used by market participants to predict future underpricing.

This study finds that New Zealand IPO underpricing for issues between 1982 and 1997 vary in a manner consistent with the model of Rock (1986), and the extension of this by Beatty and Ritter (1986). It also finds evidence of the relationship between IPO underpricing and underwriter reputation consistent with Carter and Manaster (1990) and the relationship between IPO underpricing and issue market conditions consistent with Ritter (1984) and Ibbotson, Sindelar and Ritter (1988). The model accounts for underwriter reputation, the market conditions that prevail during the issue, ex ante uncertainty of the issuing firm, and a signalling effect consistent with Rock's (1986) "winners' curse."

[1] Smith's (1986) survey of the equity IPO literature suggests that the degree of underpricing appears to exceed 15 %, on average.

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1. Introduction

1.1 Purpose of this Study

Initial public offerings ("IPOs") play a crucial role in allocating resources in market economies. By accessing external sources of funds through an IPO, the new firm is able to acquire that capital necessary for firm growth and product innovation. Equity financing may be particularly attractive for "high risk" entrepreneurial ventures, and such enterprises represent an important motive force of economic development.

Because of the enormous importance of IPOs, understanding how IPOs work is a fundamental part of understanding financial markets generally. It is clear, however, that IPO markets involve unique features unobserved in any other important financial market. In particular, the recurring existence of large average first day returns to equity IPOs in the U.S. and other countries has long been recognised as an anomaly. Explaining these returns in a theoretically rigorous way is one of the primary problems of financial economics. While other studies have focussed on the long-run performance or the post-issue failure of new issues, no topic has gained more focus than the analysis of initial underpricing.

IPO underpricing, or high IPO initial return, is a phenomenon common to most stock markets [Loughran, Ritter and Rydqvist (1994)]. A common perception is that underpricing of IPOs is a contradiction to market efficiency and may hurt emerging firms trying to raise capital for expansion. Therefore it has spawned an extensive array of research attempting to explain this apparent financial anomaly. A number of underpricing theories have been proposed and tested against the data of various stock markets.

This study attempts to measure the size and characteristics of underpricing for IPOs in New Zealand between January 1982 and July 1997. It also attempts to use multivariate analysis to develop a model that market practitioners can use to predict the level of underpricing for an IPO, given the issue's various characteristics.

Chapter 2 summarises previous studies and describes their initial conclusions. Chapter 3 outlines the methodology used to explain IPO pricing behaviour. The results presented in Chapter 4 include a univariate analysis of the various underpricing hypotheses and the development of a multivariate model. The univariate analysis provides a good understanding of the various underpricing hypotheses present in the New Zealand market before presenting the underpricing model later in the chapter. Chapter 5 summarises my conclusions.

1.2 Overview of Underpricing

Significant underpricing has been found to be a common feature for IPOs in New Zealand and other countries. Loughran, Ritter & Rydqvist (1993) provide a summary of 25 IPO studies where new issues were on average underpriced in the short run. Average underpricing of IPOs ranged from 4.2% in France to 66.0% in Malaysia. The amount of underpricing was found to be higher the more government intervention, the earlier in the process a fixed price was set and the riskier the firm going public. Long run returns were found to be lower for riskier firms going public and lower for high market returns in the following year.

IPO Underpricing in New Zealand

This study reviews the four published empirical studies of IPO underpricing in New Zealand: Vos and Cheung (1990 & 1993), Camp (1997), and Firth (1997).

None of these studies provides an in-depth analysis of the large extent of hypotheses proposed for the underpricing of IPOs with respect to the New Zealand market. Notwithstanding this, the most thorough analysis is Vos and Cheung's (1993). For the 149 firms studied from 1979 to 1991, the average market adjusted underpricing for IPOs is 28.77%, measured from offering date to list date. The abnormal return from the list date to one month hence is measured at -1.45%.

Vos and Cheung also develop a theoretical reputation model to explain underwriter reputation and underpricing in New Zealand. They measure the reputation for each underwriter as the sum of the market capitalisation of all issues underwritten, an approach this study also uses. The reputation of an underwriter was found to be positively correlated with the amount of underpricing for IPOs.

Vos and Cheung appear to have developed their theoretical model based on reputational factors observed in foreign markets. The non-existence of some factors in New Zealand and the unavailability of data mean they are unable to utilise actual market data to test the model. Hence, their model cannot be used to empirically explain or predict underpricing.

New Zealand IPO evidence from Vos and Cheung suggests the size of underpricing of any new issue is a factor of the reputation of the underwriter and the riskiness of the new issue. Results from Vos and Cheung's study indicate that it is likely that prestigious underwriters underprice their IPOs less than fringe underwriters because the IPO issues they underwrite are less risky, rather than because the potential threat of legal liabilities [Tinic (1989)] is less for prestigious underwriters. Vos and Cheung also partition their sample into the 1979-83 and 1984-91 sub-periods to test the effect of the change in Securities Regulations in September 1983. Vos and Cheung find this law change to have an insignificant effect on the underpricing of IPOs and conclude Tinic's (1988) legal insurance explanation is not supported by data in the New Zealand market.

Camp (1997) evaluates underpricing and short-term post-listing returns for New Zealand IPOs listed between 1983 and 1989. For the 162 firms studied, the average market adjusted underpricing for IPOs is 32.04%, measured from offering date to list date. The abnormal return from the list date to one month hence is measured at –4.76%.

Camp touches on the effect of listing in a "Hot" market [Ritter (1984)] but does not test this hypothesis because the majority of IPOs in his sample went public in a rising market - the bull market of the 1980s.

Camp develops a signalling model that remains unpublished at this stage.[2] Camp's analysis concludes that the level of offeror retention is the best signal of IPO underpricing in New Zealand. Camp's study also highlights the importance of the offer mechanism in terms of Rock's (1986) "winners' curse." Commentary on Camp's model is obviously restricted at this stage, but, although both the offer mechanism and offeror retention show significant results in this study's univariate analysis, only a proxy for offer mechanism is included in the multivariate model.

Firth (1997) also evaluates underpricing and long run performance of New Zealand IPOs listed between 1979 and 1987 using univariate analysis. For the 143 firms studied, the average market adjusted underpricing for IPOs is 25.87%, measured from offering date to list date. Firth does not empirically test any initial underpricing hypotheses due to his conclusion that previous empirical research on underpricing does not provide any significant explanation of first-day premiums. He therefore chooses to direct his analysis to the aftermarket performance of IPOs. He concludes that the analysis of longer-term returns can be used to see if the large initial returns really are evidence of underpricing or whether they are just evidence of investor irrationality.

Firth finds that IPOs lose 14% of their first day value after 3 years, which increases to 18% after 5 years. Firth concludes that the poor aftermarket performance of IPOs in New Zealand indicates that the initial prices on the first day of listing are set too high. Firth contends that firms do not underprice their share offerings, but investors and market makers unrealistically price the IPOs too high on the first day of listing, thereby giving the appearance of underpricing. Firth provides no explanation for this contention.

This study disagrees with Firth's conclusion on previous empirical research on underpricing. He has not analysed the hypotheses of previous research, just highlighted that the New Zealand market is consistent with international markets in the fact that underpricing has occurred.

[2] Camp's signalling model forms part of his PhD dissertation, which remains unpublished at this stage. I am thankful to Mr Camp for his description of his model and his thoughts on underpricing, which I gained through a number of conversations.

Firth's study discounts the significance of initial IPO returns too readily. Indeed, none of these studies provides an in-depth analysis of the various hypotheses postulated by previous studies to explain IPO underpricing. A number of questions remain unanswered. Only Vos and Cheung, who develop an underwriter reputation model and analyse the effect of IPO size, have done much more than provide a brief analysis of the initial underpricing level.

Therefore, there is scope for this study to develop an in-depth understanding of first day returns in New Zealand, which will not only test whether the New Zealand market is consistent with the findings in other international markets, but hopefully also provide an underpricing model which can be used by market participants to predict future underpricing. This study concentrates on initial IPO returns, as opposed to an analysis of long run performance performed by other studies [Camp (1997), Firth (1997)]. It makes sense from a vendor's perspective to concentrate this analysis on initial underpricing because it is this amount they are effectively "leaving on the table."