

The Underpricing of LPT IPOs in Australia during 2002 to 2008.

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ABSTRACT

This study analyses 45 property trust initial public offerings (IPOs) in Australia from January 2002 to June 2008, since the introduction of the single responsible entity to oversee the activities of listed property trusts (LPTs) rather than the trustee and manager roles. The study finds that this sample of property trust IPOs had a significant 3.37% underpricing and that the direct costs of capital raising help explain this indirect cost of underpricing. There is some evidence also to suggest that property trust IPOs that seek to raise more equity capital have less underpricing while those that are subscribed to more quickly have higher underpricing. The findings offer insights for issuers who seeks to maximize the value of the trust at the time of the IPO, underwriters who guarantee the success of the capital raising and for investors who are looking to invest in Australian property trust IPOs.

1. Introduction

The underpricing of initial public offerings (IPOs) has been discussed in the literature for around forty years. Underpricing is the term used when the issue price of the shares of a company raising public equity capital and seeking to list on a stock exchange is below the closing price of the shares on the first day of listing. As such, underpricing theoretically allows subscribing investors the opportunity of making substantial first day listing returns. The international evidence as summarised in Loughran, Ritter and Rydqvist (1994) and updated in Ritter (2003) has documented that subscribing investors made handsome double-digit (for example US IPOs - 15.7%, UK IPOs - 12%, Swiss IPOs - 35.8%, Italian IPOs -27.1%) or even triple-digit (for example Chinese IPOs - 948.6%) statistically significant positive first day returns, on average. These studies are however of industrial company IPOs.

Subscribing investors to Real Estate Investment Trust (REIT) IPOs have on average, not earned anywhere near the industrials IPOs in terms of first day returns. Wang Chan and Gau (1992) report on 87 US REIT IPOs for the 1971 to 1988 period and discover a statistically significant 2.82% overpricing, which means investors on average lost 2.82% of their subscriptions on the first day of listing. Later work by Ling and Ryngaert (1997) on 85 US REIT IPOs during 1991 to 1994 identified a 3.60% average first day return to subscribers. In Australia, Dimovski and Brooks (2006a) report an average 1.2%

underpricing return (but it is not a statistically significantly different to zero return) on 37 listed property trust (LPT) IPOs during 1994 to 1999.

The purpose of this paper is to investigate the underpricing returns of Australian LPT IPOs from January 2002 to June 2008 and extend the work in Dimovski and Brooks (2006b) which investigated only a small sample of 20 LPT IPOs from 2002 to 2004 and speculated that the post 2000 LPT IPOs may have more valuation uncertainty than those before 2000. Prior to June 30, 2000, Australian LPTs engaged both a Manager (to manage the activities of the trust) and a Trustee (to grant approval for property acquisitions and disposals). The *Managed Investments Act 1998* removed the separate roles of Manager and Trustee and allowed only for a single Responsible Entity role. This removal of the trustee safeguard was an important institutional event that permits further examination of Australian LPT IPO first day returns.

A total of 45 LPT IPOs raised over \$6.86 billion of public equity capital from January 2002 to June 2008. This compares to around \$7.15 billion raised during 1994 to 1999 by 37 LPT IPOs. Dimovski and Brooks (2006a) point out that this amount is about three times the equity capital raised by the mining and resources IPOs and about one third of that raised by all industrials IPOs over the same period. Clearly property trust IPOs are an important part of the Australian capital market and worthy of investigation. It is also noteworthy that no LPT IPOs listed during 2000 and 2001. The mean underpricing return for the 2002 to 2008 LPT IPOs was a statistically significant 3.37% and the median return was 2.7%.

This study also follows a highly influential paper in the IPO literature by Beatty and Ritter (1986). They argue that the lower the uncertainty about the value of an IPO, the lower the underpricing needed to attract subscribers. Given the linkage between uncertainty and underpricing, this study seeks to identify the factors that might influence uncertainty and hence underpricing. The results suggest that the direct costs of capital raising help explain the indirect cost of underpricing and that property trust IPOs that seek to raise more equity capital have less underpricing while those that are subscribed to more quickly have higher underpricing.

The plan of this paper is as follows. In section 2 we briefly summarise some of the underpricing literature. Section 3 presents the model. Section 4 reports our results. Section 5 makes some concluding comments.

2. Related Literature

This section is in two parts. The first part discusses the major theoretical explanations for underpricing and the second part summarises some relevant previous property trust and REIT IPO research.

Theoretical Explanations for Underpricing

Regrettably there isn't one complete explanation for underpricing. Many theoretical explanations have been offered to explain underpricing. Most of the models suggest that

the issuer and the underwriter deliberately and knowingly underprice, or that the subscribing investor expects the issue to be underpriced.

The first three explanations discussed here are often referred to as the information asymmetry explanations. Baron (1982) argues that underwriters have superior information regarding market conditions and the demand for the IPO's shares. For the underwriter to raise the required equity capital for the IPO firm, the firm allows the underwriter to determine the issue price, which allows for some underpricing. Rock (1986) suggests there are two categories of investors that seek shares in IPOs - informed and uninformed. He argues that the informed (and likely more influential) investors crowd out the uninformed (and likely less influential) leaving the uninformed buying more of the less profitable issues. In order to compensate the uninformed for this "winner's curse" and to induce subscribers to future IPOs, issuers underprice. A third explanation is put forward by Allen and Faulhaber (1989) and by Welch (1989). They suggest that underpricing encourages new investors to see the quality of the IPO company which later allows the company to make subsequent equity issues at a higher price. As such, these companies recoup some of that underpricing.

The next three explanations argue an underwriter monopsony power because they have most control over the price at which the IPO is offered. Tinic's (1988) insurance hypothesis suggests that underpricing is like an insurance policy protecting the underwriters and the issuing firm from lawsuits. Chalk and Peavy (1987) suggest that underwriters might issue shares to preferred clients but then recoup this favour by

charging higher fees for later services to these clients. This also allows less money to be spent on marketing the issue. Benveniste and Spindt (1989) suggest that underwriters allow new issues to be underpriced to encourage investors to subscribe to the IPO and fill the new issue. Otherwise investors will simply wait until after listing to purchase the shares.

Ruud (1993) however suggests that underpricing may not be a deliberate decision prior to the listing. She suggests that underwriters actually price support the issue after it is listed. (This is unlikely in Australia because price support activities by underwriters are illegal under the *Corporations Law* of Australia.)

Except for Ruud's (1993) paper, all of the explanations subscribe to the broad idea that uncertainty, issue price and underpricing are related. It was Beatty and Ritter's (1986) paper, however, that more formally and empirically argued that reducing the uncertainty about an IPOs valuation reduces the need for underpricing. Since that study researchers have found that lower underpricing is associated in firms that:

- have higher issue prices [Chalk and Peavy (1987)]
- employ higher quality underwriters [Carter and Manaster (1990)]
- employ higher quality auditors [Beatty (1989)]
- have existing borrowing relationships [James and Weir (1990)]
- have high earnings potential [Koop and Li (2001)]

Previous Property Trust and REIT IPO Research

One of the first major papers examining the underpricing of REIT IPOs was by Wang et al (1992). They investigated 87 US REIT IPOs over the 1971 to 1988 period and found a surprising 2.82% average overpricing loss to the subscribing investors. Even Wang et al (1992) found it difficult to understand why subscribers invested in these IPOs and suggest that it may have been ignorance.

Ling and Ryngaert (1997) extend Wang et al's (1992) work by investigating 85 US REIT IPOs from 1991 to 1994. They report a 3.60% underpricing and suggest this might have been due to the greater involvement of institutional investors. They use Rock's (1986) argument that the institutional investors are the more informed investors and hence offer to buy underpriced new issues and avoid buying overpriced new issues.

In Australia, Dimovski and Brooks (2006a) investigated 37 property trust IPOs during 1994 to 1999 and report an average 1.2% underpricing. They find that the underpricing can in part be explained by prospectus forecast profit distributions (or dividends) and the

market sentiment towards property trusts from the date of the prospectus to the date of listing. They argue that higher dividend forecasting trusts are riskier and hence higher underpricing is found in such trusts. In some follow up work on 20 property trust IPOs during 2002 to 2004 Dimovski and Brooks (2006b) speculate that post 1999 LPT IPOs may offer higher underpricing than earlier IPOs given the merging of the trustee and manager roles into a single responsible entity role.

3. Data and Methods

A total of 45 Australian LPT IPOs listed on the Australian Stock Exchange from January 2002 to June 2008. The primary source of the data for this study was the *Connect 4 Company Prospectuses* database.

This study extracted variables from each of the LPT IPO prospectuses for the above period. Most of these variables have been found useful in explaining the level of underpricing return in previous studies. The variables to be tested are defined as follows:

- A STAPLED dummy (0 or 1) variable is recorded for those property trusts that issued stapled securities. Such securities generally consist of a unit in a trust and a share in a company. The unit and the share are not tradable without the other. The

trust is likely to be the holder of income producing real estate while the company is likely to be involved in property development activities;

- The issue price (ISSUEPRI) [Chalk and Peavy (1987), Ibbotson, Sindelar and Ritter (1994)];
- A PROSENTI variable that records the change in the Property Trust Index from the date of the prospectus to the day of the listing [Dimovski and Brooks (2006a)];
- A TIMETOLIST variable that records the number of days from the date of the prospectus to the day of listing [Lee, Taylor and Walter (1996)];
- the logarithm of the total capital sought (LNPROCEEDS) [Ibbotson, Sindelar and Ritter (1994)];
- the logarithm of the forecasted gearing ratio (LNDEBTTOASS) variable reflects the target gearing of the LPT IPO;
- the underwritten (UWRITTEN) variable is a (0 or 1) dummy variable reflecting no underwriter (0) or an underwriter (1) was used in the IPO [Dimovski and Brooks (2004) and adapted from the underwriter reputation variables in Carter and Manaster (1990)];
- the direct costs of raising the equity capital as a percentage of the capital sought to be raised (PERCTOTCOST) variable [Ritter (1984)];
- the next full year forecast of distribution (dividend) per unit [Dimovski and Brooks (2006a)];

An ordinary least squares regression model is performed on the data. The dependent variable is underpricing return (RETURN). This is the closing price of the shares (plus any options) on the first day of listing minus the issue price, the result of which is then divided by the issue price. The closing prices were obtained from the IRESS database.

The regression model with underpricing return as the dependent variable is:

$$\begin{aligned} \text{RETURN} = & \beta_0 + \beta_1\text{STAPLED} + \beta_2\text{ISSUEPRI} + \beta_3\text{PROSENTI} + \beta_4\text{TIMETOLIST} \\ & + \beta_5\text{LNPROCEEDS} + \beta_6\text{LNDEBTTOASS} + \beta_7\text{UWRITTEN} + \\ & \beta_8\text{PERCTOTCOST} + \beta_9\text{DIVYLD} + \varepsilon \quad (1) \end{aligned}$$

where all the variables are as defined previously, the β 's are unknown parameters to be estimated and ε is assumed $\sim N(0, \sigma^2)$.

The first variable (STAPLED) is included because it is possible that entities engaged in property development activities have more variability of cash flows than those earning pure rental streams and hence may be considered more risky and may offer higher underpricing returns to subscribers. The ISSUEPRI variable is included because it has been found significant in Chalk and Peavy (1987). They argue that lower issue price IPOs are more underpriced. The IPOs in this data set all identified a fixed issue price for the units offered in their prospectus. It is possible that the time between the prospectus and the date of listing may be influenced by the market sentiment towards property trust investments. As in Dimovski and Brooks (2006a) this study includes a PROSENTI

variable to test the hypothesis that the more positive (negative) the sentiment of investors towards the property trust sector, the more (less) the price that is paid for new issue units upon listing and hence the more (less) the underpricing return.

The TIMETOLIST variable is expected to have a negative coefficient as in Lee et al (1996) showing greater underpriced issues are subscribed to more quickly. The LNPROCEEDS variable has been found to be significant in previous empirical underpricing research and is expected to be negatively related to underpricing. The LNDEBTTOASS variable is used to test if leverage influences underpricing. The dummy UWRITTEN variable tests whether the involvement of an underwriter allowed more underpricing. In Australia, IPOs do not need to be underwritten to list. A total of 35 of these 45 LPT IPOs are underwritten. The DIVYLD variable is the forecast of distributions/dividends for the next forthcoming full year and was found to be positive and significant to the level of underpricing in Dimovski and Brooks (2006a). The dividend forecasts are return estimates and are subject to Australian and Securities Investments Commission scrutiny at the time the prospectus is lodged with the commission. These returns forecasts need to be commensurate with the risks associated with the property trust investments, hence it is expected that the higher the forecast dividend the greater the risk of the IPO and the need for a greater underpricing.

4. Results

Table 1 reports the ordinary least squares (OLS) regression results. There were three observations that did not forecast dividends and were excluded from the table 1 results.

One observation had an underpricing return over 3.5 standard deviations from the mean return. This outlier observation is removed from the model and modified regression results reported. This identification of outliers over 3.5 standard deviations is consistent with Dimovski and Brooks (2006a). In addition, rather than removing the outlier IPOs, Table 1 also reports winsorized OLS results. A variety of standard regression diagnostics are reported. In testing for non-normal errors, a Jarque-Bera statistic is reported. In testing for heteroscedasticity, a White (1980) test is applied. In testing for omitted variables or model misspecification, a Ramsey Reset test is applied and reported.

For the overall model in Table 1, the results of the regression analysis suggest that the PERCTOTCOST variable has explanatory power with regard to the amount of underpricing return. The coefficient is positive and between 0.67 and 0.71 suggesting that holding all the other variables constant, for a 1% increase in the direct costs as a percentage of capital raised there is about a 0.67% to 0.71% increase in underpricing return to subscribers. As argued in Ritter (1984) it appears the riskiness on the LPT IPO assets is partially explained by the direct costs of going public.

Since the dividend yield variable is not particularly useful in this first table, it is removed so as to allow all 45 LPT IPOs to be included in the sample. Again the PERCTOTCOST variable is useful. So too now are the TIMETOLIST and LNPROCEEDS variables which both have negative coefficients. This suggests the quicker the issue is listed the greater the underpricing return and the greater the amount of capital sought the lower the

underpricing. To test for robustness the model is tested again when the outlier observation is removed and winsorized. All three variables are still useful.

The findings are similar in Table 3 which removes the UWRITTEN variable (which has a fairly high correlation of 0.66 with LNPROCEEDS and may unnecessarily influence the model) and PROSENTI which doesn't appear to influence the model much at all. Again the model is run for all 45 LPT IPOs, when the outlier is removed and when the outlier is winsorized. The significant variables are again PERTOTCOST, LNPROCEEDS and TIMETOLIST.

(Tables 1, 2 and 3 about here)

5. Conclusion

This study examined 45 property trust IPOs in Australia for the period January 2002 to June 2008. What it found is that the mean underpricing return for these IPOs is 3.37% and statistically significant. The model used to investigate variables that might help explain the level of underpricing in this industry sector is also particularly useful. Our findings are consistent with prior industrial company IPO studies suggesting that the direct cost of capital raising, the time the new issue takes to list and the size of the issue are important elements in the level of underpricing.

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Table 1: Regression Results for the Underpricing of LPT IPOs in Australia Jan 2002 to June 2008

	42 IPOs		Outliers Removed 41 IPOs		Winsorized 42 IPOs	
	Coef.	Pr.	Coef.	Pr.	Coef.	Pr.
C	0.201	0.362	0.283	0.119	0.241	0.203
STAPLED	-0.039	0.120	-0.032	0.111	-0.036	0.096
ISSUEPRI	-0.028	0.103	-0.024	0.082	-0.026	0.075
PROSENTI	-0.168	0.499	-0.126	0.531	-0.147	0.487
TIMETOLIST	-0.001	0.097	-0.001	0.128	-0.001	0.089
LNPROCEEDS	-0.013	0.278	-0.017	0.078	-0.015	0.141
LNDEBTTOASS	-0.117	0.302	-0.163	0.083	-0.139	0.153
UWRITTEN	0.013	0.735	0.026	0.401	0.019	0.553
PERCTOTCOST	0.716	0.041	0.676	0.018	0.697	0.021
DIVYLD	0.771	0.487	0.218	0.810	0.501	0.596
R Squared	0.331		0.392		0.378	
Adj R Squared	0.143		0.215		0.203	
Jarque Bera	19.672	0.000	1.105	0.575	1.413	0.493
White Test	10.763	0.824	12.582	0.703	13.501	0.636
Reset Test	0.087	0.768	3.416	0.430	1.926	0.657

Table 2: Regression Results for the Underpricing of LPT IPOs in Australia Jan 2002 to June 2008

	All 45 IPOs		Outliers Removed 44 IPOs		Winsorized 45 IPOs	
	Coef.	Pr.	Coef.	Pr.	Coef.	Pr.
C	0.344	0.008	0.338	0.002	0.341	0.003
STAPLED	-0.043	0.074	-0.034	0.082	-0.039	0.062
ISSUEPRI	-0.030	0.076	-0.025	0.067	-0.027	0.057
PROSENTI	-0.192	0.420	-0.148	0.447	-0.171	0.405
TIMETOLIST	-0.002	0.030	-0.001	0.072	-0.001	0.033
LNPROCEEDS	-0.019	0.054	-0.020	0.013	-0.020	0.022
LNDEBTTOASS	-0.127	0.240	-0.173	0.056	-0.149	0.112
UWRITTEN	0.033	0.318	0.038	0.157	0.035	0.213
PERCTOTCOST	0.677	0.044	0.644	0.020	0.661	0.023
R Squared	0.305		0.367		0.352	
Adj R Squared	0.151		0.222		0.206	
Jarque Bera	22.688	0.000	0.560	0.756	0.818	0.664
White Test	9.655	0.787	10.818	0.700	11.901	0.614
Reset Test	3.337	0.482	3.980	0.345	3.296	0.442

Table 3: Regression Results for the Underpricing of LPT IPOs in Australia Jan 2002 to June 2008 - Fewer Variables

	All 45 IPOs		Outliers Removed 44 IPOs		Winsorized 45 IPOs	
	Coef.	Pr.	Coef.	Pr.	Coef.	Pr.
C	0.286	0.012	0.271	0.004	0.279	0.005
STAPLED	-0.035	0.125	-0.026	0.166	-0.031	0.121
ISSUEPRI	-0.026	0.107	-0.022	0.102	-0.024	0.087
TIMETOLIST	-0.002	0.018	-0.001	0.048	-0.001	0.020
LNPROCEEDS	-0.013	0.071	-0.014	0.029	-0.014	0.038
LNDEBTTOEQ	-0.069	0.467	-0.110	0.171	-0.089	0.285
PERCTOTCOST	0.649	0.045	0.597	0.027	0.624	0.027
R Squared	0.272		0.318		0.308	
Adj R Squared	0.157		0.207		0.199	
Jarque Bera	19.436	0.000	0.426	0.808	0.563	0.755
White Test	6.548	0.834	8.808	0.640	8.290	0.657
Reset Test	5.284	0.333	4.575	0.359	4.586	0.360