

The Costs of Raising Equity Capital by Australian Property Trust Initial Public Offerings.

William Dimovski

*School of Accounting, Economics and Finance, Deakin University

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Correspondence to: Bill Dimovski, School of Accounting, Economics and Finance, Deakin University, Geelong, Victoria, Australia, 3217. Phone: 61-3-52-272560, Fax 61-3-52-272151, Email: wd@deakin.edu.au

ABSTRACT

This paper reports some of the direct costs of raising equity capital by property trust initial public offerings (IPOs) in Australia from 1994 to 2004. It also documents the amount of underpricing by these IPOs. The results indicate the average fees paid to underwriters and/or stockbrokers in managing and marketing the issue was around 3.3% of the public equity capital raised. The average fees paid to legal firms, accounting firms and valuers for their professional involvement and expert reports were 0.4%, 0.2% and 0.1% respectively, totalling 0.7% of the equity raised. Other fees such as printing, listing fees, postage, distribution and advertising cost around 2.1%. The total average direct costs amounted to around 6.1% of the proceeds raised. The average underpricing by these property trust IPOs was 2.6%. This paper also investigates the hypotheses that the percentage direct capital raising costs are influenced by the size of the IPO and whether the IPO is underwritten. This study confirms that larger property trust equity capital raisings have lower percentage total direct costs, however, it does not find that underwriting significantly influences the percentage of total direct costs for these property trust IPOs.

1. Introduction

This paper investigates the direct and indirect costs of raising equity capital by Australian property trust initial public offerings (IPOs) from 1994 to 2004. The major components of direct costs include underwriting, stockbroking, legal, accounting, valuation, listing, printing, postage, distribution and advertising costs. Indirect costs include underpricing costs and the cost of management time working on the IPO. Underpricing is generally measured as the difference between the closing price of the IPO's shares on the first day and its issue price, divided by the issue price. The cost of management time is, however, not easily measured and generally not reported to the public.

Three international studies motivate this paper. Lee, Lochhead, Ritter and Zhao (1996) report that the direct costs of United States equity IPOs from 1990 to 1994 averaged 11% of the proceeds raised while underpricing costs averaged 12.05%. This suggests that the average US IPO during this period, with say an issue price of \$1, received only 89 cents while their shares were traded at the end of the first day at around \$1.12. Chen and Wu (2002) report the direct costs of Hong Kong IPOs from 1991 to 1996 averaged 10.44% of the gross proceeds while underpricing costs averaged 15.14%. This suggests that the average Hong Kong IPO during this period, with say an issue price of \$1, received around 89.5 cents while their shares were traded at the end of the first day at around \$1.15. Kooli and Suret (2002) report the direct costs of Canadian firm commitment underwritten IPOs from 1997 to 1999 averaged 14.39% of the public equity capital raised while underpricing costs averaged 18.95%. This suggests that the average Canadian IPO during this period, with say an issue price of \$1, received around 85.5 cents while their

shares were traded at the end of the first day at around \$1.19. These aggregate to substantial capital raising costs. As such, this paper extends the Dimovski and Brooks (2006) finding of underpricing returns for Australian property trust IPOs during 1994 to 1999 of only 1.2%, to document the direct costs of capital raising by Australian property trust IPOs and to extend the dataset of property trust IPOs to 2004.

In addition this paper investigates the popular view identified in Pierson et al (2002, p299) suggesting that two factors that influence the costs associated with the equity capital raising are the size of the IPO and whether the IPO is underwritten. The costs of underwriting can be substantial as reported in How and Yeo (2000) who document the average costs of underwriting for Australian industrial company IPOs averaged 3.68% over the period 1980 to 1996. To this author's knowledge, however, the literature is not clear on whether underwriting significantly influences the percentage of total direct costs for Australian property trust IPOs.

The remainder of this paper is as follows. Section 2 briefly summarises some related literature. Section 3 outlines the data, sources and methods. In Section 4 the paper reports results of the analysis. Section 5 contains the conclusions.

2. Related Literature.

Cost of Raising Capital Literature

Lee, Lochhead, Ritter and Zhao (1996) investigated 1767 US IPOs during 1990 to 1994. The median IPO capital raising was US\$24.4 million. The average underwriting cost was

7.31% while the average total direct cost was 11.00% and average underpricing was 12.05%. Real estate investment trusts, or property trusts, were not included in the dataset. The study identified clear economies of scale in both the total direct costs and underpricing costs for IPOs that sought to raise larger sums from the capital market. Earlier, Ritter (1987) also pointed out that best efforts underwriting contracts in the US were more costly to issuers than firm commitment contracts in both underpricing costs and underwriter spreads.

Chen and Wu (2002) investigated 281 Hong Kong IPOs during 1991 to 1996. The total amount of equity capital raised was over HK\$82 billion. While underpricing costs were higher than those reported in the US study above, the average total direct costs were lower than the US study at 10.44%. In fact, the total direct costs were lower on average at every range of gross proceeds reported from US\$0 – 9.9 million up to US\$500 million and over. This allowed Chen and Wu (2002) to claim that it was cheaper to raise equity capital in Hong Kong than in the US.

Kooli and Suret (2002) investigated 224 Canadian IPOs and 1188 US IPOs during 1997 to 1999. The total amount of equity capital raised in Canada was over US\$7.5 billion and over US\$117 billion in the US. Average underwriting fees in Canada range from 8.12% for IPO raisings up to US\$10 million and were 5.53% for issues over US\$100 million. Average underwriting fees in the US range from 9.39% for issues up to US\$10 million and were 6.26% for issues over US\$100 million. The total direct costs, measured as a percentage of proceeds, averaged 14.39% for Canadian firm commitment offerings while

they were 10.44% for the US IPOs. Underpricing in the firm commitment IPOs however, averaged 22.8% for Canadian IPOs and was 45.67% for US IPOs. In overall direct and underpricing costs, Canadian firm commitment IPO issues cost less than US IPO issues.

Underwriting Cost Literature

Chen and Ritter (2000) investigate 1,111 IPOs raising between \$20 million and \$80 million and identify that underwriting spreads for those IPOs clustered at exactly 7%. The authors argue that this widespread “agreement” in fees by underwriters suggests pricing collusion.

Butler and Hwang (2003) investigated 306 IPOs in Hong Kong during 1991 to 2000. They found that underwriting spreads in that country also cluster; nearly 94% of the IPOs examined had spreads of exactly 2.5%. They argue that the recent arrival of the book-building process appears to have decreased the clustering.

How and Yeo (2000) examined 282 Australian industrial company IPOs from 1980 to 1996 and did not find a clustering of fees at any particular percentage. They report an average underwriting fee (exclusive of management and handling fees) of 3.68% and a range of 1% to 8% for these Australian IPOs.

It is also worth noting that Dimovski and Brooks (2004b) found that Australian industrial company IPOs that engaged underwriters during 1994 to 1999 left more money on the table than those IPOs that didn't employ underwriters. Money left on the table is defined

as the number of issued shares multiplied by the difference between the issue price and the first day of listing closing price. They argued that underwriters may indeed add to indirect industrial company IPO costs.

Underpricing Literature

The literature into the underpricing of industrial company IPOs is vast. The range of first day returns reported internationally is from 4.2% in France (Leleaux and Murzyka, 1993) to 948.6% in China (SU and Fleisher, 1999). Much of the international evidence is summarized in Loughran, Ritter and Rydqvist (1994) and Ritter (2003). Australian industrial company IPO studies [Finn and Higham (1988), How, Izan and Monroe (1995), Lee, Taylor and Walter (1996) and Dimovski and Brooks (2004a)] report underpricing returns of between 16.4% and 29.2%.

The literature into the underpricing of property trust, or real estate investment trust (REIT) IPOs is not so vast and the underpricing returns nowhere near as large. One of the first reported studies was by Wang, Chan and Gau (1992) who investigated 87 US REIT IPOs from 1971 to 1988 and find a 2.82% overpricing. Ling and Ryngaert (1997) investigated 85 US REIT IPOs from 1991 to 1994 and found an average underpricing return of 3.60%.

In Europe, Brounen and Eihholtz (2001) examined 83 European property share IPOs during 1990 to 2000 to report an average underpricing of 3.43%. In a similar vein,

Brounen and Eichholtz (2002) examined 54 British, French and Swedish property share IPOs during 1984 to 1999 to report an average underpricing of 2.55%.

In Australia, Dimovski and Brooks (2006) examined 37 property trust IPOs during 1994 to 1999 to report an average underpricing of 1.2%. As with Ling and Ryngaert (1997), they found that underpricing is partly explained by the existence of initial large or institutional investors.

3. Data, Sources and Methods

The primary source of the data was the *Connect 4 Prospectuses* database. A total of 58 property trust IPOs were identified from 1994 to 2004. The estimated total direct costs for each issue were identified in every prospectus. The costs of underwriting and/or stockbroking, legal, accounting and valuation work associated with the public issue were often also identified in the prospectus. The IPO costs for 1 of the 58 IPOs did not identify the total costs of the capital raising because they were paid for entirely by the institution floating the entity. Data relating to this IPO were removed from the dataset.

The closing share price of the first day's trading was obtained from the Australian Stock Exchange's *IRESS* database and the *Bourse Investor* website. The first day's closing price was deducted from the issue price and then divided by the issue price to derive a percentage underpricing cost (or percentage overpricing gain) to the issuer.

The first part of this study provides a descriptive analysis and discussion of the percentage direct costs of capital raising and underpricing percentages for LPT IPOs from 1994 to 2004. The second part of the study investigates some factors that might influence the total direct costs of the capital raising. This second part is designed to specifically test the Pierson et al (2002) view that two factors that influence the costs associated with the capital raising are the size of the raising and whether the issue is underwritten. This study also tests whether there may be some more factors that influence the total percentage direct costs. More formally, the variables to be tested are as follows:

- a LNTOTMIL variable reflects the logarithm of the size of the total capital raising (in millions of dollars); it is the natural log of the issue price multiplied by the number of shares sought to be issued;
- the equity holding or guaranteed equity subscription by a large investor/institution is denoted by LNINSTIT. This variable is calculated using the formula $\ln(1+\%$ investor/institution holding or subscription). The natural log specification is used to reduce the influence of outliers while 1 is added because some LPT IPOs have no investor/institutional involvement;
- the leverage of the trust is denoted as LNDEBTFIN. This is calculated as the $\ln(1+\%$ total liabilities). Again the natural log is used to reduce the influence of outliers and 1 is added because some LPT IPOs do not hold any debt at the time of the float;
- a UWRITTEN dummy variable of 1 is recorded for those property trusts that employ an underwriter for the capital raising and 0 for those that don't;

- the two most common types of property trust are Office and Retail. They are denoted by dummy variables OFFICE and RETAIL respectively;
- a STAPLED dummy 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 deal in property development activities.

An ordinary least squares regression (OLS) model is performed on the data using the total percentage direct costs (TOTALPER) as the dependent variable. The model is expressed as:

$$\text{TOTALPER} = \beta_0 + \beta_1 \text{LNTOTMIL} + \beta_2 \text{LNINSTIT} + \beta_3 \text{LNDEBTFIN} + \beta_4 \text{UWRITTEN} + \beta_5 \text{RETAIL} + \beta_6 \text{OFFICE} + \beta_7 \text{STAPLED} + \varepsilon \quad (1)$$

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 LNTOTMIL reflects the size of the public capital raising. As with Lee, Lochhead, Ritter and Zhao (1996) economies of scale are expected and the total percentage direct costs are expected to be lower for larger equity capital raisings. The LNINSTIT variable is used to determine whether large investor/institutional backing at the outset of the issue might add support and credibility to the issue and hence reduce the total percentage direct

costs. The LNDEBTFIN variable is included to test if leverage influences the total percentage direct costs.

Underwriting fees can be a substantial part of the total percentage direct costs and therefore if an issue is underwritten one might expect as Peirson et al (2002) that underwriting significantly influences the percentage of total direct costs. The UWRITTEN variable tests this. The RETAIL, OFFICE and STAPLED variables test if these categories of IPO might also influence the percentage of total direct costs.

4. Results

Table 1 reports the gross proceeds raised by the 57 listed property trust (LPT) IPOs during 1994 to 2004. A total of \$9.665 billion of IPO equity capital (around \$8.1 billion from the public generally and over \$1.5 billion from named institutions or named large investors guaranteeing to subscribe) was raised during this period. Of this, \$3.43 billion was raised (35.5% of the total gross proceeds) by 11 Retail LPT IPOs (19.3% of the total number of LPT IPOs) while \$3.89 billion was raised (40.2% of the total gross proceeds) by 16 Office LPT IPOs (28% of the total number of LPT IPOs). The other 30 LPT IPOs raised a total of \$2.34 billion.

Table 1 also reports the average direct cost percentages (including legal, accounting, valuation and broker and/or underwriter fees and commissions) and underpricing costs (or overpricing gains) for the LPT IPOs. Minimum and maximum direct costs and underpricing (overpricing) costs are also provided. The average fees and commissions paid to underwriters and/or stockbrokers in the administration and marketing of the LPT

issue cost around 3.56% of the gross public capital raised. The average fees paid to legal firms, accountants and valuers for their professional involvement and for their expert reports cost around 0.39%, 0.23% and 0.12% (totaling 0.74%) of the gross public proceeds raised. Other fees such as printing, listing fees, postage, distribution and advertising cost around 2.08% of the proceeds raised. These direct costs total to around 6.10% of the gross public proceeds raised for the LPT IPOs. There are minor differences between capital raising costs for Retail LPT IPOs compared to Office LPT IPOs and Other LPT IPOs but these could be related to the size of the issue rather than the type of LPT IPO. This is more formally examined later in the paper.

The average percentage underpricing by these LPT IPOs was 2.58%. Average underpricing was around 2.51% for the Retail LPT IPOs while average underpricing for Office LPT IPOs was around 2.13% and for the Other LPT IPOs was 3.25%. Underpricing ranged from 25.33% to overpricing of 20% in our dataset.

The combination of total direct costs and underpricing costs suggests that an average Retail, or Office or Other LPT IPO with say an issue price of \$1 receives net proceeds of around 93 to 95 cents while their shares are traded at the end of the first day at around \$1.03.

(insert table 1 about here)

Table 1 also reports the economies of scale in direct costs to be had by larger IPOs. By going down each row in the size categories of “To \$65 million, \$65.1 million to \$150 million and \$150.1 million and over LPT IPOs”, the reader can identify how the direct legal, accounting, valuation and broker/underwriter costs are generally reduced, the larger the capital raising. This reflects the fixed cost nature of most of the direct cost components which are larger in percentage terms when the equity sought is smaller. Interestingly, the larger LPT IPOs during this period also had higher average underpricing costs but this was not a statistically significant difference. The 20 LPT IPOs that raised \$65 million or less of capital show average total direct costs of 7.90%, nearly 2 percentage points higher than the average (6.10%) while the 18 LPT IPOs that raised over \$150 million show average total direct costs of 4.20%, nearly 2 percentage points lower than the average.

It is interesting to use the combination perspective as before on the smaller, to \$65 million or less capital raising LPT IPOs and on the larger, over \$150 million LPT IPOs. The combination of total direct costs and underpricing costs suggests that an average smaller LPT IPO with say an issue price of \$1 receives net proceeds of around 92 cents while their shares are traded at the end of the first day at around \$1.03. The combination of total direct costs and underpricing costs suggests that an average larger LPT IPO with say an issue price of \$1 receives net proceeds of around 96 cents while their shares are traded at the end of the first day at around \$1.04.

Table 2 reports the multiple ordinary least squares regression results between the total percentage direct costs and the selected explanatory variables for the LPT IPOs from 1994 to 2004. A range of standard regression diagnostics were calculated and applied. In testing for non-normal errors, a Jarque-Bera test is reported. Both Reset and White specification tests are reported. These indicate heteroscedasticity is a problem. To account for this, White (1980) heteroscedasticity adjusted co-efficient and p-values are reported.

Two sets of coefficients and p-values are reported for robustness. The first set includes the 57 LPT IPOs. The second set excludes one outlier IPO whose percentage total direct cost was greater than 3 standard deviations away from the mean. The highly significant negative coefficient on LNTOTMIL in both regressions suggests that larger public equity capital raisings have economies of scale and are less costly in terms of their percentage of total direct costs compared to smaller public equity capital raisings. All of the other variables, including the UWRITTEN variable are insignificant in the two regressions.

(insert Table 2 about here)

5 Conclusion

This paper investigated 57 listed property trust IPOs during 1994 to 2004 to summarise some of the average direct costs of the total equity capital raised. It also identified the average underpricing by the LPT IPOs for this 11 year period. These average total direct costs provide useful benchmark measures for issuers, underwriters and subscribers to

LPT IPOs. The paper also extends the Dimovski and Brooks (2006) underpricing dataset of 37 IPOs during 1994 to 1999 and reports average underpricing in LPT IPOs is 2.6% for the expanded set.

In addition, this study examines some of the factors that might influence the percentage total direct costs of LPT IPOs. It is clear that larger equity capital raisings have economies of scale and are less costly in percentage terms. It is not clear, however, that underwriting is a significant factor in influencing the cost of capital raising in percentage terms for LPT IPOs. While underwriting accepts the risk of guaranteeing the success of the capital raising, it appears that this cost with regard to LPT IPOs is not significantly higher than the simple engagement of brokers to manage and market the issue and the subsequent listing.

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TABLE 1: Average Direct Costs and Underpricing Percentages, by Type and Size of Listed Property Trust, 1994 to 2004

	Gross Proceeds \$ million	No. of Issues	Legal Costs %	Accountant Costs %	Valuation Costs %	Other Costs %	Broker/ Underwriter Costs %	Total Direct Costs %	Underpricing %
Retail LPT IPOs	3434.1	11	0.33	0.14	0.09	1.14	3.19	4.89 min 2.20 max 9.13	2.51 min -4.00 max 7.00
Office LPT IPOs	3,886.4	16	0.39	0.21	0.10	2.20	2.98	5.88 min 2.28 max 11.25	2.13 min -10.00 max 15.79
Other LPT IPOs	2,344.4	30	0.40	0.27	0.16	2.35	3.48	6.66 min 2.37 max 16.71	3.25 min -20.00 max 25.33
To \$65 million LPT IPOs	618.8	20	0.68	0.41	0.18	3.11	3.52	7.90 min 4.01 max 16.71	2.80 min -5.00 max 15.00
\$65.1 million to \$150 million LPT IPOs	1,909.2	19	0.31	0.18	0.15	1.68	3.70	6.02 min 2.65 max 11.25	1.50 min -20.00 max 14.00
150.1million and over LPT IPOs	7136.9	18	0.20	0.10	0.05	1.28	2.57	4.20 min 2.20 max 10.74	4.15 min -5.00 max 25.33
All 57 LPT IPOs	9664.9	57	0.39	0.23	0.12	2.08	3.28	6.10 min 2.20 max 16.71	2.58 min -20.00 max 25.33

Table 2: Regression Results for the Percentage Total Direct Costs for LPT IPOs in Australia 1994 to 2004

	All 57 LPT IPOs		56 IPOs 1 outlier removed	
	Coef.*	Pr.*	Coef.*	Pr.*
C	0.255	0.000	0.241	0.000
LNTOTMIL	-0.018	0.000	-0.017	0.000
LNINSTIT	0.002	0.914	-0.006	0.703
LNDEBTFIN	0.042	0.179	0.034	0.246
UWRITTEN	0.002	0.818	0.007	0.428
RETAIL	0.005	0.539	0.004	0.508
OFFICE	0.015	0.094	0.014	0.118
STAPLED	-0.010	0.126	-0.011	0.086
R Squared	0.534		0.481	
Adj R Squared	0.467		0.405	
Jarque Bera	1.930	0.381	1.596	0.450
White Test	18.270	0.051	21.104	0.020
Reset Test	5.404	0.345	0.474	0.950

* White heteroscedasticity consistent co-efficient and p-values reported.