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What Does the Discount Premium Trading of Listed Property Shares Tell Us?

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Introduction

The emergence of indirect property investment vehicles, the likes of the U.S. REITs (Real Estate Investment Trusts), U.K. Listed Property Companies, Australian LPTs (Listed Property Trusts) and other similar vehicles in other countries, have created an additional property market, the so called "Property Capital Markets". Over the last decade this market has gain momentum and the market capitalisation has increased substantially relative to its counter part, the traditional direct property market.

The listed property investment vehicles are similar to the closed-end investment companies that invest money, obtained through the sale of its shares to investors, in various types of real estate. A fixed number of shares are issued and traded in the secondary market. To liquidate the shareholders must sell the shares in the market, rather than redeem them from the issuer at its net asset value (NAV), as they would with their shares in an open-ended company.

The finance literature provides evidence that typically the closed-end company shares sell at a price not equal to its NAV per share (NAVPS). They either sell at a discount or premium, to the NAV. When the share price is higher than the NAVPS it is considered that the shares are selling at a premium and when they are below the NAVPS, they are selling at a discount. Thus the discount/premium trading of shares can be interpreted as under/over valuation of the shares. However, an often-asked question in relation to this issue is, who is under/over-valuing these shares, the investors by way of market price or the managers who report the NAVs?

Several past studies have attempted to solve this issue by pointing out the methods used to value the assets within the portfolios might overstate the true intrinsic value of the assets. The three factors often cited, as the potential explanations are agency costs, tax liabilities and illiquidity of assets. For a detailed analysis of these factors refer to Jensen and Meckling (1976), Myers (1977), Thompson (1977), Jensen (1986), Brauer (1984/88), Weiss (1989), Brickley, Manaster and Schallheim (1991), Barclay Holderness and Pontiff (1993), Bodurtha, Kim and Lee (1993), Malkiel (1995), Barkham and Ward (1999), Lofthouse (1999), and others.

Zweig (1973), show evidence that discounts on closed-end funds reflect expectations of individual investors. Delong, Shleifer, Summers and Waldmann (1990) (DSSW) further develop the individual investor expectations argument by modelling the interaction between the noise traders and news traders. Noise in trading is referred to the irrational behaviour of usually the individual investors, who are considered less informed. Whereas news trading is referred to the rational investment behaviour, usually demonstrated by the large institutional investors.

According to the DSSW model, the expectations of the noise traders about asset returns are subject to the influence of their sentiment, which may not be rationally reasoned at all times. Therefore, they may overestimate the expected returns, relative to the rational expectations, in some periods and underestimate them in others.

To elaborate on their theory, DSSW make two critical assumptions. First, that rational investors investment horizons are finite and thus they care about the resale value of the assets and not only the present values of dividends. Second, that noise trading is stochastic and cannot be predicted by the rational investors. As such, the rational investors view the noise trading risk as "unpredictable" and consider it as an additional risk to the fundamental risks. The intuition is that when the rational investors may want to sell assets, the noise traders, with difference in opinion, may value them lowly pushing the prices down.

Further they consider that noise trading risk is systematic, is correlated across the noise traders, thus cannot be diversified. As such noise trader risk arising from individual investor sentiment will be priced in equilibrium. As a result, assets subject to noise trader risk are expected to earn higher returns than those assets not subject to noise trading, and relative to their fundamental values, these assets will be underpriced (trade at discount to the NAVs).

DSSW suggest that when noise traders are optimistic about future returns of assets they drive up the prices (sell at premia or small discount) and when they are pessimistic, they drive down the price (sell at discount). Such behaviour is possible for closed-end companies because their NAVs are observable. And because noise traders expectations about future returns on assets are subject to unpredictable changes, leads to stochastic changes in demand for closed-end companies, which in turn leads to stochastic fluctuations in discount premium of closed-end funds. DSSW generalise their noise trader sentiment risk to affect in the same way all those assets which are subject to noise trading, not only closed-end funds.

Lee, Shleifer and Thaler (1991) (LST), add the dimension of clientele differential to the DSSW model. They suggest that investors in fund shares are different group of investors to those investing in the underlying assets. If same investors were to invest in fund shares and the underlying assets, then any change in investor sentiment will affect both the NAVPS and the share price (SP), resulting in no difference between the two. They further assume that noise traders are more likely to hold and trade fund shares than the underlying assets in the fund portfolios. These are mostly small individual investors who haven't got large amounts of funds required for purchasing the underlying assets.

The requirement of large amounts of funds for successfully making investments in the direct property market is one of the attractions for investing in the indirect

property market, which does not require the same large amounts of funds. The bulkiness of direct property is made divisible by way of smaller allotments of LPT shares. Thus it is logical to assume LST clientele differential theory as a special case for LPTs.

LST further discuss the argument of individual versus rational traders by relating it to risk and return trade off. They suggest that investing in fund shares is riskier than investing in the underlying assets. One of the reasons is because of the additional risk of individual (noise) trading present in the shares market, and not in the underlying assets market. As such to induce investors to hold fund shares, on average, the fund shares market should yield higher returns relative to the investments in their underlying assets. In order to achieve this, share price should be less than NAVPS; this is the rational behind the argument that fund shares should generally trade at a discount to the NAVS.

Relating to the evidence that the expected returns on closed-end companies, on average, in the early months of their start are negative, LST logically suggest that it is the irrational (individual, small or noise) investors who invest in the fund shares in their early periods. The rational investors on the other hand, take time and observe performance of new stocks and start investing in them as stocks mature.

In the early days of LPTs (late 80s to early 90s) mainly small investors were investing in this market. However, as of mid 90s there is evidence to suggest of growing interest from institutional investors. Some research reports have even gone to label this era as "institutionalisation of LPTs". Interestingly enough, the increase in investment in LPTs from institutional investors is at the cost of their decreasing investment in the direct property market. This evidence therefore further supports the presence of "differential clienteles" effect in the LPT market.

LST further theorise that discounts on closed-end companies fluctuate with changes in individual investor sentiment about future returns (in LST model rational investors do not buy fund shares). And, these fluctuations in the discounts are required to be stochastic, since it is precisely these fluctuations in the discounts that makes funds risky and account for the average underpricing. If the discounts were constant, investors would make arbitrage profit by holding short positions in the underlying assets and long in the funds shares and thus overtime iron the disparity between NAVPS and share pieces. The empirical implication of this theory is of positive relationship between rates of return and changes the discount/premium of the closed-end company shares.

LST further relate their investor sentiment argument to open ending or liquidation of funds, suggesting that such announcements make investors optimistic about improvements in future returns of the funds. Thus the noise-trader risk is reduced or eliminated, which eventuates into a reduction in fund discounts or they start

trading at a premium. The same principle can also be applied to the take over announcements. Upon the announcement the investors in the target company should become optimistic about future returns and the share price should tighten, which should see a reduction in discounts. Presumedly the target company would be trading at a substantial discount and the change in investor sentiment based on the announcement can be subjected to explain changes in discount to premium trading of the target companies.

The primary purpose of this study is to examine the implications of the discount premium trading of the LPT shares. Rather than perusing with the firm specific arguments in explaining the discount premium trading, the investor sentiment approach has been adopted in this paper. Based on this theory, the following arguments are raised and examined:

1. Investor sentiment theory suggests that because the effect of individual investor sentiment is systematic, ie, it affects all assets in which they trade cross sectionally, there should be high correlation between discount/premium trading of these assets

Thus it is hypothesised that in the early days of LPTs, when mainly individual investors were trading the shares, the shares were trading at discount. The increasing interests in the LPT market of the institutional investors have seen the reduction in discounts and turned around the shares to trading at premium. Further that individual investors mainly trade in smaller trusts, whilst the institutional investors target the larger trusts. As such the smaller trusts should mainly trade at discounts whilst the lager trusts either trade at smaller discounts or at premium.

2. The investor sentiment theory suggests that when the investors are optimistic about future returns, they drive up the prices, whereby the discounts narrow or even disappear and when they are pessimistic about the future returns they drive down the prices and the discounts widen. Assets do well when the discount narrows and badly when the discount widens.

Based on this suggestion, it is hypothesised that changes in aggregate discount premium should independently influence returns on assets. As such how influential are the changes in discount/premiums to the returns on LPTs are examined.

The balance of the paper is organised to empirically examine the two hypotheses. The next section sets out the framework, the following discusses results and the last concludes.

Data and Variable Description

The discount premium trading for the twelve largest LPTs are analysed between the period Jul-92-through to Jun-99. The monthly total net asset value (NAV) and the number outstanding shares (units) for each trust was complied from the monthly trust review produced by the Property Investment Research Pty Ltd. The NAV was divided by the number of shares to obtained NAV per share (hereafter referred to as (NAVPS). The month end share prices, returns, distributions and market capitalisation data was obtained from Warburg Dillon Read (WDR).

For several tests that follow a monthly value and equal weighted index of discount/premium (VWDP and EWDP) for the twelve trusts were calculated as follows:

$$VWDP_t = \sum_{i=1}^{nt} W_i \ (DISC \ or \ PREM)_{it}$$

Where:

$$W_i = \frac{NAV_{it}}{\sum_{i=1}^{nt} NAV_{it}}$$

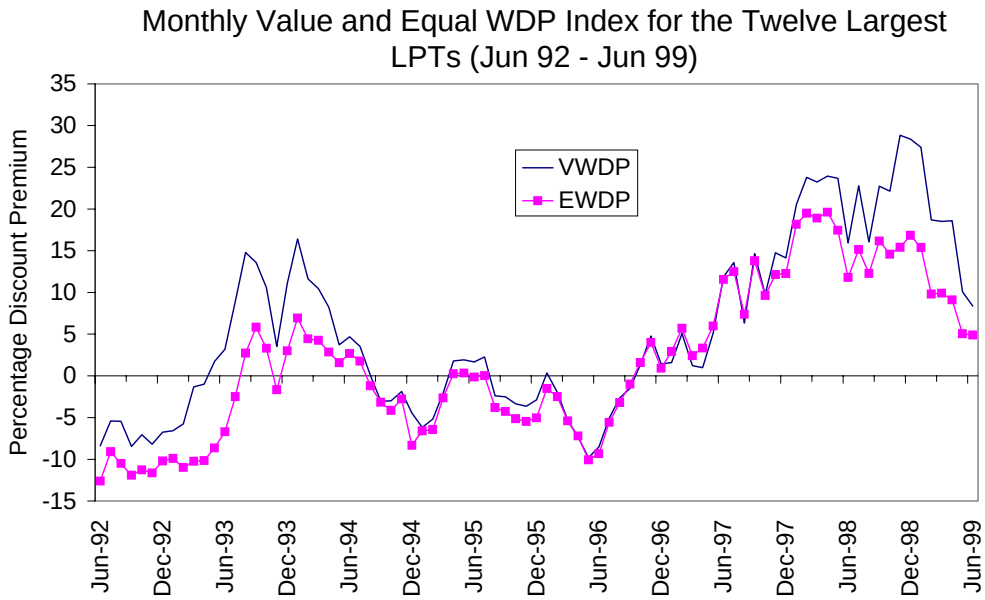
NAV_{it} = total net value of trust i at end of period t
n_t = the number of trusts analysed, which is twelve in this case.

$$DISC \ or \ PREM_{\text{it}} = \frac{SP_{it} - NAVPS}{SP_{it}} * 100$$

Negative value represents discount (ie, NAVPS > SP),
Zero represents no difference between NAVPS and SP (ie, NAVPS = SP),
Positive value represents premium (ie, SP > NAVPS).

The equally weighted index was calculated in the same way, except that it is not weighted by the NAV as the value weighted. The two indices are graphed in figure 1 below.

Figure 1

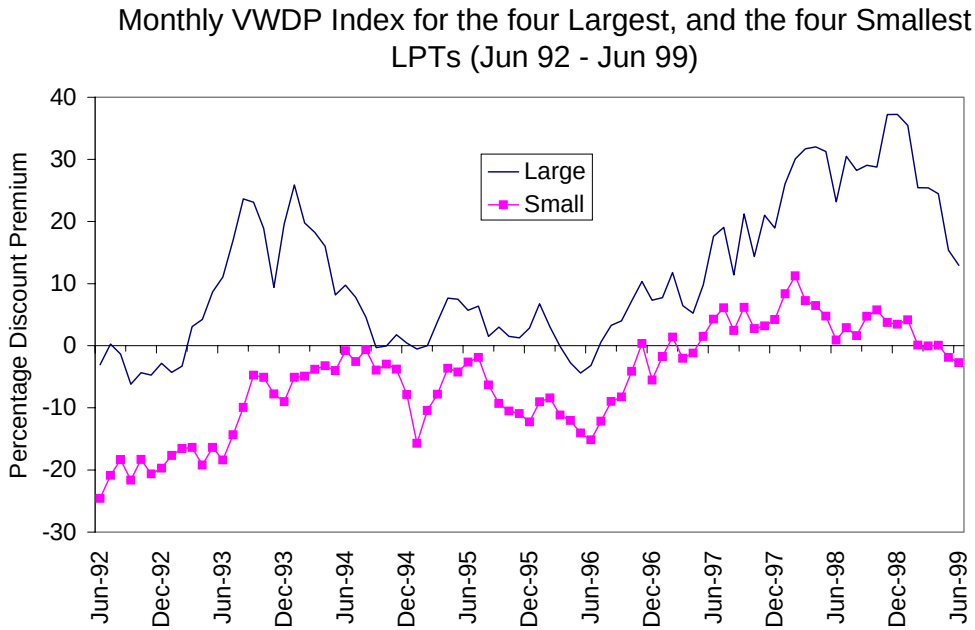


The graphs in figure one show a cyclical trend in discount/premiums on the trusts over the sample period. The trusts traded at a discount between Jun 92 - Jun 93. Then prices went up to trade at a premium for a short time and got back to discount trading again until Dec - 96. Over this period the average discount was approximately 5%. Since Dec 96 until now the trusts got back to trading at premium, which peaked during 1998. The highest level reached was 28%, and the average premium over this period was approximately 14%.

The measurement as per the value-weighted index indicates that the trusts trade at lower discount and higher premium. The VWDP index measures on average 5% less for discount trading during Jun 92 - Dec 96 and approximately 5% more for premium trading during Dec 96 - Jun 99. Because the VWDP index is more influenced by the larger trusts, it intrigued the question of the possibility that large trusts may be trading at smaller discount to a premium, whilst smaller trusts at larger discount.

To investigate the extent of the difference between discount/premiums on large and small trusts, the sample was divided into a portfolio of large trusts and another of small trusts, and value weighted discount premium index for large trusts and small trusts were developed. The demarcation between small and large was done at the median of the market capitalisation. These two indices are graphed in figure two below.

Figure 2



As shown in figure 2, it is quite clear that the larger trusts have been trading at premium for most of the time, except during Jun 92 - Mar 93 and Mar 96 - Sept 96 when they traded at a small discount. It is to be noted that these periods fall within the period that can be categorised as the discount trading period generally for the trust sector. The discount periods can be year marked as Jun 92 - Jun 93 and Jun 94 - Sept 96 respectively. Whilst the periods between Jun 93 - Jun 94 and Sept 96 - Jun 99 can be year marked as premium trading periods.

The smaller trusts on the other hand have been trading at discount for most of the time, except during Jun 97-Dec98 when they traded at a small premium. It is to be noted that this period falls within the premium trading period.

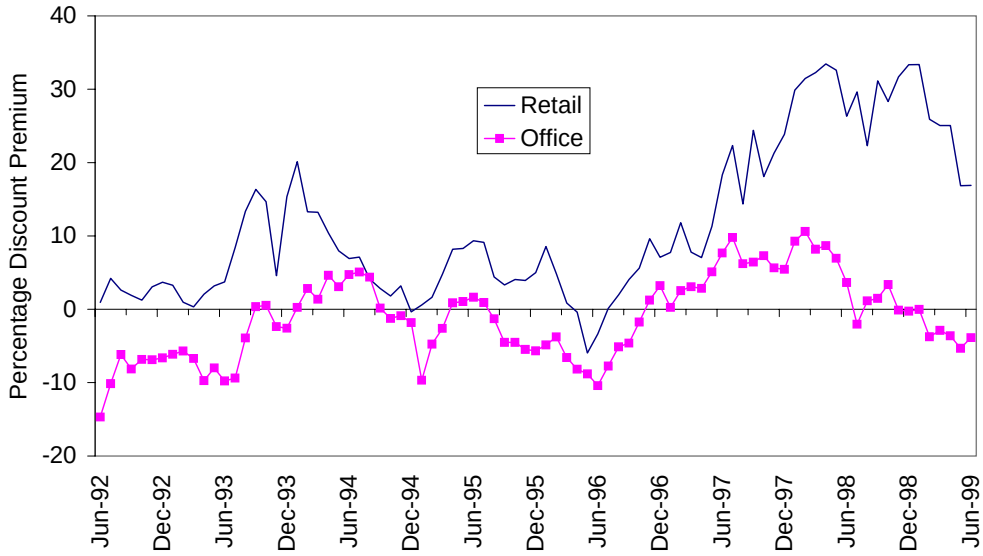
The observations support the issue that investor sentiment is systematic and their behaviour narrows and widens the discounts and premiums. During the two discount periods, premiums on larger trusts narrowed, going into discounts

occasionally as noted above, whilst the discounts on smaller trusts widen further. Like wise during the premium periods, premium on larger trusts widen and discounts on smaller trusts shrunk going into small premium trading the peak premium trading period (Jun 97 - Jun 98). The premium trading of trusts can be related to the institutionalisation of the trust sector.

At this stage curiosity motivated to examine the effect of "property specific" on the discount premium trading of the LPTs. In order to investigate this issue, the sample was divided into retail versus office trusts portfolios. The value-weighted indices of these two portfolios are graphed in figure 3 below.

Figure 3

Monthly VWDP Index for all Retail and all Office LPTs
(Jun 92 - Jun 99)



Once again as can be observed from the graphs, the retail trusts, quite similar to the larger trusts trade at a premium for most of time, whilst office trusts, similar to the small trusts, trade at discount. The average discount/premiums is within close range to the discount/premiums on large and small trusts. The pattern of trading is not dissimilar in any significant way. The observation further supports the argument of discount/premium risk being systematic as opposed to being firm specific.

To further investigate the systematic relationship between investor sentiment, pairwise correlations for levels and changes are shown in table 1 and 2 below respectively.

Table I

Correlation in Monthly Discount/Premiums between the Trusts (Jul 92-Jun 99)

	VWDP	*WFT*	*GPT*	*SGP*	*SCH*	*APF*	*NMP*	*WPT*	*CPL*	*BTP*	*CPY*	*CMF*	*CEP*
VWDP	1.0000												
WFT	0.9288	1.0000											
GPT	0.9556	0.8438	1.0000										
SGP	0.8834	0.8435	0.7599	1.0000									
SCH	0.8101	0.6288	0.7673	0.6565	1.0000								
APF	0.7304	0.4689	0.7587	0.5710	0.8034	1.0000							
NMP	0.7466	0.6083	0.8528	0.4562	0.6225	0.6676	1.0000						
WPT	0.3533	0.0815	0.3966	0.2491	0.3723	0.6506	0.4722	1.0000					
CPL	0.0935	0.1056	-0.0692	0.2245	0.1297	-0.0036	-0.3090	-0.0006	1.0000				
BTP	0.8501	0.7148	0.8912	0.6871	0.6682	0.7318	0.7214	0.4826	0.0406	1.0000			
CPY	0.3241	0.0521	0.4314	0.1879	0.4132	0.6882	0.5581	0.6239	-0.2134	0.4585	1.0000		
CMF	0.7318	0.4901	0.8165	0.5310	0.7164	0.8794	0.8214	0.6257	-0.2116	0.8063	0.7703	1.0000	
CEP	0.6646	0.6987	0.6720	0.4368	0.3960	0.3036	0.7251	0.2636	-0.0259	0.5964	0.2586	0.4635	1.0000
0.6076	0.6979	0.5447	0.6616	0.5000	0.5691	0.6147	0.5699	0.4992	0.1179	0.7153	0.6763	0.7318	1.0000

The monthly change discount/premium in individual trusts and the VWDP index was calculated as follows:

$$\Delta VWD/P_t = VWD/P_t - VWD/P_{t-1}$$

Table II

Correlation in Changes in the Monthly Discount/Premiums between the Trusts (Jul 92-Jun 99)

	VWDP	*WFT*	*GPT*	*SGP*	*SCH*	*APF*	*NMP*	*WPT*	*BTP*	*CMF*	*CEP*	*CPL*	*CPY*
VWDP	1.0000												
WFT	0.8564	1.0000											
GPT	0.8551	0.6297	1.0000										
SGP	0.8664	0.6810	0.6849	1.0000									
SCH	0.3410	0.1155	0.1211	0.2985	1.0000								
APF	0.6713	0.5166	0.6314	0.4672	0.2116	1.0000							
NMP	0.5125	0.3512	0.5099	0.4022	0.0899	0.3868	1.0000						
WPT	0.4586	0.2672	0.3659	0.4061	0.0939	0.4929	0.2803	1.0000					
BTP	0.5031	0.2881	0.5439	0.3499	0.0995	0.4496	0.3754	0.3728	1.0000				
CMF	0.5499	0.3755	0.4323	0.4890	0.2210	0.4772	0.2847	0.3264	0.4865	1.0000			
CEP	0.2785	0.2369	0.2124	0.1319	-0.0244	0.2408	0.3175	0.2962	0.2053	0.1995	1.0000		
CPL	-0.0853	-0.2538	-0.1685	-0.0782	0.3099	-0.2020	-0.1160	-0.1482	-0.0708	-0.0438	-0.0321	1.0000	
CPY	-0.0123	-0.1121	-0.0733	0.0320	0.1931	-0.0219	-0.1848	0.0500	-0.1724	-0.0127	0.2049	0.2258	1.0000
0.4133	0.5227	0.3413	0.3873	0.3499	0.2438	0.3529	0.2796	0.3162	0.2897	0.2858	0.3909	0.6129	1.0000

The overall average pairwise correlation in levels is 60% and in changes is 41%. The pairwise correlation between the VWDP index and each of the twelve trusts is 69% (an increase of 9%) and in changes is 52% (an increase of 11%).

However, the behaviour of three trusts namely, CPL, CPY and CEP is quite different, not only against the other trusts but also against each other. These trusts are the smaller three in the sample. These trusts seem to be out favour in the market.

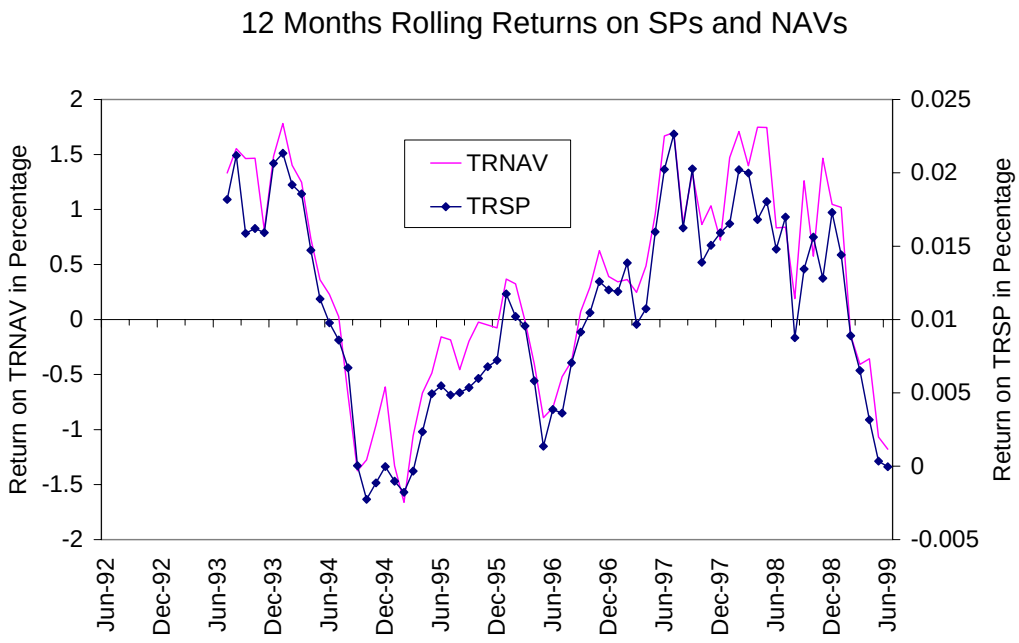
The high positive pairwise correlations of the other 9 trusts are consistent with the hypothesis that discount/premium movement is subject to investor sentiment. A high aggregate correlation of theses trusts with the VWDP index is strong enough indication that discount/premium comovement on trusts can be captured by a single VVWDP index and justifies the index as an appropriate benchmark of disc/prem for the sector.

The Relationship between Changes in Discount/Premium and Returns.

The changes in the VWDP index are used as a proxy to represent rates of return on the NAVs. A value weighted monthly returns index for the twelve trusts was created to measure the aggregate rates of return on these trusts. The market capitalisation of each trust was used as the weights. The returns index measures the total return on the trusts.

The twelve months rolling relationship between the two return series are shown in figure 4 below. A twelve months window is used to cut out some of the monthly volatility and still reflect monthly changes over a one-year period.

Figure 4

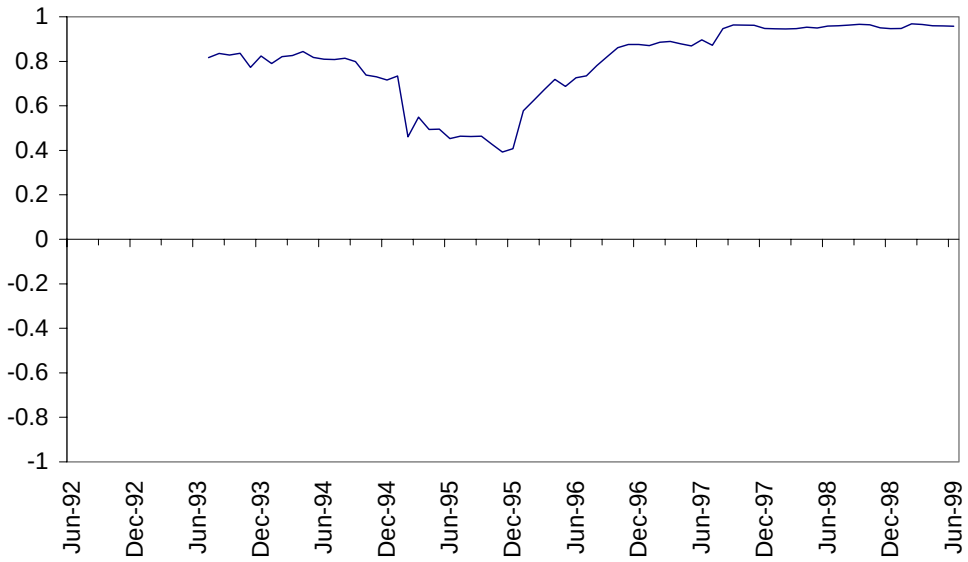


As shown in the graph the two series are highly correlated with each other. The relationship is so strong that it can be said that the two series are moving in unison. Once again the two by two period of discount and premium are clearly identified.

The rolling correlations are shown in figure 5 below. The correlation is the highest during the premium periods, where average correlation is 80%. The correlation between the two series seem to reduce during the discount trading period; in the peak discount trading period the correlation is at the lowest level, 40%, a reduction of half.

Figure 5

12 Months Rolling Correlation between Returns on SPs and NAVs

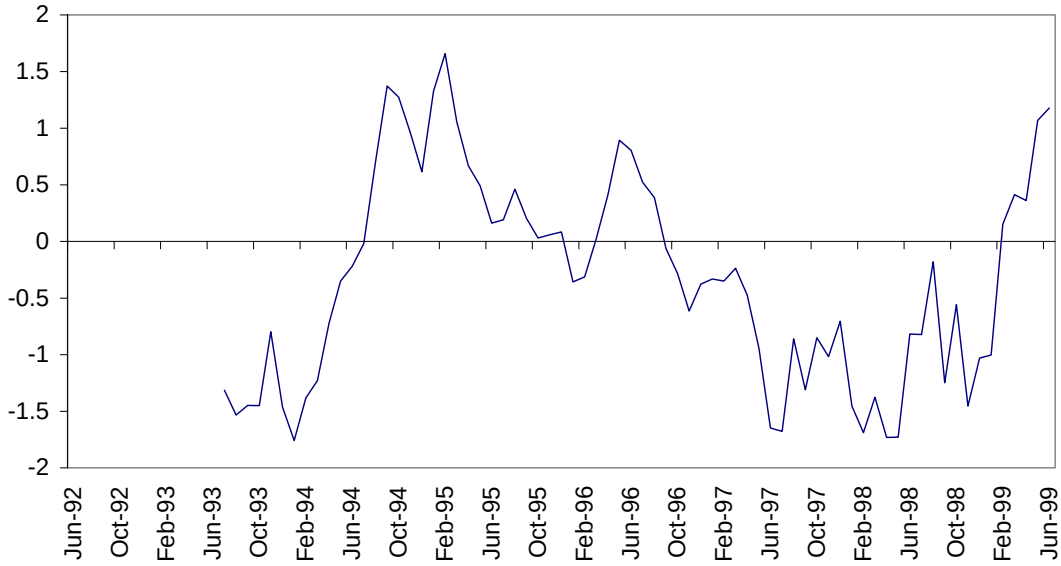


The returns on trusts seem to lag the returns on NAVS. One way to interpret this relationship is to say that, positive changes in the NAVS reflect positive changes in the trusts share prices. When the shares trade at discount they are considered cheap and the returns are high to relative the prices, when they trade at premium, the returns are low relative to the prices.

This relationship is shown in the figure 6 below. The rolling difference is calculated by deducting monthly TRNAV from TRSP. During the discount period the return on SPs are positive and during the premium period they are negative. The periods are again quite clearly demarcated.

Figure 6

12 Months Rolling Monthly Difference between Returns on SPs and NAVs



To further investigate the relationship between changes in NAVs and SPs, time series regression are run between the two series. The equation is of this form:

$$(R_{LPT} - R_F) = \alpha + \beta_1(\Delta VWDP) + \beta_2(R_M - R_F) + \beta_3(R_B - R_T) + \varepsilon_{LPT}$$

Where: independent variable $(R_{LPT} - R_F)$ is excess return on LPTs, $R_{PS} - r_F$ is excess return on portfolio of small trusts, $R_{PL} - R_F$ is excess return on a portfolio of large trusts, and $R_{PS} - R_{PL}$ is the difference between the returns on the portfolios of small and large trusts.

The dependent variables are ΔVWDP, excess return on the market, represented small ordinaries, and excess return on 10 year bond index.

Excess return is calculated by deducting return on T - Bills form the returns on the named variables.

The regression results are reported in table 3 below. The variables are discussed in detail in the table as well.

Table 3

The Time-Series Relationship between Excess Returns on Value Weighted LPT Index, Excess Returns a Portfolio of Small Trusts, Excess Returns a Portfolio of Large Trusts, Excess Return on the Market, and the Changes in Value Weighted Index of Discount/Premium over the whole sample period (Jun 92-Jun 99), and two sub-periods (Jun94-Dec-96) and (Dec 96-Jun-99) respectively.

The excess returns are total returns on the named variables less returns on T-Bills. The stock market is represented by the small ordinaries index, and the bond market is represented by returns on 10-year bonds. The t-statistics to examine the significance are shown in the parentheses. All the t-statistics shown are significant at 5% level, except those marked by (*) is significant at 10% level and those marked by (**) are neither significant at 5 or 10% levels. All t-stats for change in VWDP are significant.

$$(R_{LPT} - R_F) = \alpha + \beta_1(\Delta VWDP) + \beta_2(R_M - R_F) + \beta_3(R_B - R_T) + \varepsilon_{LPT}$$

Indep. Variable	Intercept	Change VWDP	(R_M-R_F)	$(R_{LB}-R_{BB})$	Adj R^2	Std Error
PANEL A WHOLE SAMPLE PERIOD (JUN 92-JUN 99)						
$(R_{LPT}-R_F)$	0.003 (1.82)*	0.007 (15.44)			74.8	0.0159
$(R_{LPT}-R_F)$	0.001 (0.69)**	0.006 (11.88)	0.194 (4.07)		80.0	0.0145
$(R_{LPT}-R_F)$	0.000 (0.08)**	0.005 (11.71)	0.175 (3.63)	0.172 (1.74)*	79.0	0.0143
$(R_{PS}-R_F)$	0.006 (2.71)	0.004 (6.47)	0.27 (4.04)	-0.067 (-7.57)	60.7	0.0204
$(R_{PL}-R_F)$	0.005 (2.23)	0.006 (9.53)	0.133 (2.07)	-0.649 (-4.91)	64.8	0.0191
$(R_{PS}-R_{PL})$	0.001 (0.56)**	-0.001 (-2.56)	0.144 (1.93)*	-0.418 (-2.73)	12.1	0.0227
PANEL B SUB-PERIOD ONE (JUN 94-DEC 96)						
$(R_{LPT}-R_F)$	-0.002 (-0.85)**	0.005 (4.37)	0.155 (1.74)*	0.349 (2.17)	56.5	0.0154
PANEL C SUB-PERIOD TWO (DEC 96-JUN 99)						
$(R_{LPT}-R_F)$	0.002 (1.50)**	0.006 (13.54)	0.180 (3.36)	0.002 (0.01)**	92.9	0.0103

Table three 3 shows that changes in VWDP index on its own explains about 75% of the returns on the LPTs. This is as measured by the R^2, shown in the first row of panel A. The t-statistics of 15.44 is considered highly significant.

To check the robustness of this result, a market factor was added to the explanatory variable; the attempt is to isolate the effect of market on the LPT returns. The ASX small ordinaries index was considered as the appropriate proxy for this. The regression result is shown in row 2 of panel A. As measured by the R^2, two combined explain 80% of the returns on LPTs. One way to interpret this result would be say that the market factor adds on approximately 6% over the changes VWDP index in explaining the returns on LPTs. The coefficient of changes in VWDP in is still highly significant with a t-statistics of 11.88.

To further check the robustness of changes in VWDP index in explaining the returns on LPTS, bond market factor was added in to isolate any bond market effect. As shown in row three of panel A, the effect of bond market is not significant. The significant of VWDP index remains unchanged.

To isolate the differential effect of change in VWDP index on returns on small and large trusts, returns on value weighted index of small and large trusts were regressed on the three explanatory variables respectively. These results are reported in rows 4 and 5 of panel A. No significant differential effect is found, and the changes in VWDP index remain significant in explaining the returns on both the portfolios.

At this stage the curiosity to investigate the effect on returns of discount trading and premium trading separately, motivated regressing excess returns on LPTs on discount only index and premium only index. One way to avail theses indices was to run regressions over discount sub-period and premium sub-period, that is between Jun 94 - Dec 96 and Dec 96 - Jun 99, respectively. During the former sub-period VWDP index is basically a VWD index, and in the latter sub-period, VWDP is basically a VWP index.

These results are shown in panels B and C respectively. Both, the changes in VWD and VWP indices are significant in explaining the returns on LPTs. However, premium trading is more significant than the discount trading. As per the R^2, 93% returns on the LPTs are explained by the three variables. The bond factor is highly insignificant, suggesting that investor confidence in the property fundamentals is at its highest when the share prices are on the rise. The effect of interest rate is not as significant as usually thought by the market, at least during the premium trading period.

Conclusion

Is the discount/premium trading of LPTs a sentiment index? Well, the high correlations between the discount/premiums on LPTs suggest that there is a single factor that is driving the share prices up and down. This up and down movement in the prices is cyclical in trend. Within the sample period between Jun 92 - Jun 99, two sub-periods are identified as discount trading periods and two as premium trading periods respectively. From this observation it can be suggested that when the investors are optimistic about the future performance of the LPTs they start buying the shares, and with increasing demand for the shares, the prices increase. Conversely when they are pessimistic about the future performance, they start selling the shares and with increase in the supply of the shares, the prices start to decease. The empirical finding in this research has shown that this movements in the share prices are appropriately captured by the changes in the VWDP index; thus yes, in this sense discount/premium trading of LPT shares is an investor sentiment index.

This research has also found that the four largest and three retail trusts have been trading at small discount to premium relative to small and office trusts that have been trading at discount through out the sample period. From this observation it can be concluded that LPT investors are more optimistic about the performance of the trusts in the former group and perhaps pessimistic about the performance of the trusts in the latter group.

It has also been found that changes in discount/premium as a representative of property fundamentals, is observed the LPT investors and in aggregate these changes in discount/premium is highly significant in explaining the returns on LPTs. This conclusion is drawn from the regression results in table 3. The results are discussed in some length in the paper. This finding is interesting as it intrigues the question, how much property return is embedded in the LPT returns? Future research will pursue to investigate this issue.

APPENDIX 1

List of the twelve Listed Property Trusts used in constructing
the monthly value-weighted index of discounts/premium
(earlier name in parentheses)

Advance Property Trust	(APF)	
BT Property Trust		(BTP)
National Mutual	(NMP)	
Stockland Ordinary		(SGP)
General Property Trust	(GPT)	
Colonial First State Retail	(CMF)	
Centro Property	(CEP)	
Westfield Trust	(WFT)	
Westpac Property		(WPT)
Schroders		(SCH)
Capcount		(CPY)
Capital Property	(CPL)	

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