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ASSESSING THE LEVEL OF DIRECT PROPERTY IN PROPERTY TRUST PERFORMANCE

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INTRODUCTION

Listed property trusts have been the most successful indirect property vehicle in Australia over the last 10 years. The features of liquidity, divisibility, low entry and exit costs, tax structure and strong investment performance have contributed to this increased popularity of property trusts amongst investors. This has seen over 50 property trusts accounting for over $28 billion in total assets at December 1998 and representing nearly 6% of the Australian stock market capitalisation; having increased significantly from only $2.6 billion in 1986. In 1998, property trust market capitalisation increased by 34% from $20.9 billion in December 1997. The property trust sector is now the 6th largest sector on the ASX, and property industry projections are for the sector to exceed $30 billion by 2000.

Property trusts have acquired over 500 major investment properties, including landmark CBD commercial properties and are expected to account for approximately 30% of the Australian commercial property investment market by 2000 (Brenchley, 1998). The equivalent investment vehicles in the USA are REITs, with over 200 REITs currently available, and a market capitalisation of nearly US $140 billion. Like property trusts, REITs have also experienced rapid and significant growth in the last five years.

Property trusts have taken on increased institutional investor significance in the last few years, currently accounting for over 55% of institutional property exposure, compared to only 10% in 1985 (Jones Lang Wootton, 1997). With the increased concerns over the illiquidity of direct property, the current institutional investment strategy is to utilise property trusts to balance or fine-tune property portfolios, thus enabling responsive institutional portfolio adjustments for strategic asset allocation.

As well as significantly increasing their asset base and institutional acceptance, property trusts have also undergone major structural changes in the last five years (Property Investment Research, 1998; Upton, 1998), including:

- increased number of property trusts
- introduction of sector-specific trusts, instead of diversified trusts
- introduction of development trusts
- lower management and administration costs
- diversification into "new" property sectors
- increased levels of debt
- lower levels of cash holdings
- significant increase in average property trust market capitalisation
- increased professional funds management orientation.

While Newell and MacFarlane (1996) found that property trust performance was more closely related to stockmarket performance than direct property performance over 1984-94, the above recent structural changes have refocussed institutional attention on whether the investment dynamics and characteristics of property trusts have permanently changed in recent years. The property industry "expectation" is that property trusts have now taken on more of the investment features of direct property.

In particular, the key strategic institutional investment issues of:

- are property trusts predominantly direct property or shares, and
- how much of property trust performance is attributable to direct property performance,

have received renewed attention and remain two of the leading edge issues for property trusts and direct property investment in Australia. Effective resolution of these two key issues will see a fuller understanding of the role of property trusts, the effective packaging of property trusts, corporate restructuring, and property acquisition and disposal strategies (Corgel et al, 1995).

Recent research has found changing investment dynamics for USA REITs, namely:

- REITs have switched their performance allegiance from shares to direct property (Liang and McIntosh, 1998a; McIntosh and Liang, 1998)
- REITs are increasingly behaving like small capitalisation shares (Han and Liang, 1995; Liang and McIntosh, 1998a)
- the correlation between REITs and the stockmarket is declining (Ghosh et al., 1996; Liang and McIntosh, 1998a)
- REIT betas and systematic risk have declined (Liang et al., 1995).

Given these USA REIT trends and the structural changes occurring with property trusts in Australia, it is essential that the recent investment dynamics of property trusts are critically evaluated. This will enable the assessment of whether the property trust industry is undergoing a permanent investment transformation as has been evident in the USA, particularly in regard to its relationship to the stockmarket and direct property.

This paper will examine the dynamics of property trust performance in Australia over 1983-98 to determine the "level" of direct property in property trust performance. The changing dynamics and "style" of this investment relationship will be examined, and factors identified that may have contributed to this changing relationship over 1983-98. Comparison against equivalent USA REIT results will also be presented.

METHODOLOGY

Data sources

Monthly stockmarket (ASX) share price indices, including:

- Property trust index: 1983-98
- All Ordinaries index: 1983-98
- Small capitalisation shares index: 1991-98
- Mid capitalisation shares index: 1991-98

were utilised.

Equivalent monthly financial market series for 10-year bonds and 90-day bills over 1983-98 were also utilised. The Property Council of Australia (PCA) office, retail,

industrial and total property series were used as the investment performance benchmarks for direct property performance (Property Council of Australia, 1998).

Statistical analysis

To assess the changing investment dynamics of the inter-relationship between property trusts, direct property and shares, inter-asset correlations with rolling 5-year performance periods were used.

To assess the changing investment dynamics and style of property trust performance over time, multi-factor asset allocation mix models over 1983-98 were used. The general asset allocation mix model (Sharpe, 1992) is given by:

$$\mathbf{R = b_1F_1+b_2F_2+ \ldots. + b_k F_k + e}$$

where:

R = property trust return
F_i = return on ith financial or stock market factor
b_i = model coefficient that represents financial/stockmarket factor weighting in asset allocation mix
e = residual component.

Constrained asset allocation mix models were utilised using the "Solver" routine in Excel. The constrained asset allocation models ensure model coefficients or weightings are positive and sum to 100% to reflect the asset allocation mix in practice. The technique of performance style analysis for evaluating property portfolios has also been effectively used (Myer and Webb, 1996).

Sharpe's alpha values (Liang and McIntosh, 1998b) are also calculated to determine the degree of underperformance/overperformance of property trusts relative to its "style" portfolio over time.

Equivalent analyses were also undertaken for ten individual property trusts (eg GPT, Schroders and Westfield); these results are not reported in this paper.

RESULTS AND DISCUSSION

Traditional performance analysis

Table 1 presents the performance analysis for the various asset classes over a range of investment horizons (Property Council of Australia, 1998). The varied performance of property trusts compared to shares and direct property is clearly shown. The risk for property trusts is above that for each of the property sectors, but below that seen for the stockmarket. Property trust risk is only 66% of stockmarket risk over this period.

Table 2 presents the inter-asset correlation matrix over 1985-98 (Property Council of Australia, 1998). Property trust performance was more highly correlated with the stockmarket (r = 0.77) than the direct property market (r = -0.12). This confirms the general view that property trusts are more closely related to stockmarket performance

than direct property performance (Newell and MacFarlane, 1996). However the above static analysis takes no account of the structural changes that have occurred in the property trust sector and how the dynamics of property trusts may vary over time.

Correlation dynamics

Using monthly returns and rolling 5-year performance windows, Figure 1 presents the correlation between property trusts and the stockmarket over January 1983 - June 1998. Until December 1992, this correlation was approximately 0.75. Since 1993, this correlation has reduced to approximately 0.55. This compares with a correlation of 0.65 over the full period of 1983-98. A contributing factor to the significant change in correlation in 1993 is the omission of the 1987 stock market crash from this and subsequent 5-year performance windows. This lower correlation with the stockmarket in recent years is reflective of the dynamics of property trusts and the structural changes that occurred, as mentioned in an earlier section of this paper.

Equivalent results for USA REITs over 1986-97 (Liang and McIntosh, 1998a) saw the correlation between REITs and the stockmarket decline significantly from 0.75 to 0.25 in a steady reduction over this period.

Property trust performance "style": how much is direct property?

Using the general asset allocation mix model (Sharpe, 1992), the three financial/stockmarket factors of shares, bonds and cash were used in an attempt to explain property trust performance over 1983-1998. Using rolling 5-year performance windows, Table 2 shows that R^2 values of approximately 0.55 were obtained for the period 1983-92, with these R^2 values decreasing to 0.2 - 0.4 over 1993-98. Over this period, these three factors only explain up to 60% of the variation in property trust returns, leaving 40-80% of the variation unexplained over this 15-year period. In particular, less of this property trust variation has been explained in recent years.

Given this high percentage of unexplained property trust variation, this unexplained performance should be property trust specific. While property trusts and direct property have different pricing mechanisms, it would be highly likely that this unexplained variation is largely attributable to direct property performance, although this can not be tested conclusively.

Using the asset allocation mix model (Sharpe, 1992) and attributing the unexplained variation to direct property, Figure 3 shows the performance style for property trusts over 1983-98. Key features to emerge from this performance style analysis are:

- from 1983-92, property trusts performed similarly to a portfolio of:

  * 47% direct property
  * 22% shares
  * 13% bonds
  * 18% cash

- since 1993, property trusts performed similarly to a portfolio of:

    * 65% direct property
    * 12% shares
    * 8% bonds
    * 15% cash

- recent years have seen a slight reduction to approximately 60% in the level of direct property in the "style" portfolio

- the style portfolio is reasonably stable for periods of 1983-92 and 1993-98.

Overall, the results clearly indicate the increased significance of direct property and the lesser significance of shares in the performance style of property trusts in recent years. This confirms the property industry "expectation" that property trusts have now taken on more of the investment features of direct property. In particular, since 1993, approximately 65% of property trust performance is attributable to direct property performance, compared to previous levels of only approximately 50%. This significant change is likely to be largely attributable to the major structural changes in property trusts in recent years as discussed previously in this paper. Other potential causes are elements attributable to the recovery phase of the property cycle (Liang and McIntosh, 1998a).

In comparison, Liang and McIntosh (1998a) have shown that REITs behaved like a portfolio of 80% direct property, 12% bonds and 8% shares since 1992. The higher recent contribution of direct property to REIT performance in the USA (80%) compared to Australia (65%) is likely to be attributable to the more significant REIT market and its increased penetration in the USA direct property markets.

Sharpe's alpha: assessing underperformance

The performance of property trusts relative to the style portfolio is given by Sharpe's alpha, as shown in Figure 4. Throughout 1983-98, property trusts have always underperformed the equivalent style portfolio by up to 0.6% per month. This underperformance was most evident prior to 1993, with lesser underperformance since 1996. Over 1983-98, the average level of underperformance by property trusts was 0.39% per month or 4.75% per annum. In comparison, REITs showed underperformance up to 1994, with overperformance evident since 1995 (Liang and McIntosh, 1998a).

Impact of small capitalisation shares sector

REITs have been shown to be increasingly behaving like small capitalisation shares (Han and Liang, 1995; Liang and McIntosh, 1998a). To examine this issue for property trusts in Australia, the following additional sectors:

- mid capitalisation shares (bottom 50 of top 100 shares in All Ordinaries index)
- small capitalisation shares (below top 100 of 254 shares in All Ordinaries index)

were assessed over 1991-98. The shorter timeframe compared to the previous analysis is attributable to the January 1991 start date for these ASX sub-sector series.

Figure 5 shows the performance style for property trusts over 1991-98. Key features to emerge over this period are:

- property trusts performed similarly to a portfolio of:

  * 56% direct property
  * 4% shares
  * 13% bonds
  * 16% cash
  * 10% small capitalisation shares
  * 1% mid capitalisation shares

- the level of direct property has reduced slightly from 60% to 54%.
- small capitalisation shares took on a more significant role than mid capitalisation shares, accounting for up to 14% of the style portfolio.

Again, using these two additional stockmarket sectors, the results confirm the significant contribution of direct property to property trust performance, with approximately 56% of property trust performance attributable to direct property performance over this period.

As shown in the Sharpe's alpha values, Figure 6 confirms the underperformance of property trusts over 1991-98, with less underperformance in the last two years. Over this period, the average level of underperformance was 0.30% per month or 3.66% per annum.

CONCLUSION

In this paper, property trusts in Australia have been shown to have less correlation with shares in recent years. Using performance style analysis, approximately 65% of recent property trust performance was found to be attributable to direct property performance; an increase on the 50% level seen prior to 1992. Much of this increased contribution by direct property is likely to be attributable to the major structural changes evident in property trusts in recent years. Whilst being less than the 80% level of direct property for REITs (Liang and McIntosh, 1998a), the direct property levels for property trusts in Australia are highly significant components and reinforce the investment dynamics of this key indirect property investment sector.

Further changes in the dynamics of the property trust sector are likely to occur in the near future, resulting from:

- diversification into further non-traditional property sectors, such as cinemas, theme parks, retirement, hospitals
- focus on internal management (as per REITs)
- proposed revisions to property trust tax arrangements

- moves to increased rationalisation of property trusts due to changes in liquidity requirements under the Managed Investment Bill.

Performance style analysis provides an excellent opportunity to assess the impact of these future changes in continuing to monitor the dynamics of the level of direct property attributable in property trust performance.

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Table 1: Australian asset class performance analysis: June 1985 - June 1998

Asset class	Average annual returns (%) 1 year	Rank	5 years	Rank	10 years	Rank	1985-1998	Rank	Risk (%)	Rank
Office property	9.4	6	7.5	7	3.1	7	7.9	7	9.8	5
Retail property	10.3	4	10.6	4	12.5	1	14.2	2	4.1	1
Industrial property	14.5	1	14.5	1	8.9	5	11.0	5	6.6	2
Total property	10.5	3	9.3	5	6.2	6	10.0	6	7.7	4
Property trusts	10.0	5	11.7	3	11.1	3	12.6	4	11.5	6
Shares	1.6	7	13.3	2	10.2	4	14.8	1	17.3	7
Bonds	10.6	2	8.8	6	12.2	2	13.0	3	7.0	3

Table 2: Inter-asset correlation matrix: June 1985 - June 1998

	Total property	Property trusts	Shares	Bonds
Total property	1.00			
Property trusts	-0.12	1.00		
Shares	-0.02	0.77	1.00	
Bonds	-0.20	0.45	0.26	1.00

Figure 1: Correlation between property trusts and stockmarket: January 1983 - June 1998

Figure 2: Explained variation (R^2) of property trusts by financial and stockmarket factors: January 1983 - June 1998

Figure 3: Performance style of property trusts: January 1983 - June 1998

Figure 4: Sharpe's alpha: January 1983 - June 1998

Figure 5: Performance style of property trusts: January 1991 - June 1998

Figure 6: Sharpe's alpha: January 1991 - June 1998