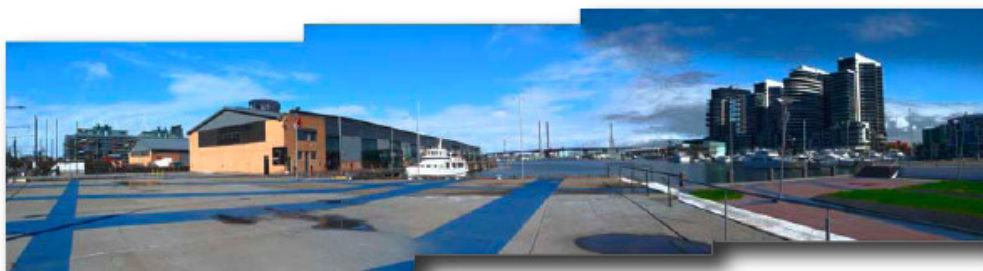


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**Australian Securitised Property Funds:
An Examination of their Risk-Adjusted Performance**

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Abstract

To gain exposure to Australian real estate investment trusts (A-REITs), many institutional investors make use of securitised property funds as they employ experienced property professionals with specialist knowledge on underlying building characteristics, direct property markets and the 30 plus A-REITs. As securitised property funds operate in a competitive environment, investment performance benchmarks are important. To add to the familiar risk and return benchmarks, the risk adjusted performance (RAP) measure first outlined by Modigliani and Modigliani (1997) provides a valuable return measure to a defined level of risk.

This research selected 16 wholesale securitised property funds each with seven years of continuous quarterly total return data. Overall a large proportion of the selected funds (14 out of 16), on average, outperformed the market benchmark return (14.53%) with the worst fund marginally underperforming the index by 0.54%. In contrast, the annualised RAP measure highlighted the differences in the securitised property fund returns for a given level of risk, with a wide 16.66%–12.90% range. To achieve this uniform level of risk, five securities property funds had to replace up to 21% of their property portfolio with a risk free asset (90 day bank bills). The RAP measure also decomposes the excess returns above the benchmark. In this instance, the securitised property funds' outperformance, were from a mixture of active portfolio selection and simply taking on additional risk exposure. This research illustrates the benefits of the RAP measure and demonstrates its significance as a decision making tool for an astute property investor.

Key words: securitised property funds, investment analysis, real estate investment trusts

1. Introduction

The attraction of commercial real estate as an investment asset class is well documented in capital market literature. A cost effective way to gain exposure to commercial real estate is through investment in real estate investment trusts (REITs). Australian REITs operate in a well established regulatory environment and are traded on the Australian Stock Exchange, providing investors with liquidity and governance that is typically not offered by direct property investment. These factors coupled with the growth in superannuation funds have provided a platform for the Australian REITs to develop into a major AU\$120 billion investment class (December 2007) that represents close to 8% of the Australian Stock Exchange (ASX 2008, PIR 2008).

In detailing the benefits of REITs, specialised knowledge of the physical building asset, direct property market and the 30 plus Australian REITs has led to the rapid growth of securitised property funds. Managed by a team of property experts, these fund-of-fund vehicles have portfolios which now control over 35%, AU\$45 billion of the Australian REIT market (PIR 2008).

These securitised property funds operate in a competitive environment with investment strategies assessed against competing funds and benchmarked to various property indices. This research adds to the familiar total return and risk benchmarks by adjusting the portfolio returns for a defined risk premium. The trade-off between risk and return follows the risk-adjusted performance measure first outlined by Modigliani and Modigliani (1997). The risk-adjusted performance measure provides recognition that an investor can readily alter the risk profile of their portfolio through the use of leverage in the pursuit of the desired risk and optimal overall investment returns. In addition, excess portfolio returns over the market returns can be decomposed by into allocation-based excess returns and risk-based excess returns.

The analysis presented here is not intended to endorse a particular securitised property fund, but rather to illustrate an approach for evaluating risk-adjusted returns. The findings on historical performance are demonstrated by showing how the ranking of the securitised property funds change with different risk and return measures. In ranking past long-term performance of securitised property funds it should be noted that the performance of securitised property funds can vary over time. This can be due to changes in securitised property funds mandates, personnel and strategies. More recently,

securitised property funds have been seriously affected by unplanned events, like the Centro Properties Group having to restate their 2007 financial accounts in December 2007. In identifying previous unplanned events, past securitised property fund returns can be a good indicator of their future relative performance.

Following this introduction, section two provides a literature review on key risk-adjusted performance papers. Section three details the selected securitised property fund data with section four providing the risk-adjusted performance methodology. Empirical findings are detailed and analysed in section five with the implications for managed funds. The last section provides the concluding comments.

2. Literature Review

Mainstream investment performance measures are based on accurately capturing risk and returns. For many, the most commonly utilised risk-adjusted return benchmark is the Sharpe Ratio, which provides a measure of reward per unit of risk. While experts may find the Sharpe Ratio helpful in comparing the performance of alternative assets, many commentators have noted the results are difficult to interpret for the average investor (Bernstein 2007, Travers 2004).

In recognising issues with the Sharpe Ratio, Modigliani and Modigliani (1997) proposed an alternative quantitative measure of performance. Their risk-adjusted performance (RAP) measure incorporates leverage into the *Sharpe Ratio* formula and so provides a practical approach to examine risk equivalent returns. By adjusting the portfolio through combining risk-free instrument (long or short) to a point where the Sharpe line intersects the market risk level, RAP allows the identification of the best performing asset for a given level of risk. Likewise the level of risk can be tailored to individual's preferences through the introduction of leverage.

Hopkin and Acton (1999) recognised the RAP benefits for measuring US public real estate equity funds risk and return characteristics. They proposed a further extension to the RAP measure which allows the portfolio manager to attribute a portion of the excess return to better asset selection and a portion to a choice of where the funds are on the risk spectrum. Over the period measured (1994-1998) they found that excess returns generated in their sample of real estate funds were predominately attributable to managers taking on additional risk.

Westerheide (2006) used the RAP approach to examine the historical performance (1990-2004) of international real estate investment trusts (REITs) and made a comparison to alternative asset classes. Over the long run, in most countries, REITs seem to represent an asset class distinct from bonds and equities. On a risk-adjusted basis, REITS performed better than equities in the US, Australia, Japan and France.

Extensive quality Australian property databases have allowed, in the past, analysis of the direct property market and the Australian REIT market. Fisher (2000) RAP analysis of direct property data (1985-1998) highlighted the attributes of retail property investments to the ASX A-REIT index. Likewise Fisher and Hafez (2000) A-REITs analysis (1993-1998) appeared to indicate that individual A-REIT performance relates less to asset allocation timing and more on underlying property fundamentals.

An alternative to both a direct property investment and public equity REITs is fund-of-fund investment products. Commonly known as securitised property funds in Australia, they can offer exposure to a range of public and private property investment vehicles (in Australia the investment mandates are predominately A-REIT focused) with many having access to specialist property funds that might otherwise be unavailable to investors. In accordance with defined investment objectives, commonly related to out-performing a benchmark index, the securitised property fund managers research and select funds for agreed management fees (Higgins 2007).

3. Data

The Australian publicly traded real estate securities market has grown rapidly since the late 1990's. The rapid growth in A-REITs has been accompanied by a commensurate increase in the number of dedicated securitised property funds. As at December 2007, there were over 160 securitised property funds valued at AU\$45 billion and ranged from less than AU\$1 million to over AU\$6.5 billion (PIR 2008).

Whilst the numbers of securitised property funds have grown, the market have seen significant consolidation activities where managers seek to increase economies of scale to gain a competitive advantage. Funds with different investment strategies such as passive and active management styles attract a different fee structure which has a bearing on investors overall returns. Therefore, to prevent the management fees from diluting the results, management fees have been striped from the data series for wholesale securitised property funds. Of the 20 wholesale securitised property funds that

have been in existence since January 2000, 16 were selected and provided 34 quarterly data points. The selected securitised property funds are shown in Table 1.

Table 1

Composition of Selected Australian Securitised Property Funds

| Name | AU\$ Million | % of Total |
|--|--------------|------------|
| AMP Capital LP Trust Composite | 3,765 | 23.5% |
| ANZ Listed Property Trusts | 42 | 0.3% |
| BGI Aust Active LPT 300 | 1,281 | 8.0% |
| BT Institutional Enhanced Property | 1,281 | 8.0% |
| BT Institutional Property Sector Trust | 203 | 1.3% |
| CFS W'sale Property Securities | 3,483 | 21.8% |
| CSAM Property | 519 | 3.2% |
| Challenger Listed Property | 557 | 3.5% |
| ING Listed Property Trusts | 32 | 0.2% |
| Legg Mason Property Model Composite | 796 | 5.0% |
| MLC Property Securities Fund | 298 | 1.9% |
| Macquarie Property Securities | 846 | 5.3% |
| Principal Property Securities | 171 | 1.1% |
| SSGA Aust Listed Property Composite | 559 | 3.5% |
| UBS Property Securities | 1,916 | 12.0% |
| United Property | 263 | 1.6% |
| | 16,012 | |

Source: PIR 2008

Table 1 illustrates the selected securitised property funds with continuous return data from January 2000. These 16 wholesale securitised property funds represent approximately 36% of the current Australian securitised property fund market and ranged in size from the ING Listed Property Trusts (AU\$32 million) to the AMP Capital LP Trust Composite (AU\$3.7 billion). The three largest securitised property funds represent more than 58% of the selected securitised property funds.

For the performance of the overall A-REIT market, the S&P/ASX 300 A-REIT series was selected. This provided the benchmark series to measure the securitised property funds performance against and is commonly recognised as the industry index.

4. Methodology

The RAP methodology follows the Modigliani and Modigliani (1997) paper. The basic concept underlying RAP is the trade-off between risk and return, being to adjust the fund returns to the level of risk in the benchmark series. This is defined as:

$$RAP_p = (\sigma_m/\sigma_i) (r_p - r_f) + r_f$$

where:

σ_m = standard deviation of benchmark/market

σ_i = standard deviation of asset i

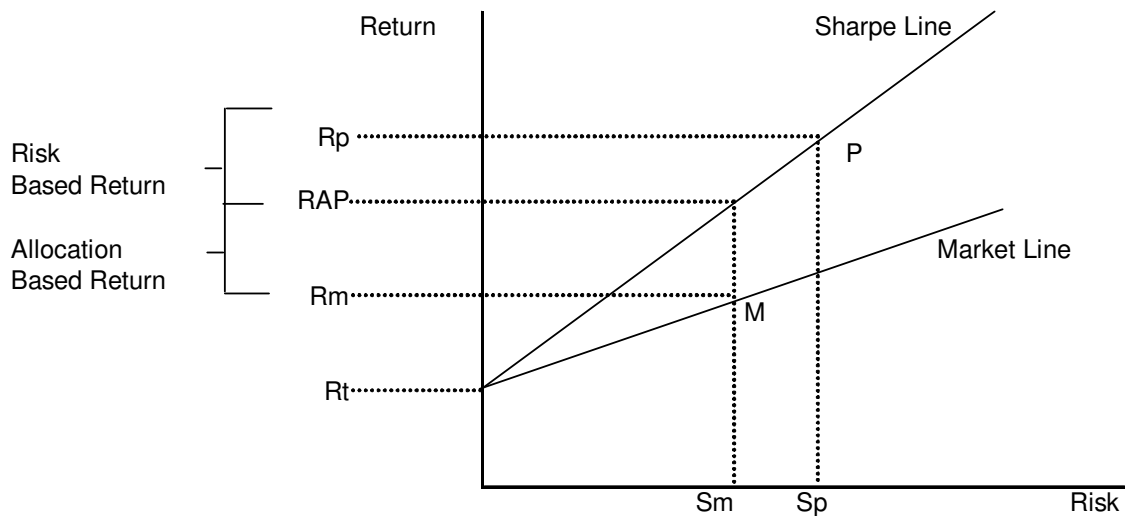
r_i = return of fund i

r_f = risk free rate of return

Furthermore, the RAP model allows the individual fund risk level to match that of the market by adjusting the level of leverage in the fund. The risk measure as the dispersion of fund return can be increased by increasing the level of debt in the fund make-up and conversely, the level of risk can be decreased by selling risky fund assets in order to purchase risk-free assets (e.g. 90 day Bank Bills). By adjusting the individual fund return to the benchmark return, the difference can be demonstrated to be from either increase/decreased risk or better/worst portfolio allocation. This can be best demonstrated graphically:

Figure 1

Graphical Representation of Risk Adjusted Return



Source: Hopkins and Action 1999

As shown in Figure 1, point P is the fund performance. It has return R_p and risk S_p . The benchmark performance M, has return R_m and risk S_m . The line connecting P and the risk-free rate R_t is the Sharpe Ratio line. The point on that line that has the same risk as the benchmark R_m is the RAP. The difference between RAP and the fund return can be disseminated into risk based return and allocation based return (Hopkins and Action 1999).

5. Results and Discussion

To investigate the performance of the securitised property funds, initially the returns, risk and Sharpe Ratio's were compared and ranked with the S&P/ASX A-REIT 300 index. To assist in data interpretation, the data was annualised to highlight the variation in performance across the securitised property funds. Please see Table 2

Table 2

Performance of Securitised Property Funds: 2000 to 2007

| Securitised Property Funds | Average Annual Return | Rank | Standard Deviation | Rank | Sharpe Ratio | Rank |
|--|-----------------------|--------|--------------------|--------|--------------|------|
| AMP Capital LP Trust Composite | 15.21% | 7 | 9.92% | 7 | 0.98 | 6 |
| ANZ Listed Property Trusts | 15.18% | 8 | 9.93% | 8 | 0.98 | 7 |
| BGI Aust Active LPT 300 | 14.58% | 14 | 10.07% | 12 | 0.91 | 13 |
| BT Institutional Enhanced Property | 15.00% | 10 | 9.67% | 3 | 0.99 | 5 |
| BT Institutional Property Sector Trust | 15.28% | 5 | 9.01% | 1 | 1.09 | 2 |
| CFS W'sale Property Securities | 14.87% | 12 | 12.62% | 17 | 0.74 | 17 |
| CSAM Property | 15.42% | 3 | 9.81% | 5 | 1.01 | 4 |
| Challenger Listed Property | 14.98% | 11 | 10.15% | 14 | 0.94 | 11 |
| ING Listed Property Trusts | 15.17% | 9 | 9.98% | 9 | 0.97 | 9 |
| Legg Mason Property Model Composite | 15.22% | 6 | 9.99% | 11 | 0.98 | 8 |
| MLC Property Securities Fund | 15.30% | 4 | 9.53% | 2 | 1.03 | 3 |
| Macquarie Property Securities | 13.98% | 17 | 11.14% | 15 | 0.76 | 16 |
| Principal Property Securities | 16.78% | 1 | 10.09% | 13 | 1.12 | 1 |
| SSGA Aust Listed Property Composite | 14.37% | 16 | 9.92% | 6 | 0.90 | 14 |
| UBS Property Securities | 15.72% | 2 | 12.54% | 16 | 0.82 | 15 |
| United Property | 14.85% | 13 | 9.76% | 4 | 0.96 | 10 |
| S&P/ASX A-REIT 300 Index | 14.53% | 15 | 9.98% | 10 | 0.91 | 12 |
| Summary Statistics | | | | | | |
| | Mean | 15.08% | Max | 16.78% | | |
| | SD | 0.61% | Range | 2.80% | | |
| | Min | 13.98% | | | | |

Table 2 presents the annualised risk/return profile of the securitised property funds. The S&P/ASX A-REIT 300 index recorded an average annual return of 14.53% for the 8 years to December 2007. It is positive to report that a large proportion of the selected funds (14 out of 16), on average, outperformed the market benchmark with the worst fund marginally underperforming the index by 0.54%.

Majority of the funds correlate strongly with the A-REIT index, with the correlation coefficient averaging around 0.98. These relationships were also reflected in the concentrated range between the best performing fund and the worst performing fund of only 2.80%.

On a risk perspective, some of the top performing funds turned out to be less attractive. For example, UBS Property Securities which ranked 2nd on a total return basis was ranked 15th on a risk-adjusted basis due to its considerably higher volatility. Depending on the investor's risk appetite, selecting an investment either on total return or risk can be misleading. The Sharpe Ratio provides the return per unit of risk with a 1.12-0.74 range. There appears no consistent relationship between the Sharpe Ratio ranking and either that of the return and risk ranking. According to the Sharp Ratio formula, the top three performing funds were interestingly small-cap securitised property funds, each having less than 2% of the selected market. This may allow these funds to likewise invest in smaller A-REITs offering high returns.

If both risk and return is a key determinant to an investor in their portfolio selection process, the utilisation of RAP measure could be very useful as it is easily interpreted. Table 3 presents the risk-adjusted return and the results of the attribution analysis to detail the excess return relative to portfolio selection and additional risk.

Table 3

Risk-Adjustment Performance and Attribution Analysis

| | Leverage Factor | Risk Adjusted Return (Annualised) | Rank | Excess Return Relative to Index | Excess Return from Portfolio Selection | Excess Return from Additional Risk | Rank |
|--|--------------------|--|------|--|---|--|------|
| Securitised Property Funds | | | | | | | |
| AMP Capital LP Trust Composite | 0.01 | 15.27% | 6 | 0.68% | 0.74% | -0.06% | 12 |
| ANZ Listed Property Trusts | 0.01 | 15.23% | 7 | 0.65% | 0.70% | -0.05% | 10 |
| BGI Aust Active LPT 300 | -0.01 | 14.51% | 13 | 0.06% | -0.02% | 0.08% | 6 |
| BT Institutional Enhanced Property | 0.03 | 15.31% | 5 | 0.48% | 0.78% | -0.30% | 15 |
| BT Institutional Property Sector Trust | 0.11 | 16.33% | 2 | 0.75% | 1.80% | -1.05% | 17 |
| CFS W'sale Property Securities | -0.21 | 12.90% | 17 | 0.34% | -1.62% | 1.96% | 2 |
| CSAM Property | 0.02 | 15.59% | 4 | 0.89% | 1.06% | -0.17% | 13 |
| Challenger Listed Property | -0.02 | 14.82% | 11 | 0.46% | 0.29% | 0.16% | 4 |
| ING Listed Property Trusts | 0.00 | 15.18% | 9 | 0.64% | 0.65% | 0.00% | 9 |
| Legg Mason Property Model Composite | 0.00 | 15.21% | 8 | 0.69% | 0.68% | 0.01% | 7 |
| MLC Property Securities Fund | 0.05 | 15.77% | 3 | 0.77% | 1.24% | -0.47% | 16 |
| Macquarie Property Securities | -0.10 | 13.10% | 16 | -0.54% | -1.43% | 0.88% | 3 |
| Principal Property Securities | -0.01 | 16.66% | 1 | 2.25% | 2.14% | 0.12% | 5 |
| SSGA Aust Listed Property Composite | 0.01 | 14.43% | 14 | -0.16% | -0.10% | -0.06% | 11 |
| UBS Property Securities | -0.20 | 13.63% | 15 | 1.19% | -0.90% | 2.09% | 1 |
| United Property | 0.02 | 15.06% | 10 | 0.32% | 0.54% | -0.22% | 14 |
| S&P/ASX A-REIT 300 Index | 1.00 | 14.53% | 12 | 0.00% | 0.00% | 0.00% | 8 |

Table 3 illustrates the annualised RAP and the associated gearing. The leverage factor represents the financial operation of borrowing and lending (with market opportunity cost represented by the risk-free rate – 90 day bank bills) to adjust the risk of the portfolio to that of the benchmark index. The RAP 16.66%–12.90% range highlighted the

differences in securitised property funds performance for a given level of risk. The RAP ranking is the same as for the Sharpe Ratio.

In detailing the RAP performance, the leverage for a property securities fund return to match the benchmark risk can be better shown graphically in an example, for instance, CFS Wholesale Property Securities is required to reduce its leverage by 21% through selling a portion of its portfolio and replacing it with risk free assets by the same proportion. This is shown in Figure 2.

Figure 2

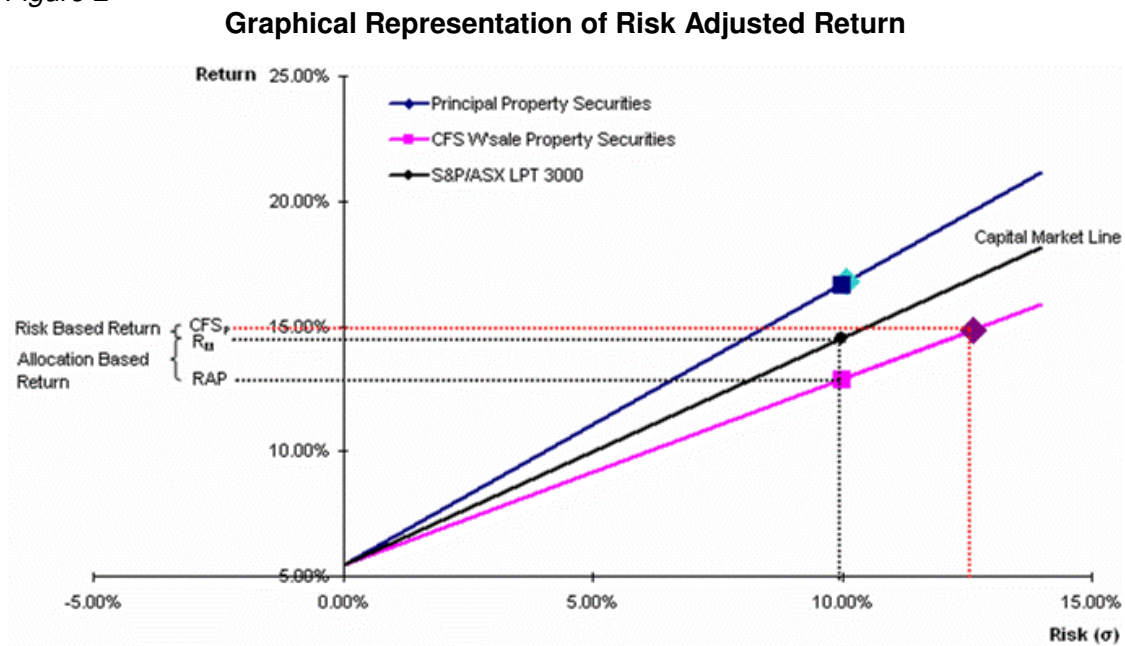


Figure 2 provides a graphical representation of the mechanics of the risk-adjusted performance. The capital market line is the line connecting the risk free rate and the market portfolio (R_M) and its gradient equates to its Sharpe Ratio. The difference in vertical distance from the market portfolio represents the portion of the return that is generated through allocation based decisions. Returns as a result of risk based decisions are represented by horizontal deviation from the market portfolio.

Returning to the previous example, although outperforming the market by 0.34%, at the risk equivalent level (post leverage adjustment), CFS Wholesale Fund return of 14.87% reduced to 12.90% $[(1-0.21)*14.87\% + 0.21*5.47\%]$. Therefore, the fund did not generate sufficient returns to compensate their investors for the additional risk exposure.

6. Conclusion

Australian REITs have developed into a major investment class. To gain exposure to this specialised investment class, securitised property funds (fund of funds) have grown exponentially to now control over 35%, AU\$45 billion of the Australian REIT market.

The research selected 16 wholesale property funds that have been in existence since 2000. Their mean annual return of 15.08% compares favourably to the 14.53% return from the benchmark S&P/ASX A-REIT 300 index, which ranked 15 out of the 17 analysed data series. In part, the securitised property funds above benchmark returns related to an increase risk profile. This was highlighted when comparing the Sharpe Ratio for the securitised property funds, where the benchmark index was ranked 12th out of 17th.

The risk-adjusted performance (RAP) measure incorporates leverage into the Sharpe Ratio formula. This provides a comparative return for a given level of risk. The RAP 16.66%–12.90% range highlighted the differences in the securities property funds performance for a given level of risk. The excess returns to the benchmark index can be due to better selection and from taking on additional risk. Of the 16 selected securitised property funds, half achieved the excess return from portfolio selection. Most notable those that achieved an excess return from portfolio selection were those with a small property portfolio.

This research demonstrated the benefits of analysing securitised property funds beyond the standard return and risk measures. The RAP approach provides a measure of return for a define level of risk with the benchmark excess attributed to portfolio selection and additional risk. This performance information can provide valuable additional information for an astute investor.

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