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**MERGERS AND ACQUISITIONS WITHIN THE A-REIT  
SECTOR**

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## Abstract

Over the last decade the Australian Real Estate Investment Trust (A-REIT) sector has experienced an increase in merger and acquisition activity. This study examines A-REIT merger and acquisition transactions between January 1995 and December 2008 with the results showing that target shareholders enjoy positive cumulative abnormal returns (CARs) of 4.27% over the event window [-20,+20]. Analysis indicates that the CARs for bidding firms are considerably greater than prior real-estate research; acquiring A-REITs achieve positive and significant CARs of 0.99% and 0.86% over event windows [-2,+2] and [-1,+1] respectively. Investigation of bidder's CARs finds that when scrip or a combination of scrip and cash is used to finance the acquisition, bidding firms enjoy higher CARs compared to cash financed M&As. We also find that the relative size or the size of the acquirer have a positive and significant impact on the excess returns of bidding A-REITs.

## 1. Introduction

Securitised property trusts serve a vital capital formation function for the real estate market (Allen et al. 2000). This function is particularly significant in Australia, where both the percentage of the total real estate market listed and the contribution the sector makes to the total equity market are the highest in the world (Hughes and Arissen 2005). Over the past decade the A-REIT sector has grown from a market capitalisation of approximately \$10 billion to a peak of more than \$135 billion in 2007. A large proportion of the growth in the Australian Real Estate Investment Trust (A-REIT) sector can be attributed to an increase in investment from institutional funds, particularly superannuation funds. The Australian Prudential Regulatory Authority estimates that the collective worth of Australia's superannuation funds is over \$1.05 trillion as at December 2008, of which 10% is invested in real estate (APRA 2009). The importance of the A-REIT sector is expected to continue to grow as the retirement investment industry responds to the demands of an ageing population.

The purpose of this study is to investigate the area of mergers and acquisitions in the A-REIT sector over the period 1995 to 2008. No prior study has evaluated this facet of the Australian market. Consolidation is one of the few avenues of growth left for A-REITs<sup>1</sup>, merger activity within the sector has been set in motion by the recognition that size, asset growth and diversification are avenues to improve returns and attract capital (Moody's Investors Service, 2006). Associated with the move to increase size through M&As, trusts have been moving into higher risk areas such as construction and development, as well as off shore to increase

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<sup>1</sup> Australia is the most highly securitised property market in the world, with nearly 60% of the underlying properties securitised (Bartholomeusz 2005).

returns (Blundell 2006). These factors have increased the volatility of the trusts income, hence changing the dynamics of the A-REIT sector.

Recent studies of the US market have found that shareholders of target firms earn significant positive excess returns around the announcement day, ranging from 9.46% (Kirchhoff, Schiereck and Mentz, 2006) to 2.16% (McIntosh, Officer and Born, 1989). These conclusions are confirmed by the current study which has found that target shareholders of A-REITs have earned positive significant excess returns of 4.28% over a three day event window  $[-1,+1]$ . The evidence on excess returns to bidding shareholders is somewhat mixed, with more recent studies showing significant negative cumulative abnormal returns. This study has found that acquiring shareholders experience significant positive abnormal returns of 0.86% over the same event window.

The study also considers the extent to which the method of payment influences shareholder returns. We find that the cumulative abnormal returns for bidding firms are considerably greater and show statistical significance when scrip or a combination of scrip and cash is used to finance the acquisition. We further find that relative size and the size of the acquirer have a positive and significant impact on the excess returns of bidding A-REITs. This is the first REIT study outside the US and will add to the international literature on REIT mergers and acquisitions.

The paper will proceed as follows. Section 2 briefly reviews the literature and identifies the central issues associated with the pattern of shareholder returns during merger activity within the trust sector. Section 3 explains the methodology employed, while section 4 discusses the data and section 5 reports the results. Section 6 makes some concluding remarks.

## 2. REIT Shareholder Returns Literature

Berkovitch & Narayanan (1993) identify three major motives for M&As; the synergy motive, the hubris hypothesis and the agency motive. The synergy motive suggests takeovers result in the realisation of economic gains with the merging of the resources of two firms. The hubris hypothesis argues management make mistakes in evaluating targets and engage in acquisitions even where there is no synergy (Roll 1986). Finally, the agency motive suggests that takeovers occur because they enhance the acquirer managements' welfare at the expense of the acquirer shareholders (Mork et al. 1990).

Research into the impact of mergers on shareholder returns has shown that, on average, the majority of gains in mergers are experienced by target firms<sup>2</sup>. In 1987, Allan and Sirmans conducted the first study into the effects of US REIT takeovers. They investigated 38 successful REIT to REIT mergers from 1977 to 1983 to determine if the wealth distribution within REIT mergers was the same as for corporate mergers. Using event study methodology, it was found that REIT bidders experienced significant positive CARs of 8.47% in the [-10,0] event window and 5.78% over the [-1,0] period (Allen and Sirmans 1987). The abnormal returns for the acquiring firms post announcement were slightly positive, but not significant.

McIntosh, Officer and Born (1989) examined the returns for 27 target US REIT shareholders over the period of 1962 to 1986. Results showed a positive and significant abnormal return for target shareholders of 2.16% over the event window [-1,0]. The pre-announcement period [-100,-2] is dominated by positive excess returns, but lacked statistical significance. Post announcement abnormal returns over days [+1,+30] were generally small and insignificant. The authors concluded that results over the three periods were "consistent with the hypothesis that target REIT shareholders experience a positive wealth effect due to the merger

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<sup>2</sup> See: Jensen and Ruback (1983) and Servaes (1991)

announcement” (McIntosh et al, 1989, p. 145). A decade later Campbell, Ghosh and Sirmans (1998) examined 17 completed US REIT mergers from 1990 to 1998. The investigation of bidder excess returns showed a negative CAR of 1.5% over the five day event window [-2,+2]. The authors suggested this result provided some support for the ‘hubris’ theory. Target REITs produced a CAR of +5.2% over the same window.

Investigating the performance of REIT acquisitions, Sahin (2005) investigated 35 M&As over the period 1990 to 1998 and found positive and significant gains to target REITs and significant negative excess returns for bidding REITs over the event window [-1,+1], 4.31% and -1.21% respectively. Kirchhoff, Schiereck and Mentz (2006) investigated 69 M&A deals of exchange listed real estate finance institutions between 1995 and 2002. The results indicated positive and significant cumulative returns to target shareholders of 9.46% over the [-1,+1] event window. The study found no significant abnormal returns to bidding firms across the four time intervals. Event windows [-20,+20] and [-1,+1] produced negative CARs whilst [-10,+10] and [-5,+5] produced positive CARs. The authors concluded that M&A deals cannot be considered a clear success, but neither can they be considered to have destroyed value.

Eichholtz and Kok (2008) investigated 95 international<sup>3</sup> M&As of property companies from 1999 to 2004. The study found excess returns for targets and acquirers were distinctly different for the real estate sector. Consistent with prior REIT research, target firms experienced a positive and significant CAR of 8.66% over the event period [-1,+1]. Eichholtz and Kok (2008) note this lower CAR compared to more general corporate finance studies may be due to the homogeneity of the assets of property companies, resulting in a lower potential for synergistic profits. The excess returns to acquirers produced a small, but positive

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<sup>3</sup> Countries included: USA, Canada, UK, Australia, Sweden and The Netherlands.

CAR over the three day event window. Although the results lacked statistical significance, they do support previous findings in real estate literature that bidding firms experience better excess returns in M&As compared to general corporate finance literature.

A review of the literature has shown, that target shareholders enjoy the majority of the gains in a merger. This is consistent with prior M&A studies across different industries, however, the level of excess return for the real estate sector is lower. The evidence on the impact of acquiring shareholders is somewhat mixed. Early studies show large excess returns to bidding shareholders, but it appears from later studies that the opportunity for bidding firms to obtain large excess returns has decreased. Campbell et al, (2001) suggest that an increase in the size of REITs may be a contributing factor causing acquirer returns to be lower.

### **3. Methodology**

#### *3.1 Event Study*

Event study methodology as described by Brown and Warner (1985) is used to measure excess returns to both bidding and target firm shareholders. To implement the event study methodology the market model method is employed. This method explicitly accounts for the risk associated with the market and mean returns. The market model was estimated for each company over a 120 day estimation period ( $t_{-150}$ ,  $t_{-30}$ ). Ordinary least squares (OLS) regression was used to determine the parameter estimations. The following market model is employed:

$$E(R_{i,t}) = \alpha_i + \beta_i(R_{m,t}) + \varepsilon_{i,t} \quad (1)$$

Where:

$E(R_{i,t})$  = The estimated return on security  $i$  on day  $t$ ,

$\alpha_i$  = The intercept term;

$\beta_i$  = The slope coefficient;

$R_{m,t}$  = The observed return for the market index, S&P/ASX200<sup>4</sup>, on day  $t$ ; and

$\varepsilon_{i,t}$  = The standard error term

To avoid the bias associated with the estimation of parameters using daily returns for securities with infrequent trading (Heggen and Gannon 2008), we employ the Scholes and Williams (1977) adjusted beta method<sup>5</sup>. The abnormal return (AR) of the common stock of firm  $i$  in the event window is calculated as<sup>6</sup>:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (2)$$

The average abnormal return ( $AAR_t$ ) on a portfolio of  $N$  securities for the event window is defined as:

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{i,t} \quad (3)$$

We estimate the cumulative abnormal returns (CAR) for any interval  $[t_1:t_2]$  during the event window  $T$  as:

$$CAR_{[t_1:t_2]} = \sum_{[t_1:t_2]} AR_{i,t} \quad (4)$$

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<sup>4</sup> S&P/ASX200 is the investable benchmark for the Australian equity market. The index is comprised of the top 200 stocks listed on the Australian Stock Exchange.

<sup>5</sup> See Scholes and Williams (1977) for full discussion on adjusted beta methodology.

<sup>6</sup> Returns include dividend payment and other corporate actions



The event window  $T$  is 41 days ( $T = [-20,+20]$ ), where  $t = [0]$  denotes the trading day the M&A is announced. To investigate the robustness of our results and to provide comparison with previous real estate trust M&A literature, analysis of three additional event periods within the event window:  $[-1,+1]$ ,  $[-2,+2]$  and  $[-5,+5]$  was conducted.

To determine the statistical significance of the calculated AR and CAR, a standard cross-sectional test statistic was estimated. First, we calculate a standardised abnormal return by dividing each AR in the event window by its estimation period standard deviation:

$$\hat{AR}_{i,t} = \frac{AR_{i,t}}{\sigma(AR_{i,t})} \quad (5)$$

Where:

$$\sigma(AR_{i,t}) = \sqrt{\frac{\sum_{t=-150}^{t=-30} (AR_{i,t} - AR^*_i)^2}{120}} \quad (6)$$

$$AR^*_i = \frac{\sum_{t=-150}^{t=-30} AR_{i,t}}{120} \quad (7)$$

The test statistic for the AR on any given day is given by:

$$AR - t - statistic = \left( \sum_{i=1}^{N_t} \hat{AR}_{i,t} \right) \cdot (N_t)^{-\frac{1}{2}} \quad (8)$$

Where:  $N_t$  is the number of sample securities for time period  $t$ .

The test statistic for CAR during the event window is given by:

$$CAR - t - statistic = \frac{\left( \sum_{i=1}^{N_t} \hat{AR}_{i,t} \right) \cdot (N_t)^{-\frac{1}{2}}}{\sqrt{L_t}} \quad (9)$$

Where:  $L_t$  is the number of abnormal returns that have been accumulated in the event window.

### 3.2 Regression Analysis

Regression models were developed to examine the abnormal returns calculated above for both targets and acquirers. Independent variables were selected on the basis of prior literature along with variables unique to the A-REIT structure. OLS regression was utilised to test the significance of the relationship between each A-REIT cumulative abnormal returns over the three-day event window [-1,+1] and the explanatory variables discussed below.

$$CAR_{Bidder} = \alpha + \beta_1 SIZE + \beta_2 RELSIZE + \beta_3 BLEV + \beta_4 TLEV + \beta_5 FOCUS + \beta_6 BMGMT + \beta_7 MOP + \varepsilon \quad (10)$$

$$CAR_{Target} = \alpha + \beta_1 SIZE + \beta_2 RELSIZE + \beta_3 BLEV + \beta_4 TLEV + \beta_5 FOCUS + \beta_6 BMGMT + \beta_7 MOP + \varepsilon \quad (11)$$

#### *Firm Size and Relative Bidder Size*

Acquirer size (SIZE) is measured as the natural log of the market capitalisation of the bidding A-REIT. Campbell, et al., (2001) found significant negative relationship between bidder's

excess returns and size for REIT mergers and a significant positive result for target excess returns. The results suggested that larger REIT bidders may overpay in an acquisition.

Relative bidder size (RELSIZE) is controlled for by dividing the bidder's equity market value by the market value of the targets equity. Asquith, Bruner, and Mullins (1983) provided evidence of a significant relationship between relative size and bidder's abnormal returns. Later studies have also produced similar results, for example Loderer and Martin (1990), Moeller, Schlingemann and Stulz (2004) and Kiyamaz and Baker (2008). In the light of prior research we expect the coefficients for both SIZE and RELSIZE to display a negative relationship with the CARs for acquiring A-REITs.

#### *Degree of Financial Leverage*

The degree of financial leverage is defined as the degree of financial gearing of both the target A-REIT (TLEV) and bidding A-REIT (BLEV), measured as *Financial Debt / (Financial Debt + Equity)*.<sup>7</sup> Jensen (1986) proposed that firms with higher financial leverage make better investment decisions due to their lower levels of financial-slack or free-cash flow. Maloney, McCormick and Mitchell (1993) provide evidence to support this view and conclude "that debt improves managerial decision making" (p. 189). In the case of REITs, Campbell et al., (2001) found no significant relationship between acquirer excess returns and leverage. The authors hypothesised that this result was due to the REIT institutional structure and the restriction it placed on REITs free-cash flow.

Target firms that are highly levered provide bidding firms with the opportunity to capture synergistic benefits (Myers and Majluf, 1984). Campbell et al., (2001) posit that highly levered REITs (with low historical growth rates) may find it difficult to reduce their leverage

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<sup>7</sup> Financial debt includes both long- and short-term debt

levels due to the high payout ratios required by law. If merging is a way to escape this debt-driven entrapment then gains to both parties should be greater. The study found a positive and significant relationship between excess returns and target REIT leverage.

### *Asset Diversification*

Allan and Sirmans (1987) argued that REITs that specialised in particular types of properties or geographical location may have provided bidding trusts with expertise in identifying mismanaged REITs of similar type. This could result in higher abnormal returns to acquiring firms when the target is the same type of trust as the acquirer. The authors divided their sample into related and unrelated mergers (classified by geographical location and property type) and found statistically significant difference in the performance of related and unrelated mergers. Related mergers produced a CAR of 6.63%, as compared to 4.61% for unrelated acquisitions. Specialisation/diversification (FOCUS) is controlled for by a dummy variable, 1 if the M&A is related 0 otherwise, as measured by property type. Therefore, we expect the FOCUS coefficient to be positively related to CARs for both targets and bidders.

### *Management Structure*

The management structure of real estate securities can be divided into two categories; internal or externally managed. An externally managed property trust is one that out-sources the management of the assets to a separate company. In contrast, units in an internally managed trust are “stapled” to its management company, which means that units in the trust(s) and shares in the company cannot be sold separately. The trust entity usually holds the passive property assets while non-passive activities, such as property management and development. Greer and Parker (2005) identify three main motivations for stapled trusts; (1) expansion into new areas previously restricted to external trusts, (2) alignment of interests between

management and trust unit-holders and (3) greater financial flexibility in debt funding, and a lower cost of capital.

Capozza and Seguin (2000) examined the performance of externally and internally managed REITs. The results demonstrate that “externally managed REITs under-perform and are priced at a discount relative to their internally managed counterparts” (p. 92). The authors extended their investigation to identify whether externally managed REITs have greater risk due to financial or business risk. The results suggested that externally managed REITs pay interest rates on debt that are approximately 3% higher than their stapled counterparts.

Management structure (BMGMT) is a dummy variable indicating the management structure of the acquiring firm, 1 if the firm is internally managed, 0 otherwise. We hypothesise that internally managed acquirers are expected to enjoy higher excess returns than externally managed REITs, due to lower agency costs, improved financial flexibility and a lower cost of capital.

#### *Method of Payment*

Research has documented that choice of payment has an impact on excess returns. Both bidder and target excess returns are higher when cash is used as the method of payment [for example: Wansley, Lane and Yang (1983), Travlos (1987), Davidson and Cheng (1997) and Andrade, Mitchell and Stafford (2001)]. There are two hypotheses for the difference in the observed excess returns between the methods of payment. First, the different signalling implications of cash versus stock (Myers and Majluf 1984). Takeovers financed with cash reduce the asymmetric information problem that is associated with the use of stock or a combination. Second is the tax implication hypothesis, which suggests that target firm

shareholders require a higher payment from the bidder to compensate them for the immediate tax liability that cash bids create (Wansley et al. 1983).

In the case of A-REITs we expect this impact to be minimal compared to non-REIT transactions. Their requirement to payout 95% of their earnings, limits the opportunity to finance acquisitions with internally generated funds, which may lessen the negative implications of using stock as the method of payment (Campbell et al. 2001). MOP is a dummy variable for the method of payment, 1 if cash is used to finance the merger, otherwise 0.

#### 4. Data

Successful A-REIT M&As were identified, along with the announcement day<sup>8</sup>, from the *Connect 4 Takeovers Database*<sup>9</sup> over the period of January 1995 to December 2008. Daily share price data for the identified M&As was obtained from *Bloomberg*. Accounting data (leverage, specialisation and management structure) was collected from the *Connect 4 Annual Reports* collection and ASX website ([www.asx.com.au](http://www.asx.com.au)). Potential firms were subjected to the following screens before they were included in the sample:

- The firm share prices must be listed in Bloomberg for the period beginning 150 trading days prior the announcement and ending 20 days after the announcement, a total 171 days;
- There must be an absence of large-scale confounding events occurring within five trading days of the announcement;

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<sup>8</sup> To confirm announcement date, each transaction was cross referenced with ASX Announcements database. If an announcement occurred after the close of trade, the following trading day was employed as day 0

<sup>9</sup> *Connect 4* is a well regarded private company provider of Australian Stock Exchange (ASX) information to universities, government departments, banks, stockbrokers and other such finance researchers.

- Both bidder and target are listed entities and are classified as Australian Real Estate Investment Trusts

A total of thirty-six<sup>10</sup> transactions were identified that met the above criteria. While the number of transactions in the sample is small compared to most merger studies in corporate finance, the sample has the advantage that all events are drawn from the same industry. This allows the research to focus on the variables of interest without having to control for the large number of other issues that can affect the results in studies that include mergers across industries (Campbell et al. 2005).

Table 1 provides the descriptive statistics for the thirty-six M&A transactions. Panel A shows the average deal size is just over \$500 million, the largest transaction was almost \$1.7 billion. The smallest M&A, by deal size, was approximately \$50 million. As we would expect the mean, maximum and minimum deal size values are all greater than the corresponding values for the target's market capitalisation, suggesting that bidders paid a premium for the acquisition. It is interesting to note the size difference between the targets and bidders. The mean market capitalisation of the acquiring A-REITs is approximately 3.5 times larger than that of the target firms. Panel B separates the transaction by method of payment; we can see that A-REIT bidders used a combination of cash and scrip or scrip as their method of payment in 22 of the 36 transactions. This outcome is consistent with prior real estate research that found that the majority of M&A are financed with combination of cash and scrip or scrip, for example Campbell et al, (2001), and Eichholtz and Kok (2008) and is most likely due to the legal payout requirements of REITs.

(INSERT TABLE 1 ABOUT HERE)

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<sup>10</sup> We investigated all M&A trades during the 1995-2008 period, no M&A transactions occurred in 1995 and 2008.

## 5. Results and Discussions

### *5.1 Event Study Results*

To investigate the wealth effects of A-REIT M&As we examined the CARs over a number of different event windows ( $[-20,+20]$   $[-5,+5]$   $[-2,+2]$  and  $[-1,+1]$ ). The results are displayed in table 2. It can be seen that target firms, consistent with prior literature, enjoy the majority of the excess returns. All four event windows show positive and significant CARs for target shareholders. The CARs over the  $[-1,+1]$  window are broadly in line with those presented by McIntosh et al. (1989) and Sahin (2005) investigating REITs. They are, however, slightly lower than those presented by Eichholtz and Kok (2008) investigating property companies and Kirchhoff et al. (2006) investigating real estate finance institutions. Although the CARs are positive, the level of excess return is considerably lower than previous M&A studies in general corporate finance investigations<sup>11</sup>. This result supports Eichholtz and Kok (2008) claim that the homogeneity of the assets of property companies results in a lower potential for synergistic benefits.

The CAR results for bidding firms shows positive and significant returns over event windows  $[-2,+2]$  and  $[-1,+1]$ . Prior research findings on acquiring REITs has been mixed, Sahin (2005) showed bidding firms experienced significant and negative CARs of 1.21% over the event window  $[-1,+1]$ . Kirchhoff et al. (2005) and Campbell et al, (1998) both observed negative CARs around the announcement period, but neither displayed statistical significance. Eichholtz and Kok (2008) found bidding REITs experience positive CARs of 0.37% over days  $[-1,+1]$ , however the result was not significant. Finally, Allan and Sirmans (1987) showed bidding REITs experienced positive and significant CARs of 5.78% over the event window  $[-1,0]$ .

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<sup>11</sup> See: Jensen and Ruback (1983), Andrade, et al, (2001), and Kiyamaz and Baker (2008).



The results for bidding A-REITs provide further support for the synergy motive. These synergistic benefits may be the result of improved management of the targets assets following the announcement (Allan and Sirmans, 1987) or the result of economies of scale. Seth (1990) suggests acquisitions of targets of significant size relative to the bidder have the potential for creating synergy via economies of scope, size and increased market power. The possible cause of these synergies will be investigated in the regression analysis.

(INSERT TABLE 2 ABOUT HERE)

To further investigate the wealth effects of the study we divided the sample via method of payment. Table 3 displays the CARs of both targets and acquirers when either cash is used to finance the transaction or scrip/combination. As discussed previously, results of studies investigating the relationship between method of payment and ARs have shown that both bidder and target CARs are higher when the M&A is financed with cash. Panel A shows that targets enjoy significant and positive CARs over three of the four event windows when cash is used. When comparing the CARs for cash to scrip/combination in panel B we can see that target shareholders earn slightly higher CARs in cash financed M&As. This result supports Campbell et al, (2001) proposal that the limitation of internally generated funds due to the organisational structure of REITs may lessen the negative implications of using stock as the method of payment. Interestingly, the CARs for targets in panel B are significant across all event windows.

Contrary to prior research, we find that acquirers earn higher CARs when scrip or a combination is used to finance an acquisition. The CARs are positive across all event windows in panel B and highly significant in event windows [-2,+2] and [-1,+1]. Bidding shareholders earn a total excess return of 1.55% in the three day period when scrip/combination is used as the method of payment. The CARs to bidders when cash is used

are all non-significant and range from negative 0.88% in the [-20,+20] period to positive 0.38% over the [-5,+5] window.

(INSERT TABLE 3 ABOUT HERE)

Our results show support for the synergy motive, both target and bidding shareholders experience positive excess returns of 4.27% and 0.54% respectively. The CARs around the announcement period are also highly significant for both parties. The driver for this synergistic benefit is investigated below. Our most interesting result is the method of payment. Prior research has shown that when cash is used to finance an acquisition, both targets and bidders experience greater excess returns due to either the signalling implications (Myers and Majluf 1984) or the tax implication hypothesis (Wansley et al. 1983). However, our results show that the CARs for bidding firms are considerably greater and show statistical significance when scrip/combination is used to finance the acquisition.

### *Regression Results*

Ordinary least squares regression is employed to test the significance of the relationship between both targets and acquirers excess returns and the independent variables described previously. The three-day CARs [-1,+1] are regressed against the explanatory variables; size, relative size, both acquirer and target leverage, focus, the acquirers management structure and the method of payment. Standard diagnostic tests are also run to examine for normality, hetroskedasticity and omitted variables.

Table 4 displays the regression model results. Panel A examines the results for bidders and shows relative size is positive and slightly significant for acquiring A-REITs - the smaller the market value of the target trust relative to the acquirer, the higher the excess returns for the acquirer. This result is in contrast to prior 'general' M&A studies, for example Asquith et al,

(1983), Moeller et al, (2004) and Kiymaz and Baker (2008). However, our result is consistent with prior REIT research by Campbell et al, (2001) who found that relative size is positive and significant for acquiring REITs. The method of payment variable is negative and highly significant; this result supports our findings from the event study analysis where acquiring firms CARs were greater when scrip or combination of scrip and cash was used to finance the acquisition compared to cash payments. Finally, the degree of financial leverage for the acquiring A-REIT is positive and significant. This result supports Jensen (1986) and Stulz (1990) claims that firms with less free-cash flow are less likely to misuse resources on value destroying acquisitions.

Panel B displays the results of the regression model for target A-REITs, we observed one outlier.<sup>12</sup> When the outlier is removed from the sample, method of payment coefficient is negative and significant for target A-REITs suggesting that target shareholders also benefit when scrip or combination is used to finance the acquisition. In both regressions (including and excluding outliers) the relative size variable is significant at the 5% level and negative. This result suggests that target A-REIT shareholders enjoy higher excess returns when the acquirer is much larger relative to them.

(INSERT TABLE 4 ABOUT HERE)

Using the CARs estimated from the event study analysis, we tested the extent to which excess returns of A-REITs is conditioned on size, financial leverage, management structure, the degree of specialisation and method of payment. The method of payment coefficient is negative and significant for both targets and bidders. This result supports the finding in the event study analysis that acquiring firms enjoy higher excess returns when scrip or a combination of scrip and cash is used to finance the acquisition. As discussed earlier, this

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<sup>12</sup> The CAR of the observation was more than three standard deviations away from the mean CAR.

result is in contrast with the majority of prior real estate and more general M&A research. We find that the size and the relative size of the bidding A-REIT has an important influence on the CARs. This suggests that the synergistic gains from the acquisition are not due to the improved management of the targets assets or acquiring firms with similar property types (both BMGMT and FOCUS were insignificant across all models). It does suggest that the synergy motive for the acquisition is a result of economies of scale and increased market power. Finally, Eichholtz and Kok (2008), note that large firms have improved efficiencies and resources that may increase the likelihood of acquiring other firms.

## **6. Conclusion**

This paper has examined the impact of merger and acquisition announcements on A-REIT shareholder returns between January 1995 and December 2008. It is the first paper to examine REIT mergers and acquisitions outside the US. Utilising event study methodology, we studied thirty-six successful A-REIT M&As. Results indicate support for the synergy motive - both target and bidding shareholders experience positive excess returns of 4.27% and 0.54% respectively. The CARs around announcement period are also highly significant for both parties. The most interesting result is the method of payment. Prior research has shown that when cash is used to finance an acquisition, both targets and bidders experience greater excess returns. However, our results indicate that the CARs for bidding firms are considerably greater and show statistical significance when scrip/combination is used to finance the acquisition.

The final section of our analysis investigated the characteristics of A-REITs which may be driving the CAR observed in our event study analysis. Using the estimated CARs, we tested how the excess returns of A-REITs is conditioned on size, financial leverage, management structure, the degree of specialisation and method of payment. The method of payment

variable is negative and highly significant for acquiring A-REITs. This result supports our findings from the event study analysis, where acquiring firms' CARs were greater when scrip/combination was used to finance the acquisition when compared to cash payments. Finally, our results showed that relative size and the size of the acquirer have a positive and significant impact on the excess returns of bidding A-REITs. This result suggests that the synergistic benefits of the acquisition are a result of economies of size and increased market power.

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**Table 1: Descriptive statistics for Event Study (\$m AUD)**

<b>Panel A</b>					
<b>Variable</b>	<b>Mean</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>StDev</b>
Deal Size	502.91	331.61	1,689.28	49.89	443.96
Target Market Cap	493.56	323.66	1,596.96	32.53	465.49
Bidder Market Cap	1,691.05	1,311.18	7,546.09	52.58	1,676.70
<b>Panel B</b>					
	<b>Cash</b>	<b>Combination</b>	<b>Scrip</b>	<b>Total</b>	
Method of Payment	14	11	11	36	

Table 1 displays the descriptive statistics for the 36 A-REIT M&As from 1996-2007. Deal size and market capitalisation values are reported in \$millions. Method of payment values are the number of actual transactions that make up the sample.

**Table 2: Cumulative Abnormal Returns**

<b>No. of Obs 36</b>	<b>Targets</b>		<b>Bidders</b>		
	<b>Event Window</b>	<b>CAR</b>	<b>pValue</b>	<b>CAR</b>	<b>pValue</b>
	[-20,+20]	4.27%	(0.035)***	0.54%	(0.916)
	[-5,+5]	4.88%	(0.000)***	0.86%	(0.158)
	[-2,+2]	3.67%	(0.000)***	0.99%	(0.023)**
	[-1,+1]	4.28%	(0.000)***	0.86%	(0.003)***

Table 2 shows the cumulative abnormal return (CAR) over the four event windows. Day 0 represents the date of announcement. The calculation of CAR is described above. \*\*\*, \*\*, \* show statistical significance at the 1%, 5% and 10% level respectively.

**Table 3: Method of Payment CARs**

<b>Panel A: Cash</b>					
<b>No. of Obs 14</b>	<b>Targets</b>		<b>Bidders</b>		
	<b>Event Window</b>	<b>CAR</b>	<b>pValue</b>	<b>CAR</b>	<b>pValue</b>
	[-20,+20]	4.72%	(0.256)	-0.88%	(0.371)
	[-5,+5]	5.86%	(0.001)***	0.38%	(0.843)
	[-2,+2]	3.63%	(0.001)***	0.25%	(0.898)
	[-1,+1]	5.01%	(0.000)***	-0.22%	(0.923)
<b>Panel B: Scrip/Combination</b>					
<b>No. of Obs 22</b>	<b>Targets</b>		<b>Bidders</b>		
	<b>Event Window</b>	<b>CAR</b>	<b>pValue</b>	<b>CAR</b>	<b>pValue</b>
	[-20,+20]	4.04%	(0.075)*	1.45%	(0.396)
	[-5,+5]	4.36%	(0.000)***	1.18%	(0.099)*
	[-2,+2]	3.70%	(0.000)***	1.46%	(0.005)***
	[-1,+1]	3.90%	(0.000)***	1.55%	(0.000)***

Table 3 shows the cumulative abnormal return (CAR) over the four event windows when the sample is divided into method of payment. Cash is when the M&A is financed by cash; Scrip/Combination is when the M&A is financed with scrip only or a combination of scrip and cash. Day 0 represents the date of announcement. The calculation of CAR is described above. \*\*\*, \*\*, \* show statistical significance at the 1%, 5% and 10% level respectively.

**Table 4: Regression Results for Bidding and Target A-REITs**

No. of Obs		C	SIZE	RELSIZE	BLEV	TLEV	FOCUS	BMGMT	MOP	R <sup>2</sup> Adj. R <sup>2</sup>	Jarque Bera	White Test	Reset Test
Panel A	Bidders												
36	Coef.	-0.09	0.004	0.008	0.115	0.028	-0.010	-0.004	-0.032	0.480	2.450	35.394	5.593
	pValue	(0.273)	(0.328)	(0.069)*	(0.071)*	(0.483)	(0.227)	(0.583)	(0.001)***	0.350	(0.294)	(0.311)	(0.575)
Panel B	Targets												
36	Coef.	0.299	-0.012	0.022	0.033	-0.209	-0.007	0.006	-0.015	0.331	9.778	35.688	3.620
	pValue	(0.127)	(0.230)	(0.043)**	(0.820)	(0.031)**	(0.724)	(0.733)	(0.489)	0.164	(0.008)	(0.299)	(0.534)
35 <sup>^</sup>	Coef.	0.205	-0.007	0.021	-0.009	-0.124	-0.021	0.01	-0.038	0.467	0.802	28.498	6.418
	pValue	(0.181)	(0.362)	(0.017)**	(0.934)	(0.105)	(0.183)	(0.483)	(0.035)**	0.329	(0.669)	(0.286)	(0.098)

Table 4 shows the cross-section regression of three-day Cumulative Abnormal Returns (CARs) of target and bidding A-REITs, using ordinary least squares, on selected explanatory variables for 36 mergers from 1996-2007. *SIZE* is the natural log of the market value of the acquiring firm, *RELSIZE* is the natural log of the ratio of the acquirers size divided by the target size, *BLEV* is the acquirer's degree of financial leverage, *TLEV* is the target's degree of financial leverage, *FOCUS* is a measure of specialisation/diversification measured by property type, dummy variable 1 if it's a related M&A, *BMGMT* is a dummy variable indicating the management structure of the acquiring firm, 1 if the firm is internally managed, 0 otherwise and *MOP* is a dummy variable for the method of payment, 1 if cash is used to finance the merger, otherwise 0. The R<sup>2</sup>, adjusted R<sup>2</sup>, Jarque Bera, White and Ramsay Reset tests statistics are also shown. The coefficient and p-values (in parentheses) are reported for the constant, variables and regression diagnostics. <sup>^</sup> Reported figures are corrected for outliers. \*\*\*, \*\*, \* show statistical significance at the 1%, 5% and 10% level respectively. The following models are estimated:

Bidders:

$$CAR = \text{Constant} + \beta_1 SIZE + \beta_2 RELSIZE + \beta_3 BLEV + \beta_4 TLEV + \beta_5 FOCUS + \beta_6 BMGMT + \beta_7 MOP + \varepsilon \dots \dots (\text{Panel A})$$

Targets:

$$CAR = \text{Constant} + \beta_1 SIZE + \beta_2 RELSIZE + \beta_3 BLEV + \beta_4 TLEV + \beta_5 FOCUS + \beta_6 BMGMT + \beta_7 MOP + \varepsilon \dots \dots (\text{Panel B})$$

