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Impact of Board Composition on Australian REIT Performance

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Abstract:

Already well established in Australia and the USA, REIT's are now growing significantly in Asia and Europe.

Previous research focusing on US REITs has investigated the impact of Board composition on REIT performance, with a particular focus on agency issues arising from the level of separation of ownership and management.

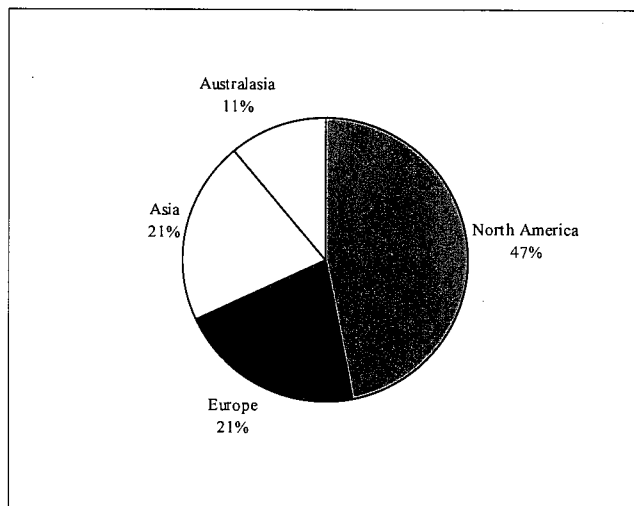
Following a brief literature review, a survey of Australian REITs is undertaken to determine aspects of the composition of REIT Boards.

The findings on Board composition are then compared to REIT performance and conclusions drawn, with areas for further research suggested.

Keywords: REIT, board, performance, governance, management, control

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With a global market capitalisation exceeding US\$872 billion in 2007 (NAREIT (2007)), REITs are well established as an investment sector in the USA and Australia, with a growing role in Asia and an emerging presence in Europe as shown in Figure 1.



REIT Global Market Capitalisation

Source: NAREIT (2007)

Figure 1

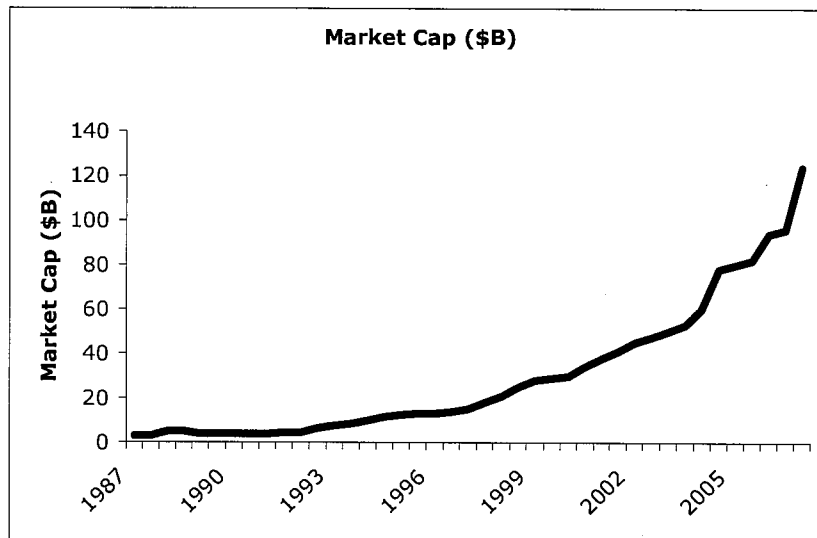
In Australia, AREITs grew phenomenally from a handful with a market capitalisation of around A\$7 billion in 1992 to 32 AREITs in the ASX 300 with a market capitalisation of over A\$124 billion in 2007, as shown in Figure 2 (UBS (2007)), before falling to a market capitalisation of \$78 billion by June 2008 (UBS (2008)).

AREITs now comprise the third largest sector on the Australian stock market and represent around 10% of the total Australian market capitalisation compared to 5% in 2000. The largest AREITs include Westfield (\$30.49 billion), Stockland (\$9.01 billion) and GPT (\$6.19 billion), with five having in excess of 100 properties in their portfolio (UBS (2008)).

Further, the recent total return performance of AREITs in Australia has been very impressive at 34.05% for the year to December, 2006, significantly outperforming Australian equities (24.97%) and Australian direct property investment (17.29%). However, for the year to March 2008, AREIT total returns were -24.2% compared to -6.0% for Australian equities and 18.1% for Australian direct property (IPD (2008)).

The Australian REIT sector has now evolved to comprise two principal groups, being:

- traditional, property owning AREITs, which invest in direct property and pay the net income to unitholders; and
- fund manager AREITs, which invest in direct property and pay the net income to unitholders but also undertake a range of further businesses to provide separate sources of revenue, such as funds management or business operations.



Growth in REITs in Australia

Source: UBS (2007)

Figure 2

Traditional property owning AREITs may also be considered to comprise two principal groups, being:

- sector specific AREITs which invest in the traditional sectors of commercial, retail, industrial and hotel property as well as those which invest in emerging sectors, such as CFS Retail or Commonwealth Office; and
- diversified AREITs which invest in a range of sectors, offering diversification within the AREIT, such as DB RREEF or Challenger.

However, unlike some other global jurisdictions, the AREIT internalized management model results in directors and managers being actively engaged in the management and operation of the AREIT and not statutorily precluded from so being. The typical AREIT model has a Board with a combination of independent and non-independent directors including a Chairman, together with a CEO who may or may not be a member of the Board. In rare cases, the COO and/or CFO may also be members of the Board. For the purposes of this research, members of management were excluded from analysis unless they were also members of the Board.

To date, there has been limited research into aspects of the relationship between AREIT performance and Board composition, though some research has been undertaken concerning US and Malaysian REITs.

As both McIntosh et al (1994) and Sirmans et al (2006) note, whilst the contribution of the Board and management of a REIT to its performance can be difficult to observe, stock return performance can be a source of information about management performance. Poor management performance may be implied by negative or declining stock returns on an absolute level or in relation to the market. Further, effects on performance may arise from a range of Board or management variables including quantitative and qualitative variables.

Literature Review

A range of aspects of the impact of Board composition on REIT performance have been considered in the literature. Interestingly, however, certain aspects do not yet appear to have been addressed. For convenience, the issues may be grouped as “Agency Issues” and aspects of “Board Composition”.

Agency Issues

Fama (1980) considered fundamental aspects of agency issues arising from the separation of ownership and management that is typical of large corporations and the incentive problems that arise when decision making in a firm is the province of managers who are not security holders. Treating management and risk bearing as naturally separate factors within a set of contracts called a firm, the author noted the trend towards theories that reject the classical model of the firm but assume classical forms of economic behaviour on the part of agents within the firm. The firm is viewed as a set of contracts among factors of production, with each factor motivated by self interest. In effect, the firm is viewed as a team whose members act from self interest, but realize that their destinies depend to some extent on the survival of the team in its competition with other teams.

Fama and Jensen (1983) went on to argue that agency costs may be reduced by institutional arrangements that separate decision management from decision control, with an independent Board being the primary governance structure for oversight of management discretion and firm performance.

Interestingly, in the context of Australian listed companies, Farrar (2001) suggests that the separation of ownership and control may not be as significant an issue for Australian companies as it is for large US and UK companies.

McIntosh et al (1994) examined aspects of agency issues arising from the level of separation of ownership and management in US REITs. The authors investigated the relationship between REIT stock returns and top management changes, finding an inverse relationship between the probability of a management change and a REIT's recent stock price performance. The authors note that this is consistent with the internal monitoring of management activities by the Board, though raising questions about the strength of the underlying monitoring mechanism as the relationships are strongest in the cases of extreme share performance and show long lags.

In a successor study, Sirmans et al (2006) analysed the relationship between management change and performance for a sample of US REITs in the period 1984 to 2002 and found a significant relationship between negative performance and a management change from a period of three months prior to the change in management. Interestingly, however, the authors found new management did not result in positive performance until two years after the management change.

Sirmans et al (2006) and Shakir (2008) also each considered Fama's (1980) discussion of the internal monitoring of management activities by the Board of directors, other top managers or large block shareholders but did not go on to investigate the agency issues arising from the relationship between CEO shareholding and REIT performance.

ASX (2003), in their best practice recommendations, favour the use of a majority of independent directors in Board composition. Bonn (2004) notes that independent directors are better placed to exert control over management self-interest and opportunism, being financially independent of management, not subject to the same potential conflicts of interest as non-independent directors

and so more likely to support the interests of shareholders and to more effectively perform the monitor and control functions. Fama (1980) proposes that the inclusion of outside directors may lower the probability of top management colluding to expropriate shareholder wealth and may enhance the viability of the Board as a market induced mechanism for the low cost internal transfer of control.

Further, Shakir (2008) found 35% of directors in the sample of Malaysian REITs analysed to be non-independent or executive directors, also citing a study of the top 100 Australian companies which found 23% of directors to be non-independent or executive directors. Consistently, Bonn (2004) found 76% of directors of a sample of 104 Australian listed companies analysed to be independent.

Shakir (2008) further found a positive relationship between the number of non-independent or executive directors and performance for Malaysian REITs, when measured by Tobin's Q, noting stronger performance from Boards with higher proportions of non-independent or executive directors. However, for a sample of US REITs, Ghosh and Sirmans (2002) found performance was improved by a greater representation of external directors on a US REIT Board, a finding echoed for Australian listed companies by Bonn (2004). This is consistent with Feng et al (2005), who found a majority of outside directors to be an aspect of good governance that was associated with superior average REIT performance, though the effect was significant only for the 20% best and worst Boards. For US REITs, Friday and Sirmans (1998) found a positive impact of independent directors on shareholder wealth up to 50% of the Board, after which the market discounted the shares.

Regrettably, however, the authors did not continue to investigate the impact on performance of other agency issues such as the existence of an independent Chairman. ASX (2003), in their best practice recommendations, favour the adoption of an independent Chairman and the separation of the roles of Chairman and CEO for good corporate governance. Weeks et al (2007), in their preliminary findings, note a positive relationship between changes in REIT CEO salary and various factors including length of term in office, the simultaneous holding of CEO and Chairman titles and the percentage of stock ownership. Feng et al (2005) found a separation of the roles of CEO and Chairman to be an aspect of good governance that was associated with superior average REIT performance, though the effect was significant only for the 20% best and worst Boards.

Interestingly, Shakir (2008) considered the issue of "grey" directors whose status as independent or non-independent is questionable, including family members, lawyers, investment bankers and former company officers. Regrettably, the author did not continue to investigate the impact of such "grey" issues as the extent to which the REIT may be considered a family business nor the level of independent or "grey" director shareholdings on REIT performance.

Friday and Sirmans (1998) examined the relationship between shareholder wealth and director share ownership for US REITs, finding a positive relationship supporting an argument for the alignment of benefits.

Weisbach (1988) found that firms with outsider dominated Boards are more likely to have a strong association between firm performance and management turnover. Warner, Watts and Wruck (1988) found an inverse relationship between firm performance and the rate of management turnover, though this relationship appeared to be weakened when the manager acquired power through family connections or stock ownership. Whilst an Australian study, but not for AREITs, Craswell et al (1997) found increasing levels of "insider" ownership by family founders, directors and executives to be positively related to performance.

Interestingly, concerning the impact of good governance on performance generally, Gold (2006) found a sample of ASX listed firms that did not meet good governance requirements but did exhibit superior investment returns and financial performance (measured by growth in underlying cash flow, normalized EPS and dividends) to the market overall. Regrettably, however, the study did not focus on AREITs.

Board Composition

Shakir (2008) investigated the impact of Board size on the performance of Malaysian REITs. The mean Board size was found to be 7 directors with a minimum of 4 and a maximum of 13, with the author citing various studies which found the mean Board size of American, British, Canadian, Spanish, French and Belgian firms to be 12 or 13 directors, Japanese firms to be 28 directors and Singaporean and Australian firms to be 7 directors.

Dimovski and Brooks (2005) analysed Australian REIT IPOs in the period 1994 to 2004 and found the mean size of the Board to be 5.52 and the median 6.0 directors. In a separate study of 104 Australian listed companies, Bonn (2004) found the median Board size to be 7 directors.

Shakir (2008) discusses Board size in the context of monitoring management to ensure that they discharge their duties in the best interests of unitholders, noting that a large Board may result in less meaningful discussions, a lack of cohesion and problems of co-ordination, so becoming symbolic rather than fulfilling its function. This view is echoed by Bonn (2004), though qualified by the increased pool of expertise and improved ability to form environmental links that are offered by a larger Board.

However, Shakir (2008) also noted that a small Board may lack sufficient outside directors and risk potentially easier expropriation of wealth by the CEO or non-independent directors, pre-occupation with decision making and less time for an overview function, together with a potential lack of a spread of expert advice and opinion and a diversity of experience, skills, gender and nationality. Conversely, Bonn (2004) suggests a small Board may be more likely to agree on a particular outcome and to engage in genuine interaction and debate.

Shakir (2008) found Board size to have a consistent negative relationship with performance, when measured by Tobin's Q, finding stronger performance from smaller Boards. This is consistent with Feng et al (2005), who found a small Board to be an aspect of good governance that was associated with superior average REIT performance, though the effect was significant only for the 20% best and worst Boards. Bonn (2004) investigated the relationship between Board size and performance for a sample of Australian listed companies and found there to be no influence, noting that Board member knowledge, skills and ability to leverage multiple director roles appeared more important for performance than Board size.

Concerning female directors, Dimovski and Brooks (2005) contend that having same on Boards is a desirable business practice as it is likely to improve the reputation of the firm and facilitate a better understanding of women's issues, consumer markets, customers and social and community issues in the determination of strategic direction, as well as contributing positively to the company's female employees. Catalyst (2004) found that those companies with the highest representation of women on top management teams had a 35% better return on equity and a 34% better return to shareholders than those companies with the lowest women's representation. Bonn (2004) investigated the impact of the level of female directors on Australian firm performance and found a positive association.

Dimovski and Brooks (2005) investigated the level of female directors on the Boards of Australian REIT IPOs in the period 1994 to 2004. The authors cite research by Sheridan (2002) that found women represented only around 3% of directors of Boards of Australian listed companies, with other research finding 7.6% female directors for the top 100 publicly listed companies in UK and 13.6% for US Fortune 500 companies.

The authors found 3.8% of the directors in the AREIT sample studied to be female, which was noted to be broadly comparable to that for the Boards of Australian industrial and mining IPOs in the period 1994-1997 at 4.0%. The authors further found that larger AREITs tended to employ proportionally more female directors, with retail AREITs tending to employ fewer female directors and office AREITs tending to employ more. In a separate study of 104 Australian listed companies, Bonn (2004) found 4.8% of directors to be female.

Regrettably, the authors did not continue to consider other aspects of Board composition, such as the proportion of directors with property experience, current directorships of other ASX entities or current directorships of other ASX listed AREITs.

Summary

Therefore, having regard to previous research, it is proposed to investigate the relationship between AREIT performance and the following:

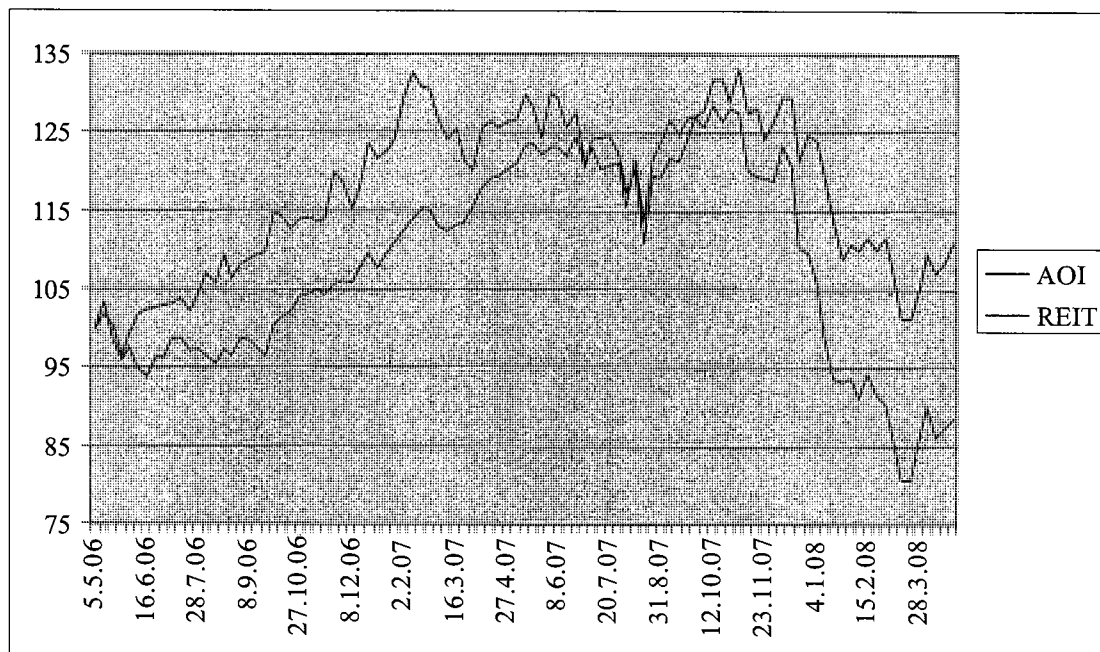
- Agency Issues – including:
 - the level of CEO shareholding;
 - the proportion of independent directors;
 - the existence of an independent Chairman;
 - the level of “grey” director shareholdings; and
 - the extent to which the AREIT may be considered a family business;
- Board Composition Issues – including:
 - Board size;
 - the proportion of female directors;
 - the proportion of directors with property experience;
 - the proportion of directors with current directorships of other ASX listed entities; and
 - the proportion of directors with current directorships of other ASX listed AREIT entities.

Data Set and Approach to Analysis

The data set comprised forty of the largest AREITs by market capitalisation listed on the ASX as at 30th May 2008 and represented approximately 96% of the total market capitalisation of all AREITs listed on the ASX. Those AREITs for which a continuous data series was not available or which did not disclose required information were deleted from the sample and replaced with the next largest AREIT.

Data for each variable was extracted from the most recent annual report for each AREIT. For the majority, the report was for the year ending June 2007 and for the minority, the year ending December 2007. Most variables, such as Board size and number of female directors, were absolute data. The assessment of property experience was determined from the directors biography in the annual report, as was current directorships of other ASX listed entities and other ASX listed AREITs, being counted as the total number of such other directorships held rather than the number of directors holding such directorships.

Related parties were considered to include directors whose status as independent or non-independent is questionable, including family members, lawyers, investment bankers and former company officers. Related parties also included corporate representatives of a parent entity or of a major unitholder, with related party unitholdings including those with both human and corporate family links.



AOI-AREIT Relative Performance

Source: Author

Figure 3

As Figure 3 shows, movement for the AREIT index for the period from May 2006 to May 2008 is unusual in that it includes a period of significant price increase and a period of significant price decrease. Further, over that period, there were only minimal changes to the composition of the Boards and senior management of those AREITs comprising the sample. Accordingly, it is possible to observe if any of the variables under consideration have a greater impact in periods of price appreciation or depreciation.

Following the approach of Sirmans et al (2006), two periods of equal length were selected from the periods of price increase and price decrease and the closing price collated for each AREIT unit, on the trading day closest to the period start and end, from the Morningstar database. The appreciation period comprised 1st July 2006 to 31st December 2006 and the depreciation period comprised 1st October 2007 to 31st March 2008.

Performance was considered in terms of the absolute percentage increase/decrease in share price (price increased from \$10 to \$12, or 20%) between the beginning and end of each period, being a measure of capital return only. It is acknowledged that the use of price data disregards the impact of distributions on total returns and tax benefits on after tax returns. Price performance data was

then correlated with each of the variables and the resulting correlations compared to those expected based on the hypotheses, below.

For control, the price increases and decreases were also analysed against sectoral and geographic portfolio composition. AREITs were characterized by sector as either exclusively owning office, retail or industrial property, owning a diversified portfolio or owning other property (such as leisure or retirement properties). AREITs were characterized geographically as either exclusively owning Australian property, exclusively owning overseas property or owning a global portfolio comprising Australian and overseas property.

Hypotheses of Paper

With both price increases and price decreases considered, the hypothesized correlations are challenging to specify:

- price increases: a positive hypothesized correlation indicates performance increasing as the quantum of the variable under analysis increases, with a negative hypothesized correlation indicating performance decreases as the quantum of the variable under analysis increases;
- price decreases: a positive hypothesized correlation indicates performance decreasing (ie: becoming more negative) as the quantum of the variable under analysis increases, with a negative hypothesized correlation indicating performance increases (ie: performance less negative) as the quantum of the variable under analysis increases.

The hypotheses for the respective variables may be proposed as follows:

Agency issues – level of CEO shareholding

In the context of motivation by self interest, CEOs with shareholdings may be considered more likely to favour their own interests through driving unit price appreciation.

It may be hypothesized, therefore, that:

- the correlation between a high level of CEO shareholding and price increase may be positive, with price increasing more as CEO shareholding increases; and
- the correlation between a high level of CEO shareholding and price decrease may be negative, with price decreasing less as CEO shareholding increases.

Agency issues – proportion of independent directors

Shakir (2008) found 65% of directors to be independent in Malaysian REITs and Bonn (2004) found 76% in Australian listed companies. In the context of monitoring management to ensure that they discharge their duties in the best interests of unitholders, a high proportion of independent directors may be considered preferable.

Consistent with Ghosh and Sirmans (2002) and Feng et al (2005) for US REITs and Bonn (2004) for Australian listed companies, it may be hypothesized that:

- the correlation between a high proportion of independent directors and price increase may be positive, with price increasing as the level of independence increases; and
- the correlation between a high proportion of independent directors and price decrease may be negative, with price decreasing less as the level of independent directors increases.

Agency issues – existence of an independent Chairman

In the context of monitoring management to ensure that they discharge their duties in the best interests of unitholders, an independent Chairman may be considered preferable.

Consistent with Feng et al (2005), it may be hypothesized that:

- the correlation between an independent Chairman and price increase may be positive, with price increasing with the appointment of an independent Chairman; and
- the correlation between an independent Chairman and price decrease may be negative, with price decreasing less with the appointment of an independent Chairman.

Agency issues – level of “grey” director shareholdings

Consistent with the approach of Shakir (2008), those directors with any form of connection to the AREIT, such as through a current or former executive role, family link or as a current or former service provider, were considered related or “grey”.

Consistent with Friday and Sirmans (1998), it may be hypothesized that:

- the correlation between the level of “grey” shareholding and price increase may be positive, with price increasing as the level of “grey” shareholding increases; and
- the correlation between the level of “grey” shareholding and price decrease may be negative, with price decreasing less as the level of “grey” shareholding increases.

Agency issues – extent to which the AREIT may be considered a family business

Consistent with the approach of Shakir (2008), those directors with any form of connection to the AREIT through a family or business link may be considered related or “grey”. Family link may be considered to include both human and corporate, where directors were representatives of a parent entity.

Consistent with Craswell et al (1997), it may be hypothesized that:

- the correlation between the incidence of family ownership and price increase may be positive, with price increase stronger in the case of family businesses; and
- the correlation between the incidence of family ownership and price decrease may be negative, with price decrease less in the case of family businesses.

Board composition issues – Board size

Dimovski and Brooks (2005) found the median size of an Australian REIT Board to be 6 directors, with Shakir (2008) finding a mean Board size of 7 directors for a Malaysian REIT. Bonn (2004) found a median Board size of 7 directors for Australian listed companies.

Consistent with Shakir (2008) and Feng et al (2005), it may be hypothesized that:

- the correlation between Board size and price increase may be negative, with price increase weaker as Board size increases; and
- the correlation between Board size and price decrease may be positive, with price decrease more as Board size increases.

Board composition issues – proportion of female directors

Dimovski and Brooks (2005) found 3.8% of directors of Australian REITs IPOs to be female, with Bonn (2004) finding 4.8% for directors of a sample of Australian listed companies.

Consistent with Bonn (2004) and Catalyst (2004), it may be hypothesized that:

- the correlation between the proportion of female directors and price increase may be positive, with price increase greater as the proportion of female directors increases; and
- the correlation between the proportion of female directors and price decrease may be negative, with price decrease less as the proportion of female directors increases.

Board composition issues – proportion of directors with property experience

In the context of bringing a wide range of skills, experience and knowledge to the Board table, those directors with property skills, experience and knowledge may contribute an industry specific view to the deliberations of the Board.

It may be hypothesized, therefore, that:

- the correlation between the proportion of directors with property experience and price increase may be positive, with price increase greater as the proportion of directors with property experience increases; and
- the correlation between the proportion of directors with property experience and price decrease may be negative, with price decrease less as the proportion of directors with property experience increases.

Board composition issues – proportion of directors with current directorships of other ASX listed entities

Similarly, in the context of bringing a wide range of skills, experience and knowledge to the Board table, those directors with ASX listed entity directorship skills, experience and knowledge may contribute a wider corporate view to the deliberations of the Board.

It may be hypothesized, therefore, that:

- the correlation between the proportion of directors with other current ASX directorships and price increase may be positive, with price increase greater as the proportion of directors with other current ASX directorships increases; and
- the correlation between the proportion of directors with other current ASX directorships and price decrease may be negative, with price decrease less as the proportion of directors with other current ASX directorships increases.

Board composition issues – proportion of directors with current directorships of other ASX listed AREIT entities

Further, in the context of bringing a wide range of skills, experience and knowledge to the Board table, those directors with other ASX AREIT directorship skills, experience and knowledge may contribute a broader sector view to the deliberations of the Board.

It may be hypothesized, therefore, that:

- the correlation between the proportion of directors with other current ASX AREIT directorships and price increase may be positive, with price increase greater as the proportion of directors with other current ASX AREIT directorships increases; and
- the correlation between the proportion of directors with other current ASX AREIT directorships and price decrease may be negative, with price decrease less as the proportion of directors with other current ASX AREIT directorships increases.

Summary

The respective hypothesis expectations are summarized in Table 1, below.

Category	Sub-Category	Price Inc Hypo Corr	Price Dec Hypo Corr
Agency Issues	Level of CEO shareholding	Positive	Negative
	Proportion of independent directors	Positive	Negative
	Existence of an independent Chairman	Positive	Negative
	Level of "grey" director shareholdings	Positive	Negative
	Extent to which the AREIT may be considered a family business	Positive	Negative
Board Comp'n	Board size	Negative	Positive
	Proportion of female directors	Positive	Negative
	Proportion of directors with property experience	Positive	Negative
	Proportion of directors with current directorships of other ASX listed entities	Positive	Negative
	Proportion of directors with current directorships of other ASX listed AREIT entities	Positive	Negative

Hypothesis Expectations

Source: Author

Table 1

Results of Data Analysis

Prior to reviewing the impact of agency issues and Board composition, the impact of the control variables for sectoral and geographic portfolio diversification on price increase and price decrease may be considered.

Sector	Price Inc	Price Dec
Office	-0.265	0.119
Retail	0.078	-0.349
Industrial	-0.115	0.157
Diversified	0.255	0.142
Other	-0.100	-0.045

Correlation Matrix: Price Change and Sector

Source: Author

Table 2

Adopting an arbitrary correlation level of 0.2, with correlation over 0.2 considered strong and under 0.2 considered weak, Table 2 shows that during the price increase period diversified AREIT prices trended upwards strongly whereas office AREIT prices trended downwards strongly. During the price decrease period, office, industrial and diversified AREIT prices trended downwards whereas retail AREIT prices trended upwards strongly. Overall, the correlations between price increase, price decrease and sectors are generally low except in three cases.

Sector	Price Inc	Price Dec
Australian	0.044	0.251
Overseas	-0.178	-0.302
Global	0.086	-0.036

Correlation Matrix: Price Change and Geography

Source: Author

Table 3

Similarly, as Table 3 shows, the overall correlations between price increase, price decrease and geography are generally low, indicating that geography contributed relatively little to price increase or decrease. During the price increase period, exclusively Australian portfolio and mixed Australian/overseas portfolio AREIT prices trended upwards whereas exclusively overseas portfolio AREIT prices trended downward. During the price decrease period, exclusively Australian portfolio AREIT prices trended downwards strongly whereas exclusively overseas portfolio AREIT prices trended upward strongly.

Having established that, in most cases, sector and geography contribute relatively little to explaining price increase and price decrease, the variables for the impact of agency issues and Board composition may be considered, with the descriptive statistics summarised in Table 4 and the statistical significance summarised in Table 5, below.

	CEO	Ind Dirs	Ind Chmn	Rel Sh	Family	Bd Size	Fem Dir	Pr Dirs	ASX Dirs	REIT Dirs
Mean	1.8%	59.2%	60.0%	10.8%	0.8	7.0	5.6%	46.4%	3.1	0.9
Median	0.0%	60.0%	100.0%	5.2%	1.0	7.0	0.0%	50.0%	3.0	0.0
Mode	0.0%	66.7%	100.0%	N/A	1.0	6.0	0.0%	50.0%	3.0	0.0
Range	16.6%	65.3%	100.0%	55.0%	1.0	8.0	25.0%	88.9%	9.0	4.0
Minimum	0.0%	22.2%	0.0%	0.0%	0.0	5.0	0.0%	0.0%	0.0	0.0
Maximum	16.6%	87.5%	100.0%	55.0%	1.0	13.0	25.0%	88.9%	9.0	4.0

Descriptive Statistics

Source: Author

Table 4

	CEO	Ind Dirs	Ind Chmn	Rel Sh	Family	Bd Size	Fem Dir	Pr Dirs	ASX Dirs	REIT Dirs
Std Error	0.6%	2.5%	7.8%	2.1%	0.1	0.3	1.3%	3.1%	0.4	0.2
Std Devn	4.0%	15.7%	49.6%	13.4%	0.4	1.9	8.1%	19.7%	2.7	1.5
Sample Var	0.2%	2.5%	24.6%	1.8%	0.2	3.7	0.7%	3.9%	7.2	2.1
Conf Lev 95%	1.3%	5.0%	15.9%	4.3%	0.1	0.6	2.6%	6.3%	0.9	0.5

Statistical Significance Data

Source: Author

Table 5

The correlations between the variables for agency issues and Board composition with price increases and decreases are summarized in Table 6.

Category	Sub-Category	Confidence Level 95%	Price Increase	Price Decrease
Agency	Level of CEO shareholding	1.3%	0.372	0.077
Issues	Proportion of independent directors	5.0%	0.238	-0.023
	Existence of an independent Chairman	15.9%	0.257	0.001
	Level of "grey" director shareholdings	4.3%	-0.077	0.276
	Extent to which the AREIT may be considered a family business	0.1	-0.262	0.193
Board	Board size	0.6	0.150	0.076
Comp'n	Proportion of female directors	2.6%	0.250	0.127
	Proportion of directors with property experience	6.3%	0.144	-0.235
	Proportion of directors with current directorships of other ASX listed entities	0.9	0.051	0.108
	Proportion of directors with current other ASX listed AREIT directorships	0.5	0.129	-0.411

Correlation Matrix: Price Change, Agency Issues and Board Composition

Source: Author

Table 6

It is notable that the correlations in Table 6 are generally low, though statistically significant at a 95% confidence level, indicating that agency issues and Board composition contributed relatively little to price increases and price decreases. Adopting an arbitrary correlation level of 0.2, with correlation over 0.2 considered strong and under 0.2 considered weak, Table 6 indicates only 50% of correlations to be strong in the price increase period and only 30% to be strong during the price decrease period. It is, however, considered significant that such strong correlations are mutually exclusive, with those that are strong for the price increase period not being strong for the price decrease period and vice versa, with Board size and proportion of directors with current directorships of other ASX listed entities being weak for both periods.

Interestingly, 40% of the variables exhibited a correlation greater than 0.2 within a range of 0.235-0.411. The sector and geography correlations shown in Tables 2 and 3 were greater than 0.2 in 25% of cases within a range of 0.255-0.349. In broad terms and subject to further research,

the contributions of agency issues and Board composition to price movements appears to be not significantly different to that of sector and geography over the periods considered.

The results for the respective hypotheses may be considered further as follows:

Agency issues – level of CEO shareholding

As Table 4 indicates, the level of CEO shareholding was generally low with a mean of 1.75% and a range of 0.00% to 16.64%. Table 6 shows the correlation between the level of CEO shareholding and both price increase and decrease was positive. This finding supported the hypothesis for price increase with a strong correlation of 0.372, but refuted the hypothesis for price decrease though the correlation was very weak at 0.077.

Agency issues – proportion of independent directors

As Table 4 indicates, the proportion of independent directors was generally high with a mean of 59.18% and a range of 22.22% to 87.50%. The mean is noted to be below those found by both Shakir (2008) at 65% and Bonn (2004) at 76%, indicating that Australian REITs fall slightly short of Malaysian REITs and Australian listed companies in their use of independent directors.

Table 6 shows the correlation between the proportion of independent directors with price increase was positive with a strong correlation of 0.238 and with price decrease was negative but very weak at 0.023, supporting the hypotheses.

Agency issues – existence of an independent Chairman

As Table 4 indicates, the proportion of Boards with an independent Chairman was high with a mean of 60.0% and a range of 0.00% to 100.00%. Table 6 shows the correlation between the existence of an independent Chairman was positive with both price increase and price decrease. This finding supported the hypothesis for price increase with a strong correlation of 0.257, but refuted the hypothesis for price decrease though the correlation was very weak at 0.001.

Agency issues – level of “grey” director shareholdings

As Table 4 indicates, the level of “grey” director shareholdings was generally low with a mean of 10.79% and a range of 0.00% to 55.03%. Table 6 shows the correlation between the level of “grey” director shareholdings with price increase was negative and very weak at 0.77 and with price decrease was positive and strong at 0.276, refuting both hypotheses.

It would, therefore, appear that a high level of “grey” director shareholdings decelerates price increases but has the opposite effect on price decreases, acting as an accelerator of price decreases. Though apparently contrary to the findings of Friday and Sirmans (1998), it should be noted that the correlation between the level of “grey” director shareholdings and price increase was very low at -0.077.

Agency issues – extent to which the AREIT may be considered a family business

As Table 4 indicates, 80.00% of AREITs are family businesses of some kind (either human or corporate) which is considered unusually high and effectively dominating the sector with non-family AREITs being the clear minority. Table 6 shows the correlation between the AREIT as a family business with price increase was negative and strong at 0.262 and with price decrease was positive and weak at 0.193, refuting both hypotheses.

It would, therefore, appear that a family business decelerates price increases but has the opposite effect on price decreases, acting as an accelerator of price decreases. Significantly, this is contrary to the findings of Craswell et al (1997) which also considered Australian corporates.

Board composition issues – Board size

As Table 4 indicates, median Board size was 7 directors with a range of 5 to 13. The mean and median are noted to match those found by Shakir (2008) for Malaysian REITs and Bonn (2004) for Australian listed companies, respectively, being slightly above the median of 6 found by Dimovski and Brooks (2005) for Australian REIT IPOs.

Table 6 shows the correlation between Board size with price increase and price decrease was positive but weak at 0.150 and 0.076 respectively, supporting the hypothesis for price decrease but refuting the hypothesis for price increase. Though apparently contrary to the findings of Shakir (2008) and Feng et al (2005), the correlation with price increase was surprisingly high at 0.150.

Board composition issues – proportion of female directors

As Table 4 indicates, the mean proportion of female directors in 5.59% with a range of 0.0% to 25.00%. The mean is noted to be greater than the 3.8% found by Dimovski and Brooks (2005) for Australian REIT IPOs and the 4.8% found by Bonn (2004) for a sample of Australian listed companies. Whilst 3 AREITs had 2 female Board members, 65.00% of AREITs had no female Board members suggesting that female directors remain significantly under represented in the sector.

Table 6 shows the correlation between the proportion of female directors with price increase was both positive and strong at 0.250 and with price decrease was positive but weak at 0.127, supporting the hypothesis for price increase but refuting the hypothesis for price decrease. Though apparently contrary to the findings of Bonn (2004) and Catalyst (2004), the correlation with price decrease is weak at 0.127.

Board composition issues – proportion of directors with property experience

As Table 4 indicates, 46.38% of AREIT Board directors have property experience, with a range from 0.00% to 88.89%. Table 6 shows the correlation between the proportion of directors with property experience with price increase was positive but weak at 0.144 and with price decrease was negative but strong at 0.235, supporting both hypotheses.

It would, therefore, appear that a higher proportion of directors with property experience accelerates price increases but has the opposite effect on price decreases, acting as a decelerator of price decreases.

Board composition issues – proportion of directors with current directorships of other ASX listed entities

As Table 4 indicates, the median number of other current ASX directorships was 3, with a range of 0 to 9 other current ASX directorships held. Interestingly, 22.5% of AREIT Boards included directors with no current directorships of other ASX listed entities, which was considered surprisingly high.

Table 6 shows the correlation between the proportion of directors with current directorships of other ASX listed entities with price increase and with price decrease was positive but weak at 0.051 and 0.108, respectively. This supports the hypothesis for price increase, but refutes the hypothesis for price decrease with the correlation for price decrease surprisingly high at 0.108.

It would, therefore, appear that a higher proportion of directors with current directorships of other ASX listed entities mildly accelerates price increases but more significantly accelerates price decreases.

Board composition issues – proportion of directors with current directorships of other ASX listed AREIT entities

As Table 4 indicates, the mean number of other current ASX AREIT directorships was 0.9, with a range of 0 to 4 other current ASX AREIT directorships held. Interestingly, 62.5% of REIT Boards included directors with no other current directorships of other ASX AREIT listed entities, which was considered surprisingly high.

Table 6 shows the correlation between the proportion of directors with current directorships of other ASX AREITs with price increase was positive but weak at 0.129 and with price decrease was negative and strong at 0.411, supporting both hypotheses.

Summary

Each of the hypotheses for price increase was found to be supported with the exception of those for the level of “grey” director shareholdings, the extent to which the AREIT may be considered a family business and Board size.

For price decrease, the majority of hypotheses were refuted (including level of CEO shareholding, independent Chairman, level of “grey” director shareholdings, family business, proportion of female directors and proportion of directors with other current ASX listed entity directorships) though in most cases the correlation was weak.

Conclusions and Areas for Further Research

Overall, the level of correlation between sectoral portfolio composition, geographic portfolio composition, agency issues, Board composition and price increases or price decreases was low. This would suggest that other influences may be more significant on price increases and price decreases than those analysed.

Further research to identify such influences would be worthwhile. Anecdotal evidence suggests that the distinction between characterization as a fund manager AREIT or as a property owning AREIT was an influence on price increases and that the level of gearing and foreign exchange management were influences on price decreases. However, further research is required to support or refute same and to identify other significant influences.

During periods of price increase, the findings suggest that AREITs with Boards that have a high CEO shareholding, high proportion of independent directors, an independent Chairman and a high proportion of female directors may enjoy greater price appreciation.

Conversely, during periods of price decrease, the findings suggest that AREITs with Boards that have a high proportion of directors with property experience and a high proportion of directors with current directorships of other ASX listed AREIT entities may enjoy lower levels of price depreciation.

It is interesting that such influences are mutually exclusive, with those influencing price increases being different from those influencing price decreases. However, in both cases, Board size and the proportion of directors with current directorships of other ASX listed entities were found to be of little significance.

Given that the hypotheses for the correlation between the level of “grey” director shareholdings and the extent to which the AREIT may be considered a family business were unsupported, for not only price increases but also price decreases, further research is clearly required. The hypothesized correlations were intuitively appealing and to find them unsupported by the data was surprising. A correlation of 0.51 between family businesses and “grey” director shareholdings suggests that the two variables are related, with the unusually high level of AREITs that were family businesses (being 80.00% of the sample) potentially influencing AREIT performance relative to that observed in other countries. It is only through further research that such influences may be explored and clarified.

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