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Market discounts and shareholder benefits: Evidence from Australian REIT private placements

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Abstract

Purpose – The purpose of this paper is to examine the impacts of private placement announcements by Australian Real Estate Investment Trusts (A-REITs) on existing shareholders. The study examines 96 A-REIT private placements from January 2000 to December 2012.

Design/methodology/approach – Utilising event study methodology the authors examine the impact on existing shareholders wealth by measuring the abnormal returns (AR) around the placement announcement. The authors extend the analysis to model the A-REITs ARs against a number of explanatory variables to investigate the possible drivers for the observed event study results.

Findings – The results support the information signalling hypothesis, in that existing investors in A-REITs earn negative and significant cumulative ARs of −1.3 per cent over the three-day event window [−1, +1]. This result is in contrast to prior studies conducted on industrial firms, for example; Hertzel and Smith (1993), Krishnamurthy et al. (2005) and Wruck and Wu (2009).
**Practical implications**—Regression analysis shows A-REITs trading at a premium to net tangible assets and A-REITs that use placement funds for their core business have a positive impact on announcement ARs.

**Originality/value**—This paper adds to the existing literature surrounding private placements and is the first paper, to the authors’ knowledge, to examine the impact of Australian REITs.

**Introduction**

The purpose of this study is to investigate the wealth effects to existing shareholders during the issuing of private equity in the Australian Real Estate Investment Trust (A-REIT) sector. We employ event study methodology on A-REIT private placements from January 2000 to December 2012, to evaluate the potential direct costs and benefits to existing shareholders by measuring abnormal and cumulative average abnormal returns (AR) around the announcement of private placements. This study extends on the research into A-REIT private placements by Dimovski and O’Neill (2012) by examining a longer study period with an increased number of observations. The current study also calculates the risk-adjusted returns to existing shareholders around the announcement and importantly, it examines the possible drivers for the observed excess returns by modelling the cumulative average ARs against a number of explanatory variables.

To date, only one study has explicitly examined the wealth effects for REIT shareholders following a private placement. Marciukaityte et al. (2007) examined US REIT private placement announcements from 1981 to 1999. It is the aim of this study to add to the limited research in this area with a more up-to-date study period. This study also includes a
period of major structural change in the A-REIT sector due to the impacts of the global financial crisis. In addition, Australian Real Estate Investment Trusts (A-REITs) need to pay out 100 per cent of their earnings in the form of dividends to avoid punitive taxes, compared to 95 per cent for US REITs. This pay out ratio may increase the reliance of A-REITs on the capital markets to raise funds.

Private placements are generally made to larger institutional investors such as insurance companies, pension funds and investment banks (Parrino et al., 2012). Placements provide a number of advantages over public issues, namely, they are a relatively quick way of raising funds, the issuing firm does not need to provide a disclosure document or prospectus. The offer price is likely to be higher than a public offer due to the investors being institutional investors that are expected to be better informed and thus need less incentive to purchase the shares on offer than the general public. Finally, the shares can be selectively placed with investors that the board see as supportive of the current management structure (Parrino et al., 2012). However, existing shareholders often do not like private equity raisings due to reduced proportional ownership and therefore voting power (Dimovski and O’Neill, 2012). To protect existing shareholders the Australian Securities Exchange (ASX) listing rules 7.1 and 7.2 place a restriction on the number of shares that can be placed privately without shareholder approval, currently 15 per cent in any one year.

Prior research in this area has shown that private placements by conventional firms have resulted in positive and significant ARs (Krishnamurthy et al., 2005; Wruck, 1989; Wruck and Wu, 2009). Hertzel and Smith (1993) argue that the positive ARs are due to the undervaluation hypothesis. The undervaluation hypothesis is derived from the information signalling theory, which suggest that new equity issues by a firm conveys new information to the market that managers believe the firm is overvalued (Myers and Majluf, 1984). Myers and Majluf (1984)
suggest that managers of undervalued firms that have a positive NPV project, but lack financial slack, will elect not to issue new equity if the portion of existing assets transferred to the new shareholders is greater than the increase in firm value retained by existing shareholders, resulting in managers forgoing a positive NPV project. However, the authors note that this problem can be overcome if managers can costlessly convey their private information to the market. Hertzel and Smith (1993) hypothesise that private placement of equity can solve the undervaluation problem for managers and therefore avoid forgoing an investment opportunity. It then follows that managers who use private placements to finance projects are signalling to the market the firm is undervalued resulting in positive ARs (Hertzel and Smith, 1993).

This study is the first to measure the ARs related to a private placement announcement in the A-REIT sector. Prior research by Marciukaityte et al. (2007) found, contrary to general industry studies, that existing shareholders of US REITs earn negative and significant CARs of −0.82 per cent around the announcement date. The authors suggest that this result is due to “REIT managers being able to time the placements with hot equity markets and good real estate investment markets” (Marciukaityte et al., 2007, p. 398), contradicting the undervaluation hypothesis of Hertzel and Smith (1993) and supporting the information signalling hypothesis.

An innovative feature of this study is that it will investigate the impact that the global financial crisis may have had on the placement of private equity by A-REITs and the impact for existing shareholders. Figure 1 shows that since the mid-1990s the A-REIT sector has grown from a market capitalisation of approximately $10 billion to a peak of $147 billion in October 2007 prior to the global financial crisis. The global financial crisis had a significant impact on the A-REIT sector with the market capitalisation falling 68.7 per cent to $46 billion in February 2009. Since then the A-REIT sector has rallied to approximately $92 billion market capitalisation as at December 2013.
The remainder of the paper is organised as follows; Section 2 discusses the institutional features of the A-REIT sector. Section 3 provides a discussion of previous literature. Section 4 presents the method employed in this study, Section 5 discusses the data collection for our sample and Section 6 presents the results of the event study and regression analysis. Finally, we provide some concluding discussions in Section 7.

A-REIT institutional background

A-REITs provide investors access to assets that may otherwise be out of reach for individual investors, in addition, A-REITs provide diversification benefits to direct property portfolios along with investments across other asset classes (ASX, 2013). The A-REIT sector accounts for approximately 6 per cent of the market capitalisation of the ASX (Dimovski et al., 2013). Furthermore, REITs serve a vital capital function for the real estate market (Allen et al., 2000). Previous A-REIT research has demonstrated that, prior the onset of the GFC, A-REITs experienced exceptional performance, portfolio diversification benefits, low risk and investor acceptance by both general and institutional investors (Lee et al., 2007; Newell, 2005; Newell and Peng, 2008; Newell and Tan, 2003; Ratcliffe and Dimovski, 2007). Newell and Peng (2009) show the average annual return of A-REITs was over 20 per cent over a three-year period prior to the GFC and were the best performing asset class in eight of the 12 years from 1996 to 2007.

Ratcliffe and Dimovski (2007) argue that there has been a change in the risk profile of A-REITs during their study period of 2000 to 2005. The authors suggest that this change is due to higher exposure to international properties, greater debt levels and an increased reliance on non-passive income. Doble (2009) discusses that the ability to service their debt commitments
and movement away from their core business as major reasons why the A-REIT sector suffered such large losses during the GFC. During and post the GFC, a majority of A-REITs reduced their debt levels via recapitalisation and balance sheet restructuring using equity raisings (Newell and Peng, 2009). The increased equity raising has seen the average debt levels fall to approximately 26 per cent since the GFC, compared to over 40 per cent at the end of 2007 (Potts, 2012). Following the restructuring, A-REITs have moved back to their core business and this re-focusing has resulted in improved performance (Ratcliffe and Dimovski, 2013)[1]. Table I provides a list of the top 17 A-REITs via market capitalisation as at June 2013.

The A-REIT sector is a significant component of the global REIT market. Australia is ranked second behind the USA in terms of market capitalisation, making up over 9 per cent of the global REIT market and 49 per cent of the Asia Pacific REIT sector (EPRA, 2012). The A-REIT sector is recognised as a world leader in securitised property, operating in an established regulatory environment providing investors with governance and liquidity (Higgins and Ng, 2009). Furthermore, Newell (2008) highlights the sector's importance to superannuation funds, with the Australian Prudential Regulatory Authority (APRA) estimating that the collective worth of Australia's superannuation funds is over $1.5 trillion as at March 2013. Superannuation funds have over 10 per cent of their assets allocated to real estate, this includes approximately 2 per cent directly invested in A-REITs (APRA, 2012, 2013). 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. Reddy (2013) examined the asset allocation of industry superannuation funds and found funds would improve their risk-adjusted returns by increasing their investment allocation in property assets to 21 per cent. In addition, a market report by Jones Lang LaSalle (2012) has forecasted real estate allocation by superannuation fund to increase to 25 per cent over the next decade. Dimovski (2008, 2009) further identify the importance of A-REIT IPOs and capital raisings along with dividend forecasts for both
retail and institutional investors, while Newell and Peng (2008) highlight the importance of emerging property sectors both in Australia and the USA.

The institutional features of the A-REIT market provide a unique setting to test the undervaluation hypothesis. More specifically, A-REITs are required to distribute 100 per cent of net taxable income to shareholders to avoid paying income tax at the trust level (tax transparency). Thus limiting the ability to utilise retained earnings to finance new investments. Furthermore, this high level of distribution and the reliance on the capital markets for funding investments (Marciukaityte et al., 2007) may reduce information asymmetries between A-REITs and shareholders resulting in the market being able to price A-REITs more effectively (Ratcliffe et al., 2009). Prior empirical investigations show a high reliance on the capital markets, for example, Ghosh et al. (1997) show that from 1992 to 1997, US REITs issued equity three times more frequently than debt and raised twice as much capital using equity as compared to debt. Masulis and Korwar (1986) argue that regulated structures have less adverse reaction to equity announcements than industrial firms. The structure forces the firms to issue equity frequently and as such, the market anticipates these offerings. Therefore, the authors suggest that equity issues by regulated firms have less information content.

**Previous literature**

Prior research on equity offerings by REITs has focused on seasoned equity offerings (SEO) and results have shown, on average, support for the information signalling theory. For example, Ghosh et al. (1999) find significant negative ARs around the event window [0, +1] in their study of US REITs. Ghosh et al. (2013) finds negative and significant ARs in the days leading up to the announcement and the five days post and conclude that issuing REITs underperform
when compared to non-issuing REITs. Ong et al. (2011) also find significant negative ARs of −1.2 per cent over the [0, +1] event period for both Japan and Singapore REITs. The authors also find evidence that REIT managers time SEOs with favourable market conditions.

Dimovski and O’Neill (2012) reported on some of the characteristics of A-REIT placements from 2006 to 2011. The study showed that the average price discount around announcement on private placements was 7.1 per cent[2] and an average standard deviation of returns for 250 days prior of 3.5 per cent for the full study period. The study partitioned the data set into pre- and post-GFC. Results showed an increase in the average of funds raised, $112 million in the pre-GFC set compared to $269 million in the post-GFC. Furthermore the average price discount jumped from 2.6 per cent pre-GFC to 12.1 per cent post and the standard deviation of returns was 1.4 and 4.8 per cent for pre and post-GFC, respectively.

Dimovski and O’Neill (2012) also examined the returns to subscribers and existing shareholders on both the listing day and ten days post announcement. For the full sample subscribers received, on average, a 7.7 per cent return on the announcement day and 7.8 per cent on day ten. Existing shareholder returns were −0.8 and 0.1 per cent, respectively. Comparison of pre and post-GFC showed subscribers earned, on average, a 1.6 per cent return pre-GFC and 14.5 per cent returns post-GFC over the ten-day period. Existing shareholders received returns of 0.1 per cent pre and 0.3 per cent post-GFC over the same time period.

These results highlight the impact that the GFC has had on the overall market and in particular the A-REIT sector. Namely, volatility nearly 3.5 times more, a substantial increase in funds raised privately and an increase in the discount offered of nearly 2.5 times than that of the earlier period. Furthermore, the study supports the findings of Zarebski and Dimovski (2012) who highlighted the limited funding opportunities due to very low liquidity in debt markets and falling asset values had a dramatic impact on the A-REIT sector.
Examination of the announcement period excess returns of US REITs following private placements by Marciukaityte et al. (2007) found existing shareholders receive significant and negative CARs of −0.82 per cent over the [−1,+1] event window during the study period of 1981 to 1999. This result is in contrast to the findings of Wruck (1989), Hertzel and Smith (1993) and Wruck and Wu (2009) who all found positive and significant CARs around announcement in their examination of private placements by conventional firms. Furthermore, Marciukaityte et al. (2007) found long-term positive and significant buy-and-hold ARs over the two- to five-year period. Again this result is in contrast to prior studies of conventional firms (Hertzel et al., 2002; Krishnamurthy et al., 2005; Wruck and Wu, 2009). The authors concluded that REIT managers time their placements for when equity prices are high, but long-term ARs are associated with prior performance and REIT managers are able to utilise the funding from placements to generate wealth for their shareholders.

**Method**

**Event study**

This study employs an event study methodology based on that set out by Brown and Warner (1985) to measure abnormal shareholder returns to existing shareholders around the announcement period. To implement the event study methodology the market model method is employed which accounts for the risk associated with the market and mean returns. The market model was estimated for each company over a 100-day estimation period (t−120, t−20).
Ordinary least squares (OLS) regression was used to determine the parameter estimations. The following market model is employed:

\[
E(R_{i,t}) = \alpha + \beta_i (R_{m,t}) + \varepsilon_{i,t}
\]  

(1)

where \(E(R_{i,t})\) is the estimated return on security \(i\) on day \(t\), \(\alpha\) represents the intercept term, \(\beta_i\) the slope coefficient. \(R_{m,t}\) the measure of the observed return for the market index, in this case the S&P/ASX200[3], on day \(t\); and \(\varepsilon_{i,t}\) the standard error term. Heggen and Gannon (2008) note that there is a potential bias in estimating the parameters of the market model when using daily returns for shares that trade infrequently, to avoid this bias we utilise the Scholes and Williams (1977) adjusted \(\beta\) method[4]. The AR of the shares for firm \(i\) in the event window is calculated as:

\[
AR_{i,t} = R_{i,t} - E(R_{i,t})
\]  

(2)

We estimate the cumulative average abnormal returns (CARs) for any interval \([t_1:t_2]\) during the event window as:

\[
CAR_{[t_1:t_2]} = \frac{1}{N} \sum_{[t_1:t_2]} AR_{i,t}
\]  

(3)

Consistent with prior REIT research on private placements and SEO announcements (Higgins et al., 2004; Ong et al., 2011) the event window is 21 days \((T=[-10,+10])\), where \(t=[0]\) denotes the day the placement is announced. Selection of a 21-day event window allows us to identify any possible information leakage before the announcement and also how the market may reassess any new information post the announcement. To investigate the robustness of our results and to provide comparison with previous literature, analysis of a number of additional
event periods within the event window was conducted. To determine the statistical significance of the calculated AR and CAR, a standard cross-sectional test statistic was estimated[5].

**Regression analysis**

A regression model was developed to examine the ARs calculated above for A-REITs involved in a private placement, with independent variables being selected on the basis of prior literature. OLS regression was utilised to test the significance of the relationship between each A-REIT CARs over the three-day event window $[-1,+1]$, the regression model is:

$$\text{CAR}_i = \alpha + \beta_1 \text{DISC} + \beta_2 \text{FRACTION} + \beta_3 \text{GFC} + \beta_4 \text{NETGEARING}$$

$$+ \beta_5 \text{SIZE} + \beta_6 \text{BVMV} + \beta_7 \text{REASON} + \epsilon_i$$

(4)

The independent variables are defined as follows:

DISC is the percentage discount of the subscription price in relation to the share price the day prior the announcement, calculated as the share price day $-1$, less the subscription price divided by day $-1$ share price. A positive value here means the investor in the placement has received the shares at a discount. Hertzel and Smith (1993) suggest that the more difficult it is to value a firm; investors in private placements will require larger discounts. Given this information content we would expect a negative relationship between ARs and the discount. Alternative way of interpreting the negative coefficient is the higher the discount offered on the placement the lower the CARs (i.e. move towards negative returns).

FRACTION is the fraction of shares placed as a percentage of the total outstanding shares on issue before the placement. The information hypothesis suggests the larger the fraction placed the greater the information signal, therefore we expect a negative relationship between fraction placed and the CARs.
GFC is binary variable with the value of 1 if the placement was announced after the onset of
the GFC (we use December 2007 as the cut-off date). Dimovski and O’Neill (2012) showed
A-REITs raised, on average, $269 million post-GFC compared to $112 million pre-GFC.
Furthermore, the average discount was greater in post-GFC placements, 12.1 per cent
compared to 2.6 per cent. A negative relationship with the dependant variable is expected here.

NET GEARING is calculated as short-term debt plus long-term debt less cash, divided by
shareholders equity. Jensen (1986) argues that firms with higher gearing levels make better
investment decisions due to lower levels of free-cash flow. However, Campbell et al. (2001)
suggests that the institutional structure of REITs and the restrictions placed on REITs free-cash
flow may mitigate Jensen's (1986) claim.

SIZE is the natural log of the A-REITs market capitalisation on the day prior the announcement.
Hertzel and Smith (1993) argue that information asymmetries are likely to be greater for
smaller firms, therefore a negative relationship is hypothesised for size and excess returns.

BVMV is the ratio of the A-REITs book value equity to market value equity at the last released
financial report (both annual and semi-annual reports were used to find the book value equity).
Low BVMV ratios reflect higher expected future returns due to perceived growth opportunities.
Given this we hypothesise that A-REITs with a low BVMV ratio to have lower information
problems. We expect placement announcement excess returns to be negatively related to the
BVMV ratio.

REASON is a dummy variable of 1 if the A-REIT identifies that the placement funds will be
used for an acquisition of property or development of a property. The reason for the placement
contains a large amount of information for the market, if the A-REIT is using the funds to
support their core business (generation of rental income) we would expect the information signal to be positive and hence a positive impact on excess returns.

**Data**

Private placement announcements from January 2000 to December 2012 were collected from the Datanalysis database, using the search function for ASX announcements. For the placement to be included in the dataset the following screens were conducted:

- the firm must be classified as an A-REIT;
- there must be an absence of large-scale confounding events occurring within ten days of the announcement;
- the firms share price data must be listed on Datanalysis for the period beginning 120 trading days prior the announcement and ending ten days post; and
- the A-REIT cannot have a concurrent equity issue, for example, a rights issue, on offer within the analysis and comparison period.

A total of 96 private placement announcements were identified that met the above criteria. Table II provides the descriptive statistics for the 96 placements. We see that the average placement size was $146.24 million, slightly lower than the average reported by Dimovski and O’Neill (2012) that covered a period of 2006-2011. The largest placement was conducted by Westfield in 2009 for a value of $2.9 billion. While the total proceeds for the 96 private placements being over $14 billion. The average discount offered for private placements was 2.37 per cent, again lower than the 7.1 per cent presented by Dimovski and O’Neill (2012). The average size of the A-REIT involved in our sample is almost $2 billion, however, the
median is over $900 million, suggesting that larger A-REITs utilise private placements more often than smaller A-REITs. The average fraction of shares placed is 10.37 per cent, below the 15 per cent level that requires shareholder approval under ASX listing rules.

Table III displays the top 10 private placements, by proceeds raised, for pre- and post-December 2007 announcements. Westfield has been involved in the three largest private placements within the 96 observations. Comparison of the means between both panels shows no distinct differences. Only the average discounts in post-December 2007 placements are greater than the pre-December period. It is interesting to note the reasons for the placements. Six of the placements in panel B were used to reduce debt levels. While the vast majority of private placements in panel A were to fund core business activities. This outcome highlights the liquidity problems faced by A-REITs as a result of the GFC and supports the claims by Zarebski and Dimovski (2012).

As discussed above, observations that involved a concurrent private placement and rights issue announcement are removed from the data set. The aim of this study is to examine the impacts on shareholder wealth around private placements only, thus inclusion of these observations would create noise in the data set. However, we feel that it should be noted that post-December 2007 there were 27 private placements made by A-REITs that were made concurrently with a rights issue, raising over $12 billion. The average discount offered in the raising was 12.38 per cent[6]. The impact on shareholders wealth is outside the scope of this study, but it is certainly an area that warrants further research.
Results

Event study results

Table IV displays the daily excess returns for the full data sample of private placements from January 2000 to December 2012, along with the cumulative average ARs. We find significant ARs on days ten and four prior the announcement, suggesting minimal, if any, information leakage about the placement to the market. The CARs reaches a high of +1.85 per cent on day −4. Days 0 and +1 following the announcement display significant negative ARs of −0.25 and −1.07 per cent, respectively. This result provides support for the information signalling hypothesis, in that the new information conveyed that managers believe the firm is overvalued (Myers and Majluf, 1984).

Figure 2 displays the CARs for the A-REIT private placement sample over the 21-day event period. We can see that in the days leading up to the announcement there is an upward trend in the CARs, this result provides support to the claims by Marciukaityte et al. (2007) that REIT managers are able to time their placements with the market. On the days after the announcement the CARs drop significantly and the trend continues for the remainder of the study period. This outcome is in contrast to the findings of Wruck (1989) who finds no evidence of post announcement share price drift.

To further investigate the impact of private placements on A-REIT shareholders we examined the CARs over a number of different event windows, these results are displayed in Table V. Panel A displays the results for the full study period of January 2000-December 2012. We find, consistent with Marciukaityte et al. (2007), but in contrast to prior general corporate
finance studies[7], that A-REITs experience negative and significant ARs around the three-day event window \([-1,+1]\) of \(-1.29\) per cent. Examination of pre and post announcement event windows shows that in the period leading up to the announcement, \([-10,0]\) and \([-5,0]\), A-REITs earn positive but insignificant CARs. However, the \([-1,0]\) event window shows A-REITs earn negative and significant CARs of \(-0.222\) per cent. This outcome suggests there may have been some information leakage, or market expectation about the placement announcement. Post announcement CARs are negative and significant, \(-1.623\) per cent over the \([0, +5]\) event window and \(-1.694\) per cent for the \([0,+10]\) window. These results provide further support for our daily excess returns results.

To investigate the impact of the GFC, we divided the sample into pre- and post-December 2007, the CARs over these sub periods are displayed in panels B and C, respectively, of Table V. The pre-GFC results show, consistent with the full sample, that existing shareholders experience negative and significant excess returns on the day of announcement along with the \([0, +5]\) and \([0,+10]\) event periods. Panel C displays the results for the post-GFC sub-sample, we again find post announcement excess returns in the \([0, +10]\) window to be significant and negative \((-5.397\) per cent). This result is higher than those presented in the full sample and pre-GFC sample. Furthermore, we note that the CARs across all event windows are larger than those presented in panels A and B[8]. This highlights the higher market volatility that was experienced as a result of the GFC, Dimovski and O’Neill (2012) also provided evidence of greater market volatility between their pre and post-GFC data sample. Consistent across all periods we find positive, but insignificant, excess returns in the period's prior announcement, further supporting the notion that A-REIT managers are attempting to time their announcements with the market.
Our results are comparable to those presented for REIT SEOs, both Ghosh et al. (1999) and Ong et al. (2011) find that REITs experience negative and significant excess returns around a SEO announcement. We find strong support for the information hypothesis and suggest that A-REITs face greater information asymmetries than what has been previously suggested (Hartzell et al., 2006; Sah and Seagraves, 2012). Feng et al. (2007) discusses in a regulated industry management has less discretion and therefore information asymmetry is less severe. Feng et al. (2007) note that some authors argue that illiquidity and heterogeneity of property assets make valuation difficult, while others posit that the value of a REIT is the aggregate value of its assets. This study is the first, to our knowledge, to explicitly examine A-REIT shareholders risk adjusted returns from private placements over a period that includes the GFC. Results show that existing investors experience significant wealth reductions around private placement announcements.

Our findings are supported by Ratcliffe and Dimovski (2007) who provide evidence of a structural shift in the risk characteristics of A-REITs due to factors such as a greater reliance on non-passive income, higher debt levels and a greater exposure to international property. Furthermore, Ling and Ryngaert (1997) note a dramatic shift in REIT management and thus a greater investment in managerial skills resulting in REITs being more vulnerable to information asymmetry problems.

**Cross-section regression results**

In regression analysis a number of the independent variables may exhibit high levels of correlation, this can have an impact on their explanatory power and hence the robustness of the results. Table VI displays the correlation matrix of the explanatory variables. It can be seen that we experience a moderate level of correlation (−0.404) between the variables GFC and
REASON, however, this level is not high enough to warrant adjustment of the model. The remaining variables all exhibit a low level of correlation.

Table VII displays the regression model results. OLS is employed to test the significance of the relationship between A-REIT three-day CARs $[-1,+1]$ and the independent variables described above. Standard diagnostic tests are also run to examine for normality, heteroskedasticity[9] and omitted variables. Panel A shows the regression results for the full sample; Panel B provides the results after removal of the GFC variable, which appears to have no impact on the observed ARs.

The results show a negative relationship between excess returns and discount across both models, suggesting that the higher the discount offered on a placement the greater the information signalling impact. This result supports Hertzel and Smith (1993) hypothesis that the more difficult it is to value a firm the larger the discount investors will require. We also find a positive relationship with reason for the placement, suggesting that when A-REITs announce the placement funds will be used to fund their core business the information signal is positive. This outcome has not previously been identified in prior REIT research. However, the significance of the variable disappears in panel B.

Consistent with Hertzel and Smith (1993), we find a strong negative relationship across both panels for BVMV ratio. This result suggests that A-REITs that are trading a premium to net tangible assets earn higher excess returns, supporting our hypothesis that A-REITs with low BVMV ratios have lower information problems. We note from the descriptive statistics table that the maximum value of the BVMV variable was 5.877, over five-times greater than the mean. To investigate if this observation was driving the significance, the model was run after winsorising the BVMV value[10]. Results showed that the coefficients and p-values remained stable, however, the significance of BVMV fell to the 5 per cent level. Finally, we
find that net gearing is negative and significant at the 5 per cent level in panel A and at the 10 per cent level in panel B. That is, higher geared A-REITs earn lower excess returns in a placement announcement. This result is in contrast to Marciukaityte et al. (2007), who found no statistically significant relationship between leverage and ARs. Campbell et al. (2001) posit that highly geared REITs (with low historical growth rates) may find it challenging to decrease their gearing levels due to the pay out requirements of REITs.

To investigate the net gearing result further, we isolated any observation from our data set that noted the reason for the placement was to repay debt or restructuring of their balance sheet[11]. We found that the average excess return for these A-REITs was $-3.246$ per cent over the $[-1,+1]$ period, they also had higher than average BVMV ratios ($1.35$ vs. sample average of $0.948$) and higher gearing ($104.11$ per cent vs sample average of $57.94$ per cent). These results suggest that the announcement of the placement has conveyed information to the market of possible financial distress. To investigate if the gearing result was being driven by the impact of the GFC and the recapitalisation that occurred in this period, we re-ran the regression model with only the observations up to December 2007. These results are presented in Table VIII, it can be seen that the gearing variable remains negative and significant at the 10 per cent level. Therefore, providing robustness to our conclusion that the private placement announcement for repayment of debt levels/balance sheet restructuring may convey possible financial distress.

**Conclusion**

Using event study methodology we examine the wealth effect of A-REIT shareholders around the announcement of a private placement. Overall our results reject the undervaluation hypothesis suggested by Hertzel and Smith (1993), we find support the information signalling
theory as presented by Myers and Majluf (1984). We find, in contrast to prior studies of conventional firm placements (e.g. Wruck and Wu, 2009), on average, private placements have a negative and significant impact on existing shareholder wealth. However, to obtain a more in-depth understanding of the implications for A-REIT investor’s further research is warranted. Analysis of the long-term post-placement impact on shareholder wealth may shed more light on the motivations for private placements by A-REITs. It may be hypothesised that because private placements are quicker and less expensive for A-REITs, relative to other equity raising options, that the long-term benefits to investors may outweigh the short-term costs. We also find evidence to support Marciukaityte et al. (2007) that A-REIT managers attempt to time their placements with favourable market conditions.

Our regression analysis shows that price reversal from the information content in the placement announcement is lower for A-REITs with low BVMV ratios. Placements by A-REITs trading at a premium to NTA may signal that the firm is in a strong financial position and the announcement has a positive impact on shareholders wealth. Results also show that A-REITs that utilise placement funds for core business activities has a positive impact of ARs for investors. In contrast, we find A-REITs with higher gearing levels have a negative effect on shareholder excess returns. This outcome may signal to the market possible financial distress when making a placement announcement. Finally, results suggest that A-REITs with higher information asymmetries offer higher price discounts.

As discussed above, we believe that more research in this area is warranted. This includes the examination of the long-term impacts on investors post the private placement, along with assessment of placements announced concurrently with rights issues. In addition, further research into the relationship between private placements by A-REITs, separated by
management structure (internal vs external) and announcement ARs may also shed more light on the underlying hypotheses.

Notes

1. Average annual returns for the sector over the one and three-year periods ending December 2012 were 32.18 and 10.6 per cent, respectively.

2. Price discount was calculated as the closing price the day before the placement announcement less the subscription price, divided by the closing price the day before.

3. S&P/ASX200 is the investable benchmark for the Australian equity market. The index is comprised of the top 200 listed stocks on the ASX.

4. See Scholes and Williams (1977) for full discussion on adjusted f3 methodology.

5. See Brown and Warner (1985) for event study statistical tests.

6. For sake of space, the full data are not presented here, but are available upon request.

7. For example, Hertzel and Smith (1993); Krishnamurthy et al. (2005) and Wruck and Wu (2009) all found positive and significant excess returns around the announcement period.

8. We acknowledge that the lower number of observations may have an impact on our findings; however, they do show higher volatility in the market place post-GFC.

9. White Test reported hetroskedasticity, thus model was re-run to adjust for this.

10. This was the only BVMV value that was outside two standard deviations from the mean.
11. We extracted 13 observations. Seven of the 13 observations occurred after the start of the GFC (December 2007). Full results are not presented here, but available upon request.

References


JLL (2012), "Real assets and the Asia Pacific', Jones Lang LaSalle, Sydney.


**Figure 1** Growth of A-REIT market capitalisation

Notes: This figure displays the market capitalisation of the A-REIT sector in $ billions, as at December from 1995 to 2013. Source: Authors computations from ASX LMI monthly updates (available at www.asx.com.au/products/managed-funds-market-update.htm)

**Figure 2** Cumulative average abnormal returns

Notes: This figure displays the cumulative abnormal returns (CARs) for A-REIT private placements from January 2000 to December 2012 over the [-10,+10] event window. Calculation of CARs is obtained using the market model discussed in Section 4.

**Table I** Leading A-REITs by market capitalisation
<table>
<thead>
<tr>
<th>Name</th>
<th>Market cap (A$B)</th>
<th>Management structure</th>
<th>S&amp;P/ASX200 A-REIT index (%)</th>
<th>No. of properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Westfield group</td>
<td>23.51</td>
<td>Internal</td>
<td>28.24</td>
<td>105</td>
</tr>
<tr>
<td>Westfield retail trust</td>
<td>8.89</td>
<td>Internal</td>
<td>98.84</td>
<td>47</td>
</tr>
<tr>
<td>Goodman group</td>
<td>8.33</td>
<td>Internal</td>
<td>9.22</td>
<td>43</td>
</tr>
<tr>
<td>Stockland</td>
<td>8.12</td>
<td>Internal</td>
<td>89.86</td>
<td>138</td>
</tr>
<tr>
<td>GPT group</td>
<td>6.65</td>
<td>Internal</td>
<td>7.68</td>
<td>68</td>
</tr>
<tr>
<td>Mirvac group</td>
<td>6.23</td>
<td>Internal</td>
<td>6.90</td>
<td>66</td>
</tr>
<tr>
<td>CFS retail property trust group</td>
<td>5.53</td>
<td>External</td>
<td>6.12</td>
<td>30</td>
</tr>
<tr>
<td>Dexus property group</td>
<td>5.13</td>
<td>Internal</td>
<td>5.68</td>
<td>104</td>
</tr>
<tr>
<td>Federation centres</td>
<td>3.37</td>
<td>Internal</td>
<td>3.73</td>
<td>40</td>
</tr>
<tr>
<td>Commonwealth property office fund</td>
<td>2.61</td>
<td>External</td>
<td>2.89</td>
<td>26</td>
</tr>
<tr>
<td>Australand property group</td>
<td>2.03</td>
<td>Internal</td>
<td>2.25</td>
<td>68</td>
</tr>
<tr>
<td>Investa office fund</td>
<td>1.84</td>
<td>Internal</td>
<td>2.04</td>
<td>93</td>
</tr>
<tr>
<td>Charter hall retail REIT</td>
<td>1.30</td>
<td>External</td>
<td>1.44</td>
<td>91</td>
</tr>
<tr>
<td>BWP trust</td>
<td>1.27</td>
<td>External</td>
<td>1.41</td>
<td>71</td>
</tr>
<tr>
<td>Charter hall group</td>
<td>1.21</td>
<td>Internal</td>
<td>1.34</td>
<td>104</td>
</tr>
<tr>
<td>Shopping centres Australasia</td>
<td>1.03</td>
<td>Internal</td>
<td>1.14</td>
<td>56</td>
</tr>
<tr>
<td>Abacus</td>
<td>1.00</td>
<td>Internal</td>
<td>1.10</td>
<td>94</td>
</tr>
</tbody>
</table>

Notes: As at June 2013, calculated from DataAnalyx, SNL database and www.investing.com/indices/s-p-asx200-a-reit-components. No. of properties sourced as at December 2012 reporting.

Table II Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>PROCEEDS</th>
<th>DISC (%)</th>
<th>BVMV</th>
<th>SIZE</th>
<th>NET GEARING (%)</th>
<th>FRACTION (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>146.24</td>
<td>2.372</td>
<td>0.948</td>
<td>1,926.83</td>
<td>57.94</td>
<td>10.57</td>
</tr>
<tr>
<td>Median</td>
<td>70.25</td>
<td>3.046</td>
<td>0.915</td>
<td>917.55</td>
<td>39.74</td>
<td>9.11</td>
</tr>
<tr>
<td>Min</td>
<td>268</td>
<td>-20.930</td>
<td>0.000</td>
<td>20.24</td>
<td>0.00</td>
<td>0.09</td>
</tr>
<tr>
<td>Max</td>
<td>2,900.00</td>
<td>22.222</td>
<td>5.877</td>
<td>23,773.73</td>
<td>358.76</td>
<td>60.48</td>
</tr>
<tr>
<td>SD</td>
<td>347.30</td>
<td>5.734</td>
<td>0.817</td>
<td>3,077.92</td>
<td>59.62</td>
<td>8.72</td>
</tr>
</tbody>
</table>

Notes: $n=96$. **PROCEEDS** is the dollar amount raised from the private placement (reported in $ millions). **DISC** is the percentage discount of the subscription price in relation to the share price on the day prior the placement announcement. **BVMV** is the ratio of the book value equity to market value equity at the last reported financial report. **SIZE** ($ millions) is the market capitalisation of the A-REIT on the day prior the announcement. **NET GEARING** is short-term plus long-term debt less cash, divided by shareholders equity. **FRACTION** is the percentage of shares placed as a fraction of the total outstanding shares on issue before the placement.

Table III Top 10 placements – pre- and post-December 2007
Table IV  Daily average abnormal return

<table>
<thead>
<tr>
<th>Day</th>
<th>Daily Average AR (event window −10, +10)</th>
<th>ρ-value</th>
<th>No Obs.</th>
<th>CAR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>−10</td>
<td>0.56</td>
<td>(0.011)***</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>−9</td>
<td>0.24</td>
<td>(0.069)</td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>−8</td>
<td>0.13</td>
<td>(0.085)</td>
<td>0.92</td>
<td></td>
</tr>
<tr>
<td>−7</td>
<td>0.26</td>
<td>(0.068)</td>
<td>1.18</td>
<td></td>
</tr>
<tr>
<td>−6</td>
<td>−0.01</td>
<td>(0.063)</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>−5</td>
<td>0.57</td>
<td>(0.068)</td>
<td>1.54</td>
<td></td>
</tr>
<tr>
<td>−4</td>
<td>0.32</td>
<td>(0.003)***</td>
<td>1.85</td>
<td></td>
</tr>
<tr>
<td>−3</td>
<td>−0.17</td>
<td>(0.185)</td>
<td>1.68</td>
<td></td>
</tr>
<tr>
<td>−2</td>
<td>0.03</td>
<td>(0.750)</td>
<td>1.77</td>
<td></td>
</tr>
<tr>
<td>−1</td>
<td>0.03</td>
<td>(0.174)</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>−0.25</td>
<td>(0.001)***</td>
<td>1.55</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>−1.07</td>
<td>(0.000)***</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.02</td>
<td>(0.759)</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>−0.10</td>
<td>(0.442)</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>−0.14</td>
<td>(0.513)</td>
<td>0.26</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>−0.08</td>
<td>(0.806)</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>−0.02</td>
<td>(0.569)</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0.11</td>
<td>(0.489)</td>
<td>0.26</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>−0.27</td>
<td>(0.272)</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>−0.10</td>
<td>(0.856)</td>
<td>−0.10</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0.21</td>
<td>(0.452)</td>
<td>0.10</td>
<td></td>
</tr>
</tbody>
</table>

Notes: This table presents the average abnormal return over the 21-day event period around A-REIT private placement announcements from January 2000 to December 2012. Day 0 represents the date of announcement. Calculation of the average abnormal returns is discussed in Section 4. ***:Statistical significance at the 1 per cent level, respectively.

Table V  Cumulative average abnormal returns
Table VI Correlation coefficient matrix of independent variables

<table>
<thead>
<tr>
<th>DISC</th>
<th>FRACTION</th>
<th>GFC</th>
<th>NETGEARING</th>
<th>SIZE</th>
<th>BVMV</th>
<th>REASON</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000</td>
<td>0.242</td>
<td>1.000</td>
<td>-0.017</td>
<td>1.000</td>
<td>0.233</td>
<td>0.067</td>
</tr>
<tr>
<td>0.242</td>
<td>0.067</td>
<td>0.257</td>
<td>-0.189</td>
<td>-0.100</td>
<td>1.000</td>
<td>-0.468</td>
</tr>
</tbody>
</table>

Notes: This table provides the correlation coefficient matrix for the independent variables employed in the regression model discussed in section 4. DISC is the percentage discount of the subscription price in relation to the share price on the day prior to the placement announcement. FRACTION is the percentage of shares placed as a fraction of the total outstanding shares on issue before the placement. GFC is a binary value of 1 if the placement was announced after December 2007. NETGEARING is short-term plus long-term debt less cash divided by shareholders equity. SIZE is the natural log of the market capitalisation of the A-REIT on the day prior to the announcement. BVMV is the ratio of the book value equity to market value equity at the last reported financial report. REASON is a binary value of 1 if the funds raised are announced to be used for an acquisition or development of property.

Table VII Regression Results for private placements by A-REITs
Table VIII Regression Results for private placements by A-REITs – prior GFC

<table>
<thead>
<tr>
<th>Variable</th>
<th>Panel A</th>
<th></th>
<th>Panel B</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Obs</td>
<td>(p-value)*</td>
<td>No. of Obs</td>
<td>(p-value)*</td>
</tr>
<tr>
<td>Intercept</td>
<td>96</td>
<td>-0.067</td>
<td>96</td>
<td>-0.057</td>
</tr>
<tr>
<td></td>
<td>(0.029)**</td>
<td></td>
<td>(0.012)**</td>
<td></td>
</tr>
<tr>
<td>DISC</td>
<td>-0.125</td>
<td>(0.031)**</td>
<td>-0.124</td>
<td>(0.035)**</td>
</tr>
<tr>
<td>FRACTION</td>
<td>0.046</td>
<td>(0.234)</td>
<td>0.046</td>
<td>(0.244)</td>
</tr>
<tr>
<td>GFC</td>
<td>0.001</td>
<td>(0.899)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NET GEARING</td>
<td>-0.016</td>
<td>(0.047)**</td>
<td>-0.017</td>
<td>(0.082)*</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.001</td>
<td>(0.707)</td>
<td>0.001</td>
<td>(0.704)</td>
</tr>
<tr>
<td>BVMV</td>
<td>-0.027</td>
<td>(0.000)***</td>
<td>-0.027</td>
<td>(0.003)***</td>
</tr>
<tr>
<td>REASON</td>
<td>0.013</td>
<td>(0.091)*</td>
<td>0.012</td>
<td>(0.109)</td>
</tr>
<tr>
<td>R²</td>
<td>0.329</td>
<td></td>
<td>0.229</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.254</td>
<td></td>
<td>0.272</td>
<td></td>
</tr>
<tr>
<td>White Test</td>
<td>72.218</td>
<td>(0.002)</td>
<td>55.300</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>2.379</td>
<td>(0.304)</td>
<td>2.200</td>
<td>(0.332)</td>
</tr>
<tr>
<td>Ramsey Reset</td>
<td>-4.788</td>
<td>(0.403)</td>
<td>-3.555</td>
<td>(0.409)</td>
</tr>
</tbody>
</table>

Notes: This table provides the results of the regression model discussed in section 4 for the full sample period of January 2000 to December 2012. The three-day CARs calculated in the event study are employed as the dependent variable. DISC is the percentage discount of the subscription price in relation to the share price on the day prior the placement announcement. FRACTION is the percentage of shares placed as a fraction of the total outstanding shares on issue before the placement. GFC is a binary value of 1 if the placement was announced after December 2007. NET GEARING is short-term plus long-term debt less cash, divided by shareholders equity. SIZE is the natural log of the market capitalisation of the A-REIT on the day prior the announcement. BVMV is the ratio of the book value equity to market value equity at the last reported financial report. REASON is a binary value of 1 if the funds raised are announced to be used for an acquisition or development of property. "*"*" depicts that the p-values have been adjusted for heteroskedasticity. "*,**,***"Statistical significance at the 10, 5, and 1 per cent level, respectively.

Table VIII Regression Results for private placements by A-REITs – prior GFC

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. of Obs</th>
<th>(p-value)*#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-0.027</td>
<td>(0.039)**</td>
</tr>
<tr>
<td>DISC</td>
<td>-0.031</td>
<td>(0.051)*</td>
</tr>
<tr>
<td>FRACTION</td>
<td>0.032</td>
<td>(0.317)</td>
</tr>
<tr>
<td>NET GEARING</td>
<td>-0.001</td>
<td>(0.087)*</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.002</td>
<td>(0.153)</td>
</tr>
<tr>
<td>BVMV</td>
<td>-0.015</td>
<td>(0.048)**</td>
</tr>
<tr>
<td>REASON</td>
<td>0.001</td>
<td>(0.112)</td>
</tr>
<tr>
<td>R²</td>
<td>0.217</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.145</td>
<td></td>
</tr>
<tr>
<td>White Test</td>
<td>40.739</td>
<td>(0.033)</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>5.875</td>
<td>(0.251)</td>
</tr>
<tr>
<td>Ramsey Reset</td>
<td>-2.975</td>
<td>(0.334)</td>
</tr>
</tbody>
</table>

Notes: This table displays the results of the regression model discussed in section 4 for the sample period excluding observations occurring after the onset of the GFC (January 2000 to December 2007). The three-day CARs calculated in the event study are employed as the dependent variable. DISC is the percentage discount of the subscription price in relation to the share price on the day prior the placement announcement. FRACTION is the percentage of shares placed as a fraction of the total outstanding shares on issue before the placement. NET GEARING is short-term plus long-term debt less cash, divided by shareholders equity. SIZE is the natural log of the market capitalisation of the A-REIT on the day prior the announcement. BVMV is the ratio of the book value equity to market value equity at the last reported financial report. REASON is a binary value of 1 if the funds raised are announced to be used for an acquisition or development of property. "*"*"*" depicts that the p-values have been adjusted for heteroskedasticity. "*,**,***"Statistical significance at the 5 and 10 per cent level, respectively.