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THE GLOBAL FINANCIAL CRISIS AND THE CENTRO PROPERTIES GROUP EARNINGS REVISION AND REFINANCING ANNOUNCEMENTS: AN EVENT STUDY

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ABSTRACT

This study analyses the impact of the global financial crisis using Centro Properties Group's earnings revision and refinancing announcements on December 17th 2007 as the event date to investigate the change in risk profile for A-REITs that were included in the S&P/ASX 300. The study finds that nine of the 25 A-REIT constituents on the S&P/ASX 300 recorded statistically significant negative abnormal returns on 17th December 2007 and that the systematic risk for many A-REITs moved significantly higher after this date. This increased systematic risk has major implications for the cost of capital to the sector.

Keywords: A-REITs, global financial crisis, CAPM.

INTRODUCTION

Assets owned by Australian Real Estate Investment Trusts (A-REITs, but formerly known as listed property trusts or LPTs) have grown substantially up to November 2007. Newell (2005) reports that these A-REITs had a compound average annual return of over 11.6% with a standard deviation of 8.2% compared to stocks which had a compound average annual return of around 9.1% and a standard deviation of 8.7% from June 1994 to June 2004. It appears that the capital market appreciated this high return and low risk feature that A-REITs grew in market capitalisation from around \$10 billion in the mid-1990s to over \$80 billion in the mid-2000s and Australian REITs held over 16% of the global REIT value (KPMG, 2007). Only a few years earlier, Ratcliffe and Dimovski (2005) note that the A-REIT sector in 2004 accounted for around 10% of the global REIT value.

The strong performance of A-REITs is well documented in the academic literature. Newell and Peng (2006) report on the significance of the emerging property sectors such as self-storage, health care, retirement facilities and leisure/entertainment in investment portfolios. They find superior risk adjusted performance by these sectors as well as portfolio diversification benefits during 2002 to 2005. Newell (2007) assesses the performance of industrial properties and notes that industrial A-REITs provided consistent and well-performed risk-adjusted returns during 1995 to 2006. Peng and Newell (2007) and later Newell and Peng (2008) also find that infrastructure funds performed strongly

during 1995 to 2006 and provided useful diversification benefits. Since many A-REITs hold significant levels of international property in their portfolios, Newell and MacIntosh (2007) identify the variety of risk management strategies adopted by the A-REITs in managing their capital and income. The A-REIT sector was generally viewed as well managed, owning large, conservative, highly rated investment grade properties which were considered to have reliable and stable tenants and sound cash flows. The sector was a favourite amongst investors. Newell (2008) explains the sector's importance to superannuation funds.

Amongst the recent professional literature, KPMG (2008) suggest the US sub-prime mortgage crisis turned into a global financial crisis and values in investment sectors that were considered "over leveraged" were punished. They report that on June 30th 2008, the value of the A-REIT sector was 41% down on its July 1st 2007 value. This was compared to a fall of 19% for the S&P/ASX200. BDO Kendall (2008), a large accounting and business advisory firm and experts in A-REITs, also reported that by June 30th 2008 the A-REIT sector fell 43% from its peak 8 months earlier. BDO Kendall (2009a) go on to report that only one of 61 A-REITs they surveyed earned a positive return to December 31st 2008; 14 trusts suspended distributions; that for the first time since 2002, A-REITs were priced below their net tangible assets (NTA) and that nine out of 10 entities recorded falls in the values of their properties. More recently, BDO Kendall (2009b) confirm that the S&P/ASX300 accumulation index lost 29% for the 12 months to 30th April 2009 while the S&P/ASX300 A-REIT accumulation index lost 57%. A-REITs during the period December 2007 to the first third of 2009 have clearly underperformed.

BDO Kendall (2008) suggest that the A-REIT sector started to be less attractive to investors in December 2007 and coincided with Centro Properties Group announcements to the ASX in that month. In brief, on December 17th 2007, Centro Properties Group issued an announcement to the ASX essentially advising of three matters. Firstly, they advised that there would be increased costs associated with debt facilities and that capital expenditure restrictions imposed by the financiers would restrict growth in earnings in the United States. Secondly, that Centro managed A\$26.6 billion of property assets, was performing in line with expectations and that they were continuing to negotiate the refinancing of A\$1.3 billion (with the loan extended to 15th February 2008). Thirdly, Centro suggested that to be prudent in terms of financing options that they would not pay a distribution for the second half of the year ended 31st December 2007. The market did not take kindly to this announcement and Centro Properties share price was slashed from a closing price of over \$6 the day before the announcement to a closing price of \$1.36 on the day of the announcement. The smaller Centro Retail Trust which was about one fifth the size of Centro Properties issued a similar announcement suggesting they were performing strongly and that they were continuing to negotiate the refinancing of A\$1.2 billion (with the loan extended to 15th February 2008) and that to be prudent in terms of financing options that they would also not pay a distribution for the second half of the year ended 31st December 2007. The price of Centro Retail Trust shares was also slashed

from \$1.42 the day before the announcement to a closing price of \$0.85 on the day of the announcement.

The DatAnalysis database reports that Centro Properties was established in June 1997 as the Prime Retail Group (a stapled entity consisting of a unit trust and a property management company). At the time, it had a market capitalisation of around A\$106 million. Large scale acquisitions funded by debt and equity allowed the entity to grow dramatically. Centro Retail Trust was floated in August 2005 to be a pure retail property ownership trust. Centro Retail Trust and Centro Properties were managed by Centro Properties, which by January 2006 had assets under management of around A\$10 billion. Two major US REIT acquisitions (along with smaller acquisitions) during 2006 and 2007 (Heritage and New Plan) allowed Centro Properties to control over A\$26 billion in property assets by December 2007. Centro Properties was at the time the second largest A-REIT behind Westfield Group, with Westfield being the largest REIT in the world (and around twice the size of the much older and established Stockland and GPT). While Centro may have fully expected debt funding to be continually available, the US sub prime crisis and the global financial crisis were soon to unfold.

The purpose of this study is to analyse the impact of the global financial crisis using Centro's earnings revision and refinancing announcements as the event date to investigate the change in risk profile for Centro Properties, Centro Retail Trust and the other A-REITs that were included in the S&P/ASX 300. The study finds that the systematic risk for many A-REITs moved significantly higher after these announcements and it suggests that this increase in systematic risk has major implications for the cost of capital to the sector.

The remainder of the paper is structured as follows. In the next section, key capital asset pricing model and event study concepts are discussed. Section 3 outlines the data and the models. The results are discussed in section 4. The last section makes some concluding comments and discusses some implications for A-REITs.

THE CAPITAL ASSET PRICING MODEL AND EVENT STUDY CONCEPTS

The capital asset pricing model (CAPM) was introduced to the finance community in the 1960s by Sharpe (1964), Lintner (1965) and Mossin (1966). The model builds on the work of Markowitz (1952). The CAPM suggests that an asset's risk is made up of systematic and unsystematic risk components. Systematic risk reflects how each individual asset has moved against the market. Unsystematic risk is risk that is peculiar or specific to the individual asset. Elton and Gruber (1977) point out clearly how the average standard deviation of returns for a portfolio of stocks can be reduced substantially by having more stocks in the portfolio. As such, investors will only be rewarded for systematic risk (beta value) because unsystematic risk can be diversified away.

In this study of the 25 A-REIT constituents of the S&P/ASX 300, and using 150 days of returns prior to December 17, 2007, only Centro Properties Group and Valad Property Group showed betas of more than one. Most of the others had betas substantially less than one (Astro Japan Property Trust is excluded from the analysis because it joined the list on 27 July 2007 and hence insufficient data was available).

A common CAPM use is to calculate a firm's cost of equity (which is also the required rate of return by shareholders) and then can be used to value the firm. Large increases in required rates of return by shareholders mean large increases in the cost of equity to the firm, therefore decreases in the value of the firm. A second use is in event studies to work out "abnormal" returns at or after an event day (or days). Abnormal returns are the actual returns less the normal or expected return (MacKinlay, 1997). The following general market model is used to calculate normal or expected returns:

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

where:

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

α_i = The intercept term;

β_i = The slope or beta coefficient;

$R_{m,t}$ = The actual return for the market index, in this study, the ASX All Ordinaries Index; and

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

and the abnormal return is:

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

where:

$R_{i,t}$ = The actual return on security i on day t ,

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

$AR_{i,t}$ = The abnormal return being the difference between the actual return and expected returns above.

Event study methodology has been well used in the property literature to determine whether a particular event in the capital market or in a company or industry sector affects an entity's share price performance. Some event studies are simply concerned with abnormal returns on a particular day (like this one), but many studies sum abnormal returns to calculate a cumulative abnormal return (CAR) which tries to measure the total impact of an event through a time period (or event window). Some recent property literature that use event study methodology include:

- The wealth effects of REIT acquisitions (Allen and Sirmans, 1987; Campbell et al, 2001)
- The wealth effects of real estate acquisitions and disposals (Glascock et al. 1989; Ting et al, 2006).

DATA AND MODELS

The purpose of this study was to examine the effect of the Centro announcements on the market model for Centro Properties and Centro Retail Trust and investigate whether abnormal returns occurred on 17 December 2007. The study also investigates whether there has been a statistically significant change in the systematic risk for the two Centro entities after this announcement or event day.

After investigating ASX announcements from all the other listed property trust constituents of the S&P/ASX 300 at the time, and finding no particularly unusual or controversial announcements from any of them, this study further investigates whether any abnormal returns were incurred by any of the other A-REITs on the 17th December, the Centro announcements or events day. The study follows on with an investigation whether there has been a statistically significant change in the systematic risk for the other 23 A-REITs after 17th December. Daily share price data for 150 days before the event day, on the event day and 150 days after the event day for each of the 25 A-REIT constituents on the S&P/ASX 300 and All Ordinaries Index data has been sourced from FinAnalysis. The pricing data was subsequently converted into return data and the market model estimated for all 25 A-REITs.

The estimated model is:

$$A-REIT_i = \beta_0 + \beta_1 RMKT + \beta_2 EVENTDAY + \beta_3 AFTEREDAY + \beta_4 AFTEREDAY * RMKT + \epsilon \quad (3)$$

where:

- A-REIT_i is the A-REIT under investigation
- RMKT is the return on the market (All Ordinaries Index)
- EVENTDAY is the event dummy variable which contains a 1 on December 17th and zeros the days before and after this event day
- AFTEREDAY is an additive dummy and contains zeros up to December 17th and ones the days after this event day
- AFTEREDAY*RMKT is a multiplicative dummy measuring the return on the market after the event day

and the β 's are unknown parameters to be estimated and ε is assumed $\sim N(0, \sigma^2)$.

A-REIT RESULTS

Table 1 reports results for the mean daily returns and the standard deviation of those daily returns for each of the 25 A-REITs. The first column identifies the A-REIT. The second column identifies the mean daily returns and the standard deviation of daily returns for each of the 25 A-REITs for the 301 day period of the study. The mean daily returns for all but Commonwealth Property Office (CPA) over the period were negative (CPA was however zero). The third column identifies the mean daily returns and the standard deviation of daily returns for each of the 25 A-REITs for the 150 days prior to the event day and shows a mixture of positive, zero and negative mean daily returns. The standard deviation of daily returns is substantially lower than that of the whole 301 day sample. The last column identifies the mean daily returns and the standard deviation of daily returns for each of the 25 A-REITs for the 150 days after the event day and shows only negative mean daily returns. The standard deviation of daily returns is substantially higher than that of the whole 301 day sample and certainly higher than for the 150 day period prior to the event day.

Table 1: The impact of the GFC on the mean daily returns and standard deviations of A-REITs before and after the Centro announcements

A-REIT	Overall 301 day mean daily return/standard deviation	Mean daily return and std dev 150 days prior to 17/12/2007	Mean daily return and std dev 150 days after 17/12/2007
ABP Abacus	-0.002 0.022	-0.001 0.015	-0.003 0.028
AEZ APN European Retail	-0.005 0.051	-0.001 0.016	-0.010 0.070
APZ Aspen	-0.002 0.030	0.001 0.022	-0.001 0.035
BWP Bunnings Warehouse	-0.001 0.022	0.000 0.019	-0.001 0.023
CNP Centro Properties	-0.012 0.150	-0.003 0.022	-0.011 0.172
CER Centro Retail	-0.006 0.125	-0.001 0.022	-0.007 0.169
CFX CFS Retail	-0.001 0.018	0.000 0.015	-0.001 0.021
CDI Challenger Diversified	-0.002 0.032	0.000 0.016	-0.004 0.043

CHC Charter Hall	-0.004 0.039	-0.001 0.004	-0.006 0.049
CPA Commonwealth Property Office	0.000 0.022	0.001 0.015	-0.001 0.027
DXS Dexus	-0.001 0.027	0.001 0.020	-0.002 0.032
GMG Goodman	-0.003 0.033	-0.002 0.018	-0.003 0.037
GPT GPT Group	-0.004 0.028	-0.001 0.007	-0.006 0.036
IIF ING Industrial	-0.002 0.024	0.000 0.017	-0.001 0.029
IOF ING Office	-0.001 0.027	0.000 0.016	-0.001 0.034
ILF ING Real Estate Community Living	-0.004 0.026	0.000 0.010	-0.001 0.034
MCW Macquarie Countrywide	-0.003 0.028	-0.001 0.015	-0.005 0.036
MDT Macquarie DDR	-0.005 0.038	-0.001 0.016	-0.008 0.050
MLE Macquarie Leisure	-0.002 0.029	0.000 0.020	-0.004 0.035
MOF Macquarie Office	-0.002 0.029	-0.001 0.016	-0.003 0.037
MGR Mirvac	-0.003 0.026	0.001 0.017	-0.006 0.033
SGP Stockland	-0.002 0.025	0.000 0.015	-0.004 0.032
TSO Tishman Speyer	-0.002 0.027	-0.003 0.019	-0.002 0.032
VPG Valad	-0.005 0.043	-0.003 0.020	-0.005 0.056
WDC Westfield	-0.001 0.024	0.000 0.023	-0.001 0.026

Figure 1 illustrates the post event day mean daily returns diagrammatically. Average daily

losses incurred by investors in this sector were about 4/10ths of 1%, but investors in Centro Properties and APN European Retail incurred average daily losses of about 1%. Clearly, the post event day period was substantially worse in terms of returns to investors and substantially more volatile to such investors. While the standard deviation of daily returns to investors before the event day was around 1%, it was around 3-4% after the event day.

Figure 1: The mean daily returns of A-REITs for 150 trading days after the Centro announcements

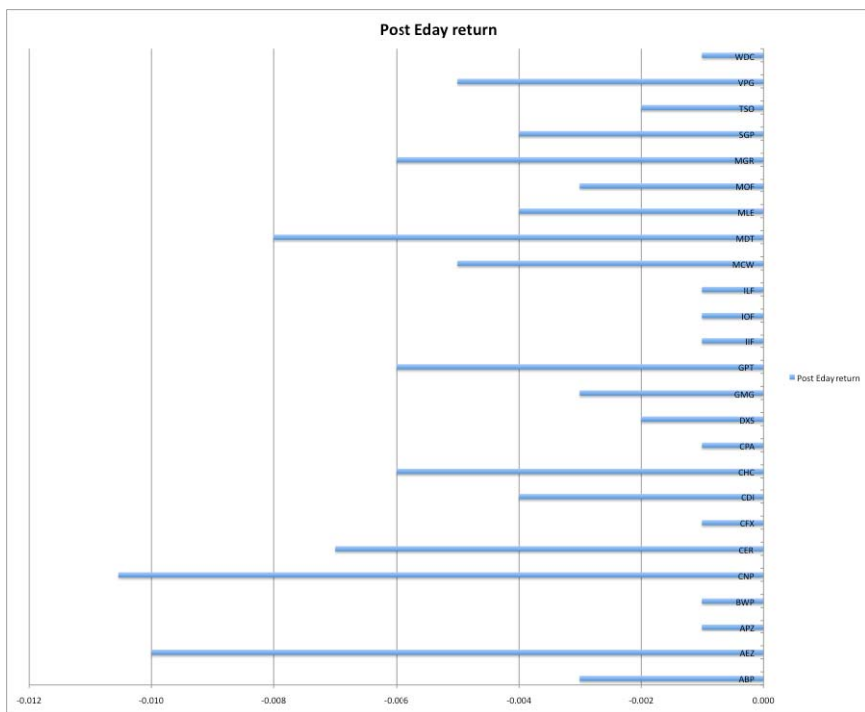


Table 2: The impact of the GFC on the systematic risk of A-REITs using the date of the Centro announcements as the event day

A-REIT		C	RMKT	EVENTDAY	AFTEREDAY	AFTEREDAY *RMKT
ABP	Coeff.	-0.001	0.302 **	-0.029	-0.001	0.383 **
AEZ	Coeff.	-0.001	0.529	-0.055	-0.006	0.984 **
APZ	Coeff.	0.000	0.761 ***	-0.032	-0.003	0.095
BWP	Coeff.	0.000	0.733 ***	-0.015	0.000	0.086
CNP	Coeff.	-0.003	1.116	-0.741 ***	-0.005	0.329
CER	Coeff.	-0.001	0.592	-0.380 ***	-0.004	1.003
CFX	Coeff.	0.000	0.697 ***	-0.014	0.000	-0.123
CDI	Coeff.	0.000	0.380 *	0.054	-0.003	0.084
CHC	Coeff.	-0.001	0.717 ***	-0.028	-0.004	0.344
CPA	Coeff.	0.000	0.645 ***	-0.015	0.000	0.228
DXS	Coeff.	0.000	0.932 ***	-0.033	-0.001	0.094
GMG	Coeff.	-0.002	0.319 ***	-0.237	0.000	0.621 ***
GPT	Coeff.	-0.001	0.788 ***	-0.063 **	-0.003	0.070
IIF	Coeff.	0.000	0.679 ***	-0.053 **	-0.002	0.096
IOF	Coeff.	0.000	0.569 ***	-0.043 *	0.001	0.637 ***
ILF	Coeff.	0.000	0.306 *	-0.020	-0.006 **	0.346
MCW	Coeff.	-0.001	0.761 ***	-0.036	-0.002	0.268
MDT	Coeff.	-0.002	0.682 ***	-0.145 ***	-0.005	0.002
MLE	Coeff.	0.000	0.427 *	-0.017	-0.004	0.213
MOF	Coeff.	-0.001	0.727 ***	-0.057 **	-0.001	0.434 **
MGR	Coeff.	0.000	0.872 ***	-0.002	-0.005 *	0.058
SGP	Coeff.	0.000	0.699 ***	-0.018	-0.002	0.497 ***
TSO	Coeff.	-0.003	0.057	-0.041	0.002	0.917 ***
VPG	Coeff.	-0.003	1.032 ***	-0.157 ***	-0.001	0.108
WDC	Coeff.	0.000	0.821 ***	-0.031	0.001	0.301 *

* = significant at the 10% level, ** = significant at the 5% level, *** = significant at the 1% level.

Table 2 reports the results of the regression model for Centro Properties and the other 24 A-REITs under examination (R squared, adjusted R squared, F-statistic and Durbin-Watson statistics are available from the author on request and are broadly acceptable). The results are interpreted as follows. The β_1 coefficient reports the beta or slope coefficients for the A-REITs in the 150 days prior to the market. Other than Valad and Centro Properties, the betas for the other trusts were well under 1, with 15 of them under 0.7. The β_2 EVENTDAY coefficient illustrates whether there was an abnormal return on December 17th 2007. The Centro Properties EVENTDAY coefficient had a significant negative return compared to the market as a whole of about 74% and Centro Retail Trust had a significant abnormal negative return of 38% compared to the market as a whole. While no other A-REITs made other than routine announcements on December 17th, 2007, GPT Group had a significant abnormal negative return of about 6%, ING Industrial Fund about 5%, ING Office Fund about 4%, Macquarie DDR Trust about 14%, Macquarie Office Trust about 6% and Valad about 16%. The β_3 coefficient discloses the change in the intercept which reflects the risk free return in the market model. This research does not detect a change in this risk free rate of return in the 150 days following December 17th.

The estimated model for Centro Properties is:

$$\text{CNP} = -0.003 + 1.116\text{RMKT} - 0.741\text{EVENTDAY} - .005\text{AFTEREDAY} + 0.329\text{AFTEREDAY}*\text{RMKT}$$

Since EVENTDAY and AFTEREDAY are both zero in the model for the first 150 days, the estimated market model for Centro Properties for the period before December 17th 2007 is reduced to:

$$\text{CNP} = -0.003 + 1.116\text{RMKT}$$

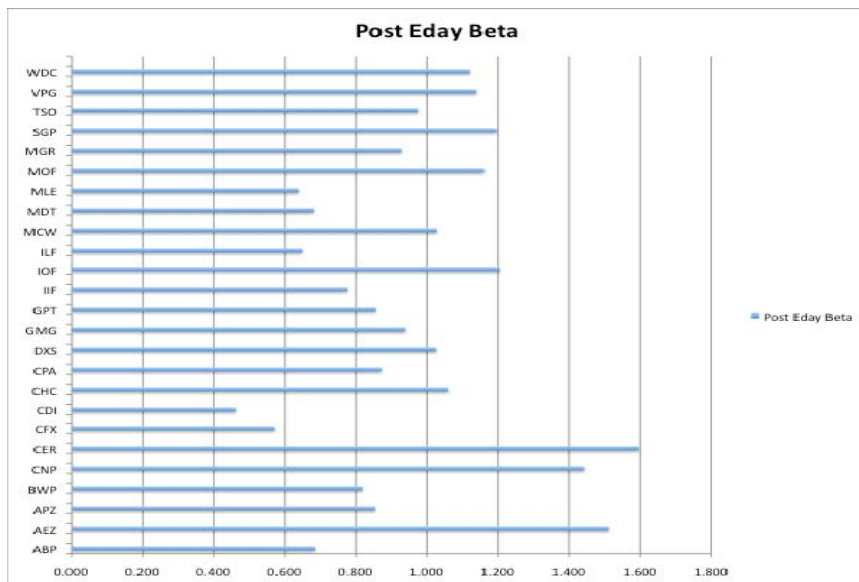
And since AFTEREDAY is recorded as 1 after the event day and EVENTDAY remains zero, the estimated market model for Centro Properties after the period December 17th 2007 is:

$$\text{CNP} = -0.008 + 1.445\text{RMKT}$$

The estimated model can be read in a similar way for all the other 24 A-REITs. The model shows an increase in the systematic risk after December 17th 2007 for all of the entities except for Colonial First State and ever so marginally for Macquarie DDR Trust. There is a statistically significant increase in the systematic risk for Abacus Property Group (from a beta of 0.302 to 0.685), APN European Retail Property Group (from a beta of 0.529 to 1.513), Goodman Group (from a beta of 0.319 to 0.941), ING Office Fund (from a beta of 0.569 to 1.206), Macquarie Office Trust (from a beta of 0.727 to 1.513), Stockland (from a beta of 0.699 to 1.196), Tishman Speyer Office Fund (from a beta of 0.057 to 0.974) and Westfield Group (from a beta of 0.821 to 1.122).

Figure 2 illustrates the post event day betas for the A-REITs. The average beta post event day tends towards 1 (it is actually 0.969 compared to the previous pre event day beta of 0.646).

Figure 2: The systematic risk of A-REITs after the date of the Centro announcements



CONCLUSION AND IMPLICATIONS FOR A-REITs

The study finds that Centro Properties, Centro Retail Trust and seven of the other 23 A-REIT constituents on the S&P/ASX 300 recorded statistically significant negative abnormal returns on 17th December 2007 and that the systematic risk for many A-REITs moved significantly higher after this date.

It appears that the impact of the global financial crisis has been particularly severe on the A-REIT sector and the sector's reliance on debt, even though the borrowings were supported by relatively reliable and stable rental income, has caused this sector to be one of the hardest hit. It also appears that the systematic risk of many of the firms in the sector changed dramatically from being more conservative investments than the market on average, to becoming more risky investments than the market on average.

A serious implication for A-REITs is the increase in the cost of equity and hence it's weighted average cost of capital. Because the weighted average cost of capital has increased, and equity values have fallen dramatically, A-REITs have tried to raise substantial new equity capital via private placements and rights issues at significant discounts over the last 20 months. Many A-REITs have also sold down property assets to shore up gearing positions.

As for Centro Properties Group, they have sold a great deal of property, are still listed and appear to have weathered the global financial crisis, albeit at much reduced share prices. However, the directors as at late October 2009, are being sued by the Australian Securities and Investments Commission (ASIC) for incorrectly classifying short term debt as non-current liabilities in the 2007 accounts. ASIC is also seeking management bans against the entire 2007 board for breach of duty by approving accounts containing material misstatements.

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