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The effects of paying with equity or cash on intercorporate asset sales

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ABSTRACT

Inter corporate asset sales provide a viable alternative to mergers and acquisitions to create shareholder value for both the buyer and seller companies. Intercorporate asset sales are defined as the sale of autonomous operational assets which does not entail a change in ownership control of the seller.

Mergers and acquisitions research found greater value was created by cash funded transactions compared to equity funded transactions. Contrary to mergers and acquisitions, asset sale research found equity funded transactions created greater value compared to cash funded transactions. This research provides a deeper understanding of the effect the method of payment has on the value created when selling assets, enabling management of acquiring and divesting companies to realise their maximum value creation potential.

The population consisted of intercorporate asset sale transactions announced and concluded for the 11 year period from 1 January 2000 to 31 December 2011. The exact population was not known, therefore judgmental sampling was used to identify companies. Only companies listed on the Johannesburg Stock Exchange All Share Index were considered for qualifying asset sale transactions. In total 112 companies were reviewed for asset sales yielding 214 qualifying transactions which were divided in sub samples of 43 equity buyers, 68 cash buyers, 30 equity sellers and 73 cash sellers.

Based on the event study methodology the short term metric of abnormal share price returns and the medium term metric of abnormal operating financial performance were used to calculate and compare the value created by equity and cash funded transactions. Both metrics concluded that equity funded asset sales created greater value compared to cash funded asset sales.

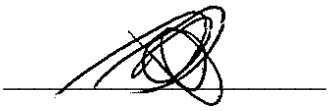
Inferences were made between asset sales and mergers and acquisitions and the researcher concluded by proposing a model to optimise shareholder value. Based on the accounting performance of the buyer and the intrinsic value of the asset or target, the model is used to select the optimum combination of corporate activity and the method of payment to unlock the optimum shareholder value.

KEYWORDS

asset sales, method of payment, sell-offs, divestments, abnormal returns

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination at any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.



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1. INTRODUCTION TO THE RESEARCH PROBLEM

1.1 Introduction

Following the 2008 global financial crisis global business confidence evaporated, leading to a reduction in mergers and acquisitions. This declining trend has taken a turn in 2011, which experienced a 7% year on year increase in aggregated deal value (Ernst & Young Global Media, 2012). Companies continually look to enhance shareholder value through corporate activities like mergers and acquisitions and divestments which include spin-offs and asset sales (Bhana, 2006). Companies can further unlock value by leveraging mega trends which include consolidation and restructuring, Private equity continues its comeback and cross-border growth (Ernst & Young Global Media, 2012).

The dynamic economic landscape has encouraged the process of highly diversified companies to become more focused by selling off divisions that are not part of their core competency (Kantor, 2001). Anglo's R6.6 billion restructuring in 2005 was one of the largest South African divestments (Smith, 2005). Anglo's strategic restructuring was aimed at matching the performance of its competitors Rio Tinto and BHP Billiton. More recently in 2011 FirstRand's R4 billion divestment of OUTsurance was also a strategic restructuring in order to pursue its expansion into selected high growth emerging markets (Media Centre, 2009).

There are still many diversified companies in South Africa. If these companies were to focus on core business they are likely to rationalise their growth strategies by initiating divestitures and restructuring, all reflecting a strategy of specialisation. Companies can divest by selling their block holding shares, spin offs and selling assets (Bhana, 2006). This research provides a deeper understanding of the effect the method of payment has on the value created when selling assets, enabling management of divesting companies to realise maximum value creation potential.

1.2 Research Title

The Effects of Paying with Equity or Cash on Intercorporate Asset Sales.

1.3 Research Problem and Purpose

The field of mergers and acquisitions attracts substantial interest from companies, financial institutions, the media and investors, yet it was inconclusive whether mergers and acquisitions create value for companies and their shareholders (Ismail, Abdou, & Annis, 2011). The majority of international research (Ghosh, 2001; Bruner, 2002; Haleblian, Devers, McNamara, Carpenter & Davison, 2009) found that mergers and acquisitions funded by cash created greater value than mergers and acquisitions funded by equity for the acquiring and target companies combined. Value creation, on average, eluded shareholders of acquiring companies, regardless of method of payment. For the target company's shareholders however, greater value was created by cash funded transactions compared to equity funded transactions.

Contrary to mergers and acquisitions Slovin, Sushka, and Polonchek (2005) found evidence of the favourable effects of transacting with equity in asset sales. The use of buyer's equity to purchase operating assets generated significantly combined gains in value that were shared between both the buyers and sellers. Cash funded asset sales created little combined value, which predominantly went to the sellers (Slovin *et al.*, 2005). Hege, Lovo, Slovin and Sushka (2009) research confirmed these contradictory findings.

South African research on the impact of the method of payment on mergers and acquisitions, although consistent in observation, did not support all aspects of international research (Mushidzhi & Ward, 2004; Smit & Ward, 2007). We can therefore not assume that the limited international research on the method of payment on asset sales apply to South Africa, thereby warranting this research. This research contributes by comparing South African experience to the existing body of knowledge and is of particular interest to South African companies and their shareholders that intend on focusing on their core business through the selling-off of non-core assets. This study has purpose, as it aims to determine the effects of either paying with equity or cash on intercorporate asset sales.

1.4 Research Motivation

The field of mergers and acquisitions attracts substantial interest from companies, financial institutions, the media and investors yet it was inconclusive whether mergers and acquisitions create value for companies and their shareholders (Ismail *et al.*,

2011). Where mergers and acquisitions did create value, defined as returns on investment which exceed the required returns, it was largely captured by the shareholders of the target companies, while for acquiring shareholders the value created was on average zero (Bruner, 2002; Haleblian *et al*., 2009). Mergers and acquisitions funded by cash created greater value than mergers and acquisitions funded by equity for the acquiring company. Whilst for the target company cash funded payments or transactions compared to equity funded payments or transactions created similar positive value (Haleblian *et al*., 2009). Acquiring companies paying with equity create less value since equity funded acquisitions are seen as an unfavourable signal that the acquiring company's shares price is overvalued.

South African research by Mushidzhi and Ward (2004) as well as Smit and Ward (2007) found acquisitions are on average zero net present value investments for acquiring companies and their shareholders, which support international research findings. Mushidzhi and Ward found returns earned by target companies acquired by cash are significantly higher compared to equity acquisitions, which supports international research. They found no significant difference between the returns for acquiring companies transacting with cash compared to transacting with equity, which is contrary to international research. Smit and Ward found acquiring companies transacting with cash earn statistically insignificant greater returns compared to equity acquisitions, which does not support international research. The inconsistent findings are further complicated by the different measurements of value creation used as described in Chapter 2, section 2.11. Different researchers used different metrics and different event windows which complicate direct comparisons.

Traditionally intercorporate asset sales, defined as the sale of an autonomous operational asset which does not entail a change in ownership control of the seller (Slovin *et al*., 2005), were treated as partial acquisitions and considered as a part of mergers and acquisitions. Slovin *et al*. (2005) however challenged this widely held view. Contrary to mergers and acquisitions they found evidence of the favourable effects of transacting with equity in asset sales. The use of buyer's equity to purchase operating assets generated significantly combined gains in value that were shared between both the buyers and sellers. Cash funded asset sales created little combined value, since the benefit predominately went to the sellers (Slovin *et al*., 2005). Hege *et al*. (2009) confirmed these contradictory findings, for both the buyer and seller companies transacting with equity, resulted in significant gains in value compared to transacting with cash. These two studies used two and five day event windows which

are short time periods compared to comparable merger and acquisition research which also used 11 and 21 days event windows.

Slovin *et al*. (2005) used the standard market model methodology to calculate expected returns, which demonstrated to be inadequate (Ward & Muller, 2010), since the market model failed to account for expected returns on the basis of company size as well as growth. Bennett's (2010) study on how ownership structures affect corporate performance also found evidence that asset sales transacting with equity, created value. South African research on corporate divestments by Bhana (2006) found both buyers and sellers earn significant positive excess returns. The study however did not differentiate between the methods of payment.

In the United Kingdom (UK) and United States of America (US) the popularity of corporate asset sales has been growing rapidly in the early twentieth century as part of a widespread restructuring of the corporate landscape (Bates, 2005; Gadad & Thomas, 2005). Asset sales in the UK were about 40% of the merger and acquisition activity and in some years, it was as high as 70%. The available evidence is centred on the announcement's effect on the buyer and seller's share price, which found positive share price reactions. There is little evidence however from the sources what exactly created the value. Bennett (2010) reviewed thirteen articles which used event study methodology to determine cumulative abnormal returns (CAR), as defined in Chapter 4, section 4.7.3, for a variety of research questions; however none was conducted on method of payment.

In summary, South African research on the impact of the method of payment on mergers and acquisitions although consistent in observation, did not support all aspects of international research (Mushidzhi & Ward, 2004; Smit & Ward, 2007). The primary motivation for this research study is to determine if the limited international research on the method of payment on asset sales apply to the South African economy too. This study will therefore constructively contribute to the understanding of asset sales and how the method of payment influence the value created. This research is of particular interest to South African companies and their shareholders that intend on focusing on their core business through selling off non-core assets.

1.5 Research Aim and Scope

The aim of this research is firstly to determine whether asset sales add value to the buying and selling companies listed on the Johannesburg Stock Exchange All Share Index (JSE ALSI). The second aim is to determine whether equity funded asset sales create more value than cash funded asset sales. Both of these aims were measured with short term (abnormal share price return) and medium term (abnormal operating cash-flow return) metrics. Measuring value entailed comparing and evaluating pre- and post- asset sale performance of the securities within defined event windows.

The research investigated asset sales concluded between companies listed on the JSE ALSI over an 11 year period from 1 January 2000 to 31 December 2011. This 11 year period yielded sufficient asset sale transactions resulting in all the sub-samples to contain 30 or more transactions. The central limit theory therefore applies, allowing the use of parametric statistical analysis.

The short term metric analysed the impact on the share price performance of the buying and selling companies around the asset sale announcement date, measured by the Average Cumulative Abnormal Returns (ACAR), as described in Chapter 4, section 4.7.3. The abnormal share price returns were obtained utilising Chris Muller's control portfolio model and event analyser. The event windows extended from ten days before the event to ten days after the event, with the day of the event being day zero.

The impact asset sales had on the medium term financial performance of the buying companies was determined by analysing the companies' financial statements three years before and three years after the asset sale, to calculate Average Abnormal Cash Flow Return on Assets (AACRA), as described in Chapter 4, section 4.7.5. By comparing the AACRA's of three years before the asset sale to the AACRA's of three years after the asset sale, the medium term value created by asset sale was quantified.

By determining the aims of the research, it enables the answering of an additional two indirect aims. Firstly how do asset sales differ from mergers and acquisitions in terms of how the method of payment affect value created? Secondly how does South African asset sale research compare to international asset sale research?

1.6 Research Objectives

1. Identify and evaluate relevant methods from previous research undertaken in the measurement and analysis of value created with specific focus on short and medium term metrics, namely;
   a. Abnormal share price return,
   b. Abnormal operating financial performance.
2. Analyse the sample by applying statistical methods, measure each of the value created metrics listed above and obtain the results.
3. Evaluate and compare this study's results with previous studies undertaken and conclude findings.

2. LITERATURE REVIEW

2.1 Introduction

The JSE has long been dominated by large groups of holding companies (Castle & Kantor, 2000) that are becoming more focused by selling-off divisions that are not part of their core competency (Kantor, 2001). For diversified companies to focus on core business they are likely to rationalise their growth strategies by initiating divestitures and restructuring, all reflecting a strategy of specialisation. Companies can divest by selling their block holding shares, spin offs and selling assets (Bhana, 2006). This research provides a deeper understanding of asset sales enabling management of divesting companies to realise maximum value creation potential.

Asset sales were previously considered to be a subsection of mergers and acquisitions which necessitated reviewing mergers and acquisitions literature to draw inferences. The literature review comprises three portions, namely; mergers and acquisitions, asset sales and measuring value created. For easy referencing, the literature review model is located in Appendix A. In the first portion international and South African research on mergers and acquisitions are reviewed. Reasons for mergers and acquisitions are discussed followed by the impact the method of payment had on the value created for the acquirer and target. How control over information affected the power balance between the acquirer and target (reviewed in sections 2.2 to 2.5) is the last discussion of the first section.

In the second section international and South African research on asset sales are reviewed and reasons for asset sales are considered, followed by the impact the method of payment had on the value created for the buyer and seller. How control over information affected the power balance between the buyer and seller (reviewed in sections 2.6 to 2.10) is considered in the last discussion of the second section. In the third section international and South African research is reviewed that focuses on measuring the value created over short and medium terms (reviewed in sections 2.11 to 2.13).

2.2 The Reasons for Mergers and Acquisitions

According to Haleblian *et al*. (2009) who reviewed 167 empirical merger and acquisition articles on the causes and consequences of mergers and acquisitions found that the antecedents for mergers and acquisitions were: Firstly to create value through market power, efficiency, resource redeployment and market discipline. Secondly due to managerial self-interest that destroys value through increased compensation, managerial hubris and target defence tactics. Thirdly due to environmental factors that include environmental uncertainty and regulation, product imitation, resource dependence and network ties. And fourthly due to company characteristics that include acquisition experience and the company's strategy and position.

Creating value (Haleblian *et al*., 2009). Market power refers to a company attempting to appropriate more value from customers. Having fewer companies in an industry increases company level pricing power. Companies make acquisitions to consolidate or expand an industry, by either absorbing excess industry capacity or expand through inorganic growth (Andrade & Stafford, 2004). Horizontal mergers were considered to be an attempt by acquiring companies to increase market concentration and potentially create monopolistic returns for the company (Akdogu, 2009). Achieving efficiency refers to cost reduction by deploying economies of scale and scope which mainly apply to horizontal acquisitions. Economies of scale exist when the marginal cost is less than the average cost, causing the unit cost to decrease as the quantity of units increase Economies of scope exist when a company achieves cost savings as it increases the variety of goods and services it produces (Besanko, Dranove, Shanley, & Schaefer, 2010).

Mergers and acquisitions can extract value out of synergies by combining existing business processes that can create additional cash flow through enhanced revenue streams and a reduction in operating costs (Ficery, Herd, & Pursche, 2007). Vertical mergers can also be used as a defensive strategy by dominating a common industry resource, thereby increasing a rival company's cost structure (Akdogu, 2009). Resource redeployment of assets and competency transfers result in resource realignment between acquirers and targets. Acquiring companies leverages the innovation oriented resources of target companies by integrating those resources into the acquiring company. Acquisitions may also be value enhancing by disciplining ineffective managers, thereby protecting shareholders from poor management.

Managerial self-interest (value destruction) (Haleblian *et al*., 2009). Executive compensation has been linked to ownership and acquisition behaviour, suggesting management's desire for increased compensation elicits strong, self-interested motivations to acquire. Managerial exaggerated self-confidence and ego gratification, and managerial hubris, may also increase acquisition behaviour. Managerial hubris increased acquisition premiums, which in turn decreased acquisition performance (Hege *et al*., 2009). Target defence tactics are created to enhance managerial self-interest at the expense of shareholder wealth. One such strategy is for Chief Executive Officers (CEO)'s, with great levels of unvested stock, to allow their company to be acquired. The restricted stock then becomes vested, allowing the CEO to sell their stock, which increases the value of their holdings, however, it was not necessarily in the best interest of the company.

Environmental factors (Haleblian *et al*., 2009). Environmental uncertainty and regulation increased the likelihood of collaboration over acquisition. These environmental factors however increase the likelihood of acquisition over licensing agreements. Highly diversified companies were more likely to pursue acquisitions in decreasing environmental uncertainty, whereas the opposite occurred in less diversified companies. Also external governance structures influenced acquisition likelihood, for example countries with higher accounting standards and stronger shareholder protection had a greater amount of acquisition activity than their counterparts. Wood (2010) found a positive correlation between corporate social performance and financial performance. This correlation is not causal, however management need to note that good social performance results in a better bottom line for the company.

Imitation refers to fringe companies that initiated innovation that enable them to execute mergers, and as these fringe companies became increasingly successful, other companies imitated their innovations. Resource dependency refers to how a company manage their resource dependencies by absorbing needed resources through mergers. An equal power balance between merged companies provided for increased combined resource dependence efficiency. Network ties refer to the importance of network ties as a driver for acquisitions. Managers tend to imitate acquisition activities of companies they had interlocking directorships with.

Company characteristics (Haleblian *et al*., 2009). Companies with acquisition experience are more likely to initiate subsequent acquisitions, particularly when this

experience was rewarded. A company's strategic position and intentions influence their acquisition behaviour; companies following a global strategy have a greater propensity to Greenfield subsidiaries compared to domestic companies, which have a greater propensity to acquisitions.

Acquisitions are made for multiple reasons; value enhancing and value destroying ones. The transactional context determines which of these antecedents has the most influence on acquisitions' behaviour. An United States of America (USA) survey completed by chief financial officers of companies that where party to the largest 100 mergers and acquisitions in each year during the period of 1990 to 2001 found that the primary motivation for mergers and acquisitions was to achieve operating synergies (37.3%), mainly through horizontal mergers (Mukherjee, Kiymaz, & Baker, 2003). The main source of synergy was from operating economies (89.9%), which resulted from greater economies of scale that improved productivity or reduced costs.

The second motivation for mergers and acquisitions was to achieve diversification (29.3%) (Mukherjee *et al*., 2003) which provided the potential advantages of a stable share price and as a means to reduce losses during an economic downturn. Diversification also enhanced the companies' flexibility, allowed it to use its organisation more effectively, which reduced the probability of bankruptcy, avoided information problems and increased the difficulty of competitors uncovering proprietary information (Mukherjee *et al*., 2003).

2.3 The Impact of Mergers and Acquisitions on Value Created

Mergers and acquisitions Meta studies completed by Bruner (2002) and Haleblian *et al*. (2009) found that long term value creation had on average not materialised for acquiring companies. Value created as defined by Bruner is the returns on investment which exceed the required returns (returns greater than lost opportunity cost of capital). Research that analysed the change in share prices over periods of 21 days and shorter, found that mergers and acquisitions did create value. This value was largely captured by the shareholders of the target companies, while for acquiring shareholders, on average, the value created was zero (Bruner, 2002; Haleblian *et al*., 2009). Healy, Palepu, and Ruback (1992) found that the operating performance of the acquirer, did improve significantly over five years, while Ghosh (2001) found no evidence that merged companies were able to increase operating performance over three years. A literature review by Ismail *et al.* (2011) found inconclusive results that

mergers and acquisitions in the long run created or destroyed value for acquiring companies. They attributed this to the fact that the respective researchers used different measures of value creation and did not differentiate between factors that might affect the company's performance.

South African research by Mushidzhi and Ward (2004) as well as Smit and Ward (2007) found that acquisitions are on average zero net present value investments for acquiring companies and their shareholders. Mushidzhi and Ward found returns earned by the shareholders of targets acquired by using cash are significantly higher compared to equity acquisitions. Mushidzhi and Ward however found no significant difference between the returns for acquiring companies transacting with cash compared to transacting with equity, which is contrary to international research. Smit and Ward found that shareholders of acquiring companies transacting with cash earn marginally greater returns compared to equity acquisitions, which statistically does not support international research. The inconsistent findings are further complicated by the different measurements of value creation used as described in section 2.9.

According to Dube and Glascock (2006) the reason why mergers and acquisitions do not create value for acquiring companies, is based on performance and risk metrics. Mergers are in general risk-increasing transactions which increase the intrinsic business risk and significantly lower the degree of operational leverage. Compensation for increased risks requires a higher rate of returns, thus applying further pressure on the transaction to create value (Dube & Glascock, 2006). Other possibilities why mergers and acquisitions fail to create value included; high purchase price (winners curse), planned synergies that failed to materialise and the integration that was not as smooth as expected (Venohr, 2007 and Clayton, 2010).

2.4 The Impact of Mergers and Acquisition's Method of Payment on Value Created

Most international research (Ghosh, 2001; Bruner, 2002; Haleblian *et al.*, 2009), found that mergers and acquisitions funded by cash created greater value than mergers and acquisitions funded by equity for the acquiring company, while for the target company cash funded versus equity funded created similar positive value.

A popular consideration why mergers and acquisitions transacting with equity create less value, compared to transacting with cash, is based on the signalling effect (Dube

& Glascock, 2006). In mergers and acquisitions it was the acquirers' private information that determined the means of payment (Hege *et al.*, 2009). Undervalued acquirers are likely to offer cash, while acquirers prefer to pay with equity when they think their shares are overvalued. This however sends a negative signal of the acquiring company's value to the market (Slovin *et al.*, 2005).

The method of payment affects the acquiring company's capital structure, revealing additional explanatory power. Based on the pecking order theory (Myers, 1984) companies prefer to finance acquisitions firstly via internal resources (retained earnings), secondly to use debt if internal funds are insufficient, and thirdly if the first two options are exhausted, to finance acquisition using equity. The cost of capital to a company is a parabolic function; no debt and too much debt result in higher cost of capital than an optimum ratio of cash and debt (leverage). The method of payment for an acquisition affects the acquiring company's leverage (Trifts, 1991); thus the method of payment signals to the market how the acquisition will affect the acquiring company's leverage. Acquisitions entirely financed by banks resulted in high positive announcement returns, suggesting that bank debt served as a signal of certification and monitoring for acquiring companies (Haleblian *et al.*, 2009).

Based on company market value valuation literature, the reduction in share price brought about by the signalling effect contributed to the loss in market value due to two factors: Firstly due to uncertainty regarding the amount of future cash flow and secondly due to increased investors' uncertainty regarding future cash flows (Xie, 2011). The first factor was tangible and the second factor was intangible based on investors' perceptions of uncertain future cash flows that result in an increase in the investors required rate of return. Both however reduced the company's value through an increase in the cost of equity capital (Fernandez, 2007).

South African research found no significant difference between the returns for the acquiring companies transacting with cash, compared to acquiring companies transacting with equity (Mushidzhi & Ward, 2004; Smit & Ward, 2007). Smit and Ward (2007) observed that cash funded acquisitions resulted in positive returns for the acquiring companies, while equity funded acquisitions resulted in consistently lower returns and negative returns for the acquiring companies over the 3 day and 5 day event windows. These observations were consistent with international results however not statistically significant below the 10% confidence level.

South African research on the impact of the method of payment on mergers and acquisitions although consistent in observation, did not support all aspects of international research (Mushidzhi & Ward, 2004; Smit & Ward, 2007). Mushidzhi and Ward (2004) provided an explanation for the difference between South African and international finding by concluding that the signalling effect has limited application to the South African corporate finance scene. Signalling effect implies that transacting with cash, conveys a positive message that the acquiring company is undervalued while transacting with equity conveys a negative message that the acquiring company is overvalued. Mushidzhi and Ward inferred that the South African market was less focused on share price and considered a wider spectrum of metrics in deciding if a company's share price was over or under valued.

2.5 The Merger & Acquisition Power Position

Companies that have similar financial strength, asset value and corporate governance, increase the likelihood of an acquisition over an alliance (Haleblian *et al*., 2009). Companies with similar asset quality seek each other out, resulting in high market to book acquirers to buy high market to book targets and weaker acquirers will buy weaker targets. This resulted in relative equal *bargaining* power between the acquirer and seller, requiring the acquirers to generally pay premiums to acquire targets (Haleblian *et al*., 2009).

The merger and acquisition process is a negotiation during which the target gives up all of its private information and the acquirer gives up information on how the target will be incorporated in the acquiring company's structure (Hege *et al*., 2009). It is ultimately the target's shareholders that must approve a 'take it or leave it' offer. Therefore the acquiring company has the *information* power since the acquirer dictates the deal's financial structure, which is based on the acquirer's private information of its capital structures. The acquiring company, via the deal's financial structure, signals its capital structure to the market. When paying with cash, it signals that the company is under levered and that the share price is undervalued and when paying with equity, it signals that the company is over levered and that the share price is overvalued (Hege *et al*., 2009).

2.6 Difference between Mergers and Acquisitions and Asset Sales

Traditionally inter-corporate asset sales, defined as the sale of an autonomous operational asset which does not entail a change in ownership control of the buyer or seller (Slovin *et al*., 2005), were treated as partial acquisitions and considered part of mergers and acquisitions. There are however distinct differences between mergers and acquisitions and asset sales. The most significant difference between mergers and acquisitions and asset sales is ownership control of the seller (Slovin *et al*., 2005). With mergers and acquisitions the seller's ownership control change, even for "mergers of equals" where both companies' stocks are surrendered and new company stock is issued in its place. With asset sales the seller's ownership control does not change.

According to Hege *et al*. (2009), key features that distinguish asset sales from mergers and acquisitions were: Firstly based on corporate law, in a merger, the target shareholders have irrevocable voting and appraisal rights to accept or reject the acquirers final 'take it or leave it' offer. Asset sales are governed by contract law, which limits disclosure and obviates shareholders participation. Managers thus have broad legal discretion to privately develop a transaction structure. Secondly mergers are generally initiated by the acquirer, while asset sales are generally initiated by the seller. Thirdly merger bidding is conducive to a pre-emptive bid to deter entry by other potential bidders and limit competition. Sellers of assets promote competitive bidding in order to achieve a greater premium for the asset.

Additionally to being subjected to contract law, JSE listed companies that is party to an asset sale transaction have to comply with the JSE listing requirements (Johannesburg Stock Exchange, 2011). Based on the transaction size relative to the company's market capitalisation, called the percentage ratio, the transaction is categorised. Transactions with a percentage ratio of 25% and more are classified as Category 1 transactions. These transactions require to be announced on the JSE's Stock Exchange News Service (SENS) and in the press. Additional a circular must be issued and the transaction requires shareholder approval. Transactions with a percentage ratio of between 5% and 25% are classified as Category 2 transactions. These transactions detailed terms is required to be announced on SENS and in the press. Only board approval is required for Category 2 transactions. Transactions with a percentage ratio of less than 5% are informally referred to as a Category 3 transaction, which have no JSE requirements and any announcement is voluntary.

Corporate divestiture can take one of two forms; spin-off or sell-off (Bhana, 2006). In a spin-off the assets divested form a new independent firm with the shareholders of the divesting company receiving shares in the new company. Spin-offs fall inside the definition of asset sales. A sell-off occurs when a company sells a part of its assets to another company. The buying company does not purchase the whole of the selling company, only a part of the seller's assets or a few divisions or specific business units (Bhana, 2006). Sell-offs was also included in the definition of asset sales.

2.7 The Reasons for Inter Corporate Asset Sales

Schlingemann, Stulz, and Walking (2002) presented a model that identified three main reasons for an asset sale. Underperforming companies force management to sell non-core assets to improve profitability, known as the underperformance explanation. A second reason would be to reduce the degree of diversification, thereby making the company more efficient, or referred to as the focus explanation. The final reason would be to reduce the debt level, referred to as the financing explanation.

The underperformance explanation refers to selling-off assets due to poor profitability (Schlingemann *et al.*, 2002). Profitability could be improved by altering production, pricing and marketing, therefore it is not obvious that an unprofitable asset will necessarily be sold. A variant of the underperformance explanation is the efficiency explanation whereby the asset is more valuable to another company due to greater synergies for the buying company (Bhana, 2006). Changes in productivity between different companies affect decisions to purchase or sell assets (Yang, 2008). Companies with rising productivity buy assets and companies with falling productivity sell assets. By moving resources from less to more productive companies the industry efficiency improved. Industries where companies were less persistent and experienced more volatile productivity generally experienced greater asset sales (Landsman, Peasnell, & Shakespeare, 2008). Bhana (2006) observed that selling-off assets is a kind of action taken by the managers of poorly performing companies to improve the welfare of their shareholders, and found that the desire to improve the overall performance of the company was an important consideration in the sell-off decision.

The focusing explanation refers to reducing the degree of diversification in order to focus on core activities (Schlingemann *et al.*, 2002). A more focused company has increased efficiency arising from better allocation of management's time and other

resources (Bhana, 2006). Lamont and Polk (2002) found that diversification destroyed company value because diversified companies allocate capital inefficiently across their different industries. This finding was also supported by Doukas and Kan (2004). Lamont and Polk caution that they identified causality and not a correlation, since they could not differentiate between companies that destroyed value by diversifying or companies that diversified in response to their value decreasing.

In a related study by Dittmar and Shivdasani (2003) which analysed diversified companies that divested one or more of their business units, concluded that asset sales resulted in a corporate focus, which lead to an improvement in the efficiency of the remaining business units. After the divestiture there was a positive correlation between business unit investment and industry growth opportunities (Dittmar & Shivdasani, 2003). They found that business unit investment policy became more efficient after the divestiture which was attributed to the increase in corporate focus that occurred with the divestiture. Kantor (2001) viewed unbundlings with no significant change in managerial control or decision making as unlikely to add value for shareholders since new management will lead to better investment programs.

Combining Lamont and Polk (2002) as well as Dittmar and Shivdasani (2003)'s analyses on diversified companies indicate that there is an inverse correlation between company diversification and company value. Companies that are already diversified and that diversified even further, destroyed value and diversified companies that divested created value. This correlation was attributed to the efficiency of investments that was a function of corporate focus. The authors concluded that divestments increased corporate focus. This increased focus resulted in subsequent efficient investments which created value for the selling company (Lamont & Polk, 2002; Dittmar & Shivdasani, 2003).

The financing explanation refers to the desire to generate cash to reduce current or non-current debt, thereby reducing the company's debt to equity ratio (Gadad & Thomas, 2005). Schlingemann *et al*., (2002) found that the ratio of capital expenditures to sales for divesting companies was about half compared to companies in their control group which was not divesting. Divesting companies invested little since being financially more constrained or had poorer investment opportunities. Companies with divisions in industries that were more liquid, were more likely to divest divisions (Schlingemann *et al*., 2002), which support the financing explanation. An

alternative motivation for the asset sale could also have been that the seller obtained an attractive price for the asset (Bhana, 2006).

The decision to invest internally or to acquire an asset externally depends on the relative price between existing and new assets. Asset sales are mainly driven by firm specific shocks like an increase in productivity while new investments are mainly driven by industry shocks (Yang, 2008). More asset sales took place in expanding years when the gain from transferring assets were higher and marginal buyers and sellers were able to trade (Yang, 2008) which supports Schlingemann *et al*. (2002)'s positive correlation between industry liquidity and asset sale activity within that industry.

A fourth factor may be the level of management ownership. A higher level of management ownership results in an alignment effect causing the company's value to increase (Bhana, 2006). At sufficiently high levels of managerial ownership, company value decreased since managers can protect them from being taken over through entrenchment. Managers can entrench themselves by selecting manager specific assets for which the managers are uniquely and solely capable and responsible for, and are therefore uniquely valued by the company and its shareholders (Bhana, 2006).

An USA survey completed by chief financial officers of companies that were party to the largest 100 mergers and acquisitions in each year during the period of 1990 to 2001, found that the primary motivation for divestitures was to increase focus on core business (35.9%) (Mukherjee *et al*., 2003). The authors sighted that the sale of non-core assets let to an improvement in the operating performance of the seller's remaining assets following the asset sale. The second motivation for divestitures was to divest in low performing assets (35.9%) (Mukherjee *et al*., 2003). Low performing assets were often a result from a prior unsuccessful acquisition or from a previous conglomerate merger. By selling the low performing assets, the company was able to create the value destroyed at the time of the earlier acquisition.

The main method of divestitures was the sale of an operating unit to another company (50%) followed by the outright liquidation of assets (43.5%) (Mukherjee *et al*., 2003). Sales of an operating unit fall within the definition of asset sales and constituted the bulk of the asset sale samples analysed. Liquidation asset sales were excluded from this research due to potentially confounding results.

2.8 The Impact of Asset Sales on Value Created

Performance of companies is measured by the market's reaction to the announcement of an asset sale for both buying and selling companies. Asset sales that are in the best interest of the buying and selling companies' shareholders will increase the share price of the buying and selling companies (Bennett, 2010).

Bennett (2010) reviewed thirteen articles which used event study methodology to determine cumulative abnormal returns (CAR) for a variety of research questions. These research questions included the following studies; the announcement effect of selling companies, the announcement effect on both buying and selling companies, whether disclosing the price of the asset sale had an effect on the market reaction, whether sell-offs by companies with long term performance plans in place experienced a greater announcement effect, the effect on buying companies returns based on the financial condition of the selling company, the effect of information and synergy on asset sale returns, examined the effect of insider trading and ownership on the market reaction to asset sales, they examined the effect on selling companies based on the use of the proceeds from the same transaction, examined the effect of lender monitoring on the market reaction to an asset sale, factors associated with a higher incidence of sales by poorly performing companies and diversified companies that alter their structure through divestiture. None of the articles however considered the method of payment's effect on asset sales (Bennett, 2010).

The articles Bennett (2010) reviewed used event windows that ranged from [-1, 0] to [-10, +10] and in all studies the researchers found value was created for the buyer and seller, some to statistical significance at 1% level. Bennett concluded that companies with large outside shareholders, obtained the greatest increase in share price since the market viewed these companies as better deal-makers than other companies, due to large outside shareholders monitor management. Sun and Chen (2009) found that selling companies with superior managerial performance who used the proceeds of the asset sale to repay debt experienced the largest value created.

Dittmar and Shivdasani (2003) studied a sample of diversified companies that altered their organisational structure by divesting a business unit which lead to an improvement in the efficiency of the remaining business units. Bhana (2006) studied corporate divestments in South Africa and found that both buyers and sellers earn significant positive excess returns around the sell-off announcement dates. Dittmar

and Shivdasani as well as Bhana found the source of the wealth effect to the selling company's shareholders was that the disposal of non-core assets increased corporate focus that resulted in efficient investments on core assets that created value for the company.

Slovin *et al*. (2005) and Hege *et al*. (2009) studied inter-corporate asset sales and found asset sales were value enhancing for both the buyer and selling companies. Their focus was on the method of payment's impact on the value created through asset sales, which will be described in the following section.

2.9 The Impact of Asset Sale's Method of Payment on Value Created

Asset sales differ from mergers and acquisitions in terms of the value created when transacting with cash compared with equity. Slovin *et al*. (2005), contrary to mergers and acquisitions, found evidence of the favourable effects of transacting with equity for asset sales. In an asset for equity sale, the seller does not retain any residual interest in the divested asset, however definitively sells the asset in return for an equity interest in the buyer company (Slovin *et al*., 2005). The use of buyer's equity to purchase operating assets, generated significant combined gains in value that were shared between the buyers and sellers, while cash funded asset sales created little value which predominately went to the sellers (Slovin *et al*., 2005). Bennett's (2010) study on how ownership structures affect corporate performance also found evidence that transacting with equity created value for the sellers from asset sales. South African research on corporate divestments found both buyers and sellers earn significant positive excess returns, however, it did not differentiate between the methods of payment (Bhana, 2006).

When buyers use equity to purchase an asset, the value of the payment is determined by the market's assessment of the impact the transaction will have on the buyer's value. Slovin *et al*. (2005) used a 2 day [-1,0] event window to calculate average abnormal returns in share price, used to define value created. They found that transacting with equity (50% to 100% of payment and mean of 76.2%), generated increases in company value of 9.77% for buyers and 3.17% for sellers. By comparison transacting with cash (50% to 100% of payment and mean of 77.1%) generated negligible returns (-0.3%) for buyers and relatively small returns of 1.89% to sellers. When transacting with 100% equity, it generated increases in company value of 10.27% for buyers and 4.27% for sellers. By comparison transacting with 100% cash

generated negligible returns for both buyers and sellers. Compared to transaction size, gains in value to asset ratio for equity sales were notably greater than gains in value to asset ratio for cash sales.

Hege *et al*. (2009) also found evidence of the favourable effects of transacting with equity for asset sales. Hege *et al*. used a 2 day [-1,0] and 5 day [-2,+2] event windows to calculate average abnormal returns. Using the 2 day event window's results which were comparable to Slovin *et al*. (2005), Hege *et al*. found that transacting with equity generated increases in company value of 3.92% for buyers and 6.92% for sellers and transacting with cash generated negligible returns (-0.03%) for buyers and returns of 1.43% to sellers. Hege *et al*.'s transacting with cash results was comparable to Slovin *et al*.'s results. Hege *et al*.'s transacting with equity results support Slovin *et al*.'s results that transacting with equity created more value than transacting with cash. Different to Slovin *et al*., Hege *et al*. however found that when transacting with equity, the excess returns earned by the buyer was smaller than those earned by the seller, and this finding was also supported by Bhana (2006). This could be attributed to the fact that the sellers derived gains from the asset sale at the time of the sale, whereas the buyers will only truly benefit from the asset in the future.

Slovin *et al*. (2005), Bhana (2006) and Hege *et al*. (2009)'s results contradicted results for mergers and acquisitions (Bruner, 2002; Haleblian *et al*., 2009) where transacting with equity was seen as an unfavourable signal of the buyer's value. In the case of transactions where equity payments to sellers constitute less than 5% of the buyer's outstanding shares, the average increase in company value is 9% for buyers. This suggests that equity as a means of payment and not simply the formation of corporate blockholding is an important enhancer of buyer value (Slovin *et al*., 2005).

Equity financed asset sales created value due to the signalling effect (Slovin *et al*., 2005). Since the seller has private information on the intrinsic quality of the asset, the market will respond according to the method of payment that the seller accepts. When the seller accepts equity as payment for the asset, the seller signals to the market that the asset is of high value (Slovin *et al*., 2005). By accepting equity the seller foregone short term revenue (cash) for future revenue generated by the asset. The seller therefore signals to the market that future profits from the asset will be greater than the current value of the asset. When the seller accepts cash as payment for the asset, the seller send a neutral signal to the market. Accepting cash can be driven by a wide variety of motivational factors, ranging from it being a good asset (however the seller

needs the money urgently), to it being a bad asset and the seller intends to sell it at a premium to a gullible buyer.

Similarly the seller knows how the buyer intent to integrate the asset, thus by accepting equity, the seller signals to the market that the buyer will be able to obtain greater synergies with the asset and will therefore utilise the asset more efficiently, deriving greater profitability from the asset (Slovin *et al*., 2005).

From the buyer's perspective, paying with equity reduces the buyer's risk since the seller's shareholders absorb part of any overpayment by the buyer and bear post-sale revaluation risk of the buyer (Slovin *et al*., 2005). In contrast to a cash deal, the buyer bears the entire cost of any overpayment and the seller's shareholders do not incur any revaluation risk of the buyer's value. Thus the use of equity as a means of payment need not be an unfavourable signal of value (Slovin *et al*.).

When a transaction is seen to be in the best interest of the buyers' or sellers' shareholders there will be a positive change in the share price of the buyer or seller (Bennett, 2010). When the seller signalled to the market that the transaction is in the best interest of the seller and the buyer by accepting equity, the market reacted positive and the buyer and seller's respective share prices increased.

The second explanation why equity-financed asset sales create value is due to the ownership structure. Companies with large outside shareholders perform better when it comes to buying and selling assets, because they monitor management and effect important management decisions (Bennett, 2010). A higher level of management ownership results in an alignment effect causing the company's value to increase (Bhana, 2006). A direct financial effect from ownership structure was when the selling company also held shares of the buying company. The seller was therefore indifferent to how asset sale gains arise, either from the sale of the asset or from the buyers' future profitability (Haleblian *et al*., 2009).

2.10 The Asset Sale Power Position

The seller of an asset had detailed private knowledge about the intrinsic quality of the asset, including contingent liabilities that were material to the asset's value, while each potential buyer had private information about the value it could generate by incorporating the asset with its existing assets (Hege *et al*., 2009). The seller's private

information determined the deal's financial structure and the buyer's personal information drove competitive bidding. The buyer ultimately must approve a "take it or leave it" offer, thereby accepting the seller's financial structure offered. With asset sales the market responds to the seller's private information (Slovin *et al.*, 2005). When a seller accepted equity, it implied that both the asset and buyer was of high value and that the buyer was able to improve the asset's efficiency. Therefore the asset sale increased both the value of the buyer and seller companies.

The seller presents the buyer with a "take it or leave it" offer and the market responds accordingly to the seller's private information. A transaction is more likely to be equity based when the seller's private information is important, thereby signalling that the asset is of good quality and valuable. The buyer's information on how the asset will be incorporated into its structures has no resultant effect on the probability that a transaction will include buyer's equity (Hege *et al*. 2009). The seller therefore has both the bargaining power and the information power.

2.11 Measuring Value Created

According to Ismail *et al*. (2011) contributing to the inconclusive value creating results on the consequences of mergers and acquisitions, were the fact that the researchers did not differentiate between factors that might affect the company's performance and they used different measures of value creation.

Ismail *et al*. (2011) argued that researchers should use a wide spectrum of relevant data and analysis tools to evaluate company performance. This will result in in-depth studies producing more specialised comparable results. To identify factors that did affect sampling method, data collection and data analysis Ismail *et al*. proposed eight factors that might affect the performance of companies, which were:

1. Method of payment (cash or equity)
2. Book to market ratio (growth)
3. Type of merger or acquisition transaction (related or unrelated industry)
4. Cross border versus domestic transactions
5. Mergers versus tender offers
6. Company size
7. Macro-economic conditions
8. Time period of transactions.

The first six factors are self-explanatory whereas the last two factors warrant further explanation. Aggregate merger activities are expected to reflect certain characteristics of macroeconomic environments which are represented by the business cycle, productivity, monetary and fiscal policy, stock and bond markets and aggregate demand, among others (Choi & Jeon, 2011). This is because the macroeconomic environment provides companies with firm-level operational conditions, such as leverage, cash flow and liquidity, for their pursuit of merger activities (Choi & Jeon, 2011).

The time period of transaction refer to the acquisition timing as an independent variable. Depending on the economic status at the time the acquisition performance may vary. Choi and Russel (2004) studied 171 construction mergers and acquisitions transactions in the US that were announced between 1980 and 2002. They categorised the transactions into two groups, namely economic boom and recession periods and according to the economic conditions at the time of the announcement. Choi and Russel found that the timing of transaction did not affect post announcement performance.

To measure short term acquisition performance the common market based measures are: Abnormal Returns, Cumulative Abnormal Returns (CAR) (Choi & Russel, 2004; Bhana, 2006; Schoenberg, 2006; Slovin *et al*., 2005; Ward & Muller, 2010; Ismail *et al*., 2011), Cumulative Average Abnormal Returns (Mushidzhi & Ward, 2004) and Average Cumulative Abnormal Returns (Smit & Ward, 2007). Event study methodology was used to obtain the share price's abnormal returns around the announcement date based on event windows ranging from 241 days [-120,+120] to two days [-1,0] with day zero being the day of the event. Please refer to Table 4.1, under Chapter 4, section 4.2, for a summary of a selected pre-acquisition/sale event study methodologies. Although abnormal returns was the base for standard reporting of event study results, Slovin *et al*. (2005) also reported transaction returns, which is the wealth gains (change in market capitalisation) as a fraction of the transaction values.

Companies tend to undertake acquisitions after a period of superior performance (Ghosh, 2001), therefore analysis of the period before the acquisition is significant for comparison with the control portfolio and also for comparison to the company for the same period after the acquisition/sale to determine the acquisition/sale's impact on the company's performance.

Share prices were analysed, since share price movement represented the only direct measure of shareholder value (Schoenberg, 2006). This is especially true for the period from acquisition or sale until the next financial year end statements were published, since there was little public information available on the performance of the acquired company (Vasilaki, 2011). The benefit of using the share price's abnormal returns was that it provided a measure of expected value as long as there were no confounding effects like subsequent acquisitions or disinvestments (Rehm, Uhlaner, & West, 2012). The abnormal return on any day should not be significantly different from zero unless investors receive new information that affects the intrinsic value of a share (Bhana, 2006). Any significant abnormal returns observed could be attributed to the information content of the acquisition or sale.

To measure medium to long term acquisition performance, the common accounting based measures are: Return on Assets, Return on Equity and Return on Capital Employed (Slovin *et al*., 2005; Ismail *et al*., 2011). Healy *et al*. (1992), Ghosh (2001) as well as Smit and Ward (2007) used a variation of Return on Assets namely Cash Flow Returns on Assets. Operating cash flow was defined as sales minus cost of goods sold minus selling and administrative expenses plus non-cash items, such as depreciation and amortisation (Healy *et al*., 1992; Ghosh, 2001). Slovin *et al*. (2005) defined operating cash flow as operating income before depreciation, interest, taxes and extraordinary items. For standardisation, earnings before interest, tax, depreciation and amortisation (EBITDA) as per the International Financial Reporting Standards (IFRS) was used as operating cash flow (Deloitte, 2011). The asset base was defined as only tangible assets since the impact of the tangible asset sold was the target of this analysis. Intangible assets like goodwill and intellectual property does not reflect the asset's market value.

To measure medium to long term acquisition performance, industry median companies or control portfolio model methodology were used to obtain the company's expected cash flow returns on assets measured over event windows ranging from 11 years [-5, +5] (Healy *et al*., 1992) to 3 years [-2, +2] (Smit & Ward, 2007) with year zero being the year of the event. Please refer to Table 2, under section 4.2, for a summary of a selected post-acquisition or sale event study methodologies.

T-tests were used to determine if the abnormal returns around the announcement date were statistically different from zero, thereby rejecting the null hypothesis or not. Two-tailed tests were used to analyse whether transacting with equity created greater value

than transacting with cash for the buyer and seller since the value created could be positive or negative. A one-tailed test was used to analyse whether value was created for the buyer or seller (Albright, Winston, & Zappa, 2009).

Mushidzhi and Ward (2004); Slovin *et al*. (2005); Choi and Russel (2006) as well as Smit and Ward (2007) all used similar research methodologies and measures to calculate short term asset sale performance. Healy *et al*. (1992); Ghosh (2001); Slovin *et al*. (2005) as well as Smit and Ward (2007) all used similar research methodologies and measures to calculate medium term asset sale performance.

2.12 Event Study Methodology

The origin of event study methodology is credited to research by Fama, Fisher and Roll (1969) who examined the process by which share prices adjusted to share split information. The methodology evolved with refinements which became a main stream methodology to analyse time series data with the advent of computers and statistic software programs (Noreen, 1989). Event study methodology was used to identify the stock price's reaction to a specific event (McWilliams & McWilliams, 2000). The reaction enabled the researcher to conclude whether the event was detrimental or beneficial to the company's shareholders.

To have confidence that the abnormal returns were associated with the event, McWilliams and Siegel (1997) stated that the following three assumptions must apply: The market is efficiently able to react to the event, the event was unanticipated, and there were no confounding effects during the event window.

McWilliams and Siegel (1997) and refined by McWilliams and McWilliams (2000) recommended the following six steps to be followed for implementing an event study. Step one is to define the event to be studied which theoretically provides new information to the market. Step two is to specify a theory that justifies a financial response to this new information. Step three is to identify the sample companies that experienced the event and identify the event dates. Step four is to choose an appropriate event window and justify its length. Step five is to control for confounding events. Step six is to calculate abnormal returns during the event window and test its significance.

Mushidzhi and Ward (2004) identified the most common models to predict a company's estimate returns as the: Mean Adjusted Model, Market Model, Market Adjusted Model and Control Portfolio Model. These models are defined as follows. The Mean Adjusted Model: A company is expected to generate the same returns that it averaged during the event window. The Market Model: Calculations of a company's expected returns include a market related risk factor. The Market Adjusted Model: A company is expected to generate the same returns as the rest of the market during the event window. The Control Portfolio Model: A company is grouped with a portfolio of companies which are similarly based on specific classifications or styles. The expected return of the company will be the same as the observed return of the control portfolio during the event window.

The Mean Adjusted Model, Market Model and Market Adjusted Model for most cases produced similar results (Mushidzhi & Ward, 2004) which had been inadequate (Ward & Muller, 2010), since these models failed to account for expected returns on the basis of company size as well as growth. Ward and Muller recommended using the Control Portfolio Model to estimate the company's returns, which will enable the calculation of more representative abnormal returns of the company.

2.13 Control Portfolio Methodology

The Control Portfolio methodology originated out of fund managers that believed that following of equity styles will add value (Mutooni & Muller, 2007). Styles resulted in the clustering of portfolio characteristics of which the four broad style categories were size, value, growth and market orientation of the respective companies.

The size of a company, measured by market capitalisation, is in proportion with the monitoring by institutional investors (Mutooni & Muller, 2007), therefore the larger the market capitalisation the more interest investors have in this company. Small companies are not as closely monitored as large companies, therefore small capitalisation managers focussed on small companies since it offered more opportunities to add value. Control portfolios therefore need to differentiate between companies based on their size (Mutooni & Muller, 2007). Ward and Muller (2010) allocated company size to the then 162 JSE All Share listed companies by ranking them in descending order of market capitalisation. The first 40 companies were classified as large companies, those ranked between 41 and 100 were classified as medium companies and the remaining companies were classified as small companies.

The value of a company, measured by the share's price to earnings (P/E) ratio is an indication of a companies' growth (Mutooni & Muller, 2007). Companies with low P/E ratios generally did not grow while companies with high P/E ratios were generally considered to be growing companies. Control portfolios therefore need to differentiate between companies based on their P/E ratio. Ward and Muller (2010) classified companies as growing or valuable in terms of its price to earnings (P/E) ratio. All companies were ranked based on their P/E ratio and used to determine the median company. All companies above the median were classified as "growth" (growing companies) and the rest as "value" (valuable companies).

All JSE companies were allocated industry sectors that represent market orientation. Especially in South Africa with its strong mining industry, the use of control portfolios that differentiated between companies as resource and non-resource orientated, added value (Ward & Muller, 2010) to the analysis.

2.14 Conclusion

Secondary data research was completed which identified and evaluated previous work undertaken in the field post-merger, acquisition and asset sale financial performance. The secondary research accomplished the first objective of this study by investigating relevant methods from previous work undertaken used to measure and analyse short and medium term post asset sale company performance.

Traditionally asset sales were treated as a subsection of mergers and acquisitions. The literature review showed that research within mergers and acquisitions were inconsistent and that asset sales were affected differently by the method of payment than for mergers and acquisitions.

It was inconclusive whether mergers and acquisitions create value for companies and their shareholders. Where mergers and acquisitions did create value, it was largely captured by the shareholders of the target companies, while for acquiring shareholders the value created was on average zero (Bruner, 2002; Haleblian *et al.*, 2009). Findings of South African research were consistent with international empirical studies that mergers and acquisitions were on average zero net present value investments (Mushidzhi & Ward, 2004; Smit & Ward, 2007).

Most international research found that mergers and acquisitions funded by cash created greater value than mergers and acquisitions funded by equity for the acquiring company, whilst for the target company cash funded compared to equity funded mergers and acquisitions created similar positive value. South African research however found no significant difference between the returns for the acquiring companies that transacted with cash compared to the acquiring companies that transacted with equity. The inconsistent findings are further complicated by the different measurements of value creation used.

Contrary to mergers and acquisitions Slovin *et al*. (2005) found evidence of the favourable effects of transacting with equity in asset sales. The use of buyer's equity to purchase operating assets generated significantly combined gains in value that were shared between both the buyers and sellers. Cash funded asset sales created little value, which predominately went to the sellers (Slovin *et al*., 2005). Hege *et al*.'s (2009) research confirmed these contradictory findings.

A limited amount of empirical research on the effects of payment method on value created by asset sales had been conducted. The research by Slovin *et al*. (2005) used the standard market model methodology to calculate expected returns, which demonstrated to be inadequate, since the market model failed to account for expected returns on the basis of company size as well as growth.

South African research on the impact of the method of payment on mergers and acquisitions although consistent in observation, were statistically inconsistent with international research. We can therefore not assume that the limited international research on the method of payment on asset sales apply to South Africa, thereby warranting this research.

3. RESEARCH HYPOTHESES

3.1 Introduction

Based on the literature review there were short term and medium term components that determine if the sale of an asset created or destroyed value (Healy *et al*., 1992; Ghosh, 2001; Smit & Ward, 2007). To ensure consistency with comparable studies (Mushidzhi & Ward, 2004; Slovin *et al*., 2005; Smit & Ward; Hege *et al*.), the short term value created measurement used was the Average Cumulative Abnormal Returns (ACAR) which measured the effect the event had on the company's share price. The medium term value created measurement used was the Average Abnormal Cash Flow Return on Assets (AACRA) which measured the effect the event had on the company's operating performance.

Based on the asset sale literature review with specific reference to the findings of Slovin *et al*. (2005) and Hege *et al*. (2009), this study will test the following theories: Firstly do asset sales create value for the buying and selling company's shareholders? Since value created can be positive, insignificant or negative, it required a two-tailed test. Secondly do equity funded asset sales create greater value than cash funded asset sales for the buying and selling company's shareholders? A one-tailed test was required to test whether equity value was greater than cash value.

The null hypothesis (H_O) is a statement about no difference, no relationship, and no patterns between variables to be tested statistically. It assumes that any result observed is the result of chance alone. By rejecting the null hypothesis the alternative hypothesis (H_A) is accepted, thereby accepting that patterns between the variables do statistically exist.

3.2 Definition of Variables

$ACAR\text{-}B_{AD}$	Average cumulative abnormal returns to the buying company for event windows around the announcement date.
$ACAR\text{-}B_{EQUITY}$	Average cumulative abnormal returns to the buying company for event windows around the announcement date for equity funded transactions

ACAR-B_{CASH}	Average cumulative abnormal returns to the buying company for event windows around the announcement date for cash funded transactions.
ACAR-S_{AD}	Average cumulative abnormal returns to the selling company for event windows around the announcement date.
ACAR-S_{EQUITY}	Average cumulative abnormal returns to the selling company for event windows around the announcement date for equity funded transactions.
ACAR-S_{CASH}	Average cumulative abnormal returns to the selling company for event windows around the announcement date for cash funded transactions.
AACRA-B_{POST}	Average abnormal cash flow returns on assets to the buying company after the transaction.
AACRA-B_{PRE}	Average abnormal cash flow returns on assets to the buying company before the transaction.
AACRA-B_{EQUITY}	Average abnormal cash flow returns on assets to the buying company for event windows around the announcement date for equity funded transactions.
AACRA-B_{CASH}	Average abnormal cash flow returns on assets to the buying company for event windows around the announcement date for cash funded transaction.

3.3 Hypothesis 1: Buyer's ACAR

The null hypothesis states that the buying companies do not earn positive or negative average cumulative abnormal returns for event windows around the asset sale's announcement date (ACAR-B_{AD}).

The alternative hypothesis states that the buying companies do earn positive or negative average cumulative abnormal returns for event windows around the asset sale's announcement date (ACAR-B_{AD}).

Hypothesis 1 is depicted as:

$H1_0$: $ACAR\text{-}B_{AD} = 0$
$H1_A$: $ACAR\text{-}B_{AD} \neq 0$

3.4 Hypothesis 2: Buyer's Equity Compared to Cash ACAR

The null hypothesis states that the buying companies' average cumulative abnormal returns for event windows around the announcement date for equity financed (ACAR-B_{EQUITY}) asset sales is not greater than the average cumulative abnormal returns for event windows around the announcement date for cash financed (ACAR-B_{CASH}) asset sales.

The alternative hypothesis states that the buying companies' average cumulative abnormal returns for event windows around the announcement date for equity financed (ACAR-B_{EQUITY}) asset sales is greater than the average cumulative abnormal returns for event windows around the announcement date for cash financed (ACAR-B_{CASH}) asset sales.

Hypothesis 2 is depicted as:

$H2_0$: $ACAR\text{-}B_{EQUITY} - ACAR\text{-}B_{CASH} \leq 0$
$H2_A$: $ACAR\text{-}B_{EQUITY} - ACAR\text{-}B_{CASH} > 0$

3.5 Hypothesis 3: Seller's ACAR

The null hypothesis states that the selling companies do not earn positive or negative average cumulative abnormal returns for event windows around the asset sale's announcement date (ACAR-S_{AD}).

The alternative hypothesis states that the selling companies do earn positive or negative average cumulative abnormal returns for event windows around the asset sale's announcement date (ACAR-S_{AD}).

Hypothesis 3 is depicted as:

$H3_0$: $ACAR\text{-}S_{AD} = 0$
$H3_A$: $ACAR\text{-}S_{AD} \neq 0$

3.6 Hypothesis 4: Seller's Equity Compared to Cash ACAR

The null hypothesis states that the selling companies' average cumulative abnormal returns for event windows around the announcement date for equity financed (ACAR-S_{EQUITY}) asset sales is not greater than the average cumulative abnormal returns for event windows around the announcement date for cash financed (ACAR-S_{CASH}) asset sales.

The alternative hypothesis states that the selling companies' average cumulative abnormal returns for event windows around the announcement date for equity financed (ACAR-S_{EQUITY}) asset sales is greater than the average cumulative abnormal returns for event windows around the announcement date for cash financed (ACAR-S_{CASH}) asset sales.

Hypothesis 4 is depicted as:

$H4_0$: $ACAR\text{-}S_{EQUITY} - ACAR\text{-}S_{CASH} \leq 0$
$H4_A$: $ACAR\text{-}S_{EQUITY} - ACAR\text{-}S_{CASH} > 0$

3.7 Hypothesis 5: Buyer's AACRA

The null hypothesis state that the buying companies' post asset sale's average abnormal cash flow return on assets (AACRA-B_{POST}) equal the pre asset sale's average abnormal cash flow returns on assets (AACRA-B_{PRE}).

The alternative hypothesis state that the buying companies' post asset sale's average abnormal cash flow return on assets (AACRA-B_{POST}) do not equal the pre asset sale's average abnormal cash flow returns on assets (AACRA-B_{PRE}).

Hypothesis 5 is depicted as:

$H5_0$: $AACRA\text{-}B_{POST} - AACRA\text{-}B_{PRE} = 0$
$H5_A$: $AACRA\text{-}B_{POST} - AACRA\text{-}B_{PRE} \neq 0$

3.8 Hypothesis 6: Buyer's Equity Compared to Cash AACRA

The null hypothesis states that the buying companies' average abnormal cash flow return on assets for event windows around the announcement date for equity financed (AACRA-B_{EQUITY}) asset sales is not greater than the average abnormal cash flow return on assets for cash financed (AACRA-B_{CASH}) asset sales.

The alternative hypothesis states that the buying companies' average abnormal cash flow return on assets for event windows around the announcement date for equity financed (AACRA-B_{EQUITY}) asset sales is greater than the average abnormal cash flow return on assets for cash financed (AACRA-B_{CASH}) asset sales.

Hypothesis 6 is depicted as:

$H6_0$: $AACRA\text{-}B_{EQUITY} - AACRA\text{-}B_{CASH} \leq 0$
$H6_A$: $AACRA\text{-}B_{EQUITY} - AACRA\text{-}B_{CASH} > 0$

3.9 Conclusion

To test these hypotheses the following asset sale transaction samples were required; buyers paying with cash, buyers paying with equity, sellers accepting payment in cash and sellers accepting payment in equity. The hypotheses were linked to key literature references, data collection sources and statistical analysis as illustrated in Appendix B: Consistency Matrix

4. RESEARCH METHODOLOGY

4.1 Introduction

Research methodology is the approach taken by the researcher to complete the research project by dictating and controlling the collecting of data and to analyse the data to extract meaning from the data (Leedy & Ormrod, 2013). In the interest of ensuring that this study's results were comparable with previous merger and acquisition and asset sale studies this study's research methodology used similar methodologies as those used by Mushidzhi & Ward (2004); Slovin *et al*. (2005); Smit & Ward (2007) and Hege *et al*. (2009) for measuring short and medium term value created by the asset sales.

Short term value created was measured by the effect the event had on the company's share price and medium term value created was measured by the effect the event had on the company's operating performance. Event study and control portfolio methodologies were used to obtain the short and medium term value created measurements.

Asset sales concluded over an 11 year period from 1 January 2000 to 31 December 2011 were analysed. The 11 year period was selected since it provided a long period to find sufficient quantity of qualifying asset sales. The short term value created measurement require ten days before and after the event (Smit & Ward, 2007) and the medium term value created measurement required data three years before and after the event date (Ghosh, 2001).

In the case where a specific company's event window was less than the defined window period, such a company was removed from the specific event window sample. For example, sample companies with events in 2011 was used for event windows [-3, 0] years but not for [0, +3] years. To calculate the respective shares' Alfa and Beta coefficients, data was required three years before the event (Muller & Ward, 2011) which was incorporated into Chris Muller's control portfolio model and event analyser.

This study's research methodology has incorporated two of Ismail *et al*.'s (2011) eight factors affecting company performance, which will be used to differentiate between asset sale transactions being analysed and to create the different control portfolios.

These two factors were: 1) Method of payment (cash or equity) and 2) Company size. These two factors have been selected since they affected company performance the most (Ismail *et al*., 2011). A third factor, Rand / US Dollar exposure, was added via Chris Muller's control portfolio model and event analyser (Muller & Ward, 2012).

4.2 Research Design

Research design provides the overall structure for the procedures the researcher followed, the data collected and the data analyses conducted (Albright *et al*.,2009).

This research was causal; which analysed the correlation between the independent variable, payment method, and the dependant variable, value created. The investigation of the hypotheses required numerical data analysis, therefore this study was quantitative, casual and quasi experimental (the dependent variable is observed over time for any changes that may take place) analysing secondary time series data (Saunders & Lewis, 2012). Causal research was used to identify cause-and-effect relationships between variables by manipulating one or more independent variables to test the effect on the dependant variable (Punch, 2006). Qualitative studies such as clinical studies and surveys of executives were therefore not conducted.

Measuring short term acquisition performance the common market based measures were: Abnormal Returns, Cumulative Abnormal Returns (Dittmar & Shivdasani, 2003; Choi & Russel, 2004; Bhana, 2006; Schoenberg, 2006; Slovin *et al*., 2005; Hege *et al*., 2009; Ward & Muller, 2010; Ismail *et al*., 2011), Cumulative Average Abnormal Returns (Mushidzhi & Ward, 2004) and Average Cumulative Abnormal Returns (Smit & Ward, 2007).

Table 4.1 lists a summary of a selected pre-acquisition/sale event study methodology that were used to obtain the share price's abnormal returns around the announcement date with day zero being the day of the announcement.

Table 4.1: Summary of Selected Short Term Event Study Methodologies

Study	Sample size	Period	Event Window (days)
Dittmar and Shivdasani (2003)	278	1983-1994	[-5,+5] [-2,+2] [-1,+1] [-1,0]
Choi and Russel (2004)	171	1980-2002	[-20,+20] [-10,+10] [-5,+5] [-1,+1]
Mushidzhi and Ward (2004)	57	3/1998-12/2002	[-10,+10] [-1,+1]
Slovin *et al*. (2005)	347	1982-2000	[-1,0]
Bhana (2006)	58	1995-2001	[-120,+120]
Smit and Ward (2007)	27	2000-2002	[-10,+10] [-5,+5] [-2,+2] [-1,+1]
Hege *et al*. (2009)	130	1989-2002	[-2,+2] [-1,0]

Measuring medium to long term acquisition performance the common Accounting based measures were: Return on Assets, Return on Equity and Return on Capital Employed (Slovin *et al*., 2005; Hege *et al*., 2009; Ismail *et al*., 2011). Healy *et al*. (1992), Ghosh (2001) as well as Smit and Ward (2007) used a variation of Return on Assets namely Cash Flow Returns on Assets.

Table 4.2 lists a summary of selected post-acquisition/sale event study methodologies that were used to obtain the company's expected cash flow returns on assets around the announcement year with year zero being the year of the event.

Table 4.2: Summary of Selected Medium Term Event Study Methodologies

Study	Sample size	Period	Event Window (years)
Healy *et al*. (1992)	50	1979-1984	[-5,-1] [+1,+5]
Ghosh (2001)	315	1981-1995	[-3,-1] [+1,+3]
Slovin *et al*. (2005)	347	1982-2000	[-1,+3]
Bhana (2006)	58	1995-2001	[-2,+2]
Smit and Ward (2007)	27	2000-2002	[-2,-1] [+1,+2]
Hege *et al*. (2009)	130	1989-2002	[-1,+4]

Event study methodology was used to determine the Average Cumulative Abnormal Returns (ACAR) (Mushidzhi & Ward, 2004; Smit & Ward, 2007) around the asset sale announcement date and Average Abnormal Cash Flow Return on Assets (AACRA) (Healy *et al*., 1992; Ghosh, 2001; Smit & Ward, 2007) was used to determine the medium term post asset sale operating financial performance. The Control Portfolio methodology (Smit & Ward, 2007; Ward & Muller, 2010) was used to determine the abnormal returns used to calculate the respective ACAR's and AACRA's.

Statistical analyses were used to analyse the share price and cash flow returns on assets around the announcement date. Two-tailed tests were used to analyse the equity compared to cash value created by the buyer and seller since the value created could be positive or negative. A one-tailed test was used to analyse whether value created by the buyer or seller were equal to zero or not (Albright *et al*., 2009).

4.3 Unit of analysis

The unit of analysis was intercorporate asset sales announced and concluded over an 11 year period from 1 January 2000 to 31 December 2011. The 11 year period was selected since it provided a long period to find sufficient quantity of qualifying asset sales. The event date of the sale was defined as the announcement date, rather than the effective sale date, due to the expected movement in share price from date of announcement (McWilliams & Siegel, 1997). The JSE's SENS announcement date was used as the initial public report of the asset sale.

4.4 Population of relevance

The population of relevance consisted of all successfully concluded intercorporate asset sales between companies of which the buyer or seller were listed on the JSE's All Share Index (ALSI) over an 11 year period from 1 January 2000 to 31 December 2011. Concluded intercorporate asset sales are sales where the buyer takes complete control of an undividable, tangible, productive asset in exchange for payment in the form of cash or equity. An asset sale differ from mergers and acquisitions in that neither the buyer's nor seller's control of their respective companies does not change, only control over the asset changes from the buyer to the seller.

Transactions with non-listed companies were excluded since privately owned companies are less liquid and it is difficult to measure the change in value (before and

after the transaction) since their financial statements are not required to be audited or in the public domain.

On the 14th April 2012 there were 399 companies listed on the JSE of which 160 were listed on the ALSI, which account for approximately 98% of the JSE's market capitalisation (Johannesburg Stock Exchange). All non ALSI companies were excluded to limit the potential distortion effects of relatively small sales and low liquidity. Jung, Sun & Yang (2012) found a positive relationship between the analysts' actively monitoring companies and the company's value. Since non ALSI companies are monitored less by analysts, the exclusion of non ALSI companies also removes potentially lower valued companies.

Muller and Ward (2011) found share activity on the JSE has decreased to 15% in 2001 and has remained constant at this level through to December 2010. Therefore the probability of having thinly traded shares in the sample was material. Shares are considered thinly traded if traded for less than 70% of the trading days for the period starting six months before and ending two months before the announcement date of the asset sale (Mushidzhi & Ward, 2004). This period was selected to compensate for potential insider trading before the announcement. Shares were also considered thinly traded if traded on less than 50% of the days during the event window (Smit & Ward, 2007). Thinly traded shares could potentially distort data analysis and were therefore excluded from the sample. By excluding non ALSI companies the probability of encountering thinly traded shares was reduced.

4.5 Sampling Method and Size

Asset sales with similar characteristics were required to reduce potential errors due to variances in the data. Therefore a judgemental (nonprobability) sampling technique (Saunders & Lewis, 2012) was used to identify asset sale transactions selected on the below criteria.

Characteristics of the sampling frame include:

a. Respective buyer or seller companies must have been JSE ALSI listed between 2000 and 2011, however not required to be listed for the full period.
b. The sale must have been announced and concluded over an 11 year period from 1 January 2000 to 31 December 2011.

c. The sale was a voluntary managerial decision and not the result of regulatory or governmental action.
d. The terms of the transaction was publicly reported, including the method of payment.
e. Thinly traded shares were excluded.
f. The asset must be wholly owned by the seller prior to the sale.
g. The information required for analysis was available; share price, market value, value of transaction and the percentage of payment in equity.

To exclude confounding events, events were excluded from companies that announce significant news in the period of the event window. Significant news items are (Shane & Spicer, 1983) and (El-Gazzar, 1998):

a. Earnings and/or dividend announcement,
b. Acquisition/disinvestment announcement,
c. Capital change announcement (rights issues and share buy backs),
d. Price or rate based change announcements,
e. Bankruptcies,
f. Changes in leadership.

The JSE Listing requirements required that all JSE listed companies disclose all of the above confounding events through the JSE SENS announcements (Johannesburg Stock Exchange, 2011).

By including in the event sample and control portfolios only companies that survived until the end of the sample period would have resulted in survivorship bias (Carpenter & Lynch, 1999). Survivorship bias reduces the mean and affects performance difference by as much as 1.27% per year (Carpenter & Lynch, 1999). Survivorship bias was mitigated by including all the ALSI companies listed in each period of the study, adding new listings and removing delisted companies quarterly as they occurred (Muller & Ward, 2011).

For samples containing ≥ 30 qualifying transactions the central limit theory apply and parametric statistics were used (Albright *et al.*, 2009). Parametric statistics are based on the assumption that the data reflect an interval and that the data fall in a normal distribution. This provides for more robust statistical analysis, reducing the probability of Type I errors, whereby the null hypothesis was incorrectly rejected.

4.6 Data Collection Sources

Information and secondary data on both buying and selling companies was obtained from databases including SENS, McGregor BFA, INET Bridge, Bloomberg, Sharenet and from the respective entities' financial statements. Tables 4.3 to 4.8 list the various data requirements and the sources where this data was accessed from. Mainly McGregor BFA was used to source the required financial data.

Table 4.3: Data Required to Determine Asset Sale Sample

Information obtained	Sources
Announcement of asset sale	SENS
Buying and selling companies	SENS
Thinly traded shares	McGregor BFA, INET Bridge, Bloomberg and Sharenet

Table 4.4: Data Required to Categorise Asset Sales

Information obtained	Sources
Value of the transaction	SENS / Companies' websites
Method of payment	SENS / Companies' websites
Market capitalisation of the buyer and seller	McGregor BFA, INET Bridge, Bloomberg and Sharenet

Table 4.5: Data Required to Filter Out Confounding Effects

Information obtained	Sources
Significant news	SENS / Companies' website

Table 4.6: Buyers and Sellers Data Required for Average Cumulative Abnormal Returns (ACAR) Analysis

Information obtained	Sources
Share prices, ten days before and ten days after the asset sale announcement date	McGregor BFA, INET Bridge, Bloomberg and Sharenet

Table 4.7: Data Required for Average Abnormal Cash Flow Return on Assets (AACRA)

Information obtained	Sources
Buyer's cash flow (statement of comprehensive income) for three financial reporting periods before and after the asset sale	McGregor BFA, INET Bridge, Bloomberg and Sharenet
Buyer's assets (statement of financial position) for three financial reporting periods before and after the asset sale	McGregor BFA, INET Bridge, Bloomberg and Sharenet

Table 4.8: Data Required for Control Portfolios

Information obtained	Sources
Share prices of JSE ALSI companies	McGregor BFA, INET Bridge, Bloomberg and Sharenet
To calculate Alpha and Beta coefficients required share prices for three years before and one year after the announcement date (Muller & Ward, Active Share on the JSE, 2011)	McGregor BFA, INET Bridge, Bloomberg and Sharenet
To calculate market capitalisation required amount of shares	McGregor BFA, INET Bridge, Bloomberg and Sharenet
To classify as resource or non-resource needed JSE sector groupings	JSE
To calculate Rand / US Dollar exposure required R/$ exchange rates and share prices of JSE ALSI companies	McGregor BFA, INET Bridge, Bloomberg and Sharenet

In addition, access to the prebuilt Chris Muller control portfolio model and event analyser was obtained, thereby avoiding the manual and time consuming calculation of the respective companies' abnormal returns.

4.7 Data analysis approach

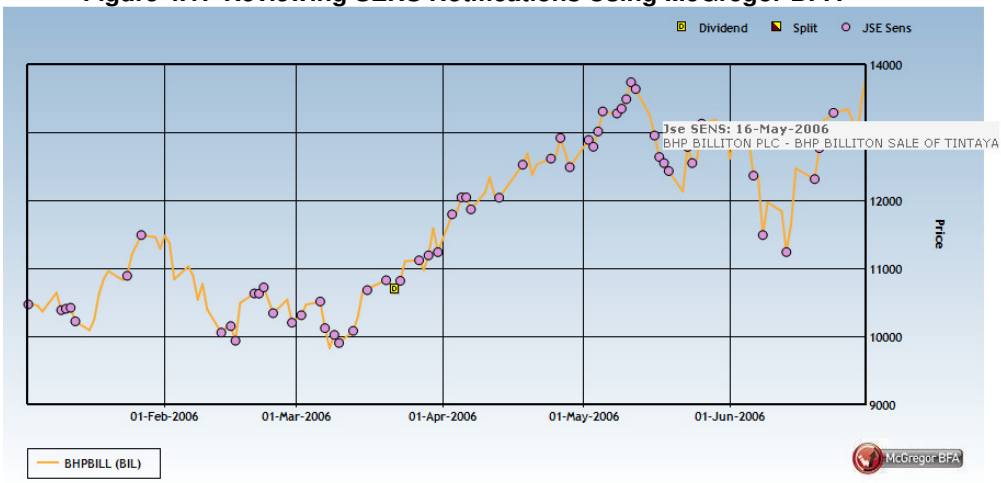
4.7.1 Preparing the Sample

To identify companies that were involved in asset sales, SENS announcements were searched for keywords; "asset sale, sell-off, divestment and divestiture". The key word search identified 56 companies that yielded 128 qualifying asset sales. This sample however contained insufficient equity asset sale transactions. To identify additional companies, the search for asset sales was extended to the top 40 companies by market capitalisation. Additionally all the All Share securities were allocated to eight industry sectors; Construction, Financial, Food & Beverages, Industrial, Mining & Resources, Personal & Hospitality, Real Estate and Telecommunications & Technology which are listed under Appendix C: ALSI Companies Reviewed. Based on market capitalisation the top five companies per industry were searched for asset sales. The sample was reviewed and found that the equity transactions mainly came from the mining and real estate sectors, subsequently all the companies in these two sectors were searched for qualifying asset sale transactions.

Incorporating the characteristic of the sampling frame as described under section 4.5 and the above mentioned method to identify companies, the following steps were followed to obtain the sample of asset sales that was analysed.

1. McGregor BFA was used to review SENS announcements and asset sales announced over the 11 year period from 1 January 2000 to 31 December 2011 were recorded to obtain the sample.

Figure 4.1: Reviewing SENS Notifications Using McGregor BFA



The SENS announcements were reviewed in six to 12 month intervals depending on the density of the SENS announcements in order to differentiate between consecutive SENS announcements. Figure 4.1 illustrate the methodology used to review SENS announcements. By moving the cursor over the SENS announcement, the date and heading is shown. By opening potential SENS announcements, the announcements were reviewed to determine if it is a qualifying event. This was a very time consuming process, however in the absence of a suitable database similar to Ernest & Young's mergers and acquisitions database this method was required and proofed very successful in collecting the required payment data.

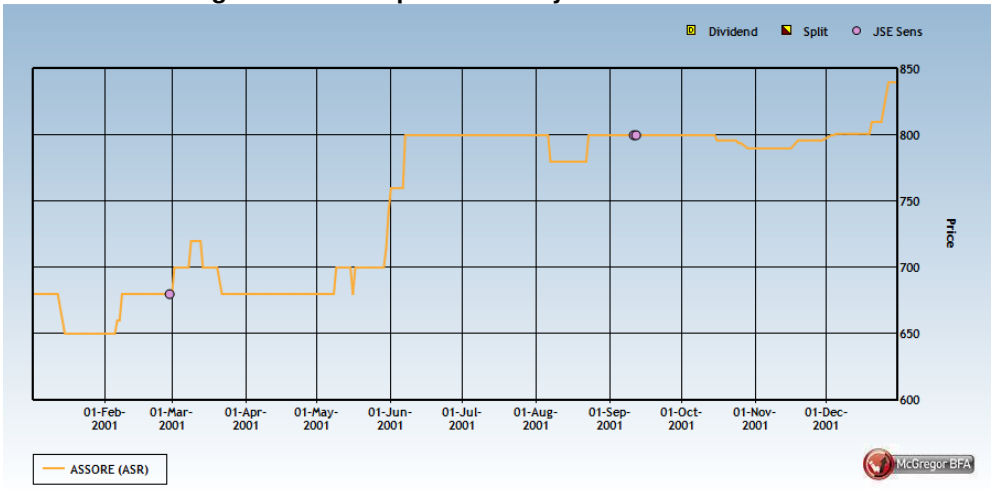
2. The researcher removed asset sale announcements where the asset was not wholly owned by the seller from the sample.

3. Asset sale announcements affected by confounding events as described under section 4.5 were also removed from the sample.

4. Thinly traded shares based on the criteria (shares traded for less than 70% of the trading days for the period starting six months before and ending two months before the announcement date of the sale and if traded on less than 50% of the days during the event window) were then removed from the sample.

Figure 4.2 illustrate a thinly traded share where the share price remains constant since no trading took place.

Figure 4.2: Example of a Thinly Traded Share



McGregor BFA's historical share price reporting, which included volumes traded per day, was utilised to review for thinly traded shares. Nine transactions were removed from the sample resulting in four companies where both the buyer and seller were ALSI listed to be removed from the sample.

5. The remaining transactions constituted the sample of qualifying asset sale transactions.

In total 112 companies were reviewed for asset sales yielding 195 qualifying asset sale transactions. Appendix C contains detailed information on the companies reviewed for asset sale transactions.

Out of the 194 transactions only 20 transactions represented cases where both the buyer and the seller were JSE ALSI listed companies. The aggregated sample therefore consisted of 214 company specific transactions containing sub samples of 43 equity buyers (buyers transacting with equity), 68 cash buyers (buyers transacting with cash), 30 equity sellers (sellers transacting with equity) and 73 cash sellers (sellers transacting with cash). An asset sale was classified as an equity transaction if the portion of payment in equity was equal or greater than five percent (Slovin *et al.*, 2005). Appendix D contains detailed information of the cash funded transactions and Appendix E contains detailed information of the equity funder transactions.

4.7.2 The Event Study Control Portfolio Design

Slovin *et al*. (2005) used the standard market model methodology which has been shown to be inadequate (Ward & Muller, 2010), since the market model fails to account for expected returns on the basis of company size as well as growth. Therefore a control portfolio model was used to estimate benchmark returns. Based on previous published work by Mordant and Muller (2003), Mutooni and Muller (2007), as well as resent unpublished research by Muller and Ward (2012), twelve control portfolios were created. The portfolios represented the styles of industry (resources, property or other), market capitalisation (large and small) and Rand/US Dollar exposure (top halve and bottom halve) as shown in Table 4.9.

Table 4.9: 12- Factor Control Portfolio

Control Portfolio	Industry	Market Capitalisation	Rand / USD Exposure
RLD	Resource	Large	Rand/USD Related
RLU	Resource	Large	Rand/USD Unrelated
RSD	Resource	Small	Rand/USD Related
RSU	Resource	Small	Rand/USD Unrelated
PLD	Property	Large	Rand/USD Related
PLU	Property	Large	Rand/USD Unrelated
PSD	Property	Small	Rand/USD Related
PSU	Property	Small	Rand/USD Unrelated
NLD	Other	Large	Rand/USD Related
NLU	Other	Large	Rand/USD Unrelated
NSD	Other	Small	Rand/USD Related
NSU	Other	Small	Rand/USD Unrelated

To categorise companies per industry, the broad JSE sector groupings were used (Ward & Muller, 2010). All mining companies were classified as “Resource”, all real estate companies were classified as “Property” and the rest were classified as “Other” (Muller & Ward, 2012).

The company size was measured by its market capitalisation. The ALSI companies were ranked in descending order of market capitalisation. The top 50% companies were classified as “Large” and the bottom 50% were classified as “Small” (Muller & Ward, 2012).

To categorise companies per Rand / US Dollar exposure, companies were sorted in descending order according to the R^2 correlation between the abnormal share price returns and Rand / US Dollar exchange. The top 50% companies were classified as

"Rand / US Dollar Related" and the bottom 50% companies were classified as "Rand / US Dollar Unrelated" (Muller & Ward, 2012).

Applying the above criteria all of the ALSI companies were allocated to one of the twelve control portfolios. The control portfolios were rebalanced quarterly to reflect changes to the respective companies' characteristics, ensuring that the control portfolios were accurate measurements of expected returns. Data was corrected for share splits, consolidations and swaps (Muller & Ward, 2012).

The daily share returns for each asset sale was regressed against the daily returns of each of the 12-factor control portfolio to obtain a regression equation (Equation 1) for each event.

$$E(R_{it}) = \propto_{i,t} + \beta_{i,1}RLD_t + \beta_{i,2}RLU_t + \beta_{i,3}RSD_t + \beta_{i,4}RSU_t + \beta_{i,5}PLD_t + \beta_{i,6}PLU_t + \beta_{i,7}PSD_t + \beta_{i,8}PSU_t + \beta_{i,9}NLD_t + \beta_{i,10}NLU_t + \beta_{i,11}NSD_t + \beta_{i,12}NSU + \varepsilon_{it} \quad \text{(Equation 1)}$$

(Ward & Muller, 2010)

Where:

$E(R_{it})$ = The expected return on share price i on day t;

$\propto_{i,t}$ = The alpha intercept term of share price i on day t;

$\beta_{i,1} \ldots \beta_{i,12}$ = The beta coefficients for each control portfolio return;

$RLD_t \ldots NSU_t$ = The log-function share price returns on each of the 12-factor control portfolios as set out in Table 4.9 on day t.

Muller and Ward's (2012) 12-factor control portfolio model and event analyser used Equation 1 to calculate the expected share price returns.

4.7.3 Average Cumulative Abnormal Returns (ACAR) Research Design

Event study methodology was used to obtain abnormal returns based on event windows of 21 days [-10, +10] (Choi & Russel, 2004; Mushidzhi & Ward, 2004; Smit & Ward, 2007), 11 days [-5, +5] (Choi & Russel, 2004; Smit & Ward, 2007), five days [-2, +2] (Smit & Ward, 2007; Hege *et al.*, 2009), and two days [-1, 0] (Dittmar and Shivdasani, 2003; Slovin *et al.*, 2005; Hege *et al.*, 2009) with day zero being the day of the event. Several event windows were constructed for the purpose of obtaining results that are directly comparable with previous research.

Several event windows were analysed since relevant news and details about the asset were sometimes disclosed after the initial announcement (Dittmar & Shivdasani, 2003). The 21 day [-10, +10] event window was used since it allows for a longer period to analyse the effect of the event on the company's share price. By analysing the abnormal returns of the first 11 days [-10, 0] event window, potential insider trading can be detected (Mushidzhi & Ward, 2004). The 11 days [-5, +5] event window was used to determine the linearity between the 21 days [-10, +10] and two days [-1, 0] results. By comparing the difference between ACAR's day 0 and +5 to the difference between ACAR's day +5 to +11 indicated how ACAR increased or decreased in the first five days after the announcement compared to the second five days after the announcement. The five days [-2, +2] and two days [-1, 0] event windows were used since it was less affected by confounding events and determined the share price's direct reaction to the announcement.

After calculating the company's daily expected return (Equation 1), Muller & Ward's (2012) 12-factor control portfolio model and event analyser, calculated abnormal returns (AR) per day by subtracting the expected share price returns from the actual share price return, as shown in Equation 2.

$$AR_{it} = R_{it} - E(R_{it}) \qquad \text{(Equation 2)}$$

(Ward & Muller, 2010)

Where:

AR_{it} = Daily abnormal return of share price i on day t;

R_{it} = Observed return on day t;

$E(R_{it})$ = The expected return on share price i on day t, as defined in Equation 1.

Performance over the respective event windows (T) was calculated by accumulating the abnormal returns per company (i) to obtain the cumulative abnormal return (CAR), as shown in Equation 3.

$$CAR_i = \sum_{t=0}^{T} AR_{it} \qquad \text{(Equation 3)}$$

(Ward & Muller, 2010)

Where:

CAR_i = Daily cumulative abnormal return for company i,

AR_{it} = Daily abnormal return of share price i on day t; as defined in Equation 2,

T = Number of days in the event window (21, 11, five and three days).

After calculating the respective companies in the sample's CAR, the average cumulative abnormal return (ACAR) was calculated by averaging the respective companies' CAR, as shown in Equation 4.

$$ACAR_i = \frac{1}{N}\sum_{i=1}^{N} CAR_i \qquad \text{(Equation 4)}$$

(Mushidzhi & Ward, 2004)

Where:

$ACAR_i$ = The daily average cumulative abnormal return for the sample over T days in the event window,

CAR_i = Cumulative abnormal return for company i, as defined in Equation 3,

N = Number of companies in the sample.

4.7.4 Share Price Performance (ACAR)

Utilising the data sources as described under section 4.6 a sample of events was prepared applying the criteria as described under section 4.7.1. To test the hypotheses as described under Chapter 3 this sample of qualifying asset sale transactions was divided into the following asset sale samples; buyers paying with cash, buyers paying with equity, sellers accepting payment in cash and sellers accepting payment in equity.

The list of company share codes, individual announcement dates and 21 day event window trading days dates, were fed into Chris Muller's control portfolio model and event analyser to obtain daily AR per sample company. The AR's were exported to Excel to calculate CAR and ACAR for each of the four comparative samples for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, +1]. In the case where confounding events shortened a specific company's event window to less than the defined window period, such a company was removed from the specific event window sample.

The abnormal returns for each security should display a random pattern around zero. To test for outlying daily abnormal returns individual company bar graphs were constructed. Where daily positive and negative abnormal returns in excess of 20% were encountered, the sample's ACAR was calculated with and without these outlying daily abnormal returns as were reported under Chapter 5.

4.7.5 Average Abnormal Cash Flow Returns on Assets (AACRA) Research Design

Event study methodology was used to determine the buyer's average abnormal cash flow returns on assets (AACRA) based on event windows of 7 years [-3, +3] (Ghosh, 2001) and 5 years [-2, +2] (Smit & Ward, 2007) with year zero being the financial year of the event. Operating cash flow was defined as sales minus cost of goods sold minus selling and administrative expenses plus non-cash items, such as depreciation and amortisation (Healy *et al.*, 1992; Ghosh, 2001). Slovin *et al.* (2005) defined operating cash flow as operating income before depreciation, interest, taxes and extraordinary items. For standardisation, earnings before interest, tax, depreciation and amortisation (EBITDA) as per the International Financial Reporting Standards (IFRS) was used as operating cash flow (Deloitte, 2011). The asset base was defined as only tangible assets since the impact of the tangible asset sold was the target of this analysis. Intangible assets like goodwill and intellectual property does not reflect the asset's market value.

To determine the abnormal cash flow return on assets for the years before and after the event; the buyer's cash flows was divided by the buyer assets, and the industry cash flow return on assets (from market model) was subtracted, as shown in Equation 5. The buyer's assets after the asset sale included the new asset.

$$ACRA_y = (CF_y/A_y) - ICFA_y \qquad \text{(Equation 5)}$$

(Smit & Ward, 2007)

Where:

$ACRA_y$ = The abnormal cash flow return on assets for year y;

CF_y = The operating cash flow for the year y;

A_y = The assets at the end of year y;

$ICFA_y$ = The median industry cash flow return on assets for year y.

Similar to the calculation of ACAR defined in section 4.7.3, Equation 4, the average abnormal cash flow returns on assets (AACRA) was calculated for each of the years in the event windows.

4.7.6 Operating Financial Performance (AACRA)

The qualifying companies' operational performance was analysed using the same buyer asset sale samples; buyers paying with cash and buyers paying with equity. The pre and post asset sale operating financial data was obtained from the McGregor BFA database. The McGregor BFA financial statements are standardised into a common format, thus being user friendly to identify and extract the required EBITDA and tangible asset figures easily to calculate ACRA's for each defined event window's financial year.

In order to calculate the median industry cash flow return on assets (ICFA) for each year, McGregor BFA was used to extract consolidated industry financial statements. The researched used the JSE's sub-sector classification to allocate each of the sample companies to an industry classification as indicated under Appendix C: ALSI Companies Reviewed. All the companies within the same industry, including the sample company's financial statements were consolidated through the McGregor BFA financial statement query manager. The consolidated financial statements, represented the sectors meta-companies, were used to calculate the industry cash flow returns on assets. The abnormal cash flow returns on assets was calculated by subtracting the industry return from the individual companies' returns as defined in section 4.7.6, Equation 5. The operating financial performance analysed the change in AACRA during the specified event window.

4.7.7 Statistical Analysis

The calculated average cumulative abnormal return (ACAR)'s per comparative asset sale sample per event window data set and average abnormal return (AAR) were used as the appropriate metric for hypotheses testing of abnormal share price returns. Average abnormal cash flow return on assets (AACRA)'s and abnormal cash flow returns on assets (ACRA)'s were used as the appropriate metric for hypotheses testing of abnormal financial operating performance.

In testing the hypotheses, one and two tailed t-tests at the 5% level of significance were used to determine statistical significant difference of means, thereby accepted or rejected the null hypotheses. The data making up the means and mediums to be statistically compared are independent with no autocorrelation, therefore parametric and nonparametric statistical test can be used. Statistical analysis was completed using MS Excel's StatTools and all graphs were created in MS Excel software package. Hypotheses 1, 3 and 5's statistical significance was tested with a series of one sample, two tailed t-tests with a null hypothesis value equal to zero. For samples smaller than 30 data points the nonparametric Wilcoxon Singed-Rank test was used. Hypotheses 2, 4 and 6's statistical significance was tested with a series of two sample, one tailed t-tests with a null hypothesis value less than zero. For samples smaller than 30 data points the nonparametric Mann-Whitney Test was used. All tests were done at a 95% confidence interval.

The sample's standard deviation was not known, therefore t-tests was the statistical approach followed by the majority of related research methodologies (Healy et al., 1992), (Slovin et al., 2005) and (Hege et al., 2009). t-tests were considered to be the most appropriate for event studies regarding the impact of events on the company's share price and operational financial performance because it measures whether the performance after the event was significantly different from zero (Smit & Ward, 2007).

This research used one and two sample t-tests, however two sample t-tests is more robust than the one sample t-test (Moor, McCabe, Duckworth, & Sclove, 2003). For equal sized samples with similar distribution of the two populations, the probability values from the t tables are accurate for a broad range of distributions even when the sample sizes are small as five. However for samples < 30 the central limit theory does not apply and nonparametric tests like a sign test or a Wilcoxon signed rank test was used (Albright *et al*., 2009).

Nonparametric tests are sensitive to outliers, especially when dealing with small samples (five to ten) (Albright *et al*., 2009). The abnormal returns for each security should display a random patter around zero. To test for outlying daily abnormal returns Halfar (2011) developed a technique of constructing individual company spaghetti graphs by indexing the company's abnormal returns at 100% on the day of the announcement, and plotted in both event window directions. Halfar removed outlying daily positive and negative abnormal returns in excess of 10%, in order to minimise the distorted impact he attributed to thinly traded shares. These graphs were

inspected for any indication of non-randomness. When outliers were detected, their statistical significant impact was determined by running t-tests with and without these outliers. Statistical significant outliers were reviewed to determine the source of the anomaly and if justified, were removed from the data set.

4.8 Research limitations

The research had the following limitations:

The study reviewed asset sales announced over an 11 year period from 1 January 2000 to 31 December 2011 and was limited to asset sales between JSE ALSI listed companies. Due to these judgmental sampling methods, as opposed to probabilistic random sampling, this study was not statistically representative of the total asset sale population. In different time periods different relationships between variables may exist. Also the study was not representative of asset sales by unlisted companies or companies listed on other stock exchanges.

The research analysed asset sale data, which were dependant on the availability of data. Based on the JSE's announcement requirement Paragraph 9.5 (Johannesburg Stock Exchange, 2011) any asset sale valued less than 5% of the company's market capitalisation constitutes a voluntary announcement. Since only SENS announcements were used to determine event dates and payment method and considering 45% of merger and acquisition transactions did not disclose the method of payment (Ernst & Young, 2005) a limited portion of asset sales were considered by this research.

This study used only two performance metrics resulting in a research outcome and conclusion that was limited by the applicability of the defined metrics and statistical techniques utilised. In addition, although the research proved valuable insights to the antecedents and consequences of asset sales it provided limited abilities to get "inside" asset sales. It did not analyse the cognitive and behavioural decision making processes that form the basis for asset sale behaviour (Haleblian *et al.*, 2009).

5. RESULTS

5.1 Introduction

Applying event study methodology, SENS announcements were reviewed for qualifying asset sale transactions. To test the hypotheses as described under Chapter 3 the sample of qualifying asset sale transactions were divided into four asset sale sub-samples namely; equity buyers (buyers transacting with equity), cash buyers (buyers transacting with cash), equity sellers (sellers transacting with equity) and cash sellers (sellers transacting with cash). The results obtained from these four sub-samples were used as evidence to either reject or not to reject the hypotheses presented in Chapter 3.

In this chapter only the results are presented, while the next chapter provides a comprehensive discussion of these results. The chapter first presents the details of the samples that were analysed. The chapter then follow the structure of the six hypotheses. The short term performance metrics are analysed by reporting on the abnormal share price returns. Thereafter the medium term performance metrics are analysed by reporting on the operating financial performance. Per hypothesis the results of the hypotheses testing are presented and used to either reject or not to reject the null hypotheses. Finally the results of the hypotheses testing are summarised.

5.2 Sample Description

The population consisted of intercorporate asset sale transactions announced and concluded for the 11 year period from 1 January 2000 to 31 December 2011. The exact population was not known; therefore judgmental sampling was used to identify companies, to search for asset sales, by considering only companies listed on the JSE ALSI. Intercorporate asset sales were defined as a sale where the buyer takes complete control of an undividable, tangible, productive asset in exchange for payment in the form of cash or equity. An asset sale differs from mergers and acquisitions in that neither buyer's nor seller's control of their respective companies change, only control over the asset change from the seller to the buyer.

The selection criteria as described in Chapter 4, section 4.5 was generally aimed at excluding all transactions that firstly did not have sufficient information and secondly had confounding events within the defined event window periods, both before and after the announcement date of the asset sale. Confounding events that disqualified transactions from the sample included; dividend announcements, other acquisition and disinvestment announcements, capital structure change announcements and change in leadership announcements. In total 112 companies were reviewed for asset sales yielding 194 qualifying asset sale transactions. Appendix C contains detailed information on the companies reviewed for asset sale transactions.

Out of the 194 transactions only 20 transactions represented cases where both the buyer and the seller were JSE ALSI listed companies. The aggregated sample consisted of 214 company specific transactions containing sub samples of 43 equity buyers, 68 cash buyers, 30 equity sellers and 73 cash sellers. An asset sale was classified as an equity transaction if the portion of payment in equity was equal or greater than five percent (Slovin *et al*., 2005). Samples ≥30 transactions enabled parametric tests to be used (Albright *et al*., 2009), which decreased the probability of Type I errors (Smit & Ward, 2007). Appendix D contains detailed information of the cash funded transactions and Appendix E contains detailed information of the equity funded transactions.

The companies the researcher categorised as Mining & Resources' sample and Real Estate's sample constituted 78% of the asset sale transaction sample, thereby warranting industry lever analysis. Appendix C lists the companies with their respective JSE sub-sector and industry categorisation allocations. Table 5.1 provides a descriptive summary of the asset sale transaction sample.

Table 5.1: Asset Sale Transaction Sample

Sample Description	Sample Size	Sample Weighting	Mining & Resources Sample	Mining & Resources Weighting	Real Estate Sample	Real Estate Weighting
Total	214	100%	72	34%	93	44%
Cash Buyer	68	32%	15	22%	42	62%
Cash Seller	73	34%	32	44%	11	15%
Equity Buyer	43	20%	9	21%	31	72%
Equity Seller	30	14%	16	53%	9	30%

Mining & Resources companies constituted 47% of the selling sample and Real Estate companies constituted 66% of the buying sample. The industry skewed sample had a

material impact on the results; therefore the results were shown for the aggregate, Mining & Resources and Real Estate samples. Statistical significance for samples with <30 transactions was tested with the Wilcoxon ranked test for the difference in medians (Albright *et al*., 2009).

The frequency of the asset sales per calendar year for the full and sub-samples is shown in Table 5.2. A potential correlation existed between high volumes of asset sales during periods of bull (upward) market trends and lower volumes of asset sales during periods of bear (downward) market trends.

Table 5.2: Asset Sale Transaction Sample Occurrence Frequency

Year	Total	Cash Buyer	Cash Seller	Equity Buyer	Equity Seller	Mining & Resource	Real Estate
2000	10	4	4	2	0	8	0
2001	16	5	5	4	2	4	4
2002	13	5	3	4	1	6	6
2003	20	5	4	4	7	9	10
2004	22	8	8	3	3	4	12
2005	11	6	5	0	0	4	4
2006	27	6	11	7	3	7	11
2007	23	6	9	4	4	7	11
2008	11	2	4	2	3	6	2
2009	13	2	4	4	3	3	7
2010	21	7	9	5	0	5	12
2011	27	12	7	4	4	6	14

5.3 Descriptive Statistics of the Sample

Descriptive statistics summarise the general nature of the data obtained and describe what the data look like. Table 5.3 reports descriptive statistics for means and median in parentheses for the buyer and seller companies that engaged in asset sales that used buyer equity or cash as the means of payment over the sample period 2000 to 2011 for companies listed on the JSE ALSI. In order to compare transaction values in year 2000 to transaction values in year 2011, Slovin *et al*. (2005) and Hege *et al*. (2009) compensated for inflation. To adjust for inflation the Consumer Price Index (CPI) percentages were used to calculate 2011 future values. The value of the transactions and market capitalisations was adjusted to 2011 CPI adjusted millions. Historical CPI values over the sample period 2000 to 2010 were obtained from Statistics South Africa (Consumer Price Index (CPI)).

Table 5.3: Asset Sale Transaction Sample

	Buyers		Sellers	
	Equity Sales N = 43 Mean (Median)	Cash Sales N = 68 Mean (Median)	Equity Sales N = 30 Mean (Median)	Cash Sales N = 73 Mean (Median)
Value of the Transaction (2011, millions)	R1,475 (R383)	R1,170 (R341)	R1,038 (R359)	R974 (R375)
Market Capitalisation (2011, millions)	R13,230 (R4,364)	R34,818 (R7,189)	R57,230 (R35,817)	R97,710 (R32,641)
Value of Transaction / Market Capitalisation (%)	26.6% (18.7%)	9.9% (4.4%)	5.2% (1.9%)	3.7% (1.9%)
Percentage of Payment in Equity (%)	65.6% (70%)	-	59.9% (53.9%)	-

The mean and (median) transaction price measured in adjusted 2011 Rands are R1,299 (R360) million for equity transactions and R1,069 (R363) million for cash transactions. Thus the value of assets for equity sales are larger than for cash funded asset sales. The buyers' mean (median) market capitalisation in adjusted 2011 Rands are R26,529 (R6,171) million and for sellers are R86,201 (R35,502) million. Buyers are considerably smaller than sellers, and buyers and sellers in asset for equity sales are considerably smaller than buyers and sellers in cash transactions.

The mean (median) ratio of transaction value to market value for equity buyers is 26.6% (18.7%) and equity sellers is 5.2% (1.9%) which is larger when compared to cash buyers which is 9.9% (4.4%) and for cash sellers which is 3.7% (1.9%). The asset sold is typically larger relative to the equity buyers' and equity sellers' market value compared to cash buyers' and cash sellers' market value. Equity buyers conclude the largest transactions and have the smallest market capitalisation. The mean (median) percentage of payment for equity buyers is 65.6% (70.0%) and for the equity sellers is 59.9% (53.9%). The difference in equity means is attributed to the fact that for only five out of the 68 equity transactions, both the transacting parties are included in the sample. There is no balancing factor since the equity buyers largely did not transact with the equity sellers in this sample. Furthermore in this sample the buyers are dominated by Real Estate transactions and sellers are dominated by Mining & Resources transactions, creating industry level differences in the equity means.

The Mining & Resources sub-sample constitutes 34% of the total sample and 47% of the sellers' sample. Mining & Resources' material impact on the total sample warrants

detailed analysis of this sub-sample. The descriptive statistics for Mining & Resources asset sale transactions are reported in Table 5.4.

Table 5.4: Mining & Resources Asset Sale Transaction Sample

	Buyers		Sellers	
	Equity Sales N = 9 Mean (Median)	Cash Sales N = 15 Mean (Median)	Equity Sales N = 16 Mean (Median)	Cash Sales N = 32 Mean (Median)
Value of the Transaction (2011, millions)	R2,768 (R360)	R3,152 (R817)	R1,009 (R361)	R1,577 (R448)
Market Capitalisation (2011, millions)	R42,721 (R24,119)	R123,767 (R62,050)	R96,072 (R52,436)	R177,042 (R80,145)
Value of Transaction / Market Capitalisation (%)	14.0% (3.9%)	5.3% (1.9%)	1.5% (0.7%)	2.1% (0.8%)
Percentage of Payment in Equity (%)	54.1% (54.8%)	-	56.1% (50.0%)	-

The mean and (median) transaction price measured in adjusted 2011 Rands are R1,642 (R361) million for equity transactions and R2,079 (R529) million for cash transactions. The value of assets for equity sales are smaller than for cash funded asset sales, which is inconsistent compared to the total sample. The buyers' mean (median) market capitalisation in adjusted 2011 Rands are R93,375 (R30,906) million and for the sellers are R150,052 (R80,145) million. Buyers are smaller companies compared to sellers, which compares favourably to the total sample. Buyers and sellers in asset for equity sales are considerably smaller companies than buyers and sellers in cash transactions, which compares positively to the total sample.

The mean (median) ratio of transaction value to market value for equity buyers is 14.0% (3.9%) and for cash buyers is 5.3% (1.79) which is larger when compared to equity sellers' mean (median) which is 1.5% (0.7%) and for cash sellers which is 2.1% (0.8%). The asset sold is typically larger relative to the equity buyers' and cash buyers' market value compared to equity sellers' and cash sellers' market value. Compared to the total sample where the equity sellers' ratio of transaction value to market value is larger compared to the cash sellers' ratio. Equity buyers make the largest transactions relative to their market capitalisation, which compares favourably to the total sample. The mean (median) percentage of payment for equity buyers is 54.1% (54.8%) and for the equity sellers is 56.1% (50.0%).

The Real Estate sub-sample constitutes 44% of the total sample and 66% of the seller sample. Real Estate's material impact on the total sample warrants detailed analysis

of this sub-sample. The descriptive statistics for the Real Estate asset sale transactions are reported in Table 5.5.

Table 5.5: Real Estate Asset Sale Transaction Sample

	Buyers		Sellers	
	Equity Sales N = 31 Mean (Median)	Cash Sales N = 42 Mean (Median)	Equity Sales N = 9 Mean (Median)	Cash Sales N = 11 Mean (Median)
Value of the Transaction (2011, millions)	R1,229 (R541)	R696 (R233)	R372 (R107)	R479 (R375)
Market Capitalisation (2011, millions)	R4,197 (R2,673)	R9,883 (R6,000)	R3,689 (R1,779)	R21,670 (R6,995)
Value of Transaction / Market Capitalisation (%)	32.7% (21.3%	12.7% (5.7%)	8.3% (8.2%)	3.4% (2.2%)
Percentage of Payment in Equity (%)	71.3% (75.0%	-	67.3% (69.1%)	-

The mean and (median) transaction price measured in adjusted 2011 Rands are R1,036 (R358) million for equity transactions and R651 (R358) million for cash transactions. Thus the value of assets for equity sales are larger than for cash funded asset sales, which compares positively to the total sample. The buyers' mean (median) market capitalisation in adjusted 2011 Rands are R7,468 (R4,306) millions and for sellers are R13,579 (R4,954) millions. Buyers are smaller companies compared to sellers, which compares favourably to the total sample. Buyers and sellers in asset for equity sales are considerably smaller companies compared to buyers and sellers in cash transactions, which also compares favourably to the total sample.

The mean (median) ratio of transaction value to market value for equity buyers is 32.7% (21.3%) and for equity sellers is 8.3% (8.2%) which is larger when compared to cash buyers which is 12.7 (5.7%) and for cash sellers which is 3.4% (2.2%), which compares in accordance to the full sample. The asset sold is typically larger relative to the equity buyers' and equity sellers' market value compared to the cash buyers' and cash sellers' market value. Equity buyers make the largest transactions relative to their market capitalisation, which also compares as per the total sample. The mean (median) percentage of payment for equity buyers is 71.3% (75.0%) and for the equity sellers is 67.3% (69.1%).

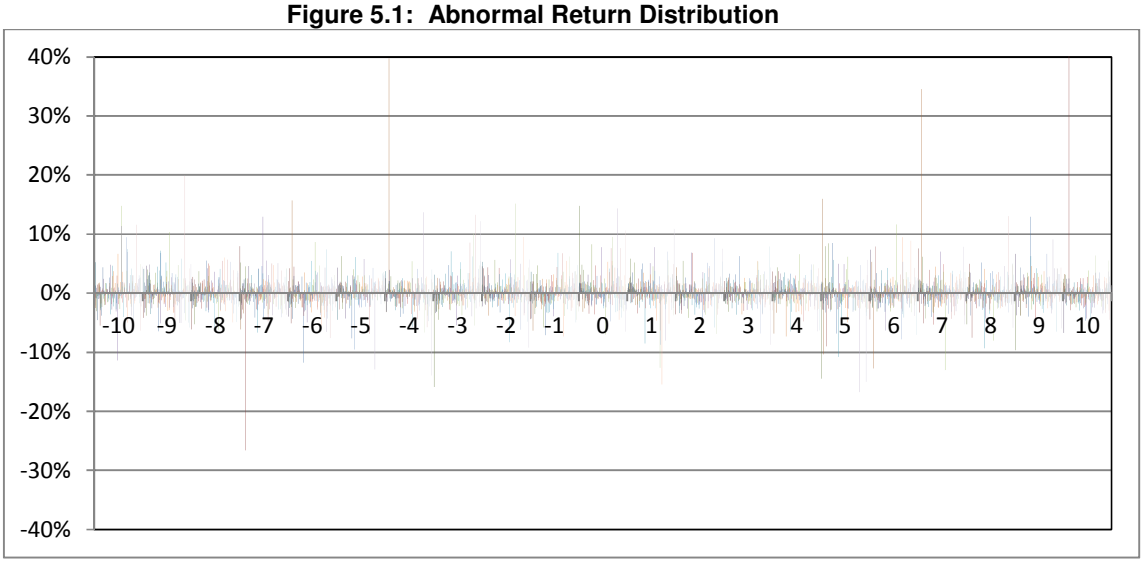
Considering Tables 5.3, 5.4 and 5.5 together, the following observations can be made: Buyers are smaller companies compared to sellers, thus typically smaller companies

buy assets from larger companies. Buyers and sellers in asset for equity sales are considerably smaller companies compared to buyers and sellers in cash transactions. Thus smaller companies transact with equity, compared to larger companies that transact with cash. Typically asset sales are material corporate events for buyers, however less so for sellers.

5.4 Abnormal Returns

Abnormal returns (AR) are used to calculate the average cumulative abnormal returns (ACAR) and need to be analysed for outliers. Based on Halfar (2011)'s technique to test for outlying daily abnormal returns, individual company bar graphs were constructed by plotting the company's abnormal returns per day in the 21 day event window, as depicted in Figure 5.1.

Figure 5.1: Abnormal Return Distribution



Halfar removed outlying daily positive and negative abnormal returns in excess of 10%, in order to minimise the distorted impact he attributed to thinly traded shares. The researcher considered abnormal returns of 10% not to be outliers but rather abnormal returns in excess of 20% since thinly traded shares were already removed. To determine the materiality of excluding outliers at the 10% and 20% abnormal returns level, the statistical significance between the samples were calculated.

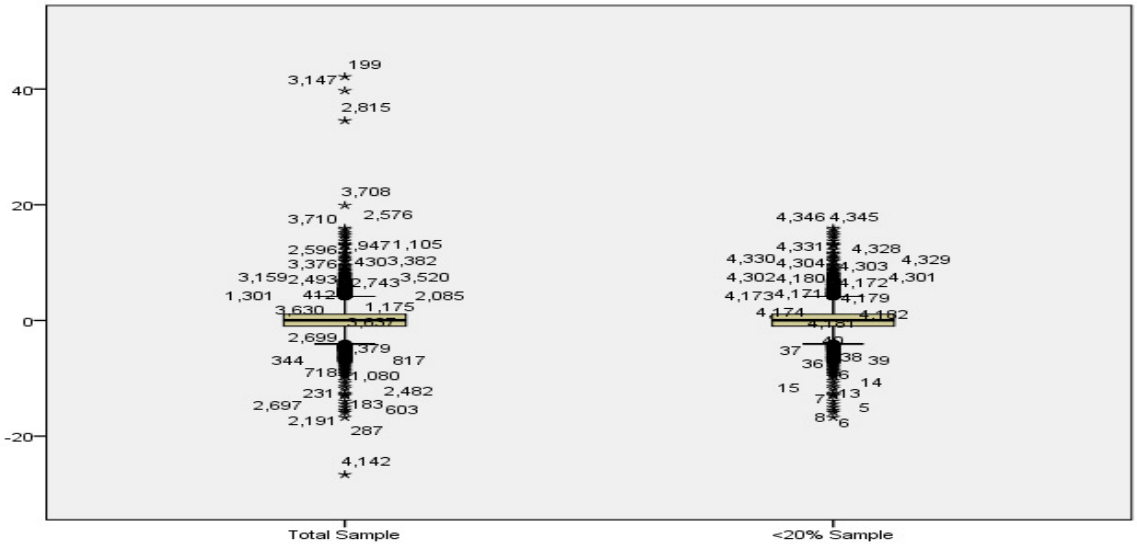
The statistical significance between the samples were calculated by performing two sample, two tailed t-tests between the full sample, the outlying daily positive and negative AR's in excess of 10% removed sample and the outlying daily positive and

negative AR's in excess of 20% sample. The t-tests determined that the difference between means of the three samples were not significantly different from zero. This was anticipated, since thinly traded securities were excluded and the fact that large samples are less sensitive to outliers (Moor *et al.*, 2003).

The equity buyers, cash buyers, equity sellers and cash sellers sub-samples consists of ≥30 transactions, however some of the Mining & Resources and Real Estate sub-samples consist of less than 30 transactions. The five daily positive and negative AR's that exceeded 20% were therefore removed from the sample to reduce the distortion impact on small samples.

Figure 5.2, using a Box and Whisker plot illustrates the difference between the full sample and the less than 20% daily AR sample that was used further for hypotheses testing.

Figure 5.2: Box-Whisker Plot of the Full Sample and <20% Sample



AR's were averaged to obtain average abnormal returns (AAR). While this study did not analyse or hypothesis test AAR, they were tested for statistical significance in order to provide better insight into the results obtained for average cumulative abnormal returns (ACAR). The AAR's were tested with a series of one sample, two tailed t-tests with a null hypothesis value equal to zero. For samples smaller than 30 data points the Wilcoxon Signed-Rank test was used. The results of these tests are included under sections 5.6, 5.7, 5.8 and 5.9 for the respective share price performance hypotheses tests 1, 2, 3 and 4.

5.5 Average Cumulative Abnormal Returns

Hypothesis testing was done on the sample's average cumulative abnormal returns (ACAR). Cumulative abnormal returns (CAR) were calculated by summing the abnormal returns per security from the first day to the last day in the event window. The CAR's per event day for all the securities in the sample were then averaged to obtain the average cumulative abnormal returns per event day as described under Chapter 4, section 4.7.3. Hypotheses 1 and 3's statistical significance was tested with a series of one sample, two tailed t-tests with a null hypothesis value equal to zero. For samples smaller than 30 data points the nonparametric Wilcoxon Signed-Rank test was used. The Wilcoxon Signed-Rank test does not generate z-statistical values for samples less than 16 data points, and in these cases only the p-value were shown in the tables. Hypotheses 2 and 4's statistical significance was tested with a series of two sample, one tailed t-tests with a null hypothesis value less than zero. For samples smaller than 30 data points, the nonparametric Mann-Whitney test was used.

The Johannesburg Stock Exchange (2011) has different notification requirements for transactions based on the transaction size relative to the company's market capitalisation, called the percentage ratio. For a percentage ratio less than 5% no notification is required. This implies that the percentage ratio indicate the transaction's materiality and the corresponding market's reaction to the transaction (McWilliams & McWilliams, 2000). To test the percentage ratio's impact on ACAR, the respective equity and cash samples were used to create top 30 equity and top 30 cash samples, consisting of the respective top 30 transactions listed in descending order according to the percentage ratio. Top 30 samples were created for both buyers and sellers.

For hypotheses 1 and 3 the respective top 30 buyers and top 30 sellers samples consisted of the top 30 equity and top 30 cash transactions. For hypotheses 2 and 4 the top 30 equity and top 30 cash samples were compared to the total equity and total cash samples. This enabled the respective buyers and sellers samples to be analysed at comparable three levels. At the highest level the complete buyers and sellers samples, then the top 30 equity and top 30 cash samples together, and at the lowest level the top 30 equity and top 30 cash samples separately. This also ensured equal representation between equity and cash transactions in the respective top 30 buyers and top 30 sellers samples, since comparing the effect of transacting with equity compared to cash is the main focus of this study.

5.6 Hypothesis 1: Buyer's ACAR

This hypothesis tests whether buying companies do earn positive or negative average cumulative abnormal returns (ACAR) for event windows around the asset sale's announcement date.

The all buyers sample's data was sorted by transaction value divided by the company's market capitalisation to obtain the top 30 equity and top 30 cash buyers' transactions and called the top 30 buyers sample. The all buyer sample's data was filtered by industry to create the Mining & Resources and Real Estate buyers samples.

The AAR for the full event period of 21 days, with day zero being the day of the event, and statistical significance test results for the buyer asset sales are shown in Table 5.6. The table include all buyers, top 30 buyers, Mining & Resources' buyers and Real Estate buyers' samples. The actual AAR values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

Table 5.6: Average Abnormal Returns (AAR) and Statistical Significance Test Results for Buyers over 21 Day Event Window

	All Buyers (N = 111)			Top 30 Buyers (N = 60)			M & R Buyers (N = 24)			Real Estate Buyers (N = 73)		
Day	AAR	t-stat	p-value	AAR	t-stat	p-value	AAR	z-stat[1]	p-value	AAR	t-stat	p-value
-10	0.214%	0.880	0.381	-0.086%	-0.293	0.770	0.662%	0.765	0.444	0.109%	0.493	0.623
-9	0.217%	1.064	0.290	0.247%	1.002	0.321	0.373%	0.695	0.487	0.198%	1.022	0.311
-8	0.059%	0.329	0.743	0.060%	0.246	0.807	0.713%	1.147	0.251	-0.045%	-0.234	0.815
-7	0.154%	0.779	0.438	0.131%	0.508	0.613	0.962%	1.425	0.154	0.051%	0.313	0.755
-6	-0.240%	-0.912	0.364	-0.261%	-0.689	0.494	**-1.871%*** **	**-2.711**	**0.007**	0.066%	0.222	0.825
-5	-0.027%	-0.127	0.900	-0.081%	-0.265	0.792	-0.587%	0.556	0.578	0.246%	1.312	0.194
-4	0.119%	0.566	0.573	0.265%	0.787	0.435	0.611%	0.325	0.745	0.019%	0.098	0.923
-3	0.005%	0.021	0.983	0.214%	0.790	0.433	-0.801%	-0.422	0.673	0.357%	1.385	0.171
-2	**0.497%****	**2.080**	**0.040**	**0.666%***	**1.759**	**0.084**	0.570%	0.779	0.436	**0.516%***	**1.772**	**0.081**
-1	-0.093%	-0.428	0.670	-0.099%	-0.317	0.753	-0.366%	-0.325	0.745	-0.058%	-0.258	0.797
0	**0.782%*****	**2.689**	**0.008**	**0.732%***	**1.908**	**0.061**	**2.494%***	**1.915**	**0.055**	0.190%	0.790	0.432
1	-0.101%	-0.348	0.728	-0.367%	-0.757	0.452	-0.481%	-0.195	0.846	-0.346%	-0.935	0.353
2	0.055%	0.267	0.790	0.301%	1.013	0.315	0.168%	-0.097	0.922	-0.164%	-0.855	0.396
3	0.100%	0.541	0.590	0.203%	0.708	0.482	-0.275%	-0.779	0.436	0.117%	0.526	0.601
4	0.331%	1.790	0.076	0.051%	0.185	0.854	**1.359%*****	**2.727**	**0.006**	0.215%	1.051	0.297
5	-0.170%	-0.459	0.647	0.059%	0.112	0.911	-1.099%	0.131	0.896	-0.234%	-0.731	0.467
6	0.032%	0.116	0.908	0.098%	0.248	0.805	0.527%	-0.056	0.955	0.146%	0.433	0.666
7	0.070%	0.343	0.732	0.105%	0.433	0.667	0.787%	1.288	0.198	-0.013%	-0.056	0.956
8	-0.127%	-0.718	0.474	0.015%	0.081	0.936	0.208%	0.355	0.723	-0.304%	-1.667	0.100
9	0.057%	0.250	0.803	0.202%	0.779	0.439	-0.206%	-0.392	0.695	0.116%	0.645	0.521
10	0.048%	0.281	0.780	0.105%	0.457	0.649	-0.076%	0.280	0.779	-0.047%	-0.231	0.818

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level
*** Statistically significantly at the 1% level

For hypothesis testing the ACAR for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, 0] and statistical significance test results for buyer asset sales are shown in Table 5.7. The table include all buyers, top 30 buyers, Mining & Resources buyers and Real Estate buyers' samples. The actual ACAR values, t or z-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

Table 5.7: Average Cumulative Abnormal Returns (ACAR) and Statistical Significance Test Results for Buyers

	All Buyers (N = 111)			Top 30 Buyers (N = 60)			M & R Buyers (N = 24)			Real Estate Buyers (N = 73)		
Event Window	**ACAR**	**t-stat**	**p-value**	**ACAR**	**t-stat**	**p-value**	**ACAR**	**z-stat[1]**	**p-value**	**ACAR**	**t-stat**	**p-value**
[-10, +10]	**1.85%****	**2.370**	**0.020**	**2.51%****	**2.332**	**0.023**	4.04%	1.437	0.151	0.96%	1.090	0.280
[-5, +5]	**1.41%****	**2.264**	**0.026**	**1.87%***	**1.999**	**0.050**	2.31%	1.481	0.139	0.78%	1.252	0.215
[-2, +2]	**1.14%****	**2.217**	**0.029**	**1.23%***	**1.704**	**0.094**	2.38%	1.299	0.194	0.14%	0.287	0.775
[-1, 0]	**0.69%***	**1.878**	**0.063**	0.63%	1.437	0.156	2.13%	1.136	0.256	0.13%	0.438	0.663

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level

Figure 5.3 illustrates Table 5.7's ACAR results for buyer asset sale samples over the full event window period of 21 days. The figure includes graphs for all buyers, top 30 buyers, Mining & Resources buyers and Real Estate buyers' samples. Similar figures for event windows 11 and five days are included under Appendix F.

Figure 5.3: Average Cumulative Abnormal Returns for the Full and Split Buyer Samples over 21 Day Event Window

5.6.1 Testing Hypothesis 1: ACAR for Buyers

The null hypothesis states that the buying companies do not earn positive or negative average cumulative abnormal returns around the asset sale's announcement date ($ACAR\text{-}B_{AD}$).

The alternative hypothesis states that the buying companies do earn positive or negative average cumulative abnormal returns around the asset sale's announcement date ($ACAR\text{-}B_{AD}$).

Hypothesis 1 is depicted as:

$H1_0$: $ACAR\text{-}B_{AD} = 0$
$H1_A$: $ACAR\text{-}B_{AD} \neq 0$

It was concluded from testing Hypothesis 1 at a 95% confidence interval that for:

Event window [-10, +10], the null hypothesis is rejected
Event window [-5, +5], the null hypothesis is rejected
Event window [-2, +2], the null hypothesis is rejected
Event window [-1, 0], the null hypothesis is not rejected

5.7 Hypothesis 2: Buyer's Equity Compared to Cash ACAR

This hypothesis test whether buying companies' ACAR's for equity funded asset sales are larger compared to ACAR's for cash funded asset sales for event windows around the asset sale's announcement date.

The equity and cash buyers' samples' data was sorted by transaction value and divided by the company's market capitalisation to obtain the top 30 equity and top 30 cash buyer transactions and called the top 30 equity and top 30 cash buyers' samples.

The AAR for the full event period of 21 days, with day zero being the day of the event, and statistical significance test results for buyers' respective equity and cash funded asset sales are shown in Table 5.8. The table includes equity buyers, top 30 equity buyers, cash buyers and top 30 cash buyers' samples. The actual AAR values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tail tests).

Table 5.8: Average Abnormal Returns (AAR) and Statistical Significance Test Results for Equity and Cash Buyers over 21 Day Event Window

	Equity Buyers (N = 43)			Top 30 Equity Buyers (N = 30)			Cash Buyers (N = 74)			Top 30 Cash Buyers (N = 30)		
Day	**AAR**	**t-stat**	**p-value**	**AAR**	**t-stat**	**p-value**	**ARR**	**t-stat**	**p-value**	**ARR**	**t-stat**	**p-value**
-10	0.616%	1.353	0.184	0.127%	0.289	0.775	-0.056%	-0.210	0.834	-0.307%	-0.789	0.437
-9	-0.046%	-0.133	0.895	0.009%	0.026	0.979	0.394%	1.570	0.122	0.493%	1.393	0.175
-8	0.313%	0.971	0.338	0.230%	0.582	0.565	-0.111%	-0.535	0.595	-0.117%	-0.418	0.679
-7	0.326%	1.104	0.276	0.380%	1.226	0.230	0.036%	0.136	0.892	-0.125%	-0.300	0.766
-6	**-0.690%***	**-1.748**	**0.088**	**-1.126%*****	**-2.898**	**0.007**	0.062%	0.179	0.858	0.636%	1.028	0.313
-5	-0.169%	-0.399	0.692	-0.081%	-0.151	0.881	0.068%	0.303	0.763	-0.081%	-0.281	0.781
-4	0.249%	0.550	0.585	0.343%	0.586	0.562	0.034%	0.182	0.856	0.184%	0.554	0.584
-3	0.592%	1.362	0.181	0.273%	0.568	0.575	-0.374%	-1.225	0.225	0.156%	0.594	0.557
-2	0.715%	1.420	0.163	1.026%	1.500	0.144	0.357%	1.594	0.116	0.305%	0.938	0.356
-1	0.171%	0.442	0.661	0.038%	0.080	0.936	-0.263%	-1.035	0.305	-0.236%	-0.569	0.574
0	**1.057%***	**1.936**	**0.060**	**1.271%***	**1.899**	**0.068**	**0.604%***	**1.857**	**0.068**	0.194%	0.534	0.597
1	**-1.083%***	**-1.696**	**0.097**	**-1.574%***	**-1.823**	**0.079**	**0.534%****	**2.597**	**0.012**	**0.840%****	**2.547**	**0.016**
2	0.298%	0.740	0.464	0.651%	1.369	0.182	-0.102%	-0.476	0.636	-0.049%	-0.138	0.892
3	0.175%	0.467	0.643	0.206%	0.427	0.673	0.051%	0.275	0.784	0.201%	0.624	0.537
4	**0.526%***	**2.002**	**0.052**	**0.631%***	**1.873**	**0.071**	0.205%	0.809	0.421	-0.530%	-1.297	0.205
5	-0.640%	-1.325	0.193	-0.769%	-1.232	0.228	0.138%	0.262	0.794	0.915%	1.096	0.282
6	0.467%	1.058	0.296	0.830%	1.531	0.137	-0.254%	-0.731	0.467	-0.660%	-1.207	0.237
7	0.052%	0.171	0.865	0.124%	0.351	0.728	0.082%	0.298	0.767	0.085%	0.252	0.803
8	-0.164%	-0.598	0.553	-0.320%	-1.150	0.260	-0.103%	-0.442	0.660	0.361%	1.671	0.106
9	0.104%	0.279	0.782	0.227%	0.592	0.558	0.027%	0.092	0.927	0.175%	0.497	0.623
10	0.377%	1.260	0.215	0.510%	1.445	0.159	-0.171%	-0.835	0.407	-0.314%	-1.141	0.264

* Statistically significantly at the 10% level
** Statistically significantly at the 5% level
*** Statistically significantly at the 1% level

The AAR for the full event period of 21 days, with day zero being the day of the event, and statistical significance test results for Mining & Resources and Real Estate buyers' respective equity and cash funded asset sale samples are shown in Table 5.9. The table include the Mining & Resources equity and cash buyers, and Real Estate's equity and cash buyers' samples. The actual AAR values, and t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tail tests).

Table 5.9: Average Abnormal Returns (AAR) and Statistical Significance Test Results for Mining & Resources and Real Estate Equity and Cash Buyers over 21 Day Event Window

	M&R Equity Buyers (N = 9)		M&R Cash Buyers (N = 15)		RE Equity Buyers (N = 31)			RE Cash Buyers (N = 42)		
Day	ARR	p-value[1,2]	ARR	p-value[1,2]	ARR	t-stat	p-value	ARR	t-stat	p-value
-10	0.452%	0.945	0.791%	0.414	0.477%	1.332	0.193	-0.190%	-0.704	0.486
-9	-0.840%	0.547	**1.120%***	**0.080**	0.226%	0.824	0.417	0.176%	0.638	0.527
-8	1.547%	0.250	0.200%	0.735	0.029%	0.087	0.931	-0.104%	-0.471	0.640
-7	1.648%	0.313	0.539%	0.497	0.038%	0.171	0.866	0.062%	0.261	0.795
-6	-2.105%	0.250	**-1.726%****	**0.011**	**-0.567%****	**-2.062**	**0.048**	0.579%	1.219	0.231
-5	-2.132%	0.945	0.364%	0.376	0.359%	1.346	0.189	0.154%	0.583	0.563
-4	0.876%	0.742	0.459%	0.296	0.002%	0.006	0.995	0.032%	0.153	0.880
-3	0.343%	0.742	-1.455%	0.463	0.779%	1.504	0.143	0.031%	0.143	0.887
-2	-0.862%	0.461	1.388%	0.104	**1.129%***	**1.915**	**0.065**	0.041%	0.185	0.854
-1	0.920%	0.195	-1.101%	0.173	0.125%	0.328	0.745	-0.200%	-0.741	0.463
0	3.231%	0.250	2.072%	0.135	0.659%	1.467	0.153	-0.174%	-0.730	0.470
1	-2.227%	0.148	0.516%	0.153	-0.988%	-1.239	0.225	0.151%	0.722	0.474
2	1.188%	0.742	-0.415%	0.583	0.109%	0.322	0.750	**-0.375%***	**-1.734**	**0.091**
3	-0.121%	0.742	-0.363%	0.502	0.126%	0.302	0.764	0.109%	0.474	0.638
4	**1.410%***	**0.078**	**1.330%****	**0.020**	0.402%	1.440	0.160	0.071%	0.241	0.810
5	-2.064%	0.813	-0.579%	0.635	**-0.515%****	**-2.146**	**0.040**	-0.005%	-0.009	0.993
6	1.356%	0.578	0.080%	0.414	0.498%	1.091	0.284	-0.139%	-0.287	0.776
7	0.919%	0.375	0.717%	0.497	-0.107%	-0.321	0.750	0.066%	0.207	0.837
8	1.145%	0.297	-0.296%	0.893	**-0.559%****	**-2.640**	**0.013**	-0.098%	-0.349	0.729
9	0.263%	1.000	-0.458%	0.635	0.217%	0.830	0.413	0.033%	0.135	0.894
10	0.290%	0.469	-0.274%	1.000	0.371%	1.000	0.326	**-0.395%****	**-2.064**	**0.047**

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
[2] Where no z-statistic values were available
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level

The ACAR for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, 0] and statistical significance test results for buyers respective equity and cash funded asset sale samples are shown in Table 5.10. The table includes equity buyers, top 30 equity buyers, cash buyers and top 30 cash buyers' samples. The actual ACAR values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

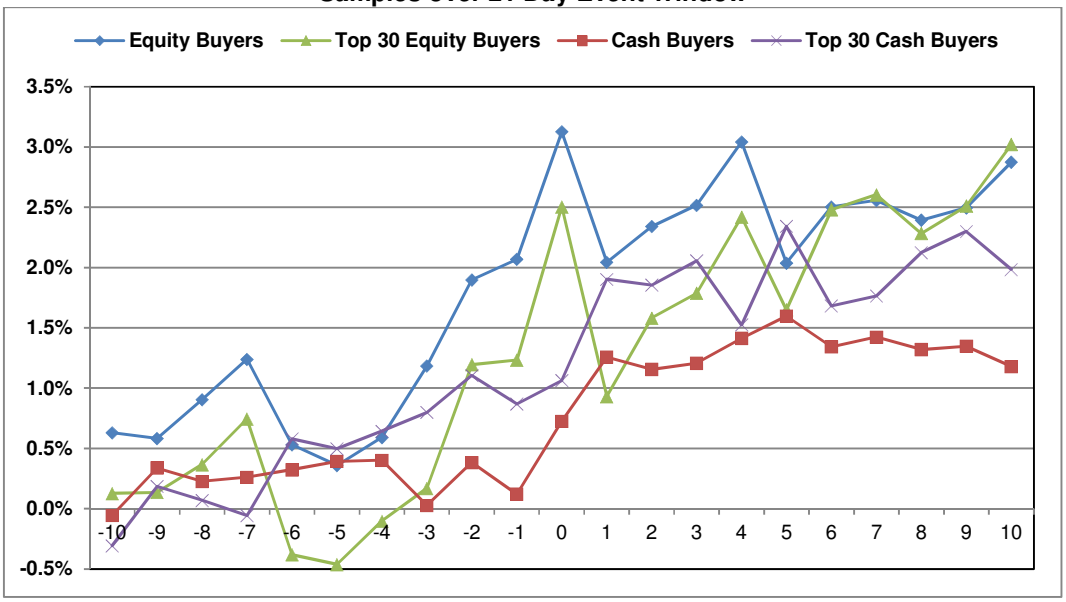
Table 5.10: Average Cumulative Abnormal Returns (ACAR) and Statistical Significance Test Results for Equity and Cash Buyers

	Equity Buyers (N = 43)			Top 30 Equity Buyers (N = 30)			Cash Buyers (N = 74)			Top 30 Cash Buyers (N = 30)		
Event Window	ACAR	t-stat	p-value	ACAR	t-stat	p-value	ACAR	t-stat	p-value	ACAR	t-stat	p-value
[-10, +10]	**2.88%****	**2.250**	**0.030**	**3.02%***	**1.876**	**0.071**	1.18%	1.199	0.235	1.99%	1.373	0.181
[-5, +5]	**1.83%***	**1.750**	**0.088**	2.02%	1.517	0.140	1.13%	1.464	0.148	1.72%	1.283	0.210
[-2, +2]	1.16%	1.278	0.209	1.41%	1.228	0.229	**1.13%***	**1.828**	**0.072**	1.06%	1.173	0.250
[-1, 0]	**1.23%***	**1.823**	**0.076**	**1.31%***	**1.724**	**0.095**	0.34%	0.816	0.418	-0.04%	-0.097	0.923

* Statistically significantly at the 10% level
** Statistically significantly at the 5% level

Figure 5.4 illustrates Table 5.10's ACAR results for equity and cash buyer asset sale samples over the full event window period of 21 days. The figure includes graphs for equity buyers, top 30 equity buyers, cash buyers and top 30 cash buyers' samples. Similar figures for event windows 11 and five days are included under Appendix F.

Figure 5.4: Average Cumulative Abnormal Returns for the Equity and Cash Buyer Samples over 21 Day Event Window



The all buyers sample's data was filtered by industry to create the Mining & Resources and Real Estate buyers samples, which was then further split between equity buyers and cash buyers. The ACAR for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, 0] and statistical significance test results for Mining & Resources and Real Estate buyers' respective equity and cash funded asset sale samples are shown in Table 5.11. The table includes the Mining & Resources equity and cash buyers, and Real Estate's equity and cash buyers' samples. The actual ACAR values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

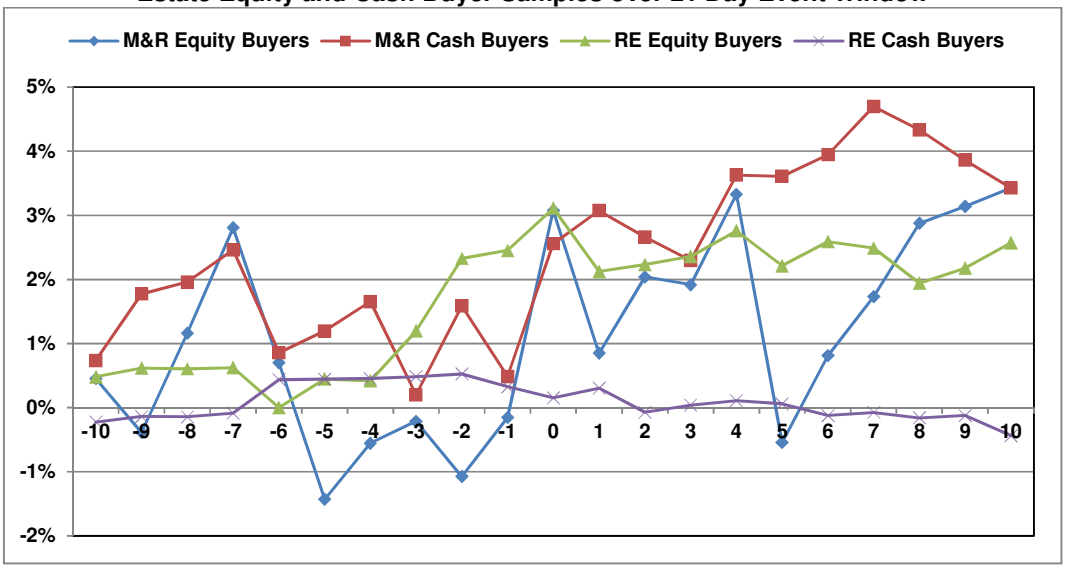
Table 5.11: Average Cumulative Abnormal Returns (ACAR) and Statistical Significance Test Results for Mining & Resources and Real Estate Equity and Cash Buyers

	M&R Equity Buyers (N = 9)		M&R Cash Buyers (N = 15)		RE Equity Buyers (N = 31)			RE Cash Buyers (N = 42)		
Event Window	ACAR	p-value[1,2]	ACAR	p-value[1,2]	ACAR	t-stat	p-value	ACAR	t-stat	p-value
[-10, +10]	3.43%	0.469	3.43%	0.301	**2.57%***	**1.923**	**0.064**	-0.44%	-0.464	0.646
[-5, +5]	-0.01%	0.938	2.44%	0.110	**2.14%***	**2.008**	**0.054**	-0.29%	-0.433	0.668
[-2, +2]	2.25%	0.461	2.46%	0.326	1.03%	1.049	0.303	-0.56%	-1.527	0.135
[-1, 0]	4.15%	0.250	0.97%	0.715	0.78%	1.429	0.163	-0.37%	-1.208	0.234

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
[2] Where no z-statistic values were available
* Statistically significantly at the 10% level

Figure 5.5 illustrates Table 5.11's ACAR results for the Mining & Resources and Real Estate equity and cash buyer asset sale samples over the full event window period of 21 days. The figure includes graphs for the Mining & Resources equity and cash buyers, and Real Estate equity and cash buyers' samples. Similar figures for event windows 11 and five days are included under Appendix F.

Figure 5.5: Average Cumulative Abnormal Returns for Mining & Resources and Real Estate Equity and Cash Buyer Samples over 21 Day Event Window



For hypothesis testing the difference in ACAR (ACAR equity – ACAR cash) for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, 0] and statistical significance test results for buyers asset sale samples are shown in Table 5.12. The table includes differences in ACAR's for all buyers (ACAR equity buyers – ACAR cash buyers), top 30 buyers (ACAR top 30 equity buyers – ACAR top 30 cash buyers), Mining & Resources buyers (ACAR M&R equity buyers – ACAR M&R cash buyers) and Real Estate buyers (ACAR RE equity buyers – ACAR RE cash buyers) samples. The actual ΔACAR values, t or z-statistic and p-values for evaluation of the difference between means or medians for

significance from zero, are included in the table (two sample, one tailed tests). The table is best read together with above Figures 5.4 and 5.5.

Table 5.12: Average Cumulative Abnormal Returns (ACAR) and Statistical Significance Test Results for Equity Buyers compared to Cash Buyers

	All Buyers (N = 111)			Top 30 Buyers (N = 60)			M & R Buyers (N = 24)			Real Estate Buyers (N = 73)		
Event Window	ΔACAR	t-stat	p-value	ΔACAR	t-stat	p-value	ΔACAR	z-stat[3]	p-value	ΔACAR	t-stat	p-value
[-10, +10]	1.69%	1.051	0.148	1.04%	0.478	0.317	0.00%	-0.042	0.517	**3.01%****	**1.838**	**0.036**
[-5, +5]	0.69%	0.533	0.298	0.30%	0.160	0.437	-2.45%	-1.225	0.890	**2.43%****	**1.927**	**0.030**
[-2, +2]	0.03%	0.026	0.489	0.36%	0.244	0.404	-0.21%	0.171	0.432	**1.59%***	**1.513**	**0.069**
[-1, 0]	0.89%	1.119	0.133	**1.35%***	**1.550**	**0.064**	3.18%	0.921	0.178	**1.16%****	**1.838**	**0.036**

[3] Where normality assumptions failed, the Mann-Whitney test was used
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level

5.7.1 Testing Hypothesis 2: Buyer's Equity Compared to Cash ACAR

The null hypothesis states that the buying companies' average cumulative abnormal returns around the announcement date for equity financed (ACAR-B_{EQUITY}) asset sales is not greater than the average cumulative abnormal returns around the announcement date for cash financed (ACAR-B_{CASH}) asset sales.

The alternative hypothesis states that the buying companies, average cumulative abnormal returns around the announcement date for equity financed (ACAR-B_{EQUITY}) asset sales is greater than the average cumulative abnormal returns around the announcement date for cash financed (ACAR-B_{CASH}) asset sales.

Hypothesis 2 is depicted as:

$H2_0$: $ACAR\text{-}B_{EQUITY} - ACAR\text{-}B_{CASH} \leq 0$
$H2_A$: $ACAR\text{-}B_{EQUITY} - ACAR\text{-}B_{CASH} > 0$

It was concluded from testing Hypothesis 2 at a 95% confidence interval that for:

Event window [-10, +10], the null hypothesis is not rejected
Event window [-5, +5], the null hypothesis is not rejected
Event window [-2, +2], the null hypothesis is not rejected
Event window [-1, 0], the null hypothesis is not rejected

5.8 Hypothesis 3: Seller's ACAR

This hypothesis tests whether selling companies do earn positive or negative average cumulative abnormal returns (ACAR) for event windows around the asset sale's announcement date.

The all sellers sample's data was sorted by transaction value divided by the company's market capitalisation to obtain the top 30 equity and top 30 cash sellers' transactions and called the top 30 sellers sample. The all sellers sample's data was filtered by industry to create the Mining & Resources and Real Estate sellers samples.

The AAR for the full event period of 21 days, with day zero being the day of the event, and statistical significance test results for the seller asset sale samples are shown in Table 5.13. The table includes all sellers, top 30 sellers, Mining & Resources sellers and Real Estate sellers' samples. The actual AAR values, t or z-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tail tests).

Table 5.13: Average Abnormal Returns (AAR) and Statistical Significance Test Results for Sellers over 21 Day Event Window

	All Sellers (N = 103)			Top 30 Sellers (N = 60)			M&R Sellers (N = 48)			RE Sellers (N = 20)		
Day	**ARR**	**t-stat**	**p-value**	**ARR**	**t-stat**	**p-value**	**ARR**	**t-stat**	**p-value**	**ARR**	**z-stat[1]**	**p-value**
-10	0.515%	1.608	0.111	0.204%	0.497	0.621	0.573%	1.285	0.205	0.218%	1.394	0.163
-9	0.363%	1.401	0.164	0.093%	0.280	0.780	0.517%	1.145	0.258	0.383%	1.176	0.240
-8	0.133%	0.601	0.550	0.356%	1.096	0.278	0.058%	0.156	0.876	-0.373%	-1.089	0.276
-7	0.128%	0.494	0.622	0.387%	1.069	0.290	-0.242%	-0.708	0.482	0.054%	0.479	0.632
-6	-0.192%	-0.769	0.444	-0.284%	-0.808	0.422	-0.039%	-0.113	0.911	-0.092%	-0.436	0.663
-5	0.344%	1.616	0.109	**0.476%***	**1.841**	**0.071**	**0.711%****	**2.337**	**0.024**	0.097%	0.261	0.794
-4	**-0.428%***	**-1.830**	**0.070**	**-0.833%****	**-2.352**	**0.022**	-0.539%	-1.330	0.190	-0.412%	0.000	1.000
-3	**0.553%****	**2.052**	**0.043**	**0.888%****	**2.147**	**0.036**	**0.676%***	**1.702**	**0.095**	0.185%	0.584	0.560
-2	-0.048%	-0.215	0.830	-0.163%	-0.464	0.644	0.183%	0.516	0.608	**-0.430%****	**-2.035**	**0.042**
-1	0.092%	0.439	0.662	0.302%	0.912	0.365	0.200%	0.648	0.520	0.031%	-0.168	0.867
0	0.046%	0.189	0.850	0.363%	0.964	0.339	-0.192%	-0.473	0.639	-0.469%	-1.512	0.131
1	**0.578%****	**2.426**	**0.017**	**0.806%****	**2.431**	**0.018**	0.161%	0.392	0.697	0.345%	1.251	0.211
2	0.106%	0.514	0.608	0.298%	0.948	0.347	**0.564%***	**1.865**	**0.068**	-0.169%	-0.382	0.702
3	0.023%	0.118	0.906	0.166%	0.551	0.584	-0.248%	-0.742	0.462	0.484%	1.348	0.178
4	-0.046%	-0.221	0.826	-0.302%	-1.050	0.298	-0.332%	-0.889	0.378	0.417%	1.469	0.142
5	-0.305%	-1.098	0.275	-0.481%	-1.202	0.234	-0.366%	-0.721	0.474	-0.210%	-0.436	0.663
6	-0.023%	-0.106	0.916	-0.298%	-1.105	0.274	-0.093%	-0.231	0.819	0.106%	-0.610	0.542
7	0.047%	0.186	0.853	0.383%	1.186	0.241	-0.035%	-0.080	0.937	-0.088%	-0.436	0.663
8	-0.049%	-0.179	0.858	0.358%	0.951	0.346	-0.270%	-0.640	0.525	-0.247%	-1.089	0.276
9	**0.504%****	**2.111**	**0.037**	**0.720%***	**1.954**	**0.056**	0.296%	0.949	0.347	0.698%	1.307	0.191
10	-0.137%	-0.738	0.462	0.085%	0.313	0.755	0.324%	1.222	0.228	-0.292%	-0.958	0.338

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level

For hypothesis testing the ACAR for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, 0] and statistical significance test results for seller asset sales samples are shown in Table 5.14. The table include all sellers, top 30 sellers, Mining & Resources sellers and Real Estate sellers' samples. The actual ACAR values, t or z-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

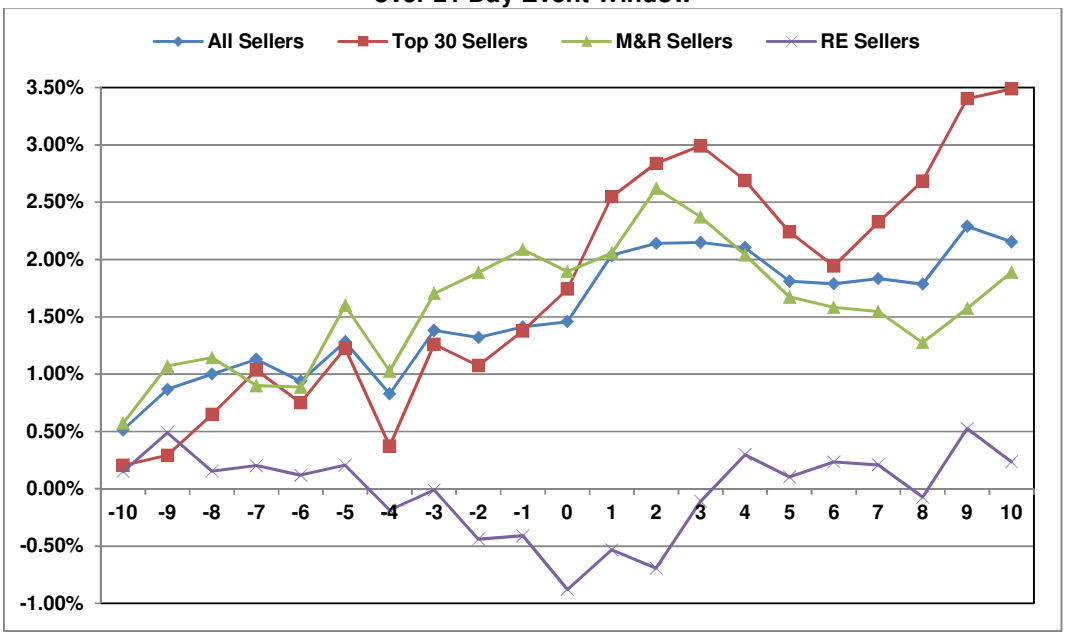
Table 5.14: Average Cumulative Abnormal Returns (ACAR) and Statistical Significance Test Results for Sellers

	All Sellers (N = 103)			Top 30 Sellers (N = 60)			M&R Sellers (N = 48)			RE Sellers (N = 20)		
Event Window	**ACAR**	**t-stat**	**p-value**	**ACAR**	**t-stat**	**p-value**	**ACAR**	**t-stat**	**p-value**	**ACAR**	**z-stat[1]**	**p-value**
[-10, +10]	**2.15%****	**2.012**	**0.047**	**3.49%****	**2.493**	**0.016**	1.89%	1.143	0.259	0.24%	0.624	0.533
[-5, +5]	0.93%	1.405	0.163	**1.57%***	**1.756**	**0.085**	0.81%	0.724	0.473	-0.02%	-0.101	0.920
[-2, +2]	**0.77%***	**1.774**	**0.079**	**1.60%****	**2.532**	**0.014**	0.92%	1.278	0.207	-0.68%	-1.624	0.104
[-1, 0]	0.14%	0.421	0.675	0.67%	1.308	0.196	0.01%	0.015	0.988	-0.44%	-0.803	0.422

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level

Figure 5.6 illustrates Table 5.14's ACAR results for seller asset sales samples over the full event window period of 21 days. The figure includes graphs for all sellers, top 30 sellers, Mining & Resources sellers and Real Estate sellers' samples. Similar figures for event windows 11 and five days are included under Appendix F.

Figure 5.6: Average Cumulative Abnormal Returns for the Full and Split Seller Samples over 21 Day Event Window



5.8.1 Testing Hypothesis 3: Seller's ACAR

The null hypothesis states that the selling companies do not earn positive or negative average cumulative abnormal returns around the asset sale's announcement date (ACAR-S_{AD}).

The alternative hypothesis states that the selling companies do earn positive or negative average cumulative abnormal returns around the asset sale's announcement date (ACAR-S_{AD}).

Hypothesis 3 is depicted as:

$H3_0$: $ACAR\text{-}S_{AD} = 0$
$H3_A$: $ACAR\text{-}S_{AD} \neq 0$

It was concluded from testing Hypothesis 3 at a 95% confidence interval that for:

Event window [-10, +10], the null hypothesis is rejected
Event window [-5, +5], the null hypothesis is not rejected
Event window [-2, +2], the null hypothesis is not rejected
Event window [-1, 0], the null hypothesis is not rejected

5.9 Hypothesis 4: Seller's Equity Compared to Cash ACAR

This hypothesis test, for selling companies, whether ACAR's for equity funded asset sales are larger compared to ACAR's for cash funded asset sales for event windows around the asset sale's announcement date.

The equity and cash sellers samples' data was sorted by transaction value and divided by the company's market capitalisation to obtain the top 30 equity and top 30 cash seller transactions and called the top 30 equity and top 30 cash sellers samples.

The AAR for the full event period of 21 days, with day zero being the day of the event, and statistical significance test results for the sellers' respective equity and cash funded asset sale samples are shown in Table 5.15. The table includes the equity sellers, cash sellers and top 30 cash sellers samples. The actual AAR values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

Table 5.15: Average Abnormal Returns (AAR) and Statistical Significance Test Results for Equity and Cash Sellers over 21 Day Event Window

	Equity Sellers (N = 30)			Cash Sellers (N = 78)			Top 30 Cash Sellers (N = 30)		
Day	**ARR**	**t-stat**	**p-value**	**ARR**	**t-stat**	**p-value**	**ARR**	**t-stat**	**p-value**
-10	0.713%	1.214	0.236	0.441%	1.152	0.253	-0.252%	-0.442	0.662
-9	0.095%	0.189	0.852	0.462%	1.525	0.132	0.091%	0.204	0.840
-8	-0.066%	-0.165	0.870	0.210%	0.786	0.435	0.749%	1.492	0.147
-7	0.116%	0.268	0.791	0.132%	0.415	0.680	0.639%	1.113	0.275
-6	-0.153%	-0.372	0.713	-0.206%	-0.669	0.506	-0.406%	-0.716	0.480
-5	**0.801%*** **	**2.849**	**0.008**	0.168%	0.616	0.540	0.174%	0.411	0.684
-4	**-1.216%***	**-1.922**	**0.066**	-0.133%	-0.630	0.531	-0.488%	-1.362	0.184
-3	**1.661%** **	**2.312**	**0.029**	0.138%	0.572	0.569	0.192%	0.458	0.650
-2	-0.423%	-0.769	0.449	0.101%	0.442	0.660	0.084%	0.180	0.859
-1	0.358%	0.811	0.424	-0.012%	-0.052	0.959	0.250%	0.502	0.619
0	-0.148%	-0.235	0.816	0.122%	0.508	0.613	**0.841%***	**1.991**	**0.056**
1	**0.957%***	**1.861**	**0.074**	0.431%	1.631	0.107	0.665%	1.540	0.134
2	0.593%	1.399	0.174	-0.077%	-0.331	0.742	0.032%	0.070	0.945
3	0.167%	0.306	0.762	-0.031%	-0.173	0.864	0.165%	0.542	0.592
4	-0.448%	-0.960	0.346	0.104%	0.454	0.651	-0.171%	-0.480	0.635
5	-0.499%	-0.724	0.476	-0.231%	-0.816	0.417	-0.464%	-1.047	0.304
6	-0.186%	-0.433	0.668	0.039%	0.150	0.881	-0.402%	-1.185	0.246
7	0.475%	1.012	0.321	-0.116%	-0.386	0.701	0.297%	0.657	0.517
8	0.803%	1.189	0.245	-0.373%	-1.396	0.167	-0.056%	-0.153	0.879
9	0.632%	1.455	0.158	0.455%	1.588	0.117	0.803%	1.354	0.187
10	0.558%	1.440	0.162	**-0.392%***	**-1.920**	**0.059**	-0.339%	-0.922	0.364

* Statistically significantly at the 10% level
** Statistically significantly at the 5% level
*** Statistically significantly at the 1% level

The AAR for the full event period of 21 days, with day zero being the day of the event, and statistical significance test results for the Mining & Resources and Real Estate sellers' respective equity and cash funded asset sale samples are shown in Table 5.16. The table includes the Mining & Resources' equity and cash sellers, and Real Estate's equity and cash sellers samples. The actual AAR values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

Table 5.16: Average Abnormal Returns (AAR) and Statistical Significance Test Results for Mining & Resources and Real Estate Equity and Cash Sellers over 21 Day Event Window

	M&R Equity Sellers (N = 16)			M&R Cash Sellers (N = 32)			RE Equity Sellers (N = 9)		RE Cash Sellers (N = 11)	
Day	**ARR**	**z-stat[1]**	**p-value**	**ARR**	**t-stat**	**p-value**	**ARR**	**p-value[1,2]**	**ARR**	**p-value[1,2]**
-10	0.247%	N/A	0.639	0.731%	1.263	0.216	0.442%	0.148	0.038%	0.770
-9	-0.135%	0.026	0.979	0.853%	1.567	0.128	0.327%	0.641	0.428%	0.275
-8	-0.126%	-0.440	0.660	0.152%	0.324	0.748	-0.243%	0.641	-0.476%	0.375
-7	-0.274%	-0.388	0.698	-0.226%	-0.575	0.569	0.300%	0.250	-0.143%	0.846
-6	0.495%	1.215	0.224	-0.315%	-0.647	0.523	-0.292%	0.547	0.067%	0.922
-5	**1.162%*** **	**2.611**	**0.009**	0.478%	1.150	0.259	0.287%	0.547	-0.054%	0.922
-4	**-1.552%***	**-1.732**	**0.083**	-0.032%	-0.092	0.927	-0.476%	0.844	-0.366%	0.898
-3	1.645%	1.525	0.127	0.192%	0.527	0.602	**0.726%****	**0.039**	-0.210%	0.465
-2	-0.216%	0.000	1.000	0.383%	1.325	0.195	-0.267%	0.313	-0.536%	0.175
-1	0.594%	1.112	0.266	0.004%	0.012	0.990	-0.077%	0.652	0.119%	0.765
0	-0.533%	-1.163	0.245	-0.022%	-0.056	0.956	-0.350%	0.820	-0.567%	0.147
1	1.225%	1.215	0.224	-0.371%	-0.911	0.370	0.492%	0.203	0.225%	0.700
2	**1.185%***	**1.784**	**0.074**	0.254%	0.791	0.435	0.009%	0.945	-0.298%	0.765
3	-0.022%	-0.129	0.897	-0.361%	-1.547	0.132	0.437%	0.461	0.519%	0.365
4	-0.472%	-0.181	0.856	-0.262%	-0.616	0.543	0.052%	0.945	**0.683%***	**0.067**
5	-0.507%	0.078	0.938	-0.295%	-0.573	0.571	-0.513%	0.313	0.033%	0.695
6	-0.450%	-0.233	0.816	0.086%	0.169	0.867	-0.059%	0.461	0.238%	0.922
7	0.491%	0.181	0.856	-0.299%	-0.547	0.588	0.312%	0.547	-0.408%	0.322
8	0.880%	1.060	0.289	**-0.845%***	**-1.777**	**0.085**	-0.273%	0.383	-0.225%	0.557
9	0.728%	1.215	0.224	0.081%	0.245	0.808	0.725%	0.195	0.676%	0.492
10	0.913%	N/A	0.188	0.048%	0.178	0.860	0.398%	0.383	**-0.843%***	**0.064**

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
[2] Where no z-statistic values were available
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level
*** Statistically significantly at the 1% level

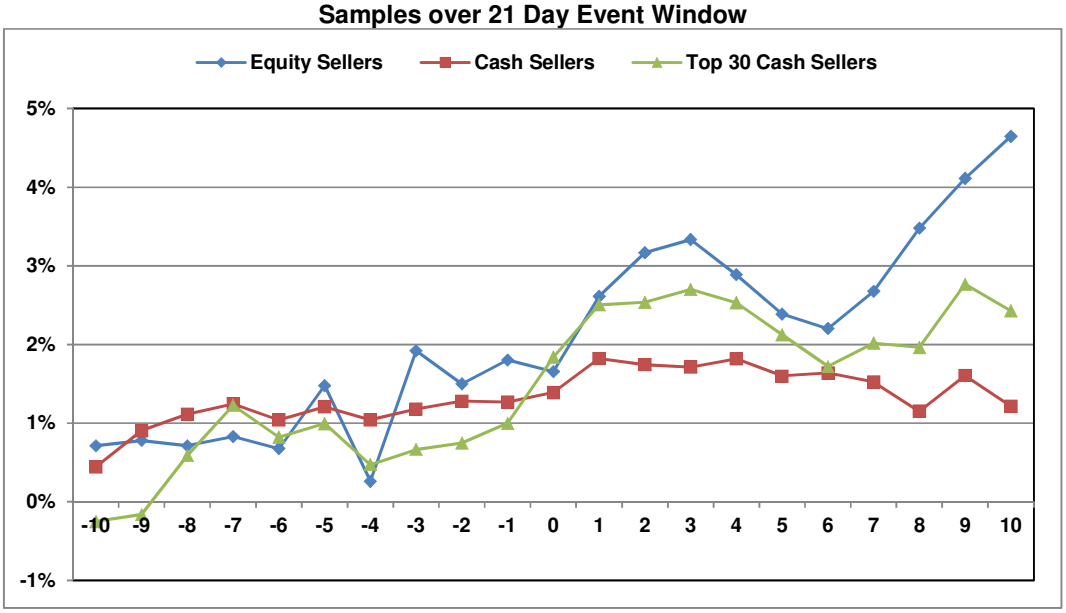
The ACAR for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, 0] and statistical significance test results for sellers' respective equity and cash funded asset sale samples are shown in Table 5.17. The table include equity sellers, cash sellers and top 30 cash sellers samples. The actual ACAR values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

Table 5.17: Average Cumulative Abnormal Returns (ACAR) and Statistical Significance Test Results for Equity and Cash Sellers

	Equity Sellers (N = 30)			Cash Sellers (N = 78)			Top 30 Cash Sellers (N = 30)		
Event Window	**ACAR**	**t-stat**	**p-value**	**ACAR**	**t-stat**	**p-value**	**ACAR**	**t-stat**	**p-value**
[-10, +10]	**4.65%***	**2.028**	**0.053**	1.21%	1.025	0.309	2.43%	1.452	0.158
[-5, +5]	1.85%	1.326	0.196	0.59%	0.788	0.433	1.33%	1.147	0.261
[-2, +2]	1.41%	1.591	0.124	0.56%	1.114	0.269	**1.87%***	**2.004**	**0.054**
[-1, 0]	0.21%	0.250	0.805	0.11%	0.342	0.733	**1.09%***	**1.831**	**0.077**
* Statistically significantly at the 10% level									

Figure 5.7 illustrates Table 5.17's ACAR results for equity and cash sellers asset sale samples over the full event window period of 21 days. The figure includes graphs for equity sellers, cash sellers and top 30 cash sellers samples. Similar figures for event windows 11 and five days are included under Appendix F.

Figure 5.7: Average Cumulative Abnormal Returns for the Equity and Cash Seller Samples over 21 Day Event Window



The all sellers sample's data was filtered by industry to create the Mining & Resources and Real Estate sellers samples, which was then further split between equity buyers and cash buyers. The ACAR for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, 0] and statistical significance test results for the Mining & Resources and Real Estate sellers' respective equity and cash funded asset sale samples are shown in Table 5.18. The table includes the Mining & Resources' equity and cash sellers, and Real Estate's equity and cash sellers samples. The actual ACAR values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

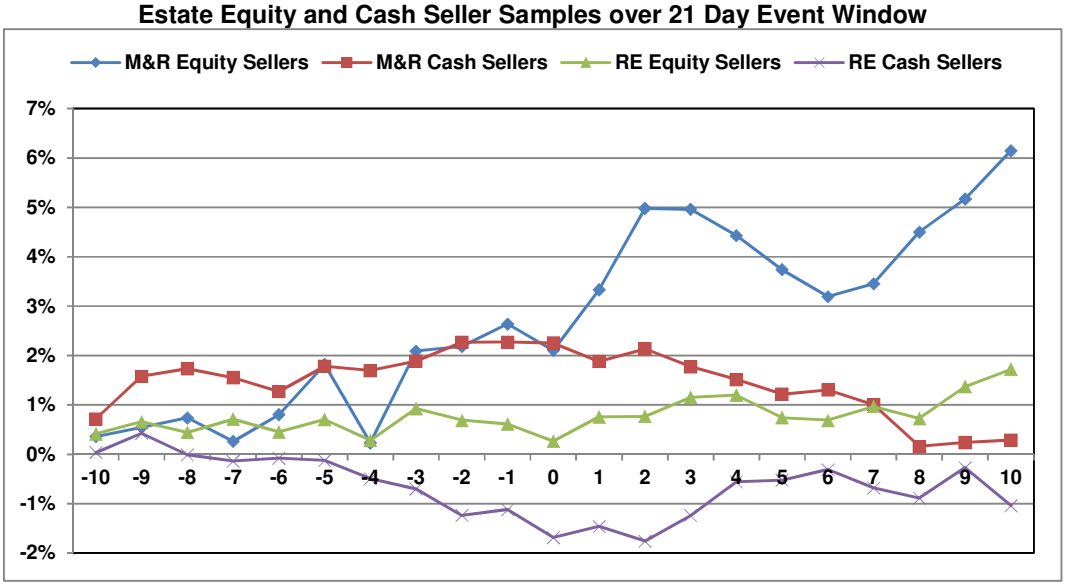
Table 5.18: Average Cumulative Abnormal Returns (ACAR) and Statistical Significance Test Results for Mining & Resources and Real Estate Equity and Cash Sellers

	M&R Equity Sellers (N = 15)		M&R Cash Sellers (N = 32)			RE Equity Sellers (N = 9)		RE Cash Sellers (N = 11)	
Event Window	**ACAR**	**p-value[1,2]**	**ACAR**	**t-stat**	**p-value**	**ACAR**	**p-value[1,2]**	**ACAR**	**p-value[1,2]**
[-10, +10]	6.15%	0.121	0.29%	0.152	0.880	1.72%	0.164	-1.04%	0.577
[-5, +5]	2.93%	0.252	-0.02%	-0.012	0.991	0.29%	1.000	-0.45%	0.638
[-2, +2]	**2.88%***	**0.055**	0.25%	0.312	0.757	-0.16%	0.910	-1.06%	0.102
[-1, 0]	0.06%	0.776	-0.02%	-0.033	0.974	-0.43%	0.910	-0.45%	0.320

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
[2] Where no z-statistic values were available
* Statistically significantly at the 10% level

Figure 5.8 illustrates Table 5.18's ACAR results for the Mining & Resources and Real Estate equity and cash seller asset sale samples over the full event window period of 21 days. The figure includes graphs for the Mining & Resources' equity and cash sellers, and Real Estate equity and cash sellers samples. Similar figures for event windows 11 and five days are included under Appendix F.

Figure 5.8: Average Cumulative Abnormal Returns for Mining & Resources and Real Estate Equity and Cash Seller Samples over 21 Day Event Window



For hypothesis testing the difference in ACAR's (ACAR equity – ACAR cash) for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, 0] and statistical significance test results for sellers asset sale samples are shown in Table 5.19. The table includes differences in ACAR's for all sellers (ACAR equity sellers – ACAR cash sellers), top 30 sellers (ACAR equity sellers – ACAR top 30 cash sellers), Mining & Resources sellers (ACAR M&R equity sellers – ACAR M&R cash sellers) and Real Estate sellers (ACAR RE equity sellers – ACAR RE cash sellers) samples. The actual ΔACAR values, t or z-statistic and p-values for evaluation of the difference between means or medians for

significance from zero, are included in the table (two sample, one tailed tests). The table is best read together with above Figures 5.7 and 5.8.

Table 5.19: Average Cumulative Abnormal Returns (ACAR) and Statistical Significance Test Results for Equity Sellers compared to Cash Sellers

	All Sellers (N = 103)			Top 30 Sellers (N = 60)			M&R Sellers (N = 48)			RE Sellers (N = 20)		
Event Window	ΔACAR	t-stat	p-value	ΔACAR	t-stat	p-value	ΔACAR	z-stat[3]	p-value	ΔACAR	z-stat[3]	p-value
[-10, +10]	**3.44%***	**1.331**	**0.095**	2.22%	0.783	0.219	**5.86%***	**1.609**	**0.054**	**2.76%***	**1.368**	**0.086**
[-5, +5]	1.26%	0.798	0.215	0.52%	0.285	0.388	2.95%	1.084	0.139	0.74%	0.456	0.324
[-2, +2]	0.85%	0.828	0.206	-0.46%	-0.358	0.639	**2.64%***	**1.632**	**0.051**	0.89%	1.064	0.144
[-1, 0]	0.10%	0.111	0.456	-0.88%	-0.854	0.801	0.08%	-0.383	0.649	0.02%	0.152	0.440

[3] Where normality assumptions failed, the Mann-Whitney test was used
* Statistically significantly at the 10% level

5.9.1 Testing Hypothesis 4: Seller's Equity Compared to Cash ACAR

The null hypothesis states that the selling companies' average cumulative abnormal returns around the announcement date for equity financed (ACAR-S_{EQUITY}) asset sales is not greater than the average cumulative abnormal returns around the announcement date for cash financed (ACAR-S_{CASH}) asset sales.

The alternative hypothesis states that the selling companies' average cumulative abnormal returns around the announcement date for equity financed (ACAR-S_{EQUITY}) asset sales is greater than the average cumulative abnormal returns around the announcement date for cash financed (ACAR-S_{CASH}) asset sales.

Hypothesis 4 is depicted as:

$H4_0$: $ACAR\text{-}S_{EQUITY} - ACAR\text{-}S_{CASH} \leq 0$
$H4_A$: $ACAR\text{-}S_{EQUITY} - ACAR\text{-}S_{CASH} > 0$

It was concluded from testing Hypothesis 4 at a 95% confidence interval that for:

Event window [-10, +10], the null hypothesis is not rejected
Event window [-5, +5], the null hypothesis is not rejected
Event window [-2, +2], the null hypothesis is not rejected
Event window [-1, 0], the null hypothesis is not rejected

5.10 Hypothesis 5: Buyer's AACRA

This hypothesis tests whether buying companies do achieve different average abnormal cash flow return on assets (AACRA) post asset sales to AACRA pre asset sales for event windows around the asset sale's announcement date.

The all buyers sample's data was filtered by industry to create the Mining & Resources and Real Estate sellers samples. Due to the small sample size for Mining & Resources buyers the median of the ACRA's was calculated and used as AACRA, following Ghosh (2001) as well as Smit and Ward (2007).

The AACRA for the full event period of seven years, with year zero being the day of the event, and statistical significant test results for all the buyer asset sales are shown in Table 5.20. The table include all buyers, Mining & Resources buyers and Real Estate buyers samples. The actual AACRA values, t or z-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

Table 5.20: Average Abnormal Cash Flow Return on Assets (AACRA) and Statistical Significance Test Results for Buyers over Seven Year Event Window

	All Buyers (N = 90)			M & R Buyers (N = 22)			Real Estate Buyers (N = 68)		
Year Relative to Sale	AACRA	t-stat	p-value	AACRA	z-stat[1]	p-value	AACRA	t-stat	p-value
-3	-5.06%***	-4.013	0.000	-8.32%***	-2.660	0.007	-3.76%***	-2.822	0.007
-2	-6.15%***	-5.993	0.000	-9.29%***	-3.403	0.000	-4.70%***	-4.045	0.000
-1	-7.80%***	-4.798	0.000	-6.11%**	-2.422	0.015	-6.97%***	-4.587	0.000
0	-6.21%***	-5.566	0.000	-5.59%**	-2.034	0.042	-7.17%***	-6.305	0.000
1	-9.38%***	-8.596	0.000	-11.55%***	-3.157	0.001	-8.85%***	-8.010	0.000
2	-8.46%***	-7.108	0.000	-8.84%***	-3.137	0.001	-8.14%***	-5.997	0.000
3	-6.99%***	-4.864	0.000	-6.44%**	-2.215	0.026	-7.94%***	-4.339	0.000

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
** Statistically significantly at the 5% level
*** Statistically significantly at the 1% level

Figure 5.9 illustrates Table 5.20's AACRA results for buyer asset sale samples over the full event window period of seven years. The figure includes graphs for all buyers, Mining & Resources buyers and Real Estate buyers samples.

Figure 5.9: Average Abnormal Cash Flow Return on Assets for the Full and Split Buyer Samples over Seven Year Event Window

For hypothesis testing the AACRA for event windows [-3, -1], [-2, -1], [+1, +2], [+1, +3], [-3, +3] and [-2, +2] and statistical significance test results for buyer asset sales are shown in Table 5.21. Event windows [-3, +3] and [-2, +2] represent the difference between AACRA's (AACRA post asset sales – AACRA pre asset sale). The table include all buyers, Mining & Resources buyers and Real Estate buyers samples. The actual AACRA values, t or z-statistics and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests). For event windows [-3, +3] and [-2, +2] two sample, one tailed tests were performed.

Table 5.21: Average Abnormal Cash Flow Return on Assets (AACRA) and Statistical Significance Test Results for Buyer Event Windows

	All Buyers (N = 90)			M & R Buyers (N = 22)			Real Estate Buyers (N = 68)		
Event Window	**AACRA**	**t-stat**	**p-value**	**AACRA**	**z-stat[1,3]**	**p-value**	**AACRA**	**t-stat**	**p-value**
[-3, -1]	**-2.73%***	**-1.950**	**0.055**	2.21%	-1.045	0.296	-3.21%	-1.423	0.161
[-2, -1]	**-1.64%***	**-1.676**	**0.098**	3.18%	0.033	0.973	-2.28%	-1.228	0.225
[+1, +2]	0.92%	-0.040	0.968	2.72%	0.133	0.894	0.71%	0.241	0.810
[+1, +3]	2.39%	0.623	0.535	5.11%	1.541	0.123	0.91%	0.127	0.899
[-3, +3]	**5.12%****	**1.797**	**0.037**	2.90%	1.689	0.954	4.12%	0.897	0.186
[-2, +2]	2.57%	0.771	0.221	-0.47%	-0.068	0.472	2.99%	0.705	0.241

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
[3] Where normality assumptions failed, the Mann-Whitney test was used
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level

5.10.1 Testing Hypothesis 5: Buyer's AACRA

The null hypothesis state that for the buying companies, the post asset sale's average abnormal cash flow return on assets (AACRA-B_{POST}) equal the pre asset sale's average abnormal cash flow returns on assets (AACRA-B_{PRE}).

The alternative hypothesis state that for the buying companies, the post asset sale's average abnormal cash flow return on assets (AACRA-B_{POST}) do not equal the pre asset sale's average abnormal cash flow returns on assets (AACRA-B_{PRE}).

Hypothesis 5 is depicted as:

$H5_0$: $AACRA\text{-}B_{POST} - AACRA\text{-}B_{PRE} = 0$
$H5_A$: $AACRA\text{-}B_{POST} - AACRA\text{-}B_{PRE} \neq 0$

It was concluded from testing Hypothesis 5 at a 95% confidence interval that for:

Event window [-3, +3], the null hypothesis is rejected
Event window [-2, +2], the null hypothesis is not rejected

5.11 Hypothesis 6: Buyer's Equity Compared to Cash AACRA

This hypothesis tests whether buying companies' AACRA's for equity funded asset sales are larger compared to AACRA's for cash funded asset sales for event windows around the asset sale's announcement date.

The AACRA for the full event period of seven years, with year zero being the day of the event, and statistical significant test results for the buyer's respective equity and cash funded asset sales are shown in Table 5.22. The table include equity buyers and cash buyers samples. The actual AACRA values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

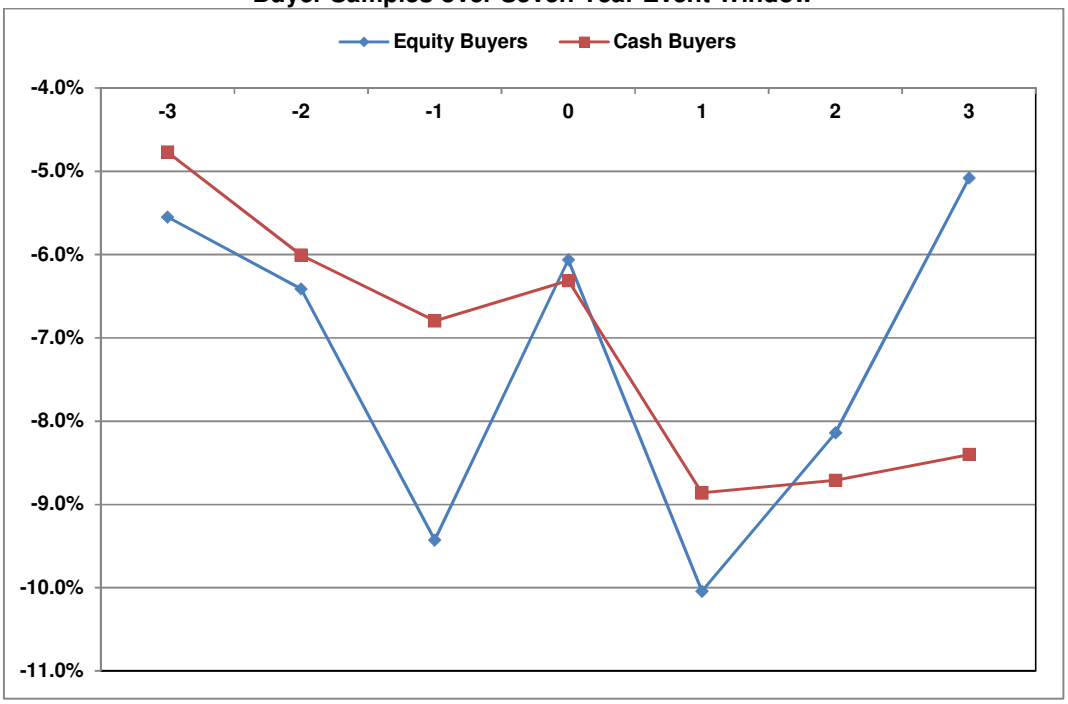
Table 5.22: Average Abnormal Cash Flow Return on Assets (AACRA) and Statistical Significance Test Results for Equity and Cash Buyers over Seven Year Event Window

	Equity Buyers (N = 37)			Cash Buyers (N = 53)		
Year Relative to Sale	AACRA	t-stat	p-value	AACRA	t-stat	p-value
-3	**-5.55%****	**-2.522**	**0.019**	**-4.77%*****	**-3.083*****	**0.004**
-2	**-6.41%*****	**-4.088**	**0.000**	**-6.01%*****	**-4.452**	**0.000**
-1	**-9.43%****	**-2.642**	**0.013**	**-6.80%*****	**-4.630**	**0.000**
0	**-6.06%*****	**-2.991**	**0.005**	**-6.31%*****	**-4.854**	**0.000**
1	**-10.04%*****	**-5.359**	**0.000**	**-8.86%*****	**-6.836**	**0.000**
2	**-8.14%*****	**-5.612**	**0.000**	**-8.71%*****	**-4.781**	**0.000**
3	**-5.08%*****	**-2.949**	**0.007**	**-8.40%*****	**-3.923**	**0.000**

** Statistically significantly at the 5% level
*** Statistically significantly at the 1% level

Figure 5.10 illustrates Table 5.22's AACRA results for equity and cash buyer asset sale samples over the full event window period of seven years. The figure includes graphs for equity buyers and cash buyers samples.

Figure 5.10: Average Abnormal Cash Flow Return on Assets for the Equity and Cash Buyer Samples over Seven Year Event Window



The all sellers sample's data was filtered by industry to create the Mining & Resources and Real Estate sellers samples, which was then further split between equity buyers and cash buyers. Due to the small sample size for Mining & Resources equity and cash buyers' samples the medians of the ACRA's were calculated and used as AACRA's, following Ghosh (2001) as well as Smit and Ward (2007).

The AACRA for the full event period of seven years, with year zero being the day of the event, and statistical significant test results for the Mining & Resources and Real Estate buyers' respective equity and cash funded asset sales are shown in Table 5.23. The table include the Mining & Resources equity and cash buyers, and the Real Estate's equity and cash buyers samples. The actual AACRA values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests).

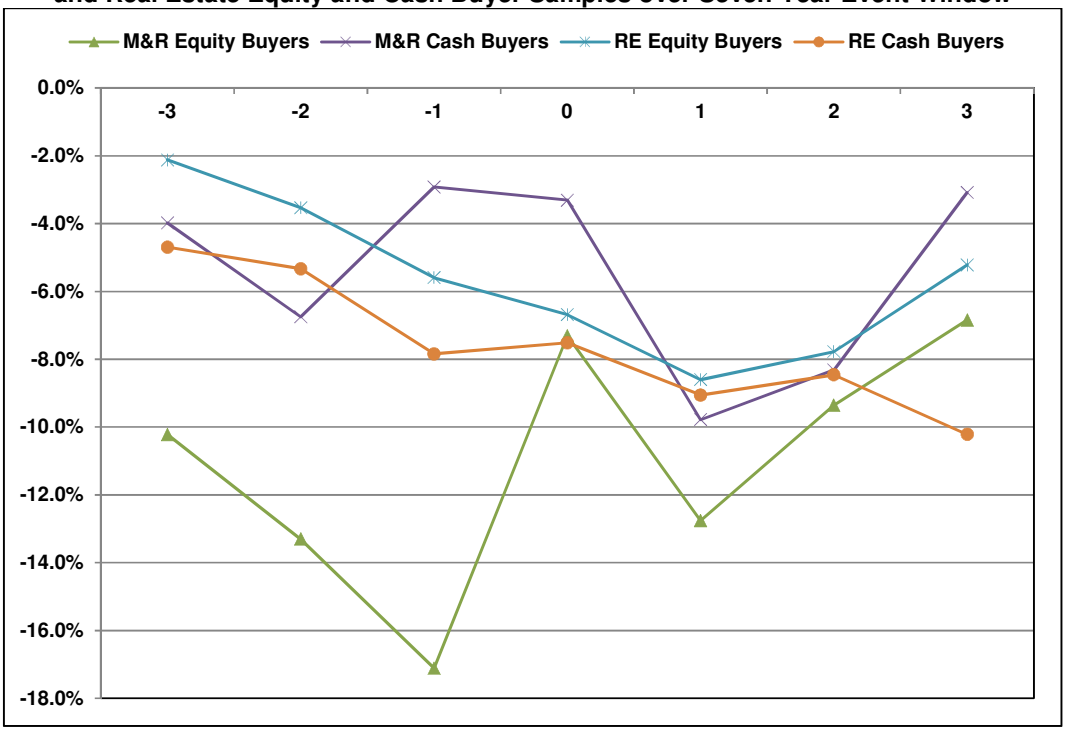
Table 5.23: Average Abnormal Cash Flow Return on Assets (AACRA) and Statistical Significance Test Results for Mining & Resources and Real Estate Equity and Cash Buyers over Seven Year Event Window

	M & R Equity Buyers (N = 8)		M & R Cash Buyers (N = 14)		RE Equity Buyers (N = 29)			RE Cash Buyers (N = 39)		
Year Relative to Sale	AACRA	p-value[1,2]	AACRA	p-value[1,2]	AACRA	z-stat[1]	p-value	AACRA	t-stat	p-value
-3	**-10.22%****	**0.015**	-3.98%	0.193	-2.12%	-0.807	0.419	**-4.69%****	**-2.698**	**0.012**
-2	**-13.30%*****	**0.007**	**-6.75%****	**0.029**	**-3.53%***	**-1.659**	**0.097**	**-5.33%*****	**-3.437**	**0.002**
-1	**-17.11%****	**0.039**	-2.92%	0.216	-5.59%	-1.625	0.104	**-7.84%*****	**-5.240**	**0.000**
0	**-7.31%***	**0.078**	-3.31%	0.268	**-6.68%*****	**-2.909**	**0.004**	**-7.51%*****	**-5.173**	**0.000**
1	**-12.76%****	**0.046**	**-9.78%****	**0.016**	**-8.60%*****	**-3.670**	**0.000**	**-9.06%*****	**-6.325**	**0.000**
2	**-9.36%****	**0.015**	**-8.32%****	**0.042**	**-7.78%*****	**-3.248**	**0.001**	**-8.46%*****	**-4.143**	**0.000**
3	-6.84%	0.218	**-3.08%***	**0.067**	**-5.22%****	**-2.193**	**0.028**	**-10.21%*****	**-3.626**	**0.001**

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
[2] Where no z-statistic values were available
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level
*** Statistically significantly at the 1% level

Figure 5.11 illustrates Table 5.23's AACRA results for the Mining & Resources and Real Estate equity and cash buyer asset sale samples over the full event window period of seven years. The figure includes graphs for the Mining & Resources equity and cash buyers, and the Real Estate equity and cash buyers samples.

Figure 5.11: Average Abnormal Cash Flow Return on Assets for Mining & Resources and Real Estate Equity and Cash Buyer Samples over Seven Year Event Window



The AACRA for event windows [-3, -1], [-2, -1], [+1, +2], [+1, +3], [-3, +3] and [-2, +2] and statistical significance test results for equity and cash buyer asset sales are shown in Table 5.24. Event windows [-3, +3] and [-2, +2] represent the difference between AACRA's (AACRA post asset sales – AACRA pre asset sale). The table include equity buyers and cash buyers samples. The actual AACRA values, t-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests). For event windows [-3, +3] and [-2, +2] two sample, one tailed tests were performed.

Table 5.24: Average Abnormal Cash Flow Return on Assets (AACRA) and Statistical Significance Test Results for Equity and Cash Buyer Event Windows

	Equity Buyers (N = 37)			Cash Buyers (N = 53)		
Event Window	**AACRA**	**t-stat**	**p-value**	**AACRA**	**t-stat**	**p-value**
[-3, -1]	-3.88%	-1.595	0.124	-2.03%	-1.168	0.250
[-2, -1]	-3.02%	-1.227	0.232	-0.79%	-1.127	0.266
[+1, +2]	1.90%	0.631	0.533	0.15%	0.855	0.398
[+1, +3]	4.96%	1.355	0.188	0.46%	0.502	0.618
[-3, +3]	**8.84%****	**2.088**	**0.021**	2.49%	0.432	0.333
[-2, +2]	**4.92%***	**1.354**	**0.091**	0.94%	0.194	0.423
* Statistically significantly at the 10% level ** Statistically significantly at the 5% level						

The AACRA for event windows [-3, -1], [-2, -1], [+1, +2], [+1, +3], [-3, +3] and [-2, +2] and statistical significance test results for the Mining & Resources and Real Estate buyers respective equity and cash funded asset sales are shown in Table 5.25. Event windows [-3, +3] and [-2, +2] represent the difference between AACRA's (AACRA post asset sales – AACRA pre asset sale). The table include the Mining & Resources equity and cash buyers, and Real Estate equity and cash buyers samples. The actual AACRA values, t or z-statistic and p-values for evaluation of significance from zero, are included in the table (one sample, two tailed tests). For event windows [-3, +3] and [-2, +2] two sample, one tailed tests were performed.

Table 5.25: Average Abnormal Cash Flow Return on Assets (AACRA) and Statistical Significance Test Results for Mining & Resources and Real Estate Equity and Cash Buyer Event Windows

	M & R Equity Buyers (N = 8)		M & R Cash Buyers (N = 14)		RE Equity Buyers (N = 29)			RE Cash Buyers (N = 39)		
Event Window	AACRA	p-value[1,2,3]	AACRA	p-value[1,2,3]	AACRA	z-stat[1,3]	p-value	AACRA	t-stat	p-value
[-3, -1]	-6.89%	0.156	1.06%	0.845	-3.48%	-0.617	0.537	-3.15%	-1.223	0.231
[-2, -1]	-3.81%	0.461	3.83%	0.391	-2.06%	0.043	0.965	-2.51%	-1.320	0.196
[+1, +2]	3.40%	0.469	1.46%	0.637	0.83%	0.260	0.794	0.60%	-0.401	0.692
[+1, +3]	5.92%	0.219	6.70%	0.413	3.39%	0.418	0.675	-1.16%	-0.867	0.395
[-3, +3]	12.81%	0.974	5.64%	0.611	6.86%	1.013	0.845	1.99%	0.086	0.466
[-2, +2]	7.21%	0.884	-2.37%	0.125	2.89%	-0.068	0.473	3.11%	0.586	0.280

[1] Where normality assumptions failed, the Wilcoxon Signed-Rank test was used
[2] Where no z-statistic values were available
[3] Where normality assumptions failed, the Mann-Whitney test was used

For hypothesis testing the difference in AACRA's (AACRA equity – AACRA cash) for event windows [-3, -1], [-2, -1], [+1, +2], [+1, +3], [-3, +3] and [-2, +2] and statistical significance test results for buyers asset sales samples are shown in Table 5.26. The table include differences in AACRA's for all buyers (AACRA equity buyers – AACRA cash buyers), Mining & Resources buyers (AACRA M&R equity buyers – AACRA M&R cash buyers) and Real Estate buyers (AACRA RE equity buyers – AACRA RE cash buyers) samples. The actual ΔAACRA values, t or z-statistic and p-values for evaluation of the difference between means or medians for significance from zero, are included in the table (two sample, one tailed tests). The table is best read together with above Figures 5.10 and 5.11.

Table 5.26: Average Abnormal Cash Flow Return on Assets (AACRA) and Statistical Significance Test Results for Equity Buyers Compared to Cash Buyers

	All Buyers (N = 90)			M & R Buyers (N = 22)			RE Buyers (N = 68)		
Event Window	ΔAACRA	t-stat	p-value	ΔAACRA	z-stat[3]	p-value	ΔAACRA	z-stat[3]	p-value
[-3, -1]	-1.85%	-0.706	0.758	-7.95%	NA[2]	0.956	-0.32%	-0.030	0.512
[-2, -1]	-2.23%	-0.671	0.748	-7.64%	-1.435	0.924	0.45%	0.383	0.352
[+1, +2]	1.75%	1.030	0.153	1.94%	0.771	0.220	0.23%	0.301	0.383
[+1, +3]	**4.50%***	**1.395**	**0.085**	-0.78%	0.907	0.182	4.54%	1.150	0.128
[-3, +3]	6.35%	1.281	0.105	**7.18%***	**NA[2]**	**0.059**	4.87%	0.406	0.321
[-2, +2]	3.98%	1.026	0.285	**9.58%****	**1.770**	**0.038**	-0.22%	-0.444	0.671

[2] Where no z-statistic values were available
[3] Where normality assumptions failed, the Mann-Whitney test was used
* Statistically significantly at the 10% level
** Statistically significantly at the 5% level

5.11.1 Testing Hypothesis 6: Buyer's Equity Compared to Cash AACRA

The null hypothesis states that the buying companies' average abnormal cash flow return on assets for event windows around the announcement date for equity financed (AACRA-B_{EQUITY}) asset sales is not greater than the average abnormal cash flow return on assets for cash financed (AACRA-B_{CASH}) asset sales.

The alternative hypothesis states that the buying companies' average abnormal cash flow return on assets for event windows around the announcement date for equity financed (AACRA-B_{EQUITY}) asset sales is greater than the average abnormal cash flow return on assets for cash financed (AACRA-B_{CASH}) asset sales.

Hypothesis 6 is depicted as:

$H6_0$: $AACRA\text{-}B_{EQUITY} - AACRA\text{-}B_{CASH} \leq 0$
$H6_A$: $AACRA\text{-}B_{EQUITY} - AACRA\text{-}B_{CASH} > 0$

It was concluded from testing Hypothesis 6 at a 95% confidence interval that for:

Event window [-3, -1], the null hypothesis is not rejected
Event window [-3, -1], the null hypothesis is not rejected
Event window [+1, +2], the null hypothesis is not rejected
Event window [+1, +3], the null hypothesis is not rejected
Event window [-3, +3], the null hypothesis is not rejected
Event window [-2, +2], the null hypothesis is not rejected

5.12 Summary of Results

The results of the hypotheses tests are summarised in Table 5.27 for easy referencing. Hypotheses are rejected or not rejected based on a 95% confidence level.

Table 5.27: Summary of Hypotheses Testing Results

Hypothesis 1: For Buyers	$H1_0$: ACAR-$B_{AD} = 0$ $H1_A$: ACAR-$B_{AD} \neq 0$			
Event Window	**ACAR**	**t-stat**	**p-value**	**Decision**
[-10, +10]	1.85%	2.370	0.020	Reject H_o
[-5, +5]	1.41%	2.264	0.026	Reject H_o
[-2, +2]	1.14%	2.217	0.029	Reject H_o
[-1, 0]	0.69%	1.878	0.063	Reject H_o
Hypothesis 2: For Buyers	$H2_0$: ACAR-B_{EQUITY} – ACAR-$B_{CASH} \leq 0$ $H2_A$: ACAR-B_{EQUITY} – ACAR-$B_{CASH} > 0$			
Event Window	**ΔACAR**	**t-stat**	**p-value**	**Decision**
[-10, +10]	1.69%	1.051	0.148	Do Not Reject H_o
[-5, +5]	0.69%	0.533	0.298	Do Not Reject H_o
[-2, +2]	0.03%	0.026	0.489	Do Not Reject H_o
[-1, 0]	0.89%	1.119	0.133	Do Not Reject H_o
Hypothesis 3: For Sellers	$H3_0$: ACAR-$S_{AD} = 0$ $H3_A$: ACAR-$S_{AD} \neq 0$			
Event Window	**ACAR**	**t-stat**	**p-value**	**Decision**
[-10, +10]	2.15%	2.012	0.047	Reject H_o
[-5, +5]	0.93%	1.405	0.163	Do Not Reject H_o
[-2, +2]	0.77%	1.774	0.079	Do Not Reject H_o
[-1, 0]	0.14%	0.421	0.675	Do Not Reject H_o
Hypothesis 4: For Sellers	$H4_0$: ACAR-S_{EQUITY} – ACAR-$S_{CASH} \leq 0$ $H4_A$: ACAR-S_{EQUITY} – ACAR-$S_{CASH} > 0$			
Event Window	**ΔACAR**	**t-stat**	**p-value**	**Decision**
[-10, +10]	3.44%	1.331	0.095	Do Not Reject H_o
[-5, +5]	1.26%	0.798	0.215	Do Not Reject H_o
[-2, +2]	0.85%	0.828	0.206	Do Not Reject H_o
[-1, 0]	0.10%	0.111	0.456	Do Not Reject H_o
Hypothesis 5: For Buyers	$H5_0$: AACRA-B_{POST} – AACRA-$B_{PRE} = 0$ $H5_A$: AACRA-B_{POST} – AACRA-$B_{PRE} \neq 0$			
Event Window	**AACRA**	**t-stat**	**p-value**	**Decision**
[-3, +3]	5.12%	1.797	0.037	Reject H_o
[-2, +2]	2.57%	0.771	0.221	Do Not Reject H_o
Hypothesis 6: For Buyers	$H6_0$: AACRA-B_{EQUITY} – AACRA-$B_{CASH} \leq 0$ $H6_A$: AACRA-B_{EQUITY} – AACRA-$B_{CASH} > 0$			
Event Window	**AACRA**	**t-stat**	**p-value**	**Decision**
[-3, -1]	-1.85%	-0.706	0.758	Do Not Reject H_o
[-2, -1]	-2.23%	-0.671	0.748	Do Not Reject H_o
[+1, +2]	1.75%	1.030	0.153	Do Not Reject H_o
[+1, +3]	4.50%	1.395	0.085	Do Not Reject H_o
[-3, +3]	6.35%	1.281	0.105	Do Not Reject H_o
[-2, +2]	3.98%	1.026	0.285	Do Not Reject H_o

In this chapter only the results were presented, the next chapter provides a comprehensive discussion of these results. By analysing the samples with statistical methods, measuring each of the value created metrics and obtaining the results, the second research objective was accomplished.

6. DISCUSSION of RESULTS

6.1 Introduction

In this chapter the results reported on in the previous chapter is discussed, therefore a similar structure to Chapter 5 was followed. Firstly the characteristic of the samples are discussed. Secondly the results obtained from the respective hypothesis are discussed. Where appropriate these results are compared with results obtained by selected mergers and acquisitions and asset sale researchers. By comparing this study's results with previous asset sales studies and the impact the method of payment have on value created; the third research objective was accomplished. Finally this chapter concludes the overall results and the implications for JSE ALSI companies pursuing corporate activities to increase shareholder value.

6.2 Sample Characteristics

The sample consisted of intercorporate asset sale transactions announced and concluded for the 11 year period from 1 January 2000 to 31 December 2011. This relatively long time frame was required to obtain a large enough sample of asset sale transactions for the central limit theory to apply and thereby the researcher was able to use parametric statistical tests (Albright *et al.*, 2009). The aggregated sample consisted of 214 company specific transactions containing sub samples of 43 equity buyers, 68 cash buyers, 30 equity sellers and 73 cash sellers.

Transactions by companies categorised per industry as Mining & Resources (34%) and Real Estate (44%) constituted 78% of the aggregated sample. Due to this material industry impact, all analyses were completed per the above mentioned two sub samples. This industry specific analysis provided for greater insight into the results obtained for the respective sub samples. Additional information was collected from the asset sale SENS notifications regarding the purpose of the respective asset sales. The majority of Mining & Resources transactions was to realign the business to pursue a focused strategy. This is reflected by Mining & Resources representing 47% of the total selling transactions. The Real Estate industry was consolidating, contributing to 66% of the total buying transactions. The greater industry insight for Mining & Resources is therefore primarily from a seller's perspective and for Real Estate is primarily from a buyer's perspective.

6.3 Descriptive Statistics

The Mining & Resources and Real Estate sample's descriptive statistics are very similar to the aggregated sample's descriptive statistics; therefore the researcher only discusses the aggregated sample's descriptive statistics. The CPI adjusted mean values of equity funded transactions are larger than cash funded transactions which are consistent with Hege *et al.*'s (2009) findings. Slovin *et al.* (2005) found the opposite to be true, where the value of the adjusted mean for cash funded transactions was double compared to the mean of the equity funded transactions.

Measured in CPI adjusted market capitalisation, buyers are considerably smaller than sellers. Typically smaller companies buy assets from larger companies. Slovin *et al.* (2005) also found that buyers are smaller compared to sellers, Hege *et al.* (2009) however found no noteworthy difference between the buyers and sellers' market capitalisation. Buyers and sellers in asset for equity sales are considerably smaller than buyers and sellers in cash transactions which are consistent with Hege *et al.*'s findings. Slovin *et al.* also found equity buyers to be considerably smaller than cash buyers, however found equity sellers to be considerably larger than cash sellers. Typically smaller companies transacted with equity, compared to larger companies that transacted with cash.

Measured by the transaction value divided by the company's market capitalisation buyers are larger compared to sellers, with equity buyers being considerably larger than equity sellers and cash buyers being considerably larger than cash sellers which are consistent with Hege *et al.* (2009)'s findings. Slovin *et al.* (2005) also found equity buyers to be considerably larger than cash buyers, however found no noteworthy difference between equity sellers and cash sellers. Typically the asset sales are material corporate events for buyers, however less so for sellers.

6.4 Share Price Performance

Based on the event study methodology, the list of company share codes, individual announcement dates and 21 day event window trading days' dates were fed into Chris Muller's control portfolio model and event analyser to obtain the daily abnormal return (AR) per sample company. The AR's were exported to Excel to calculate CAR and ACAR for each of the four samples for event windows [-10, +10], [-5, +5], [-2, +2] and [-1, +1]. In the case where confounding events shortened a specific company's event

window to less than the defined window period, such a company was removed from the specific event window sample.

6.5 Hypothesis 1: Buyer's ACAR

This hypothesis test was designed to determine whether buying companies do earn positive or negative average cumulative abnormal returns (ACAR) for event windows around the asset sale's announcement date. This discussion is about the statistical significance of the means or median being different from zero for the all buyers, top 30 buyers, Mining & Resources buyers and Real Estate buyers samples.

To obtain better insight to the samples' respective ACAR's, require discussing the average abnormal returns (AAR) in detail. The discussion of this hypothesis test has three distinct sections. First on the aggregated buyers level, the all buyers and top 30 buyers samples are discussed. Secondly on the industry level, the Mining & Resources and Real Estate buyers samples are discussed. Lastly the differences from zero for the buyers' sample means or medians are discussed.

Aggregated Buyer Level: Comparing the AAR's ten days before the event to the ten days after the event, showed that the market significantly reacted to the asset sale announcements. The all buyers and top 30 buyers, two days before the announcement, reported significant AAR's which indicate potential insider trading (Mushidzhi & Ward, 2004). Insider trading is however an unlikely explanation since based on mergers and acquisitions literature (Haleblian *et al*., 2009), the buyer's share price tends to decrease rather than increase after the announcement date, removing the incentive to purchase the buyers shares before the announcement. This observation becomes clearer when differentiating between industries. On the day of the announcement the all buyers and top 30 buyers reported significant AAR's which indicated the efficiency of the market by reacting to the asset sale announcement. After the announcement date the all buyers and top 30 buyers' ACAR's increased.

The 21 day ACAR for all buyers is 1.85% (p-value of 0.020) which is significant. The ACAR's for all buyers for event days 11, five and two are also all positive and significant. The ACAR for the all buyers is greater than zero which is consistent with research by Slovin *et al*. (2005) and Hege *et al*. (2009). Slovin *et al*. and Hege *et al*. did not report combined findings for buyers, however the above observation is made based on the separate equity buyers and cash buyers' findings they reported. This

finding is contrary to mergers and acquisitions research which is inconclusive upon whether acquiring companies gain from mergers and acquisitions (Bruner, 2002; Haleblian *et al.*, 2009). For the 21 days event period Mushidzhi and Ward (2004) reported an ACAR of -0.55% and Smit and Ward (2007) reported an ACAR of 4.35%, neither of which were significant. Choi and Russel (2004) however reported a significant ACAR of 2.37% for the 21 day event period.

Comparing the all buyers sample to the top 30 buyers sample. The 21 day all buyers ACAR is 1.85% (p-value of 0.020) and the top 30 buyers ACAR is 2.51% (p-value of 0.023), both are significant. The top 30 buyers ACAR is larger compared to the all buyers ACAR, although not significant. This relationship is the same for the 11 and five day event windows. Observing that the larger the transaction value is relative to the buyer's market capitalisation, the larger the value created will be, although not significant. A probable explanation is that larger transactions are more material to a company compared to smaller transactions, and the market responded based on the transaction's materiality for the company.

Industry Level: The Real Estate buyers sample is the source of the potential insider trading observation, which reported a significant AAR two days before the announcement. This observation becomes clearer when differentiating between equity and cash transactions for Hypothesis 2 testing in section 6.6 below. Over the ten days after the announcement day the Real Estate buyers ACAR decreased by 0.51% while the Mining & Resources' ACAR increased. This observation also becomes clearer when differentiating between equity and cash transactions.

The Mining & Resources buyers' 21 day ACAR is 4.04% (p-value of 0.151) and the Real Estate buyers' 21 days ACAR is 0.96% (p-value of 0.280), both are insignificant. The Mining & Resources' ACAR's for all four event windows are larger compared to the all buyers ACAR's, although not significant, and the Real Estate ACAR's for all four event windows are smaller compared to the all buyer ACAR's, although not significant. The ACAR's between industries differ, buyers in the Mining & Resources industry can anticipate material positive ACAR's compared to buyers in the Real Estate industry that can anticipate immaterial positive ACAR's, although the difference in medians was not significant. A potential explanation is that the average value of the Mining & Resources transactions is double compared to the average value of the Real Estate transactions value, and that the market response increased as the transaction value increased.

Hypothesis Test: This hypothesis tests whether buying companies do earn positive or negative ACAR's, therefore only the all buyers sample was used for hypothesis testing. The all buyers sample was discussed under the aggregated buyers level section, above. It was concluded from testing Hypothesis 1 at a 95% confidence interval that for the 21, 11 and five day event windows the null hypothesis is rejected, and for the two day event window the null hypothesis is not rejected.

The top 30 buyers reported positive ACAR's, significant for event windows 21, 11 and five. The Mining & Resources buyers reported positive ACAR's, and the Real Estate buyers reported small, however, positive ACAR's for all four event windows, all these ACAR's were insignificant.

In summary, concluding for Hypothesis 1 that asset sales do create significant value for buyers based on the short term metric of abnormal share price returns. This research's finding is consistent with Slovin *et al*. (2005)'s and Hege *et al*. (2009)'s asset sale findings, and is contrary to Bruner (2002)'s and Haleblian *et al*. (2009)'s mergers and acquisitions findings.

6.6 Hypothesis 2: Buyer's Equity Compared to Cash ACAR

This hypothesis test was designed to determine for buying companies, whether ACAR's for equity funded asset sales are greater compared to ACAR's for cash funded asset sales for event windows around the asset sale's announcement date. This discussion is about the statistical significance of the difference between means or median being different from zero for the all buyers, top 30 buyers, Mining & Resources buyers and Real Estate buyers samples.

To obtain better insight to this hypothesis that evaluates the difference between equity buyers ACAR and cash buyers ACAR, require discussing the equity buyers ACAR and cash buyers ACAR in detail. The discussion of this hypothesis test has three distinct sections. First on the aggregated buyer's level the equity buyers and cash buyers samples are discussed. Secondly on the industry level the Mining & Resources and Real Estate equity and cash buyers samples are discussed. Lastly the differences in means or medians of the buyers' samples are discussed.

Aggregated Buyer Level: Comparing the AAR's ten days before the event to the ten days after the event, showed that the market significantly reacted to the asset sale

announcements. The equity buyers, top 30 equity buyers, cash buyers and top 30 cash buyers all reported significant positive AAR's on the announcement day and the day after the announcement. This indicates the efficiency of the market by reacting to the asset sale announcement. The equity buyer and top 30 equity buyer graphs followed each other, reporting similar significant AAR's. The top 30 cash buyers 21 and 11 day ACAR's are larger compared to the cash buyers ACAR, although not significant.

For the equity buyers the ACAR's for the 21 day event window is 2.88% (p-value of 0.030), for the five day event window it is 1.16% (p-value of 0.209) and for the two day event window it is 1.23% (p-value of 0.076). ACAR's for event window days the 21 and two are significant. In comparison, Slovin *et al*. (2005) reported an ACAR for the two day event window of 9.77%, significant at the 1% level, and Hege *et al*. (2009) reported ACAR's for the five day event window of 3.92% and for the two day event window of 3.44%, both are significant at the 1% level. This study's equity buyers' results are not of the same ACAR magnitude and statistical significance, however it is consistent with Slovin *et al*.'s and Hege *et al*.'s research.

For the cash buyers, the only significant ACAR is for the five day event window which is 1.13% (p-value of 0.072). The two days ACAR is 0.34% (p-value of 0.418). In comparison, Slovin *et al*. (2005) reported an ACAR for the two day event window of -0.30% and Hege *et al*. (2009) reported ACAR's for the five day event window of 0.48% and for the two day event window of -0.03%, none of which are significant. This study's buyers' results are consistent with Slovin *et al*.'s and Hege *et al*.'s research that asset sales transacting with equity create greater value for buyers compared to transacting with cash.

In comparison to mergers and acquisition research, for equity buyers, Fuller, Netter, and Stegemoller (2002) reported a significant five day ACAR of 1.25%. Mushidzhi and Ward (2004) reported insignificant ACAR's for 21 day event window of -0.28% and for the two day event window of -0.24%. Smit and Ward (2007) reported a significant ACAR for the five day event window of -1.89% and an insignificant ACAR for the two day event window of -1.92%.

For mergers and acquisitions' cash buyers, Fuller *et al*. (2002) reported a significant five day ACAR of 1.78%. Mushidzhi and Ward (2004) reported insignificant ACAR's for the 21 day event window of 0.94% and 1.07% for the two day event window. Smit

and Ward (2007) reported insignificant ACAR's for the five day event window of 5.92% and 3.10% for the two day event window. For mergers and acquisitions transacting with cash generated greater value for buyers compared to transacting with equity. In terms of value created for buyers, the findings for asset sales are contrary to the findings for mergers and acquisitions.

Comparing the full samples to the top 30 samples. The top 30 equity buyers 21 and 11 day ACAR's are larger compared to the equity buyers' ACAR's, although not significant. Similarly the top 30 cash buyers 21 and 11 day ACAR's are larger compared to the cash buyers' ACAR's, although not significant. The proposed explanation that larger transactions are more material to a company compared to small transactions, and the market responded based on the transaction's materiality for the company, is observed to apply to the equity and cash buyers, although not significant.

Industry Level: The Real Estate equity buyers sample is the source of the potential insider trading observation, which reported a significant positive AAR two days before the announcement. Comparing the ten days before the event to the ten days after the event, showed that the market notably reacted to the asset sale announcements. The Mining & Resources small sample sizes of nine equity buyers and fifteen cash buyers resulted in jagged graphs explaining the insignificant ACAR's. The Mining & Resources equity and cash buyers reported the same 21 day ACAR of 3.43%, insignificant for both. Observing therefore that for the Mining & Resources industry the equity and cash buyers can anticipate the similar positive value created.

The Real Estate equity buyers sample reported the only significant positive AAR two days before the announcement and reported a significant 21 day ACAR of 2.57%. The Real Estate cash buyers sample did not respond to the announcement at all, which is reflected by the insignificant ACAR's ranging from -0.29% to -0.44% for the four event windows. The Real Estate cash buyers' negative ACAR's resulted in the Real Estate buyers' ACAR to decrease 0.51% over the ten days after the announcement day.

The average value of the Real Estate cash buyers transactions is halve compared to the Real Estate equity buyers and a quarter compared to the Mining & Resources equity and cash buyers average transaction values. A potential explanation why the Real Estate cash buyers sample did not respond to the announcement is that the market viewed the value of the transactions as immaterial. The Real Estate cash

buyers' average value of transactions relative to market capitalisation is less than halve compared to the Real Estate equity buyers' ratio, which supports the immateriality observation.

Hypothesis Test: This hypothesis tests for buying companies, whether ACAR's for equity funded asset sales are larger compared to ACAR's for cash funded asset sales, therefore only the all buyers sample was used for hypothesis testing. The all buyers sample was discussed under the aggregated buyer level section, above. It was concluded from testing Hypothesis 2 at a 95% confidence interval that for all four the event windows the null hypothesis is not rejected. The all buyers sample reported positive ΔACAR's for each of the four event windows, therefore equity buyers create more value compared to cash buyers, although not significant.

The top 30 buyers sample reported positive ΔACAR's for each of the four event windows, therefore the top 30 equity buyers created more value than the top 30 cash buyers, although is only significant for the two day event period. Comparing the top 30 buyers to the all buyers indicated there are no statistical difference between the all buyers samples and the top 30 buyers samples' ΔACAR's for all four event windows. For the 21 and 11 day event windows the all buyers sample reported larger ΔACAR's and for the five and two day event windows reported smaller ΔACAR's compared to the top 30 buyers sample.

The Mining & Resources buyers' ACAR's do not converge to a trend. For two event windows the ACAR's are negative, for another zero and for another positive. Whether equity or cash creates more value for buyers in the Mining & Resources industry is inconclusive. A larger sample size is required to determine a possible trend or provide definitive results.

Lastly the Real Estate buyers sample reported significant positive ΔACAR's for all four event windows. Buyers in the Real Estate industry transacting with equity therefore create significantly more value compared to transacting with cash.

In summary, concluding for Hypothesis 2 based on the short term metric of abnormal share price returns. Asset sale buyers transacting with equity do create greater value compared to transacting with cash, although only significant to the Real Estate industry. This research's results for buyers are consistent with Slovin *et al*. (2005)'s

and Hege *et al*. (2009)'s findings for asset sales, and is contrary to Mushidzhi and Ward (2004) as well as Smit and Ward (2007)'s findings for mergers and acquisitions.

6.7 Hypothesis 3: Seller's ACAR

This hypothesis test was designed to determine whether selling companies do earn positive or negative average cumulative abnormal returns (ACAR) for event windows around the asset sale's announcement date. This discussion is about the statistical significance of the means or median being different from zero for the all sellers, top 30 sellers, Mining & Resources sellers and Real Estate sellers samples..

To obtain better insight to the samples' respective ACAR's, require discussing the average abnormal returns (AAR) in detail. The discussion of this hypothesis test has three distinct sections. First on the aggregated sellers level, the all sellers and top 30 sellers samples are discussed. Secondly on the industry level, the Mining & Resources and Real Estate sellers samples are discussed. Lastly the differences from zero for the sellers' sample means or medians are discussed.

Aggregated Seller Level: Comparing the AAR's ten days before the event to the ten days after the event, showed that the market significantly reacted before and after the asset sale announcements. The all sellers sample three days before the announcement reported a significant AAR, which indicate potential insider trading (Mushidzhi & Ward, 2004). This observation becomes clearer when differentiating between industries. After the announcement date the all sellers and top 30 sellers' ACAR's increased.

The day after the announcement the all sellers sample reported a significant AAR and on the second day after the announcement the Mining & Resources sellers reported a significant AAR. A potential explanation is that the market did not respond to the sellers' announcement but rather to the buyers' announcement of the transaction, one or two days later when it is reported in the general press. Evidence of this was found in an equity transaction between Capital Property Fund Ltd (Capital), the buyer, and Resilient Property Income Fund Ltd (Resilient), the seller. Capital announced the transactions via SENS on the 24th of June 2009 and Resilient announced the transaction via SENS on the 3rd of August 2009. After both announcement dates Resilient's (the seller) share price recorded abnormal returns, compared to Capital's (the buyer) share price that only experienced abnormal returns after the first

announcement. Potentially the sellers' share price responded to the sellers' and to the buyers' announcements while the buyers' share price only responded to the buyers' announcement.

The all sellers' 21 day ACAR is 2.15% (p-value of 0.047) and five day ACAR is 0.77% (p-value of 0.079) both of which are significant. The all sellers' ACAR for all four event windows are greater than zero which is consistent with research by Slovin *et al*. (2005) and Hege *et al*. (2009). Slovin *et al*. and Hege *et al*. did not report combined sellers findings, however the above observation is made based on the separate equity sellers and cash sellers' findings they did report. This finding is also consistent with mergers and acquisitions research which is conclusive that target companies gain from mergers and acquisitions (Bruner, 2002; Haleblian *et al*., 2009).

Comparing the all sellers sample to the top 30 sellers sample. The all sellers' 21 day ACAR is 2.15% (p-value of 0.047) and the 21 day top 30 sellers ACAR is 3.49% (p-value of 0.016), both are significant. The top 30 sellers ACAR is larger compared to the all sellers ACAR, although not significant. This relationship is the same for all the event windows. Observing that the larger the transaction value is relative to the seller's market capitalisation, the larger the anticipated value created will be for the seller, although not significant. As proposed in section 6.5 a probably explanation is that larger transactions are more material to a company compared to small transactions, and the market responded based on the transaction's materiality for the company.

Industry Level: The Mining & Resources sellers sample is the source of the potential insider trading observation, which reported significant AAR's five and two days before the announcement. This observation becomes clearer when differentiating between equity and cash transactions for Hypothesis 4 testing in section 6.8 below. Comparing the ten days before the event to the ten days after the event, showed that the market reacted notably to the Mining & Resources sellers, however the Real Estate sellers received no reaction from the market. This observation also becomes clearer when differentiating between equity and cash transactions.

The Mining & Resources sellers' 21 day ACAR is 1.89% (p-value of 0.259) and the Real Estate sellers' 21 days ACAR is 0.24% (p-value of 0.533), both are insignificant. The Real Estate sellers' ACAR's for all four event windows are smaller compared to the Mining & Resources' ACAR, although not significant. Similar as for buyers, the

ACAR's between industries differ, sellers in the Mining & Resources industry can anticipate material positive ACAR's compared to sellers in the Real Estate industry that can anticipate negative to immaterial positive ACAR's, although the difference in medians are not significant. As proposed in section 6.5, a potential explanation is that the market response increased as the transaction value increased. The Real Estate sellers average transaction value is also a third compared to the average value of the Mining & Resources transactions, making Real Estate transactions less material resulting in less reaction form the market.

Hypothesis Test: This hypothesis tests whether selling companies do earn positive or negative ACAR's, therefore only the all sellers sample was used for hypothesis testing. The all sellers sample was discussed under the aggregated sellers level section, above. It was concluded from testing Hypothesis 3 at a 95% confidence interval that for the 21 day event window the null hypothesis is rejected, and for event windows 11, five and two days the null hypothesis is not rejected. The five day ACAR is however significant at the 10% level.

The top 30 sellers reported considerable positive ACAR's, significant for event windows 21, 11 and five. The Mining & Resources sellers reported small, however, positive ACAR's, and the Real Estate sellers reported small, however, negative ACAR's. All the Mining & Resources and Real Estate ACAR's were insignificant.

In summary, concluding for Hypothesis 3 that asset sales do create significant value for sellers based on the short term metric of abnormal share price returns. This research's finding is consistent with Slovin *et al*. (2005)'s and Hege *et al*. (2009)'s asset sale findings, and is consistent with Bruner (2002)'s and Haleblian *et al*. (2009)'s mergers and acquisitions findings.

6.8 Hypothesis 4: Seller's Equity Compared to Cash ACAR

This hypothesis test was designed to determine for selling companies, whether ACAR's for equity funded asset sales are greater compared to ACAR's for cash funded asset sales for event windows around the asset sale's announcement date. This discussion is about the statistical significance of the difference between means or median being different from zero for the all sellers, top 30 sellers, Mining & Resources sellers and Real Estate sellers samples.

To obtain better insight to this hypothesis that evaluates the difference between equity sellers ACAR and cash sellers ACAR, require discussing the equity sellers ACAR and cash sellers ACAR in detail. The discussion of this hypothesis test has three distinct sections. First on the aggregated seller's level the equity sellers and cash sellers samples are discussed. Secondly on the industry level the Mining & Resources and Real Estate equity and cash sellers samples are discussed. Lastly the differences in means or medians of the sellers' samples are discussed.

Aggregated Seller Level: Comparing the ten days before the event to the ten days after the event, showed that the market notably reacted before and after the asset sale announcements. The equity sellers reported significant positive AAR's five and three days before the announcement. The significant AAR activity before the announcement date indicate potential insider trading by the equity sellers (Mushidzhi & Ward, 2004) which became clearer when differentiating between industries. The day after the announcement the equity sellers reported a significant AAR and on the day of the announcement the top 30 cash sellers reported a significant AAR, which was the market responding to the announcement. After the announcement the equity sellers and top 30 cash sellers ACAR's increased, while the cash sellers ACAR remained constant. This observation becomes clearer when differentiating between industries.

For the equity sellers the ACAR's for the 21 day event window is 4.65% (p-value of 0.053), the five day event window is 1.41% (p-value of 0.124) and the two day event window is 0.21% (p-value of 0.805). Only the 21 day event window ACAR is significant. In comparison, Slovin *et al*. (2005) reported an ACAR for the two day event window of 3.17%, significant at the 1% level. Hege *et al*. (2009) reported ACAR's for the five day event window of 6.80% and for the two day event window of 6.92%, both are significant at the 1% level. This study's equity sellers' results are not of the same ACAR magnitude and statistical significance, however it is consistent with Slovin *et al*.'s and Hege *et al*.'s research.

The cash seller sample reported no significant ACAR's. The 21 day ACAR is 1.21% (p-value of 0.309), the five day ACAR is 0.56% (p-value of 0.269) and the two day ACAR is 0.11% (p-value of 0.733). In comparison, Slovin *et al*. (2005) reported an ACAR for the two day event window of 1.89%, significant at the 1% level. Hege *et al*. (2009) reported ACAR's for the five day event window of 2.21% and for the two day event window of 1.43%, both are significant at the 5% level. This study's cash sellers' results are not of the same ACAR magnitude and statistical significance, however it is

consistent with Slovin *et al*.'s and Hege *et al*.'s research that asset sales transacting with equity create greater value for the sellers compared to transacting with cash

Comparing the full sample to the top 30 sample. The top 30 cash sellers ACAR's are larger compared to the cash sellers ACAR's for all four the event windows. The proposed explanation that larger transactions are more material to a company compared to small transactions, and the market responded based on the transaction's materiality for the company, is observed to apply to the cash sellers, although not significant.

Industry Level: Comparing the ten days before the event to the ten days after the event, showed that the market notably reacted before and after the asset sale announcements. The Mining & Resources equity sellers reported a significant positive AAR five days before the announcement date and the Real Estate equity sellers reported a significant positive AAR three days before the announcement date. The significant positive AAR activity before the announcement date indicate potential insider trading by both the Mining & Resources and Real Estate equity sellers (Mushidzhi & Ward, 2004). Insider trading is a likely explanation since based on mergers and acquisitions literature (Haleblian *et al*., 2009) the seller's share price tends to increase after the announcement date. The Mining & Resources equity sellers reported a significant positive AAR two days after the announcement, which was the market responding to the announcement.

The Mining & Resources sellers' and Real Estate sellers' ACAR's increased after the announcement day. In contrast the Mining & Resources cash sellers' ACAR's decreased after the announcement and the Real Estate cash sellers' ACAR's are negative for all four the event windows. The market did not respond favourably to the cash sellers transactions even though the average cash sellers' transaction value is larger compared to the average equity sellers' transaction value. The Real Estate sellers' average transaction value relative to the companies' market capitalisation is about a third compared to the Real Estate equity sellers ratio. Applying the previously proposed immaterially explanation address why the market did not respond to the Real Estate cash sellers sample.

The Mining & Resources cash sellers' average transaction value and the average transaction value relative to the companies' market capitalisation is however larger compared to the Mining & Resources equity sellers'. Descriptive statistical factors do

not explain why the Mining & Resources cash sellers' ACAR's are smaller compared to the Mining & Resources equity sellers when the opposite is expected. It is however explained by Hege *et al*. (2009) which concluded that cash asset sales are associated with assets of low intrinsic value and should be sold for cash. In contrast, equity funded asset sales are associated with assets of high intrinsic value, therefore equity funded asset sales should be associated with positive wealth generating effects.

Hypothesis Test: This hypothesis tests for selling companies, whether ACAR's for equity funded asset sales are larger compared to ACAR's for cash funded asset sales, therefore only the all sellers sample was used for hypothesis testing. The all sellers' sample was discussed under the aggregated seller level section, above. It was concluded from testing Hypothesis 4 at a 95% confidence interval that for all four the event windows the null hypothesis is not rejected. The all sellers 21 day ACAR is however significant at the 10% level and. The all sellers sample reported positive ΔACAR's for each of the four event windows, therefore equity sellers create more value compared to cash sellers, although not significant.

The top 30 sellers sample reported positive ΔACAR's for the 21 and 11 day event windows and reported negative ΔACAR's for the five and two day event windows. Since the equity sellers' sample consisted of only 30 transactions, the top 30 sellers' sample compared the equity sellers' ACAR's to the top 30 sellers' ACAR's. Considering all the top 30 samples reported larger ACAR's compared to the respective full sample, resulting in an unequal comparison. The researcher is cautious about concluding anything from the top 30 sellers statistical test results.

The Mining & Resources sellers' sample reported positive ΔACAR's for all four event windows, with the 21 and five day event windows being significant at the 10% level. The Real Estate sellers sample also reported positive ΔACAR's for all four the event windows, with the 21 day event window being significant at the 10% level. Sellers in the Mining & Resources and Real Estate industries transacting with equity therefore create more value compared to transacting with cash, significant al the 10% level.

In summary, concluding for Hypothesis 4 based on the short term metric of abnormal share price returns. Asset sale sellers transacting with equity do create greater value compared to transacting with cash, although significant at the 10% level. This research's results for sellers are consistent with Slovin *et al*. (2005)'s and Hege *et al*. (2009)'s findings.

6.9 Conclusion on Share Price Performance

The hypotheses tests indicated that the buyers and sellers gain significant average cumulative abnormal returns from asset sales. Sellers reported a larger ACAR than buyers for the 21 day event window, and buyers reported larger ACAR's than sellers for the ten, five and two day event windows. Typically equity sellers gain larger ACAR's compared to equity buyers and cash buyers gain larger ACAR's compared to cash sellers. International research is also inconclusive whether buyers or sellers gain the most, since Slovin *et al*. (2005) reported a larger ACAR for buyers compared to sellers for the 2 day event window and Hege *et al*. (2009) reported a larger ACAR for sellers compared to buyers for the 2 day event window.

At industry level the Mining & Resources buyers and Real Estate buyer's ACAR's for all four the event windows tested are larger compared to the corresponding Mining & Resources sellers and Real Estate seller's ACAR's. The Mining & Resources ACAR's for the buyer and seller samples are significantly larger compared to the Real Estate respective buyers and sellers samples.

The buyers and sellers gain larger ACAR's in equity based asset sales compared to cash based asset sales, although only the sellers 21 day event window was statistical significant. These findings are consistent with research by Slovin *et al*. (2005) and Hege *et al*. (2009) and contrary to merger and acquisition research by Mushidzhi and Ward (2004) as well as Smit and Ward (2007) which found cash funded acquisitions created greater value for the acquirers and targets compared to equity funded acquisitions.

At industry level the Mining & Resources equity buyers reported similar positive ACAR's compared to the Mining & Resources cash buyers. The Mining & Resources equity sellers reported significantly larger ACAR's compared to the Mining & Resource cash sellers. Out of the four Mining & Resources samples, the equity sellers sample reported the largest ACAR's.

The Real Estate equity buyers reported significantly larger ACAR's compared to the Real Estate cash buyers. The Real Estate equity sellers reported significantly larger ACAR's compared to the Real Estate cash sellers. Out of the four Real Estate samples, the equity buyers samples reported the largest ACAR's.

In summary based on the short term share price performance metric the researcher concludes. Firstly asset sales do create significant value for the buyer and seller companies. Secondly equity funded asset sales do create more value than cash funded asset sales, although not significant.

6.10 Operating Financial Performance

The operating financial performance analysed the change in average abnormal cash flow returns on assets (AACRA) during the specified event window. The qualifying companies' operational performance was analysed using the same buyers' asset sale samples; buyers paying with cash and buyers paying with equity. Using event study methodology the three years before and three years after the asset sale, operating financial data was obtained from the McGregor BFA database. The McGregor BFA financial statements are standardised into a common format, thus being user friendly to identify and extract the required EBITDA and tangible asset figures easily to calculate AACRA's for event windows [-3, -1], [-2, -1], [+1, +2], [+1, +3], [-3, +3] and [-2, +2]. In the case where confounding events shortened a specific company's event window to less than the defined window period, such a company was removed from the specific event window sample.

6.11 Hypothesis 5: Buyer's AACRA

This hypothesis test was designed to determine whether buying companies do achieve different average abnormal cash flow return on assets (AACRA) post-asset sales compared to AACRA pre-asset sales for event windows around the asset sale's announcement date. This discussion is about the statistical significance of the difference between means or median being different from zero.

The AACRA's of all three the buyers' samples over all seven years are statistically not zero and all the respective AACRA's are negative, therefore buyers engaging in asset sales perform below the market model's average over the seven year event window. In addition all three the buyers samples' AACRA's are decreasing before the asset sale year. In comparison to mergers and acquisitions, Ghosh (2001) as well as Smith and Ward (2007) found acquirers performed above the market model's average and experienced increasing AACRA's before and after acquisitions. This is a noteworthy observation differentiating asset sales from mergers and acquisitions.

Comparing the three years before the event to the three years after the event showed that the asset sales had a notable impact on the companies' AACRA's. Typically the AACRA decreased the three years before the year of the asset sale and increased in the year of the asset sale. The year after the asset sale the AACRA decreased below the pre asset sale value and increased in years two and three after the asset sale, forming a W-graph. The Mining & Resources AACRA differ from the W-graph by increasing in the year before the asset sale. Observing Mining & Resources industry' accounting performance increased before they purchased assets compared to the Real Estate industry that purchased assets in order to improve their accounting performance. These observations become richer when differentiating between equity, cash and industry in section 6.12 below.

In the year of the asset sale the AACRA increased, more notably for the Mining & Resources buyers. Asset sales created short term value potentially due to favourable contracts that were acquired with the asset, access to working capital, selling off mobile plant and applicable to the Real Estate industry to sell off non-core properties that were part of the asset sale portfolio.

The decrease and increase in AACRA after the asset sale indicated on average it took two years to incorporate the new asset. The decrease is potentially due to the disruptive impact the new asset had on the existing company or key personnel that were gained with the asset that resigned. Two years after the asset sale the buyers were extracting value from the asset by changing the declining AACRA's into increasing AACRA's.

Comparing with other research. Before the asset sale the all buyers AACRA for event window [-3, -1] is -2.73% (p-value of 0.055) and for event window [-2, -1] is -1.64% (p-value of 0.098), both are significant. In comparison, Slovin *et al*. (2005) reported an AACRA for event window [-1, 0] of -1.55%, significant at the 1% level. This research's findings are consistent with Slovin *et al*. (2005)'s finding that the AACRA's decreased before the asset sale. These findings are contrary to mergers and acquisitions' finding where the buyers performed above the market model average and experience increasing performance before an acquisition. Ghosh (2001) reported an AACRA of 2.81% for event window [-3, -1], significant at the 1% level, and Smith and Ward (2007) reported an insignificant AACRA of 1.57% for event window [-2, -1].

After the asset sale the all buyers AACRA for event window [+1, +2] is 0.92% (p-value of 0.968) and for event window [+1, +3] is 2.39% (p-value of 0.535), both are insignificant. These findings are consistent with Slovin *et al*. (2005)'s finding that the AACRA's increased after the asset sale, by reporting an insignificant AACRA of 1.04% for event window [+1, +2]. These findings are consistent with mergers and acquisition's finding where the buyers experiences superior performance after an acquisition. Smith and Ward (2007) reported an insignificant AACRA of 1.34% for event window [+1, +2] and Ghosh (2001) reported an AACRA of 3.06% for event window [+1, +3], significant at the 1% level.

The Real Estate buyers' seven year AACRA is larger compared to the Mining & Resources buyers' AACRA, although not significant. The Mining & Resources buyers experienced an increase in AACRA in the year before the asset sale which resulted in the Real Estate buyers' seven year AACRA to be larger compared to the Mining & Resources buyers' AACRA. The AACRA's between industries therefore differ, buyers in the Real Estate industry can anticipate larger AACRA's compared to buyers in the Mining & Resources industry, although the difference in medians was not significant.

Hypothesis Test: This hypothesis tests whether buying companies do achieve different average abnormal cash flow return on assets (AACRA) post asset sales compared to AACRA pre asset sales for event windows around the asset sale's announcement date. Only the all buyers sample was used for hypothesis testing, which was discussed above. It was concluded from testing Hypothesis 5 at a 95% confidence interval that for the [-3, +3] year event window the null hypothesis is rejected, and for the [-2, +2] year event window the null hypothesis is not rejected. The Mining & Resources buyers and the Real Estate buyers reported positive AACRA's for the [-3, +3] year event windows, although not significant.

In summary, concluding for Hypothesis 5 that asset sales do create significant value for buyers based on the medium term metric of operating financial performance. This research's finding is consistent with Slovin *et al*. (2005)'s asset sale findings. Compared to Ghosh (2001)'s as well as Smith and Ward (2007)'s mergers and acquisitions findings, this research's findings before the asset sale are contrary to mergers and acquisitions' findings and the findings after the asset sale is consistent with mergers and acquisitions' findings.

6.12 Hypothesis 6: Buyer's Equity Compared to Cash AACRA

This hypothesis test was designed to determine whether buying companies' AACRA for equity funded asset sales is larger compared to AACRA's for cash funded asset sales for event windows around the asset sale's announcement date. This discussion is about the statistical significance of the difference between means or median being different from zero.

Aggregated Buyer Level: The AACRA's for the equity and cash buyer samples over all seven years are statistically not zero and all the respective AACRA's are negative. Equity and cash buyers engaging in asset sales therefore perform below the market model average over the seven year event window. Comparing the three years before the event to the three years after the event, showed that the asset sale had a notable impact on the companies' AACRA's. From three years before the asset sale up to one year before the asset sale the AACRA's decreased. In the year of the asset sale the AACRA's increased, for year one after the asset sale the AACRA's decreased and for years two and three after the asset sale the AACRA's increased. These are noteworthy observation that differentiates asset sales from mergers and acquisitions as were discussed under section 6.11.

As per the all buyers' ample in section 6.11 the asset sales created short term value in the year of the sale, however thereafter it took two years to incorporate the new asset. Two years after the asset sale the buyers were extracting value from the asset by changing the declining AACRA's into increasing AACRA's.

Comparing with other research. Before the asset sale the equity buyers' AACRA for the event window [-3, -1] is -3.88% (p-value of 0.124) and for event window [-2, -1] is -3.02% (p-value of 0.232), both are insignificant. These findings are contrary to Hege *et al*. (2009)'s asset sale finding that the equity buyers' AACRA decreases before the asset sale, by reporting an insignificant AACRA of 2.09% for the event window [-1, 0]. This research's findings are consistent with Smith and Ward (2007)'s mergers and acquisitions findings that the equity buyers' AACRA decreases before the acquisition, by reporting an insignificant AACRA of -1.79% for the event window [-2, -1].

Before the asset sale the cash buyers' AACRA for the event window [-3, -1] is -2.03% (p-value of 0.250) and for the event window [-2, -1] is -0.79% (p-value of 0.266), both are statistical insignificant. These findings are consistent with Hege *et al*. (2009)'s

finding that the cash buyers' AACRA decreased before the asset sale, by reporting an insignificant AACRA of -0.29% for event window [-1, 0]. This research's findings are contrary to Smith and Ward (2007)'s mergers and acquisitions findings that the cash buyers' AACRA decreases before the acquisition, by reporting an insignificant AACRA of 1.45% for the event window [-2, -1].

After the asset sale the equity buyers' AACRA for the event window [+1, +2] is 1.90% (p-value of 0.533) and for the event window [+1, +3] is 4.96% (p-value of 0.188), both are insignificant. These findings are consistent with Hege *et al*. (2009)'s findings that the equity buyers' AACRA increased after the asset sale, by reporting AACRA's of 4.42% for the event window [-1, +2] and 5.36% for the event window [-1, +3], both significant at the 5% level. This research's findings are consistent with Smith and Ward (2007)'s mergers and acquisitions findings that the equity buyers' AACRA increased after the acquisition, by reporting an insignificant AACRA of 1.63% for the event window [+1, +2].

After the asset sale the cash buyers' AACRA for the event window [+1, +2] is 0.15% (p-value of 0.398) and for the event window [+1, +3] is 0.46% (p-value of 0.618), both are insignificant. These findings are consistent with Hege *et al*. (2009)'s finding that the cash buyers' AACRA increased after the asset sale, by reporting insignificant AACRA's of 0.60% for the event window [-1, +2] and 0.22% for the event window [-1, +3]. This research's findings are contrary to Smith and Ward (2007)'s mergers and acquisitions findings that the cash buyers' AACRA increased after the acquisition, by reporting an insignificant AACRA of -0.38% for the event window [+1, +2].

Comparing asset sales to mergers and acquisitions the following observations are made. Before the asset sale both the equity and cash buyers experience negative AACRA's, and after the asset sale both the equity and cash buyers experienced positive AACRA's. This supports Hypothesis 5's conclusion that asset sales do create medium term value for equity and cash buyers. Before the acquisition the equity buyers experience negative AACRA's and the cash buyers experience positive AACRA's, and after the acquisition the equity buyers experience positive AACRA's and the cash buyers experienced negative AACRA's. The mergers and acquisitions observations support the acquisition's method of payment's correlation to superior accounting performance before the acquisition and the quality of the asset. Superior performing acquirers pay with cash and assets of high intrinsic value improve post acquisition's accounting performance.

Industry Level: Except for the Real Estate cash buyers, comparing the three years before the event to the three years after the event, showed that the asset sales had a notable impact on the buyers' AACRA's. The Mining & Resources equity buyers' AACRA followed the W-graph as discussed in section 6.11, however the Mining & Resources cash buyers' AACRA follow the mergers and acquisitions' AACRA pattern. Observing therefore that buyers that experienced improved accounting performance before the asset sale, tended to pay with cash. Comparing the Mining & Resources equity buyers' AACRA to the Mining & Resources cash buyers' AACRA, reported for the [-3, +3] year event window the equity buyers created 7.18% more value compared to the cash buyers, significant at the 10% level. Observing therefore that the quality of the asset is more important than accounting performance, in choosing the method of payment.

The Real Estate equity and cash buyers followed the same decreasing ACCRA trend from three years before to one year after the asset sale. In years two and three the Real Estate equity buyers' AACRA increased. A potential explanation why the Real Estate buyers do not follow the W-graph is that the Mining & Resources and Real Estate industries use assets differently. Mining & Resources' operational assets are typically depreciated over ten years, compared to Real Estate buildings that are typically depreciated over 20 years. Mining & Resources buyers need to extract value out of their assets over a shorter time frame compared to Real Estate buyers. This support the observation that the Mining & Resources industry's accounting performance increased before they purchase assets compared to Real Estate industry that purchased assets in order to improve their accounting performance

Hypothesis Test: This hypothesis tests whether buying companies' AACRA for equity funded asset sales is larger compared to AACRA's for cash funded asset sales for event windows around the asset sale's announcement date. Only the all buyers sample was used for hypothesis testing, which was discussed above. It was concluded from testing Hypothesis 6 at a 95% confidence interval that for all yearly event windows the null hypothesis is not rejected.

For all three buyers samples the equity buyers created less value compared to the cash buyers before the asset sale and the equity buyers created more value compared to the cash buyers after the asset sale. This supports the observation that buyers that experience improved accounting performance before the asset sale, tend to pay with cash and equity buyers buyer assets of greater quality with greater future income

generating capabilities. For the [-3, +3] and [-2, +2] year event windows the ΔAACRA's are all positive indicating over the seven and five year windows the equity buyers reported larger AACRA's compared to the cash buyers. The Mining & Resources ΔAACRA's for the seven year event window is significant at the 10% level and for the five year event window is significant at the 5% level.

In summary, concluding for Hypothesis 6 based on the medium term metric of operating financial performance. Asset sale buyers transacting with equity generated greater value compared to transacting with cash, although only significant for the Mining & Resources industry. This research's results for buyers are consistent with Hege *et al*. (2009)'s findings that equity generated greater value compared to cash for asset sale buyers.

6.13 Conclusion on Operating Financial Performance

The hypothesis test indicated that the buyers gained significant average abnormal cash flow returns on assets (AACRA) from asset sales. Typically AACRA's decreased before the asset sale, increased temporally during the year of the asset sale and decreased further the year after the asset sale. Only in the second year after the asset sales did the buyers extract value from the asset which was reflected by the declining AACRA's changing into increasing AACRA's in year two after the asset sale. These findings are consistent with Slovin *et al*. (2005) and Hege *et al*.'s (2009) findings.

All the respective buyer sample's AACRA's were negative; therefore buyers engaging in asset sales perform below the market model's average over each of the seven years in the event window. These asset sale findings are contrary to mergers and acquisitions findings by Ghosh (2001) as well as Smith and Ward (2007) where the buyers performed above the market model's average and experience increasing performance before and after an acquisition.

The equity buyers created less value than cash buyers before the asset sale and equity buyers created more value than cash buyers after the asset sale. Combined over the seven year event window the equity buyers created more value compared to the cash buyers, although not significant. This finding is consistent with Hege *et al*.'s (2009) finding that equity buyers created more value compared to cash buyers. This asset sale finding is contrary to mergers and acquisitions finding by Bruner (2002) that

cash funded acquisitions created more value compared to equity funded acquisitions, however is consistent with mergers and acquisitions findings by Smit and Ward (2007) that equity funded acquisitions created more value compared to cash funded acquisitions.

In summary, based on the medium terms operating financial performance metric the researcher concludes. Firstly asset sales do create significant value for the buyer companies. Secondly equity funded asset sales do create more value compared to cash funded asset sales, although only significant for the Mining & Resources industry.

6.14 Summary of Comparable Results

The results reported by other asset sales and mergers and acquisitions studies were compared to the results of this study. Table 6.1 summarises the findings of selected asset sale research that is based on the market's short term metric of abnormal share price performance.

Table 6.1: Asset Sales: Summary of selected research findings of Average Cumulative Abnormal Returns (ACAR)

Study	Period	Event Window (days)	Buyer		Seller	
			Equity	Cash	Equity	Cash
Slovin *et al.* (2005)	1982-2000	[-1, 0]	9.77%***	-0.30%	3.17%***	1.89%***
Bhana (2006)	1995-2001	[-120,+120]	2,98%		-3,94%	
Hege *et al.* (2009)	1989-2002	[-2,+2] [-1, 0]	3.92%*** 3.44%***	0.48% -0.03%	6.80%*** 6.92%***	2.21%*** 1.43%***
This Research	2000-2011	[-10,+10] [-5,+5] [-2,+2] [-1, 0]	2.88%** 1,83%* 1.16% 1.23%*	1.18% 1.13% 1.13%* 0.34%	4.65%* 1.85% 1.41% 0.21%	1.21% 0.59% 0.56% 0.11%
* - Statistically significantly at the 10% level ** - Statistically significantly at the 5% level *** - Statistically significantly at the 1% level						

Table 6.2 summarises the findings of selected mergers and acquisitions research that is based on the market's short term metric of abnormal share price performance.

Table 6.2: Mergers & Acquisitions: Summary of selected research findings of Average Cumulative Abnormal Returns (ACAR) for acquiring companies

Study	Period	Event Window (days)	ACAR: Full sample	ACAR: Equity funded	ACAR: Cash funded
Fuller, Netter, and Stegemoller (2002)	1990-2000	[-2,+2]	1.77%***	1.25%***	1.78%***
Choi and Russel (2004)	1980-2002	[-20,+20] [-10,+10] [-5,+5] [-1,+1]	2.41 2.37** 0.96 1.66**		
Mushidzhi and Ward (2004)	3/1998-12/2002	[-10,+10] [-1,+1]	-0.55% 0.31%	-0.28% -0.24%	0.94% 1.07%
Smit and Ward (2007)	2000-2002	[-10,+10] [-5,+5] [-2,+2] [-1,+1]	4.35% 3.79% 0.98% -0.02%	1.89% 2.76% -1.89%* -1.92%	11.50% 7.43% 5.92% 3.10%
This Research	2000-2011	[-10,+10] [-5,+5] [-2,+2] [-1, 0]	1.85%** 1.41%** 1.14%** 0.69%***	2.88%** 1,83%* 1.16% 1.23%*	1.18% 1.13% 1.13%* 0.34%
* - Statistically significantly at the 10% level ** - Statistically significantly at the 5% level *** - Statistically significantly at the 1% level					

Table 6.3 summarises the findings of selected asset sale research that is based on the medium term accounting metric of operational financial performance.

Table 6.3: Asset Sales: Summary of selected Average Abnormal Cash flow Returns on Assets (AACRA) for buying companies

Study	Period	Event Window (years)	Buyer		Seller	
			Equity	Cash	Equity	Cash
Slovin *et al.* (2005)	1982-2000	[-1,0] [0,+1] [+1,+2] [+2,+3]	-1.55% 0.06% 1.04% 0.35%			
Hege *et al.* (2009)	1989-2002	[-1,0] [-1,+1] [-1,+2] [-1,+3] [-1,+4]	2.09% 3.85%* 4.42%** 5.36%** 4.26%**	-0.29% -0.73% 0.60% 0.22% 0.05%	-0.79% -0.88% -0.48% -0.49% 0.16%	-0.30% 0.10% 0.82% 0.66% -0.55%
This Research	2000-2011	[-3,-1] [-2,-1] [+1,+2] [+1,+3] [-3,+3] [-2,+2]	-3.88% -3.02% 1.90% 4.96% 8.84%** 4.92%*	-2.03% -0.79% 0.15% 0.46% 2.49% 0.94%		
* - Statistically significantly at the 10% level ** - Statistically significantly at the 5% level *** - Statistically significantly at the 1% level						

Table 6.4 summarise the findings of selected mergers and acquisition research that is based on the medium term accounting metric of operational financial performance.

Table 6.4: Mergers & Acquisitions: Summary of selected Average Abnormal Cash flow Returns on Assets (AACRA) for acquiring companies

Study	Period	Event Window (years)	Sample size	Abnormal return	
Healy *et al*. (1992)	1979-1984	[-5,-1] [+1,+5]	50	0.3% 2.8%***	
Ghosh (2001)	1981-1995	[-3,-1] [+1,+3]	315	2.81%*** 3.06%***	
Smit and Ward (2007)	2000-2002	[-2,-1] [+1,+2] [-2,+2]	23	1.57% 1.34% -0.23%	
				Equity	**Cash**
Smit and Ward (2007)	2000-2002	[-2,-1] [+1,+2] [-2,+2]	Equity: 13 Cash: 10	-1.79% 1.63% 3.42%	1.45% -0.38% -1.83%
This Research	2000-2011	[-3,-1] [-2,-1] [+1,+2] [+1,+3] [-3,+3] [-2,+2]	Equity: 37 Cash: 53	-3.88% -3.02% 1.90% 4.96% 8.84%** 4.92%*	-2.03% -0.79% 0.15% 0.46% 2.49% 0.94%

* - Statistically significantly at the 10% level
** - Statistically significantly at the 5% level
*** - Statistically significantly at the 1% level

6.15 Value of Transaction Relative to Market Capitalisation

The JSE's listing requirements dictate how listed companies need to communicate and approve corporate activities based on the transaction size relative to the company's market capitalisation, called the percentage ratio. To test the materiality of this categorisation system the top 30 transactions by percentage ratio was statistically compared to the respective full sample, achieving the following results.

The impact that the value of transactions relative to market capitalisation has on the average cumulative abnormal return (ACAR) was discussed under Hypotheses 1, 2, 3 and 4 (sections 6.5, 6.6, 6.7 and 6.8). This notable observation justify summarising the discussions in one section.

The top 30 buyers' ACAR is larger compared to the all buyers' ACAR, although not significant. This relationship is the same for the 11 and five day event windows. Observing that the larger the transaction value is relative to the buyer's market capitalisation, the larger the anticipated value created will be, although not significant.

The top 30 equity buyers' 21 and 11 day ACAR's are larger compared to the equity buyers' ACAR's, although not significant. Similarly the top 30 cash buyers' 21 and 11 day ACAR's are larger compared to the cash buyers' ACAR's, although not significant. Observing that the larger the transaction value is relative to the equity and cash buyer's market capitalisation, the larger the anticipated value created will be, although not significant.

The top 30 sellers' ACAR is larger compared to the all sellers' ACAR, although not significant. This relationship is the same for all the event windows. Observing that the larger the transaction value is relative to the seller's market capitalisation, the larger the anticipated value created will be for the seller, although not significant.

The top 30 cash sellers' ACAR's are larger compared to the cash sellers' ACAR's for all four the event windows, although not significantly. Observing that the larger the transaction value is relative to the cash seller's market capitalisation, the larger the anticipated value created will be for the seller, although not significant.

In summary, for all five the analysis the top 30 transaction sample's ACAR's are larger compared to the full sample of transactions. Although insignificant, it concludes that the larger the transaction value is relative to the company's market capitalisation, the larger the anticipated value created will be for the company party to an asset sale. A probable explanation is that larger transactions are more material to a company compared to smaller transactions, and the market responded to the transaction based on the transaction's materiality for the company. This relationship is however only applicable within the sample and does not apply to draw infers across samples.

The JSE's listing requirements' categorisation system based on the transaction size relative to the company's market capitalisation, does not provide significant indication of the anticipated value the transaction can create. The categorisation system's value resides in the corporate governance structure it ensures.

7. CONCLUSION

7.1 Introduction

The purpose of this chapter is to summarise and contextualise the findings of the research, the purpose of which was to determine whether the effects of paying with equity or cash on intercorporate asset sales created value. This was achieved by comparing and evaluating pre and post announcement performance of asset sales within defined event windows, using two different metrics namely, abnormal share price return and abnormal cash flow return on assets. Inferences were then established with mergers and acquisitions research.

The research objectives as set out in Chapter 1 have been achieved. In Chapter 2 relevant methods from previous research undertaken in the measurement and analysis of value create was identified and evaluated. In Chapter 5 the results of the statistical analysis has been presented and in Chapter 6 this study's results were evaluated and compared with previous studies.

7.2 Summary and Conclusions

Measured by the transaction value divided by the company's market capitalisation buyers are larger compared to sellers, with equity buyers being considerably larger than equity sellers and cash buyers being considerably larger than cash sellers which are consistent with Hege *et al*. (2009)'s findings. Typically the asset sales are material corporate events for buyers, however less so for sellers.

Based on the short term metric of abnormal share price returns. The buyers and sellers gain significant larger ACAR's in equity based asset sales compared to cash based asset sales. These findings are consistent with research by Slovin *et al*. (2005) and Hege *et al*. (2009) and contrary to merger and acquisition research by Mushidzhi and Ward (2004) as well as Smit and Ward (2007) which found cash funded acquisitions created greater value for the acquirers and targets compared to equity funded acquisitions.

At industry level the Mining & Resources equity buyers reported similar positive ACAR's compared to the Mining & Resources cash buyers. The Mining & Resources

equity sellers reported significantly larger ACAR's compared to the Mining & Resource cash sellers. Out of the four Mining & Resources samples, the equity sellers sample reported the largest ACAR's.

The Real Estate equity buyers reported significantly larger ACAR's compared to the Real Estate cash buyers. The Real Estate equity sellers reported significantly larger ACAR's compared to the Real Estate cash sellers. Out of the four Real Estate samples, the equity buyers samples reported the largest ACAR's.

The majority of Mining & Resources transactions were to realign the business to pursue a focused strategy. This is reflected by Mining & Resources representing 47% of the total selling transactions. The Real Estate industry was consolidating, contributing to 66% of the total buying transactions. The greater industry insight for Mining & Resources is therefore primarily from a seller's perspective and for Real Estate is primarily from a buyer's perspective. Different results were obtained for Mining & Resources compared to Real Estate therefore require caution to apply findings to companies in other industries.

Based on the short term share price performance metric the researcher concludes. Firstly asset sales do create significant value for the buyer and seller companies. Secondly equity funded asset sales do create more value than cash funded asset sales, although not significant.

Although insignificant, it was concluded that the larger the transaction value is relative to the company's market capitalisation, the larger the anticipated value created will be for the company party to an asset sale. A probable explanation is that larger transactions are more material to a company compared to smaller transactions, and the market responded to the transaction based on the transaction's materiality for the company. This relationship is however only applicable within the sample and does not apply to drawing inferences across samples.

Significant positive AAR's were reported before the announcement date which indicate potential insider trading by both the Mining & Resources and Real Estate equity sellers (Mushidzhi & Ward, 2004). Insider trading is a likely explanation since based on asset sale (Hege *et al.*, 2009) and mergers and acquisitions literature (Haleblian *et al.*, 2009) the seller's share price tends to increase after the announcement date.

Based on the medium term metric of operational financial performance. Buyers gained significant average abnormal cash flow returns on assets (AACRA) from asset sales. Typically AACRA's decreased before the asset sale, increased temporally during the year of the asset sale and decreased further the year after the asset sale. Only in the second year after the asset sales did the buyers extract value from the asset which was reflected by the declining AACRA's changing into increasing AACRA's in year two after the asset sale. These findings are consistent with Slovin *et al*. (2005) and Hege *et al*.'s (2009) findings. Slovin *et al*. and Hege *et al*. however only considered event windows from one year before the asset sale, and were therefore unable to make the inferences this study is making with comparable mergers and acquisitions, and asset sale research.

All the respective buyers sample's AACRA's were negative; therefore buyers engaging in asset sales perform below the market model's average over each of the seven years in the event window. These asset sale findings are contrary to mergers and acquisitions findings by Ghosh (2001) as well as Smith and Ward (2007) where the buyers performed above the market model's average and experience increasing performance before and after an acquisition. This is a noteworthy observation differentiating asset sales from mergers and acquisitions.

The equity buyers created less value than cash buyers before the asset sale and equity buyers created more value than cash buyers after the asset sale. Combined over the seven year event window the equity buyers created more value compared to the cash buyers, although not significant. This finding is consistent with Hege *et al*.'s (2009) finding that equity buyers created more value compared to cash buyers. This asset sale finding is contrary to mergers and acquisitions finding by Bruner (2002) that cash funded acquisitions created more value compared to equity funded acquisitions, however is consistent with mergers and acquisitions findings by Smit and Ward (2007) that equity funded acquisitions created more value compared to cash funded acquisitions.

The most noteworthy difference observed between the two industries was Mining & Resources industry's accounting performance increased before they purchased assets compared to the Real Estate industry that purchased assets in order to improve their accounting performance. This observation will have a notable impact on the respective industries corporate strategies. Also the Mining & Resources industry's

accounting performance increasing before the asset sale provided a direct comparison between asset sales and mergers and acquisitions which is discussed below.

Buyers that experienced improved accounting performance before the asset sale, tended to pay with cash. Comparing the Mining & Resources equity buyers' AACRA to the Mining & Resources cash buyers' AACRA, the equity buyers' sample created significant value compared to the cash buyers' sample. Concluding that the intrinsic value of the asset is more important compared to the accounting performance, in choosing the method of payment, to achieve the greatest value. Superior performing buyers pay with cash and assets of high intrinsic value improve post acquisition's accounting performance.

Based on the medium term operating financial performance metric the researcher concludes. Firstly asset sales do create significant value for the buyer companies. Secondly equity funded asset sales do create more value compared to cash funded asset sales, although only significant for the Mining & Resources industry.

In summary, based on the short term share price performance metric and medium terms operating financial performance metric the researcher concludes. Firstly asset sales do create significant value for the buyer companies. Secondly equity funded asset sales do create more value compared to cash funded asset sales, although not significant.

The researcher's conclusions are also consistent with Hege *et al.*'s (2009) findings that cash asset sales are associated with low value generating effects; therefore assets with low intrinsic value should be sold for cash. In contrast, equity based asset sales should be observed when the asset has a high intrinsic value, therefore equity based asset sales should be associated with positive wealth generating effects. This study concludes that equity based asset sales contribute to economic value because they signal positive information about the value of the asset being sold and greater expectations of future profitability from the buyer's use of the asset.

This research concludes by proposing the shareholder value model as a contribution to theoretical knowledge.

7.3 Shareholder Value Model

As concluded in the previous section asset sales do create value for the buyer and seller companies and equity funded asset sales do create more value compared to cash funded asset sales. Also the researcher's conclusions are consistent with Hege *et al.*'s (2009) findings that cash funded asset sales are associated with generating low value; therefore assets with low intrinsic value should be sold for cash, and equity funded asset sales are associated with high intrinsic valued assets, therefore equity funded asset sales should be associated with positive wealth generating effects.

The asset sale conclusions will now be compared with mergers and acquisitions findings. Several mergers and acquisitions research (Fuller *et al.*, 2002; Mushidzhi & Ward, 2004; Smith & Ward, 2007) measuring abnormal share price performance over event windows of two to 21 days concluded that cash funded mergers and acquisitions do create more value compared to equity funded asset sales. Kyei (2008) however challenged the validity of the short term share price performance metric.

Kyei (2008) researched the long term impact of large acquisitions on the share price performance of acquiring companies listed on the JSE. Kyei found that the ACAR for cash funded acquisitions peaked at 5.58%, 67 days after the acquisition announcement and thereafter declined to -2.47%, 378 days after the acquisition. Equity funded acquisitions performed better, 67 days after the acquisition, equity funded acquisitions reached an ACAR of 4.76%, and increased to 9.03%, 378 days after the acquisition.

Kyei (2008) concluded that the short term metrics of abnormal share price performance do not capture the full effects of the market reaction to the announcement. Market participants systematically tend to react sluggish to strategic corporate decisions. This finding contradicts the efficient market hypothesis on which the short term models are built. Kyei further concluded that equity funded acquisitions created greater value compared to cash funded acquisitions over the 389 day event window, although not significant.

Kyei (2008) only used the abnormal share price metric to evaluate the long term performance of large acquirers. Smit and Ward (2007) used an accounting based metric similar to this research's AACRA to evaluate the impact of large acquisitions on the operating financial performance of acquiring companies listed on the JSE. By

comparing the two year event window after the acquisition to the two year event window before the acquisition for the aggregate sample, Smith and Ward found an insignificant negative return, however when differentiating between equity and cash funded acquisitions reported the following findings. Before the acquisition the equity buyers experience negative AACRA's and the cash buyers experience positive AACRA's, and after the acquisition the equity buyers experience positive AACRA's and the cash buyers experienced negative AACRA's. Smith and Ward found that equity funded acquisitions created greater value compared to cash funded acquisitions, although not significant. This supports Hege *et al*. (2009)'s finding that cash funded transactions are associated with low value generating effects; therefore assets or targets with low intrinsic value should be sold for cash. In contrast, equity funded transactions should be observed when the asset or target has a high intrinsic value, therefore equity based asset sales should be associated with positive wealth generating effects.

Research by Kyei indicate that short term abnormal share price return performance measurements does not accurately reflect the long term value created by equity funded acquisition's. The short term abnormal share price returns should only be of value to speculators. Management of acquiring companies need to appreciate the long term value of transacting with equity (Smit & Ward, 2007) and not be distracted by the short term signalling effect that their share price is considered to be overvalued when transacting with equity (Slovin *et al*., 2005).

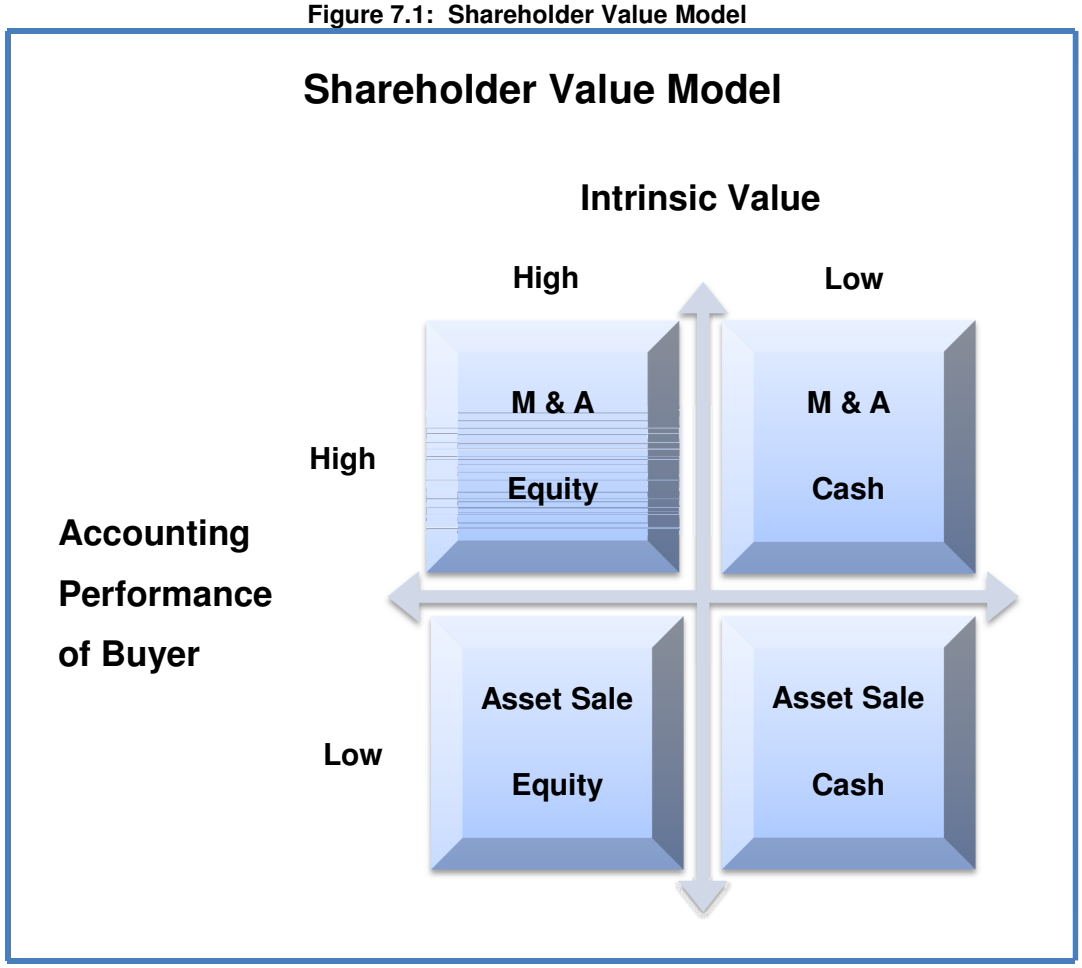
The researcher proposes that the fundamental value drivers of asset sales and mergers and acquisitions are the same. It took the insight from asset sales to clarify why mergers and acquisitions research is inconclusive whether mergers and acquisitions create or destroy value. It is not the method of payment that determine whether value is created or destroyed, it is the intrinsic value of the target that determine whether value is created or destroyed. An asset or target with high intrinsic value should be bought with equity resulting in both transacting parties to benefit from future revenue generated by the asset or target. Assets or targets with low intrinsic value should be bought with cash and will yield lower revenues in the future.

Ghosh (2001) as well as Smith and Ward (2007) found that acquirers performed above the market model's average and experienced increasing AACRA's before acquisitions. This superior accounting performance enables the acquirer to conclude larger deals. This research found that asset sale buyers experience negative AACRA's for the full

seven year event window. This research, Slovin et al. (2005) and Hege et al. (2009) also found that asset sale buyers experience decreasing AACRA's before the asset sales. This worsening accounting performance limits the buyer to conclude large deals. Concluding that buyers experiencing increasing AACRA's on average acquire targets and buyers experiencing decreasing AACRA's on average buy assets.

The researcher concludes by proposing the shareholder value model as depicted in Figure 7.1. Based on the accounting performance of the buyer and the intrinsic value of the asset or target, the model lists the optimum combination of corporate activity and the method of payment to unlock the most shareholder value. Assets or targets with high intrinsic value should be acquired with equity and assets or targets with low intrinsic value should be acquired with cash. Buyers with increasing accounting performance or experiencing above market model's accounting performance should pursue mergers and acquisitions. Buyers with decreasing accounting performance or experiencing accounting performance below the market model should pursue asset sales.

Figure 7.1: Shareholder Value Model



7.4 Limitations of This Research

The research had limitations, which are discussed below.

The study reviewed asset sales announced over an 11 year period from 1 January 2000 to 31 December 2011 and was limited to asset sales between JSE ALSI listed companies. Due to these judgmental sampling methods, as opposed to probabilistic random sampling, this study was not statistically representative of the total asset sale population. In different time periods different relationships between variables may exist. Also the study was not representative of asset sales by unlisted companies or companies listed on other stock exchanges.

The research analysed asset sale data, which were dependant on the availability of data. Based on the JSE's announcement requirement Paragraph 9.5 (Johannesburg Stock Exchange, 2011) any asset sale valued less than 5% of the company's market capitalisation constitutes a voluntary announcement. Since only SENS announcements were used to determine event dates and payment method and considering 45% of merger and acquisition transactions did not disclose the method of payment (Ernst & Young, 2005) a limited portion of asset sales were considered by this research.

This study used only two performance metrics resulting in a research outcome and conclusion that was limited by the applicability of the defined metrics and statistical techniques utilised. In addition, although the research proved valuable insights to the antecedents and consequences of asset sales it provided limited abilities to get "inside" asset sales. It did not analyse the cognitive and behavioural decision making processes that form the basis for asset sale behaviour (Haleblian *et al.*, 2009).

The operating financial performance analysis, analysed event windows three years before and three years after the asset sale announcement, with year zero the year of the announcement. Analysis over longer event windows, especially post asset sales might produce other results.

7.5 Future Research

This study reviewed asset sales announced over an 11 year period from 1 January 2000 to 31 December 2011. Asset sales outside this period were excluded, therefore

the study may not be representative of all asset sales. In different time periods different relationships between variables may exist. Future research can be conducted over a longer period which will also provide a larger sample of events to analyse, especially more equity buyers.

The research evaluated the aggregated value created by asset sales that ignored the possibility that asset sales may be value creating in some control portfolios and value destroying in other control portfolios over different time periods. It also did not differentiate between deal specific characteristics such as vertical integration, horizontal integration and diversification into unrelated industries. Future research can differentiate between these deal and industry characteristics to evaluate the effect on the value created.

Future research can also make use of a broader set of asset sale performance measures beyond share price returns and accounting based returns. For example factor in purchase premiums and differentiate between how long the seller owned the asset. A short period implies poor asset acquisition performance (Haleblian et al., 2009) which might affect the asset sale's performance.

The research analysed abnormal returns around announcements dates obtained from SENS. Therefore other types of announcements, such as via the press and analysts reports were not considered. These announcements could influence the results obtained. Future research can analyse abnormal returns around different announcements dates, from different sources for the same event, to determine which announcement was the dominant source the market responds to.

The researcher found that the market reacted to the competition commission's announcement regarding approval or disproval of the asset sale. Future research can investigate the correlation between initial announcement of the asset sale and the competition commission's announcement's impact on value created.

The research used secondary quantitative data to evaluate value created by asset sales, however provided limited abilities to get "inside" asset sales. Limited inferences can be made between the reasons that led to the assets sale and the subsequent value created. Schlingemann *et al*. (2002) presented a model that identified three main reasons for asset sales. Firstly when a company underperform which forces management to sell non-core assets to improve profitability, referred to as the

underperformance explanation. Secondly to reduce the degree of diversification to make the company more efficient, referred to as the focus explanation. Thirdly to reduce the debt level, referred to as the financing explanation. Future research can use these three variables to analyse the cognitive and behavioural decision making processes that form the base for asset sale behaviour (behavioural finance). Potential methodologies include in-depth interviews, case study techniques, grounded theory development and survey studies.

Insider trading activity and ownership structure of the company are useful context for evaluating corporate asset sale decisions (Hirschley & Zaima, 1989). Future research can explore whether insider trading and ownership structure plays any role in influencing shareholder reaction to asset sales by South African companies.

Asset sales unlocked value for diversified companies by selling off non-core units. An alternative proposition made by Castle and Kantor (2000) was for conglomerates to issue different tracking stocks to different divisions. Investors prefer to invest in more specialised companies which are presumed to be more efficient and profitable compared to companies which combined a number of unrelated industries. The capital market provides an incentive in the form of lower costs of capital for companies to become more specialised (Castle & Kantor, 2000). By issuing tracking stocks, management can reduce the cost of rising capital without giving up control over the non-core units. Future research can explore the viability of issuing tracking stock and compare the potential value created, to the value created through asset sales.

Considering the frequency of the asset sales per calendar year a potential correlation existed between higher volumes of asset sales during periods of bull markets and lower volumes of asset sales during periods of bear markets. Future research can explore this correlation, differentiate between methods of payment and determine if the different market trends and method of payment have any impact on value created. The researcher anticipates a larger volume of equity funded transactions during bull market periods compared to bear market periods.

This research found that the larger the transaction value is relative to the company's market capitalisation the larger the anticipated value created will be, applicable to buyers and sellers regardless of method of payment, although not significant. The limitation of this finding is there is no causality across industry or method of payment samples. This finding could not explain why Real Estate equity sellers created less

value compared to Mining & Resources equity sellers, which have a considerable smaller value of transaction to market capitalisation ratios compared to Real Estate equity sellers. Real Estate equity sellers' value of transactions, were considerably smaller compared to Mining & Resources equity sellers' transaction values. Future research can explore the correlation between transaction value and its impact on value created.

This research's analysis of operating financial performance found that the buyers' AACRA's increased in years two and three after the asset sale. Future research can analyse AACRA's over a longer post asset sale period to determine where the AACRA stabilise. Potentially the AACRA will increase above the market model's average which, based on the proposed model, will elevate the buyer from purchasing assets to acquiring targets.

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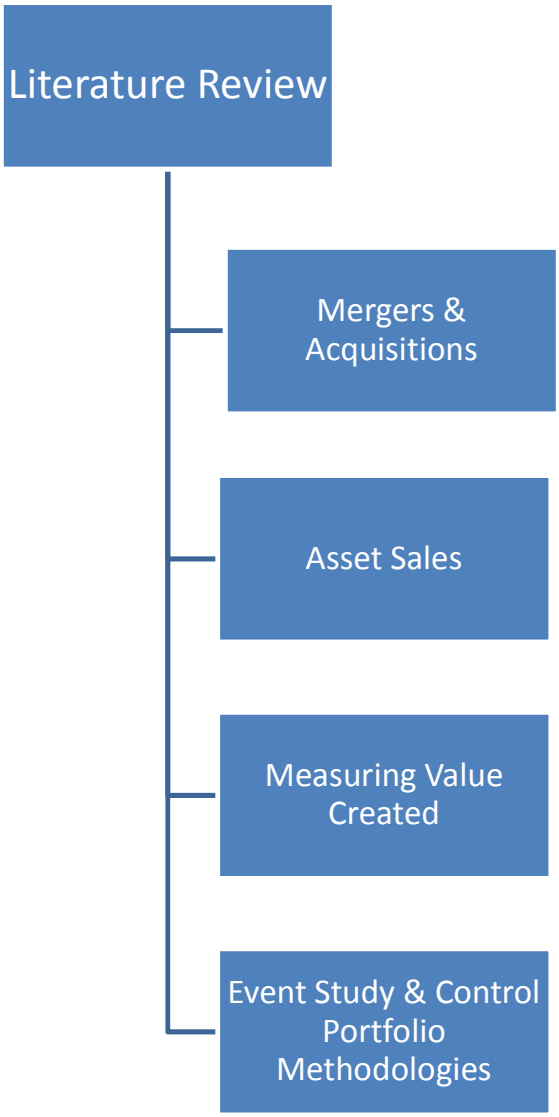
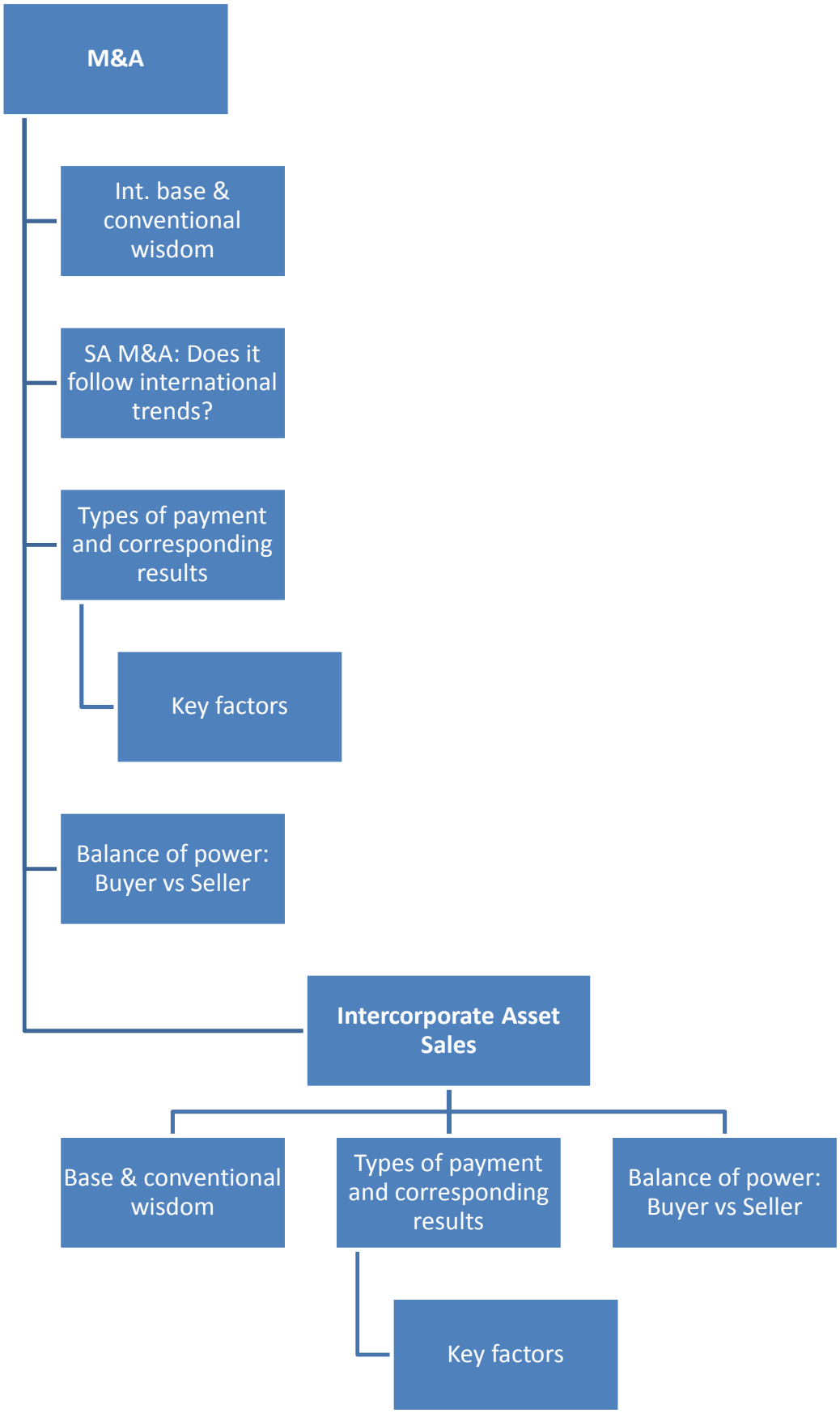
APPENDIX A: Literature Review Model




M&A
Int. base & conventional wisdom
SA M&A: Does it follow international trends?
Types of payment and corresponding results
Key factors
Balance of power: Buyer vs Seller
Intercorporate Asset Sales
Base & conventional wisdom
Types of payment and corresponding results
Balance of power: Buyer vs Seller
Key factors

APPENDIX B: Consistency Matrix

HYPOTHESES	LITERATURE REVIEW	DATA COLLECTION TOOL	ANALYSIS
1 $H1_0$: ACAR-B_{AD} = 0 $H1_A$: ACAR-B_{AD} ≠ 0	Mushidzhi and Ward (2004); Slovin *et al.* (2005); Smit and Ward (2007); Hege *et al.* (2009)	SENS, McGregor BFA	Two-tailed regression: t-test or non-parametric
2 $H2_0$: ACAR-B_{EQUITY} – ACAR-B_{CASH} ≤ 0 $H2_A$: ACAR-B_{EQUITY} – ACAR-B_{CASH} > 0	Mushidzhi and Ward (2004); Slovin *et al.* (2005); Smit and Ward (2007); Hege *et al.* (2009)	SENS, McGregor BFA	One-tailed regression: t-test or non-parametric
3 $H3_0$: ACAR-S_{AD} = 0 $H3_A$: ACAR-S_{AD} ≠ 0	Mushidzhi and Ward (2004); Slovin *et al.* (2005); Smit and Ward (2007); Hege *et al.* (2009)	SENS, McGregor BFA	Two-tailed regression: t-test or non-parametric
4 $H4_0$: ACAR-S_{EQUITY} – ACAR-S_{CASH} ≤ 0 $H4_A$: ACAR-S_{EQUITY} – ACAR-S_{CASH} > 0	Mushidzhi and Ward (2004); Slovin *et al.* (2005); Smit and Ward (2007); Hege *et al.* (2009)	SENS, McGregor BFA	One-tailed regression: t-test or non-parametric
5 $H5_0$: AACRA-B_{POST} – AACRA-B_{PRE} = 0 $H5_A$: AACRA-B_{POST} – AACRA-B_{PRE} ≠ 0	Ghosh (2001); Slovin *et al.* (2005); Smit and Ward (2007); Hege et al. (2009)	SENS, McGregor BFA	Two-tailed regression: t-test or non-parametric
6 $H6_0$: AACRA-B_{EQUITY} – AACRA-B_{CASH} ≤ 0 $H6_A$: AACRA-B_{EQUITY} – AACRA-B_{CASH} > 0	Slovin *et al.* (2005); Smit and Ward (2007); Hege et al. (2009)	SENS, McGregor BFA	One-tailed regression: t-test or non-parametric

APPENDIX C: ALSI Companies Reviewed

Code	Company	JSE's Sub-Section	Industry
ASA	Absa Group Ltd	Banks	Financial
ACP	Acucap Properties Ltd	Real Estate Holding & Development	Real Estate
AFE	AECI Ltd	Special Chemicals	Mining & Resources
AFR	Afgri Ltd	Farm & Fish	Food & Beverage
AFX	African Oxygen Ltd	Special Chemicals	Mining & Resources
ARI	African Rainbow Minerals Ltd	General Mining	Mining & Resources
ATN	Allied Electronics Corporation Ltd	Electronic Components & Equipment	Industrial
ALT	Allied Technologies Ltd	Mobile Telecommunications	Telecoms & Technology
AMS	Anglo American Plat Ltd	Platinum & Precious Metals	Mining & Resources
AGL	Anglo American Plc	General Mining	Mining & Resources
ANG	AngloGold Ashanti Ltd	Gold	Mining & Resources
AQP	Aquarius Platinum Ltd	Platinum & Precious Metals	Mining & Resources
ACL	ArcelorMittal South Africa Ltd	Iron & Steel	Mining & Resources
ACL	ArcelorMittal South Africa Ltd	Iron & Steel	Mining & Resources
APN	Aspen Pharmacare Holdings Ltd	Pharmaceutical	Personal & Hospitality
ASR	Assore Ltd	General Mining	Mining & Resources
AEG	Aveng Ltd	Heavy Construction	Construction
BAW	Barloworld Ltd	Diversified Industries	Industrial
BPL	Barplats Investments Ltd	Platinum & Precious Metals	Mining & Resources
BSR	Basil Read Holdings Ltd	Heavy Construction	Construction
BIL	BHP Billiton Plc	General Mining	Mining & Resources
BAT	Brait SE	Investment Services	Financial
BRN	Brimstone Investment Corporation Ltd	Equity Investment Instruments	Financial
BTI	British American Tobacco Plc	Tobacco	Personal & Hospitality
CCO	Capital & Counties Properties Plc	Real Estate Holding & Development	Real Estate
CPL	Capital Property Fund Ltd	Real Estate Investment Trust	Real Estate
CSO	Capital Shopping Centres Group Plc	Retail Real Estate Investment Trust	Real Estate
CZA	Coal of Africa Ltd	General Mining	Mining & Resources
CFR	Compagnie Financiere Richemont AG	Clothes & Accessories	Personal & Hospitality
CML	Coronation Fund Managers Ltd	Asset Management	Financial
CRH	Coronation Holdings Ltd	Asset Management	Financial
DTC	Datatec Ltd	Computer Services	Telecoms & Technology
DDT	Dimension Data Holdings Plc	Computer Services	Telecoms & Technology
DSY	Discovery Holdings Ltd	Life Insurance	Financial
DST	Distell Group Ltd	Beverages	Food & Beverage
DRD	DRD Gold Ltd	Gold	Mining & Resources
EMI	Emira Property Fund	Real Estate Investment Trust	Real Estate
EHS	EVRAZ Highveld Steel Vanadium Ltd	Iron & Steel	Mining & Resources
EXX	Exxaro Resources Ltd	Coal	Mining & Resources
FSR	FirstRand Ltd	Banks	Financial
FFA	Fortress Income Fund Ltd	Real Estate Holding & Development	Real Estate
FPT	Fountainhead Property Trust	Retail Real Estate Investment Trust	Real Estate
GFI	Gold Fields Ltd	Gold	Mining & Resources
GRF	Group Five Ltd	Heavy Construction	Construction
GRT	Growthpoint Properties Ltd	Real Estate Holding & Development	Real Estate
HAR	Harmony Gold Mining Company Ltd	Gold	Mining & Resources
HPA	Hospitality Property Fund Ltd	Real Estate Holding & Development	Real Estate
HLM	Hulamin Ltd	Aluminium	Mining & Resources
HYP	Hyprop Investments Ltd	Real Estate Holding & Development	Real Estate
IMP	Impala Platinum Holdings Ltd	Platinum & Precious Metals	Mining & Resources
IPL	Imperial Holdings Ltd	Transport Services	Industrial
INL	Investec Ltd	Investment Services	Financial
INP	Investec Plc	Investment Services	Financial
IPF	Investec Property Fund Ltd	Real Estate Holding & Development	Real Estate

JCD	JCI Ltd	Gold	Mining & Resources
KGM	Kagiso Media Ltd	Broadcasting & Entertainment	Personal & Hospitality
KIO	Kumba Iron Ore Ltd	Iron & Steel	Mining & Resources
LBT	Liberty International Plc	Life Insurance	Financial
LON	Lonmin Plc	Platinum & Precious Metals	Mining & Resources
LYS	Lyons Financial Solutions Ltd	Investment Services	Financial
MLB	Malbak Ltd	Packaging	Industrial
MSM	Massmart Holdings Ltd	Broad Retail	Personal & Hospitality
MRF	Merafe Resources Ltd	General Mining	Mining & Resources
MTX	Metorex Ltd	Coal	Mining & Resources
MND	Mondi Ltd	Paper	Mining & Resources
MNP	Mondi Plc	Paper	Mining & Resources
MTN	MTN Group	Mobile Telecommunications	Telecoms & Technology
MUR	Murray & Roberts Holdings Ltd	Heavy Construction	Construction
NPK	Nampak Ltd	Containers & Packaging	Industrial
NPN	Naspers Ltd	Broadcasting & Entertainment	Personal & Hospitality
NED	Nedbank Group Ltd	Banks	Financial
NEP	New Europe Property Investment Plc	Real Estate Holding & Development	Real Estate
NHM	Northam Platinum Ltd	Platinum & Precious Metals	Mining & Resources
OCT	Octodec Investments Ltd	Real Estate Holding & Development	Real Estate
OML	Old Mutual Plc	Life Insurance	Financial
OMN	Omnia Holdings Ltd	Special Chemicals	Mining & Resources
OPT	Optimum Coal Holdings Ltd	Coal	Mining & Resources
PAM	Palabora Mining Company Ltd	Non Ferrous Metals	Mining & Resources
PET	Petmin Ltd	General Mining	Mining & Resources
PIK	Pick n Pay Stores Ltd	Food Retail & Wholesale	Food & Beverage
PNC	Pinnacle Technology Holdings Ltd	Computer Hardware	Telecoms & Technology
PMM	Premium Properties Ltd	Real Estate Holding & Development	Real Estate
PPC	Pretoria Portland Cement Ltd	Build Material & Fixtures	Construction
REB	Rebosis Property Fund Ltd	Real Estate Holding & Development	Real Estate
RIN	Redefine Properties International Ltd	Real Estate Holding & Development	Real Estate
RDF	Redefine Properties Ltd	Real Estate Holding & Development	Real Estate
REM	Remgro Ltd	Diversified Industries	Industrial
RES	Resilient Property Income Fund Ltd	Real Estate Holding & Development	Real Estate
RMH	RMB Holdings Ltd	Banks	Financial
RBP	Royal Bafokeng Platinum Ltd	Platinum & Precious Metals	Mining & Resources
SAC	SA Corporate Real Estate Fund	Retail Real Estate Investment Trust	Real Estate
SAB	SABMiller Plc	Brewers	Food & Beverage
SLM	Sanlam Ltd	Life Insurance	Financial
SAP	Sappi Ltd	Paper	Mining & Resources
SOL	Sasol Ltd	Oil & Gas	Mining & Resources
SNU	Sentula Mining Ltd	General Mining	Mining & Resources
SHP	Shoprite Holdings Ltd	Food Retail & Wholesale	Food & Beverage
SBK	Standard Bank Group Ltd	Banks	Financial
SHF	Steinhoff International Holdings Ltd	Furniture	Personal & Hospitality
SPG	Super Group Ltd	Transport Services	Industrial
SYC	Sycom Property Fund	Retail Real Estate Investment Trust	Real Estate
TKG	Telkom SA Ltd	Fixed Line Telecommunications	Telecoms & Technology
BVT	The Bidvest Group Ltd	Diversified Industries	Industrial
TFG	The Foschini Group Ltd	Apparel Retail	Personal & Hospitality
SPP	The Spar Group Ltd	Food Retail & Wholesale	Food & Beverage
TBS	Tiger Brands Ltd	Food Products	Food & Beverage
TRU	Truworths International Ltd	Apparel Retail	Personal & Hospitality
VOD	Vodacom Group Ltd	Mobile Telecommunications	Telecoms & Technology
VKE	Vukile Property Fund Ltd	Real Estate Holding & Development	Real Estate
WEZ	Wesizwe Platinum Ltd	Platinum & Precious Metals	Mining & Resources
WBO	Wilson Bayly Holmes-Ovcon Ltd	Heavy Construction	Construction
WHL	Woolworths Holdings Ltd	Broad Retail	Personal & Hospitality

APPENDIX D: Details of Cash Funded Asset Sales

Event Date	Asset Description	Buyer's Code	Buyer's Name	Seller's Code	Seller's Name	Transaction Amount
9-Feb-00	Infant Nutritional Business		American Home Products Corporation	APN	Aspen Pharmacare Holdings Ltd	R 75,000,000
9-May-00	Bahamas Hotel & Casino Interests		Driftwood Freeport Ltd	LON	Lonmin Plc	R 280,850,000
12-May-00	Copper Lake Property (Sweden)	BIL	BHP Billiton Plc		Redmond Ventures Corporation	R 27,144,000
25-Jul-00	Property Portfolio		Kirchmann-Hurry Investments Ltd	BVT	Bidvest Group	R 80,750,000
25-Aug-00	Teberebie Concession Ghana	GFI	Gold Fields Ltd		Ashanti Goldfields Ltd	R 35,961,200
28-Nov-00	La Granja Copper Property (Peru)	BIL	BHP Billiton Plc		Cambior Inc (Canada)	R 433,230,000
19-Dec-00	Deelkraal & Elandsrand Mines	HAR	Harmony Gold Mining Company Ltd	ANG	AngloGold Ashanti Ltd	R 872,000,000
15-Feb-01	BBR Security		Chubb Security SA	SPG	Super Group Ltd	R 556,000,000
6-Apr-01	Pipesystems Division		A.G. Petzetakis SA	MUR	Murray & Roberts Holdings Ltd	R 169,000,000
31-May-01	Selected Stores	MSM	Massmart Holdings Ltd		Redhold Ltd	R 490,000,000
4-Jul-01	Property Portfolio		Edinburgh Fund Managers Group Plc	CSO	Capital Shopping Centres Group Plc	R 209,892,000
1-Aug-01	Laboratory Equipment Division	BAW	Barloworld Ltd		Protean Ltd	R 245,000,000
4-Oct-01	PPC Logistics	BAW	Barloworld Ltd	PPC	Pretoria Portland Cement Ltd	R 165,000,000
23-Oct-01	Indonesian Energy Coal Mines		PT Bumi Resources Tbk	BIL	BHP Billiton Plc	R 1,818,476,000
29-Nov-01	King's Reach	CSO	Capital Shopping Centres Group Plc		Undisclosed	R 1,224,370,000
21-Dec-01	KZN Hospitals	AFX	African Oxygen Ltd		Amalgamated Hospitals Ltd	R 135,200,000
7-Feb-02	Serramonte Shopping Centre	CSO	Capital Shopping Centres Group Plc		Undisclosed	R 1,395,632,000
25-Feb-02	Meerlus Office Park & Beacon Bay Retail Park	GRT	Growthpoint Properties Ltd		Undisclosed	R 193,700,000
18-Mar-02	Paper and Pulp Assets	SAP	Sappi Ltd		Potlatch Corporation	R 5,624,160,000
2-May-02	Chilean Copper Mine	AGL	Anglo American Plc		Exxon Mobil	R 13,709,800,000
6-May-02	Packaging Interests	NPK	Nampak Ltd		Crown Cork	R 260,250,000
7-May-02	Nickel Interests in Botswana		Lionore Mining International (Canada)	AGL	Anglo American Plc	R 777,519,600
24-May-02	St. Helena Gold Mine		Free Gold	GFI	Gold Fields Ltd	R 120,000,000
29-Oct-02	Zimbabwe Gold Mine		Pemberton International Investments Ltd	LON	Lonmin Plc	R 156,023,000
26-Mar-03	Electronics Detonation Business	OMN	Omnia Holdings Ltd		Delta Caps International	R 15,000,000

3-Apr-03	Brakspruit Property		Loucas Poaroulis	LON	Lonmin Plc	R 205,000,000
13-Jun-03	Chambishi Metals Assets		J&W Holdings AG (Swiss)	ARI	African Rainbow Minerals Ltd	R 51,400,000
4-Jul-03	Canal Walk Shopping Centre	HYP	Hyprop Investments Ltd	NED	Nedbank Group Ltd	R 1,600,000,000
18-Sep-03	Kempton Park	ACP	Acucap Properties Ltd		Keystone Investments (Pty) Ltd	R 220,000,000
18-Sep-03	Driefontain Block 1C11	ANG	AngloGold Ashanti Ltd	GFI	Gold Fields Ltd	R 315,000,000
26-Sep-03	Waterfall Mall - Rustenberg	GRT	Growthpoint Properties Ltd		Waterfall Mall Trust	R 284,600,000
29-Mar-04	Logicalis Australia Assets		IBM A/NZ Holdings (Pty) Ltd	DTC	Datatec Ltd	R 421,872,000
7-Apr-04	Property Portfolio	EMI	Emira Property Fund		Multiple Sellers	R 57,600,000
25-May-04	90 Rivonia Rd	RDF	Redefine Properties Ltd	SBK	Standard Bank Group Ltd	R 113,000,000
4-Jun-04	Property Letting Business		Combined Projects (Pty) Ltd	RDF	Redefine Properties Ltd	R 35,000,000
15-Jun-04	Numico's Baby Food Business	APN	Aspen Pharmacare Holdings Ltd		Royal Numico N.V.	R 21,700,000
5-Aug-04	Union Reefs Gold Project	HAR	Harmony Gold Mining Company Ltd	ANG	AngloGold Ashanti Ltd	R 17,600,000
10-Sep-04	Freda-Rebecca Gold Mine		Mwana Africa Holdings (Pty) Ltd	ANG	AngloGold Ashanti Ltd	R 14,813,095
16-Sep-04	Boland Agri Assets	AFR	Afgri Ltd		Boland Agri	R 178,000,000
27-Sep-04	Gift Acres	EMI	Emira Property Fund		To Measure Properties (Pty) Ltd	R 76,800,000
8-Oct-04	Hudson Bay		Ontzinc (Canada)	AGL	Anglo American Plc	R 1,637,250,000
12-Oct-04	Property Letting Business	RDF	Redefine Properties Ltd		Collins Property Group	R 252,500,000
1-Nov-04	Short Run Plastic Packaging Business		Undisclosed	NPK	Nampak Ltd	R 299,000,000
1-Dec-04	The Paddocks	GRT	Growthpoint Properties Ltd		Investec Property Group Ltd	R 88,400,000
23-Dec-04	Imperial Place		Europa Borehamwood IP SARL	CSO	Capital Shopping Centres Group Plc	R 633,583,200
3-Feb-05	Ford Dealerships	IPL	Imperial Holdings Ltd		Ford (Australia)	R 630,000,000
16-Feb-05	Paper Merchants Division		Contortion	NPK	Nampak Ltd	R 220,000,000
7-Jun-05	Grinding Solution Unit Wendt		Advent International (UK)	AGL	Anglo American Plc	R 3,600,000,000
19-Jul-05	Weltevreden Mine		Aflease Gold and Uranium Resources Ltd	ANG	AngloGold Ashanti Ltd	R 75,000,000
11-Aug-05	La Rescatada Project		Aruntani SAC	ANG	AngloGold Ashanti Ltd	R 79,300,000
21-Sep-05	Healthcare Park Office Park	GRT	Growthpoint Properties Ltd		Investec Property Group Ltd	R 65,000,000
3-Oct-05	City Shopping Centre	GRT	Growthpoint Properties Ltd		Johannesburg Municipal Pension Fund	R 105,000,000
18-Oct-05	East Rand Value Mall	ACP	Acucap Properties Ltd		PMI Properties Ltd	R 118,500,000
28-Oct-05	Swansea Market Shops		UBS Global Asset Management Ltd	CSO	Capital Shopping Centres Group Plc	R 509,240,400
28-Nov-05	HP Reseller Business	DTC	Datatec Ltd		Avnet Incorporated	R 247,304,000

5-Dec-05	Altasteel	AGL	Anglo American Plc		Stelco (Canada)	R 645,645,000
25-Jan-06	Dartline Ferry (UK)		Undisclosed	BVT	Bidvest Group	R 633,822,900
22-Mar-06	Old England		Tercada SA	CFR	Compagnie Financière Richemont SA	R 165,900,000
15-May-06	King's Reach		Undisclosed	CSO	Capital Shopping Centres Group Plc	R 965,600,000
2-Jun-06	Property Letting Business	CPL	Capital Property Fund Ltd		Participation Mortgage Bonds	R 410,000,000
8-Jun-06	BCX Portfolio	GRT	Growthpoint Properties Ltd		Business Connexion (Pty) Ltd	R 379,212,046
4-Jul-06	Clark Cotton		Cargill (International)	AFR	Afgri Ltd	R 260,000,000
7-Jul-06	Wakefield Coal Mines		Shanduka Coal	MTX	Metorex Ltd	R 250,120,000
11-Jul-06	Vaal Sanitaryware		DAWN	GRF	Group Five Ltd	R 110,000,000
7-Aug-06	Covent Garden	CSO	Capital Shopping Centres Group Plc		The Covent Garden Market Ltd Partnership	R 5,449,003,000
23-Aug-06	Bibiani Mine		Central African Gold Plc	ANG	AngloGold Ashanti Ltd	R 284,880,000
3-Oct-06	Gauteng Industrial Properties	SAC	SA Corporate Real Estate Fund		Undisclosed	R 98,500,000
1-Nov-06	Namakwa Sands Titanium	EXX	Exxaro Resources Ltd	AGL	Anglo American Plc	R 2,300,000,000
8-Nov-06	Forest Rd Design and Décor Centre	SAC	SA Corporate Real Estate Fund		Undisclosed	R 104,000,000
1-Dec-06	Steel Tube Division		Robor (Pty) Ltd	BAW	Barloworld Ltd	R 480,000,000
8-Dec-06	Hippo Valley Sugar		Undisclosed	AGL	Anglo American Plc	R 36,000,000
13-Mar-07	Pepsi Franchise		Cerveceria Costa Rica SA	SAB	SABMiller Plc	R 860,256,000
8-May-07	Buffcol Portfolio	SAC	SA Corporate Real Estate Fund		Collins Property Group	R 1,000,000,000
8-Jun-07	Erco Assets		Mintails SA (Pty) Ltd	ANG	AngloGold Ashanti Ltd	R 42,800,000
11-Jun-07	Johannesburg Retail Centre	SAC	SA Corporate Real Estate Fund	CPL	Capital Property Fund Ltd	R 42,500,000
17-Jul-07	Decorative Coatings Business		ICI Plc	AFE	AECI Ltd	R 745,000,000
18-Jul-07	IP-Video Assets	DTC	Datatec Ltd		ReView Video LLC	R 174,175,000
18-Jul-07	Transalloys Division		Island House Trading (Pty) Ltd	EHS	EVRAZ Highveld Steel and Vanadium Ltd	R 780,000,000
17-Sep-07	Renbro Shopping Centre	SAC	SA Corporate Real Estate Fund		Undisclosed	R 107,000,000
28-Sep-07	Tellumat Building		Faircape Group	ACP	Acucap Properties Ltd	R 100,000,000
2-Oct-07	Disposal of Non-Core Assets		Blend Property Group Pty (Ltd)	ACP	Acucap Properties Ltd	R 278,145,000
9-Oct-07	Rand Carbide Division		Silicon Smelters (Pty) Ltd	EHS	EVRAZ Highveld Steel and Vanadium Ltd	R 300,000,000
23-Nov-07	Grand Central & Rosebank Letting Enterprise	GRT	Growthpoint Properties Ltd		Investec Property Group Ltd	R 113,935,504

19-Dec-07	Letting Enterprise	EMI	Emira Property Fund	RMH	RMB Holdings Ltd	R 119,997,094
1-Apr-08	Office Exposure	SAC	SA Corporate Real Estate Fund		Undisclosed	R 170,000,000
16-Apr-08	Property Portfolio		SA Reit Ltd	SPG	Super Group Ltd	R 918,200,000
22-Apr-08	Vertically Integrated Vanadium Assets		Vanchem Vanadium Products (Pty) Ltd	EHS	EVRAZ Highveld Steel and Vanadium Ltd	R 1,221,120,000
24-Jul-08	Holiday Inn Sandton	HPA	Hospitality Property Fund Ltd		Central Plaza Investments (Pty) Ltd	R 400,000,000
2-Oct-08	BIOX Technology Business		Bateman Engineering N.V.	GFI	Gold Fields Ltd	R 74,910,160
18-Dec-08	Namitech SA		Gemalto	ALT	Allied Technologies Ltd	R 83,000,000
22-Jul-09	Lowveld Branches		MGK Bedryfsmaatskappy	AFR	Afgri Ltd	R 110,000,000
4-Sep-09	Mica Business		Builder's Express	SPG	Super Group Ltd	R 27,000,000
29-Oct-09	Sanlam Properties	VKE	Vukile Property Fund Ltd	SLM	Sanlam Life Insurance Ltd	R 775,000,000
9-Dec-09	Ravensthorpe Nickel Operation		First Quantum Minerals Australia Pty Ltd	BIL	BHP Billiton Plc	R 2,576,520,000
21-Dec-09	Old Mutual Triangle Warehouse	SAC	SA Corporate Real Estate Fund	OML	Old Mutual Plc	R 208,500,000
1-Feb-10	Tsunami Plant		Oninamix Pty (Ltd)	AFR	Afgri Ltd	R 210,000,000
9-Mar-10	Protea Hotel Edward	HPA	Hospitality Property Fund Ltd		Protea Hospitality Group (Pty) Ltd	R 110,400,000
8-Apr-10	Property Portfolio	FFA	Fortress Income Fund Ltd	MUR	Murray & Roberts Holdings Ltd	R 373,382,031
19-Apr-10	UK Corrugated Box Plants		Smurfit Kappa Group	MND	Mondi Ltd	R 430,000,000
10-May-10	Zinc Mines		Vendata	AGL	Anglo American Plc	R 10,202,250,000
21-May-10	Five Properties	OCT	Octodec Investments Ltd		Multiple Sellers	R 79,528,778
2-Jul-10	Scandinavian Car Rental Operations		RAC Holding AS	BAW	Barloworld Ltd	R 222,000,000
5-Jul-10	Australian Coal Assets		Korea Electric Power	AGL	Anglo American Plc	R 3,241,500,000
17-Aug-10	Australia Portfolio	GRT	Growthpoint Properties Ltd		Property Solutions Group	R 1,126,944,000
19-Aug-10	Grand Central Cape Town		Kitso Capital (Pty) Ltd	CPL	Capital Property Fund Ltd	R 400,000,000
30-Sep-10	Constantia Valley	FPT	Fountainhead Property Trust		FHP Managers (Pty) Ltd	R 204,000,000
15-Nov-10	Scaw Assets		Onesteel	AGL	Anglo American Plc	R 7,482,504,000
29-Nov-10	RT SA Coal Assets	CZA	Coal of Africa Ltd		Rio Tinto	R 537,825,000
8-Dec-10	Cederwood House	FPT	Fountainhead Property Trust		Ballywoods Trust and Cornerstone Capital Fund (Pty) Ltd	R 72,377,644
13-Dec-10	Cartons & Healthcare Business		Maximus Holdings	NPK	Nampak Ltd	R 845,000,000
25-Jan-11	Access Park	FPT	Fountainhead Property Trust		Kovacs Investments (Pty) Ltd	R 418,570,000
4-Mar-11	Basil Read Contracting Division		MSCSA Investments (Pty) Ltd	BSR	Basil Read Holdings Ltd	R 91,200,000

11-Apr-11	Giyani Plaza	VKE	Vukile Property Fund Ltd	SLM	Sanlam Life Insurance Ltd	R 68,250,000
4-May-11	Booysendal South	AQP	Aquarius Platinum Ltd	NHM	Northam Platinum Ltd	R 1,200,000,000
4-May-11	The Tannery Industrial Park	OCT	Octodec Investments Ltd		The Tannery Industrial Park (Pty) Ltd	R 153,750,000
4-May-11	Nicol Grove Precinct	RDF	Redefine Properties Ltd		Zenprop Property Holdings Ltd	R 875,000,000
17-May-11	Covent Garden	CCO	Capital & Counties Prop Plc		Derwent (UK)	R 771,120,000
15-Jun-11	Yellow Maize Business	AFR	Afgri Ltd		Pride Milling Pty (Ltd)	R 220,000,000
14-Jul-11	Savuka Mining Area		Blyvooruitzicht Gold Mining Company	ANG	AngloGold Ashanti Ltd	R 35,000,000
10-Aug-11	HWE Mining Subsidiaries	BIL	BHP Billiton Plc		Leighton Holdings	R 5,334,630,000
9-Sep-11	Property Portfolio		Arrow Creek	RDF	Redefine Properties Ltd	R 358,300,001
4-Oct-11	Quarries	PPC	Pretoria Portland Cement Ltd		Quarries of Botswana	R 56,446,800
19-Oct-11	Property Portfolio	RDF	Redefine Properties Ltd		Zenprop Property Holdings Ltd	R 929,226,626
10-Nov-11	Seven Investment Properties		Synergy Income Fund Ltd	SAC	SA Corporate Real Estate Fund	R 492,000,000
14-Nov-11	Portfolio of 20 Properties	VKE	Vukile Property Fund Ltd	SLM	Sanlam Life Insurance Ltd	R 1,490,303,000
21-Nov-11	Gosforth Park	SAC	SA Corporate Real Estate Fund		Basfour (Pty) Ltd	R 415,467,000

APPENDIX E: Details of Equity Funded Asset Sales

Event Date	Asset Description	Buyer's Code	Buyer's Name	Seller's Code	Seller's Name	Transaction Amount	Cash Amount	Cash %	Equity Amount	Equity %
1-Mar-00	Hammala Property in Tunisia	BIL	BHP Billiton Plc		Aurora Gold Corporation (USA)	R 16,508,823	R 7,455,600	45%	R 9,053,223	55%
1-Nov-00	Property Portfolio	HAR	Harmony Gold Mining Company Ltd		Gold Edge Holdings Ltd	R 82,750,000	R 77,369,406	93%	R 5,380,595	7%
19-Apr-01	AECI Properties	SYC	Sycom Property Fund		AECI Pension Fund	R 217,775,972	R -	0%	R 217,775,972	100%
9-May-01	Batchawana Bay Project		Intrepid Minerals Corporation (Canada)	BIL	BHP Billiton Plc	R 11,121,500	R 9,425,000	85%	R 1,696,500	15%
5-Jul-01	Property Portfolio	GRT	Growthpoint Properties Ltd		Sentinel	R 1,539,800,000	R 461,900,000	30%	R 1,077,900,000	70%
17-Jul-01	Manufacturing Assets	SHF	Steinhoff International Holdings Ltd		Freedom Group Ltd (Australia)	R 43,910,100	R 35,100,000	80%	R 8,810,100	20%
23-Jul-01	Neighbourhood Shopping Centres	RDF	Redefine Properties Ltd		ApexHi Properties Ltd	R 164,000,000	R -	0%	R 164,000,000	100%
21-Sep-01	St. Ives & Agnew Gold Operations (Australia)	GFI	Gold Fields Ltd		WMC Resources Ltd	R 1,896,136,000	R 1,471,140,000	78%	R 424,996,000	22%
20-Dec-01	Rangegate		Versatile Mobile Systems	DTC	Datatec Ltd	R 44,000,000	R -	0%	R 44,000,000	100%
2-Jul-02	Sheba's Ridge		Cluff Mining Plc	AMS	Anglo American Plat Ltd	R 207,111,500	R 176,802,500	85%	R 30,309,000	15%
8-Aug-02	2 Long St & Southway Mall	CPL	Capital Property Fund Ltd		Centrecity Property Fund	R 61,000,000	R -	0%	R 61,000,000	100%
10-Oct-02	Property Portfolio	RDF	Redefine Properties Ltd		Rand Leases Properties Ltd	R 349,500,000	R 267,000,000	76%	R 82,500,000	24%
31-Oct-02	Mall of Rosebank	ACP	Acucap Properties Ltd		Centrecity Property Fund	R 395,000,000	R 197,500,000	50%	R 197,500,000	50%
4-Nov-02	Property Letting Business	HYP	Hyprop Investments Ltd		Centrecity Property Fund	R 320,000,000	R 160,000,000	50%	R 160,000,000	50%
22-Feb-03	Festival Mall	ACP	Acucap Properties Ltd		Straightprops 99	R 247,000,000	R 230,000,000	93%	R 17,000,000	7%
3-Jun-03	Jerritt Canyon		Queenstake Resources (USA)	ANG	AngloGold Ashanti Ltd	R 233,102,000	R 92,437,000	40%	R 140,665,000	60%
3-Jul-03	Standard Bank Centre	RDF	Redefine Properties Ltd		Undisclosed	R 218,000,000	R 54,500,000	25%	R 163,500,000	75%
11-Aug-03	Arctic Platinum Project	GFI	Gold Fields Ltd		Outokumpu (Finland)	R 228,129,000	R 169,257,000	74%	R 58,872,000	26%
6-Nov-03	Investec Office Buildings	GRT	Growthpoint Properties Ltd		Undisclosed	R 975,000,000	R 682,500,000	70%	R 292,500,000	30%
7-Nov-03	Kalgold Operations		Afrikander Lease Ltd	HAR	Harmony Gold Mining Company Ltd	R 275,000,000	R 137,500,000	50%	R 137,500,000	50%

10-Nov-03	eThekwini Municipality Office Block		ApexHi Properties Ltd	RES	Resilient Property Incume Fund Ltd	R 35,000,000	R 10,800,000	31%	R 24,200,000	69%
13-Nov-03	Property Portfolio		Prima Property Trust	RDF	Redefine Properties Ltd	R 117,070,000	R 9,000,000	8%	R 108,070,000	92%
13-Nov-03	Property Portfolio		Prima Property Trust	RES	Resilient Property Incume Fund Ltd	R 44,600,000	R 29,000,000	65%	R 15,600,000	35%
14-Nov-03	Property Letting Business		Prima Property Trust	HYP	Hyprop Investments Ltd	R 66,500,000	R 43,225,000	65%	R 23,275,000	35%
24-Nov-03	Coyote Gold Project		Tanami Gold (Australia)	ANG	AngloGold Ashanti Ltd	R 89,243,000	R 41,098,750	46%	R 48,144,250	54%
29-Apr-04	Property Portfolio	GRT	Growthpoint Properties Ltd	LYS	Lyons Financial Solutions Holdings Ltd	R 287,950,618	R 230,360,494	80%	R 57,590,124	20%
1-Jun-04	Vanderbijlpark Mall		ApexHi Properties Ltd	RES	Resilient Property Incume Fund Ltd	R 40,500,000	R 20,250,000	50%	R 20,250,000	50%
31-Aug-04	Core Cape Properties	ACP	Acucap Properties Ltd	RES	Resilient Property Incume Fund Ltd	R 73,350,000	R -	0%	R 73,350,000	100%
13-Dec-04	Property Portfolio	GRT	Growthpoint Properties Ltd		Tresso Trading (Pty) Ltd	R 1,080,000,000	R 810,000,000	75%	R 270,000,000	25%
26-Jan-06	Property Portfolio	GRT	Growthpoint Properties Ltd		Tresso Trading (Pty) Ltd	R 1,632,663,000	R 729,310,562	45%	R 903,352,438	55%
16-May-06	Peruvian Tintaya Mine		Xstrata Plc	BIL	BHP Billiton Plc	R 4,785,750,000	R 740,196,000	15%	R 4,045,554,000	85%
5-Jun-06	Property Portfolio	EMI	Emira Property Fund	RMH	RMB Holdings Ltd	R 844,400,000	R 340,200,000	40%	R 504,200,000	60%
15-Jun-06	Alaskan Mineral Exploration Properties		International Tower Hill Mines Ltd	ANG	AngloGold Ashanti Ltd	R 69,230,000	R -	0%	R 69,230,000	100%
22-Aug-06	Aon House	ACP	Acucap Properties Ltd		Cobernet Properties Pty (Ltd)	R 92,900,000	R 4,899,500	5%	R 88,000,500	95%
12-Oct-06	Protea Hotel Victoria Junction	HPA	Hospitality Property Fund Ltd		Protea Junction (Pty) Ltd	R 105,000,000	R -	0%	R 105,000,000	100%
4-Dec-06	CSF Assets	DTC	Datatec Ltd		CSF Group	R 85,098,000	R 72,499,560	85%	R 12,598,440	15%
15-Dec-06	Geros Non-Core Businesses	SHF	Steinhoff International Holdings Ltd		Geros Beteiligungsverwaltung GmbH	R 169,800,000	R 19,400,000	11%	R 150,400,000	89%
18-Dec-06	Richards, Bayshore and Protea Imperial Hotels	HPA	Hospitality Property Fund Ltd		Nobunto Investments (Pty) Ltd	R 97,700,000	R -	0%	R 97,700,000	100%
19-Apr-07	Industrial Properties	CPL	Capital Property Fund Ltd		Diversified	R 138,900,000	R -	0%	R 138,900,000	100%
26-Apr-07	Cullinan Jewel Shopping Centre	SAC	SA Corporate Real Estate Fund		Kerr	R 45,200,000	R -	0%	R 45,200,000	100%
21-May-07	A Grade Office Portfolio	ACP	Acucap Properties Ltd		Intaprop Investments Pty (Ltd)	R 565,000,000	R -	0%	R 565,000,000	100%
31-Jul-07	South Kal Mine (Australia)		Dioro Exploration (NL)	HAR	Harmony Gold Mining Company Ltd	R 273,960,000	R 152,200,000	56%	R 121,760,000	44%

4-Sep-07	Booysendal Platinum Projects	NHM	Northam Platinum Ltd		Mvela Resources	R 6,250,000,000	R -	0%	R 6,250,000,000	100%
4-Sep-07	Orkney Shafts		Pamodzi Gold (Pty) Ltd	HAR	Harmony Gold Mining Company Ltd	R 550,000,000	R 350,000,000	64%	R 200,000,000	36%
12-Oct-07	Venezuela Assets		Rusoro Mining Ltd	GFI	Gold Fields Ltd	R 3,594,724,000	R 1,216,260,000	34%	R 2,378,464,000	66%
19-Dec-07	Randfontein Cooke Assets		Pamodzi Gold (Pty) Ltd	HAR	Harmony Gold Mining Company Ltd	R 420,000,000	R 168,000,000	40%	R 252,000,000	60%
15-Feb-08	Mount Magnet operations		Monarch Gold Mining Company	HAR	Harmony Gold Mining Company Ltd	R 395,525,000	R 243,400,000	62%	R 152,125,000	38%
3-Mar-08	Low Priority Free State Assets		African Precious Minerals	HAR	Harmony Gold Mining Company Ltd	R 58,327,500	R -	0%	R 58,327,500	100%
7-May-08	Holfontein Coal Project		Lachlan Star Ltd	CZA	Coal of Africa Ltd	R 177,175,000	R 92,131,000.00	52%	R 85,044,000	48%
29-Sep-08	Coating Graphic Paper Business	SAP	Sappi Ltd		M-Real	R 8,900,250,000	R 8,306,900,000	93%	R 593,350,000	7%
15-Dec-08	Sao Bento Gold Mine	ANG	AngloGold Ashanti Ltd		Eldorado Gold Corporation	R 710,010,000	R -	0%	R 710,010,000	100%
18-Feb-09	Tau Lekoa, Goedgenoeg & Weltevreden Mines		Simmer and Jack Mines Ltd	ANG	AngloGold Ashanti Ltd	R 600,000,000	R 450,000,000	75%	R 150,000,000	25%
24-Jun-09	Industrial Properties*	CPL	Capital Property Fund Ltd		Resilient Property Income Fund Ltd	R 611,500,000	R -	0%	R 611,500,000	100%
29-Jun-09	SA Business Assets	DRD	DRD Gold Ltd		Mintails Limited (Aus)	R 277,000,000	R 82,088,321	30%	R 194,911,679	70%
3-Aug-09	Industrial Properties*		Capital Property Fund Ltd	RES	Resilient Property Income Fund Ltd	R 611,500,000	R -	0%	R 611,500,000	100%
5-Oct-09	European Retail Park in Braila	NEP	New Europe Property Investment Plc		BelRom - Romania	R 684,117,000	R 434,360,000	63%	R 249,757,000	37%
29-Oct-09	Portfolio of Properties	FFA	Fortress Income Fund Ltd	CPL	Capital Property Fund Ltd	R 321,350,000	R 148,457,500	46%	R 172,892,500	54%
26-Feb-10	Tyger Hills Office Park Sections 1 and 4	SYC	Sycom Property Fund		Attfund Ltd	R 164,600,000	R -	0%	R 164,600,000	100%
11-Mar-10	Retail Park	NEP	New Europe Property Investment Plc		Central Eastern European Real Estate Shareholdings BV	R 213,013,009	R -	0%	R 213,013,009	100%
12-Mar-10	Tyger Hills Office Park Sections 2 and 3	ACP	Acucap Properties Ltd		Attfund Ltd	R 276,800,000	R -	0%	R 276,800,000	100%
24-Nov-10	Trafford Centre	CSO	Capital Shopping Centres Group Plc		Peel Group	R 9,199,575,000	R 836,325,000	9%	R 8,363,250,000	91%
6-Dec-10	Attfund Retail Property Portfolio	HYP	Hyprop Investments Ltd		Femtoworx Ltd	R 8,989,000,000	R 2,941,000,000	33%	R 6,048,000,000	67%

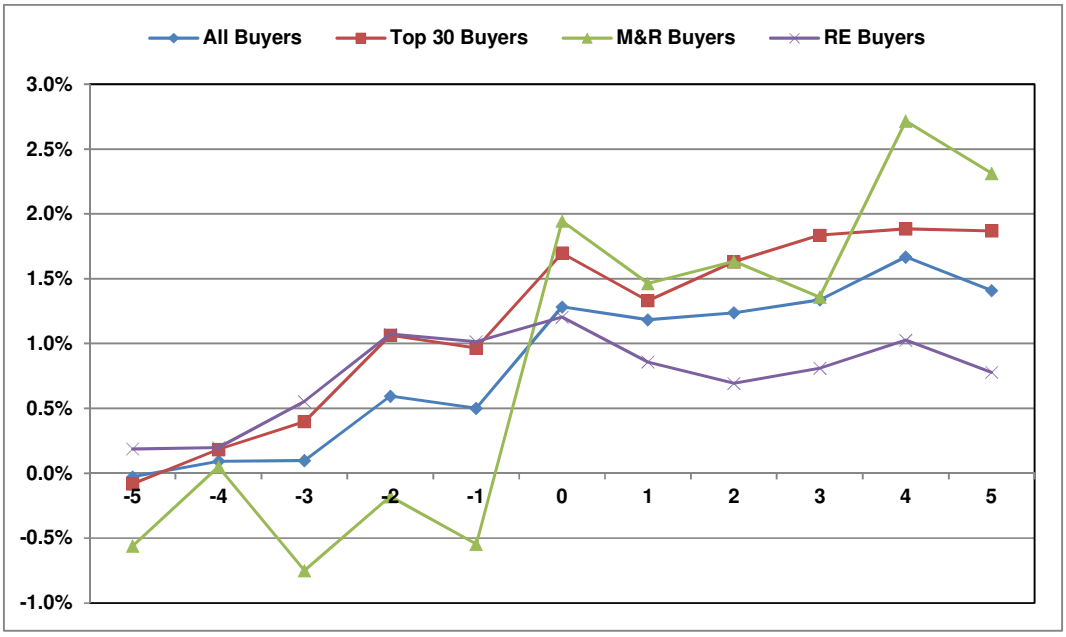
30-Aug-11	Retail Properties	FFA	Fortress Income Fund Ltd	CPL	Capital Property Fund Ltd	R 704,000,000	R -	0%	R 704,000,000	100%
30-Aug-11	Boardwalk Shopping Centre	RES	Resilient Property Income Fund Ltd	CPL	Capital Property Fund Ltd	R 1,028,000,000	R 514,000,000	50%	R 514,000,000	50%
18-Oct-11	Industrial Assets		KAP International Holdings Ltd	SHF	Steinhoff International Holdings Ltd	R 8,921,000,000	R 4,139,000,000	46%	R 4,782,000,000	54%
8-Nov-11	Blyvooruitzicht Mine		Village Main Reef Ltd	DRD	DRD Gold Ltd	R 150,000,000	R -	0%	R 150,000,000	100%
24-Nov-11	Explosives Business	AFE	AECI Ltd		Kagiso Tiso Holdings (Pty) Ltd	R 360,257,359	R -	0%	R 360,257,359	100%
7-Dec-11	Letting Enterprises	REB	Rebosis Property Fund Ltd		Multiple Sellers	R 734,000,000	R 367,000,000	50%	R 367,000,000	50%

* - Is the same transaction, however Capital Property Fund Ltd announced the transaction on 24th June 2009 and Resilient Property Income Fund Ltd announced the transaction on 3de August 2009. The two different announcement dates were used to determine abnormal returns for the respective companies.

APPENDIX F: ACAR Graphs

ACAR Graphs of Aggregated Buyer Samples (Hypothesis 1)

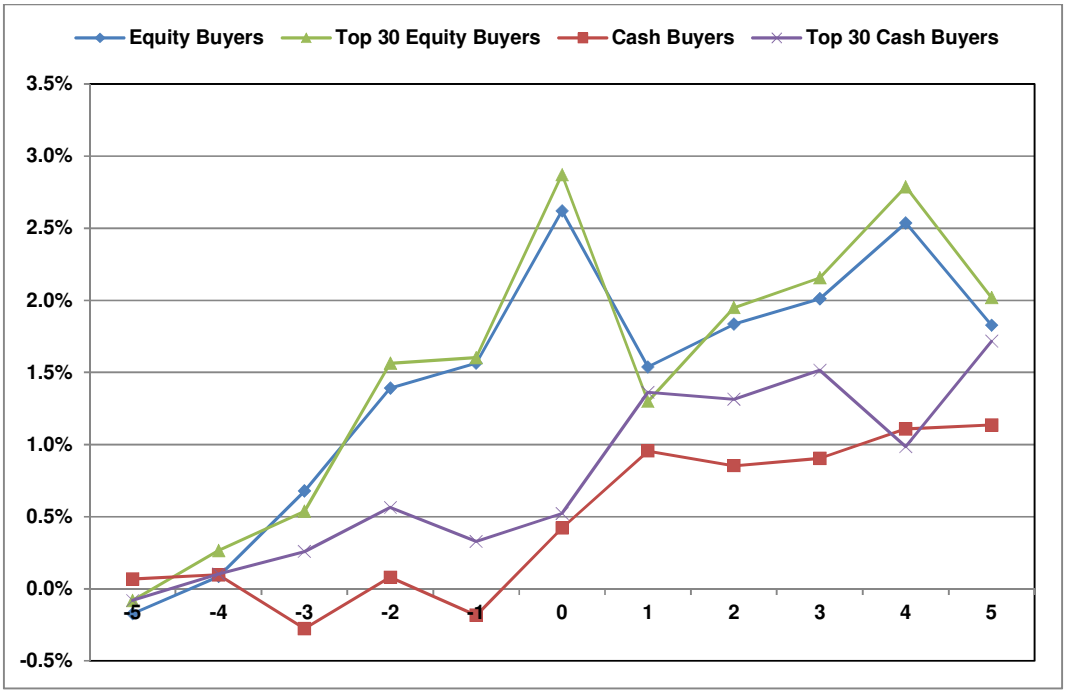
Average Cumulative Abnormal Returns for the Full and Split Buyer Samples over 11 Day Event Window



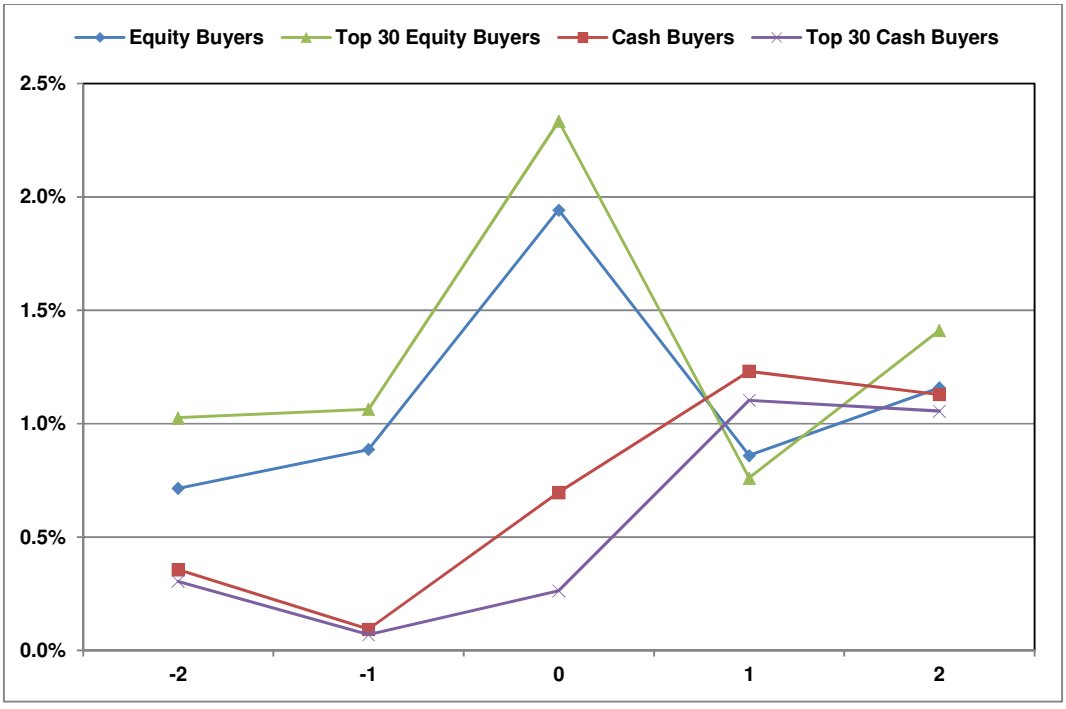
Average Cumulative Abnormal Returns for the Full and Split Buyer Samples over Five Day Event Window

ACAR Graphs of Buyer's Equity and Cash Samples (Hypothesis 2)

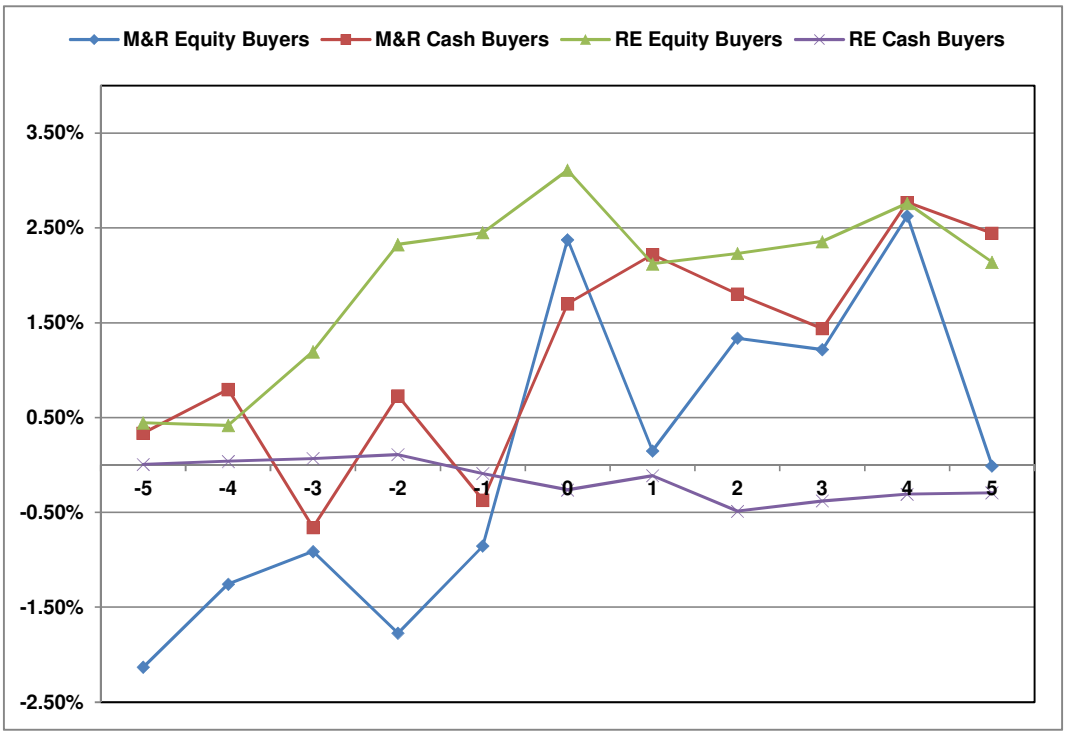
Average Cumulative Abnormal Returns for the Equity and Cash Buyer Samples over 11 Day Event Window



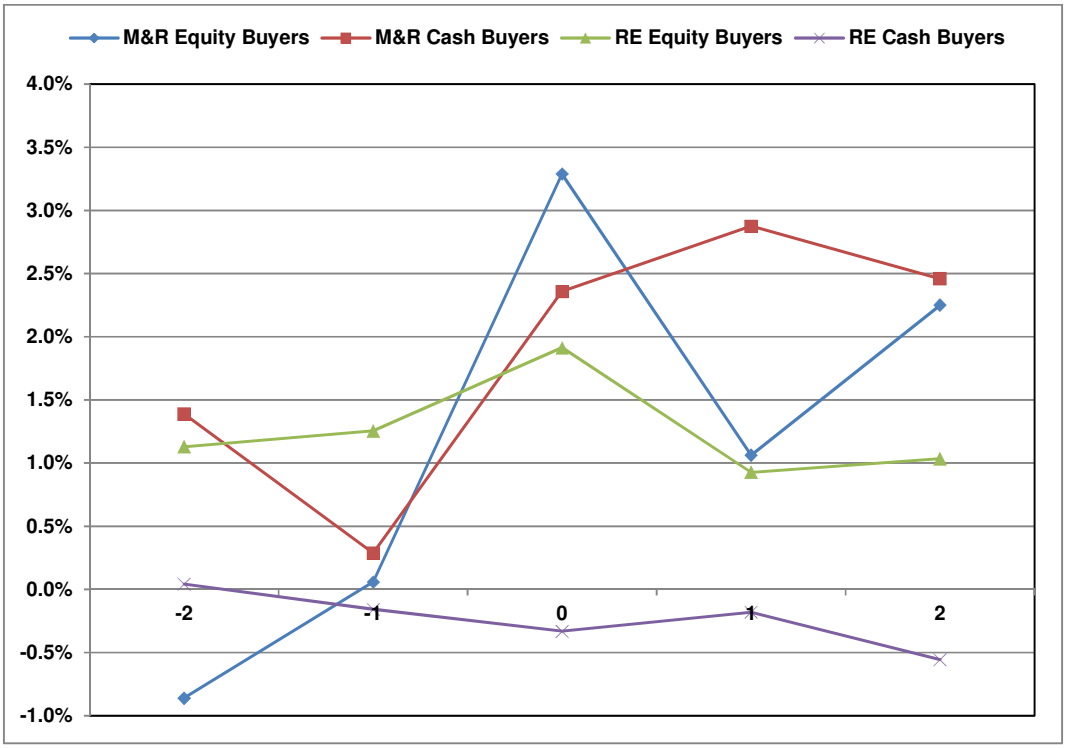
Average Cumulative Abnormal Returns for the Equity and Cash Buyer Samples over Five Day Event Window



Average Cumulative Abnormal Returns for Mining & Resources and Real Estate Equity and Cash Buyer Samples over 11 Day Event Window

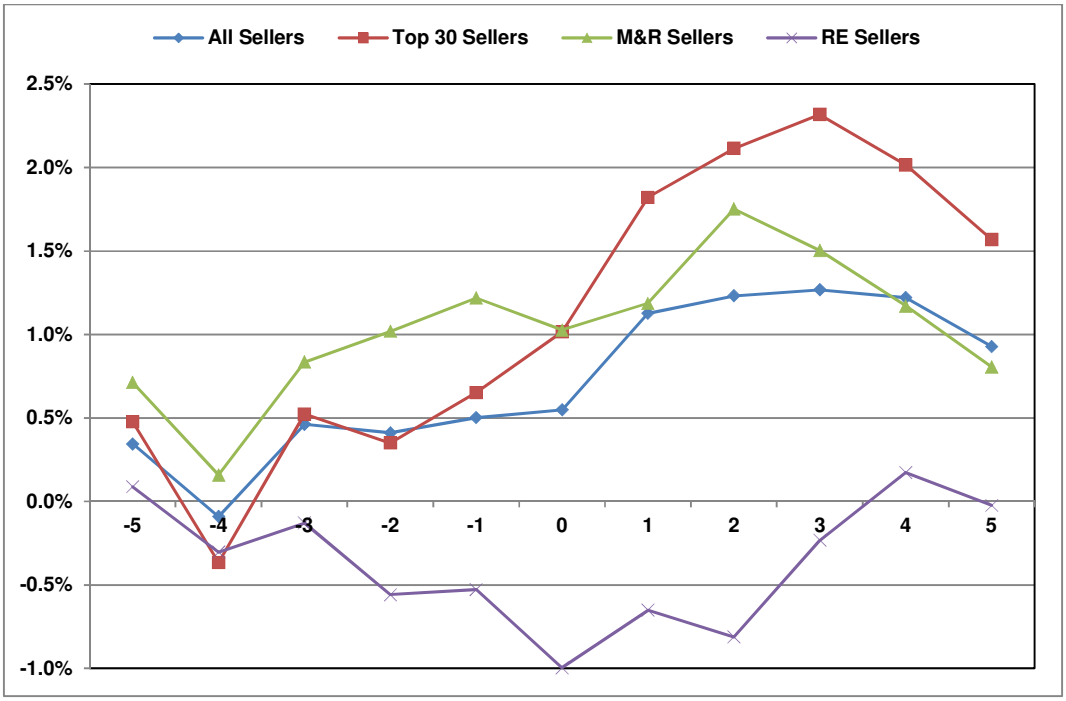


Average Cumulative Abnormal Returns for Mining & Resources and Real Estate Equity and Cash Buyer Samples over Five Day Event Window

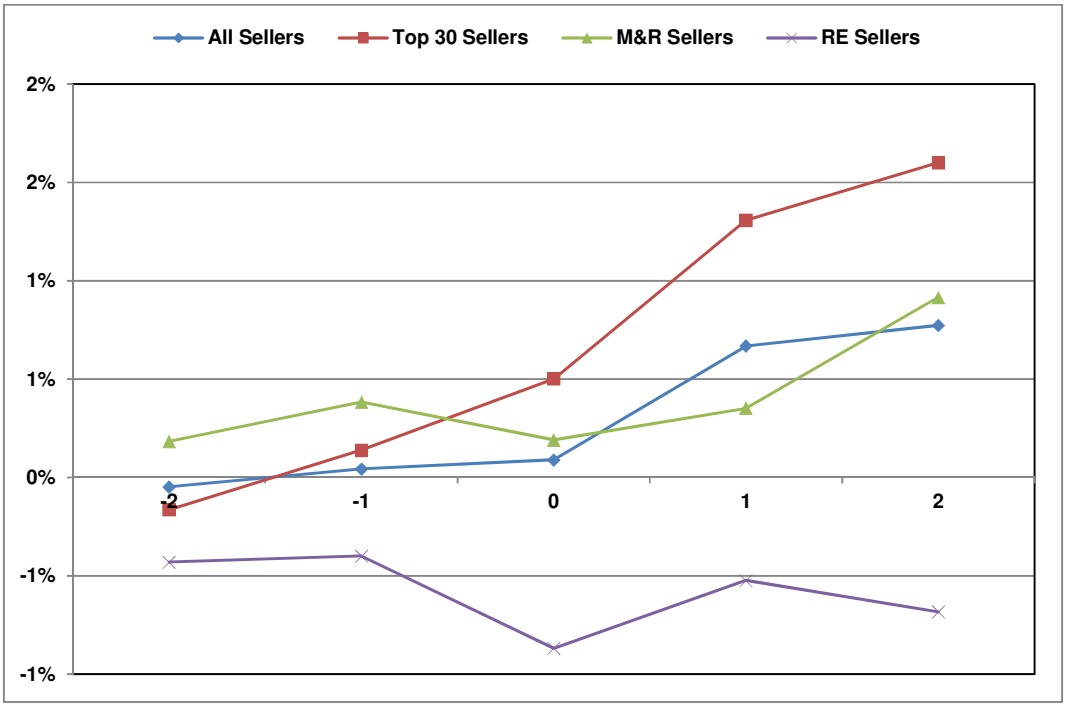


ACAR Graphs of Aggregated Seller Samples (Hypothesis 3)

Average Cumulative Abnormal Returns for the Full and Split Seller Samples over 11 Day Event Window

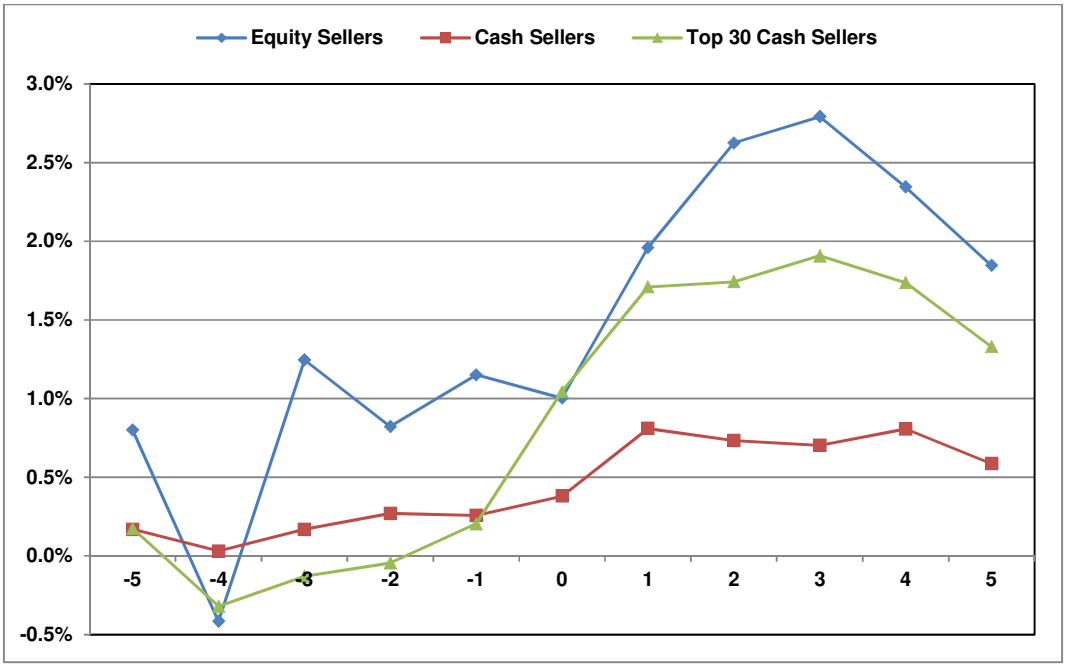


Average Cumulative Abnormal Returns for the Full and Split Seller Samples over Five Day Event Window

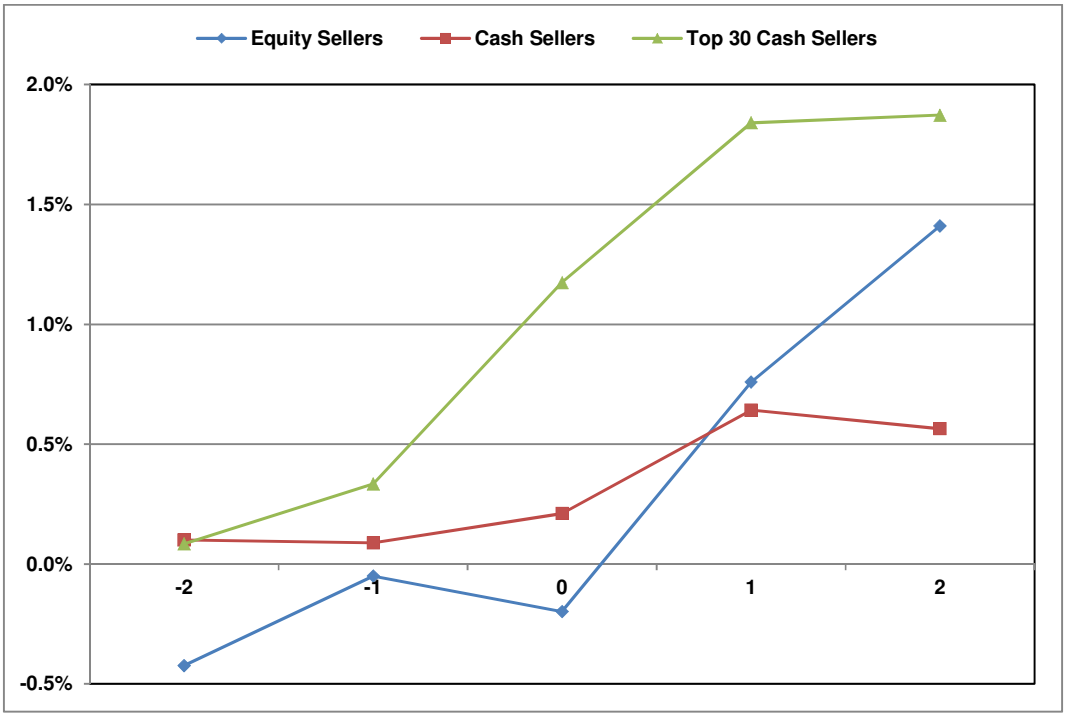


ACAR Graphs of Sellers's Equity and Cash Samples (Hypothesis 4)

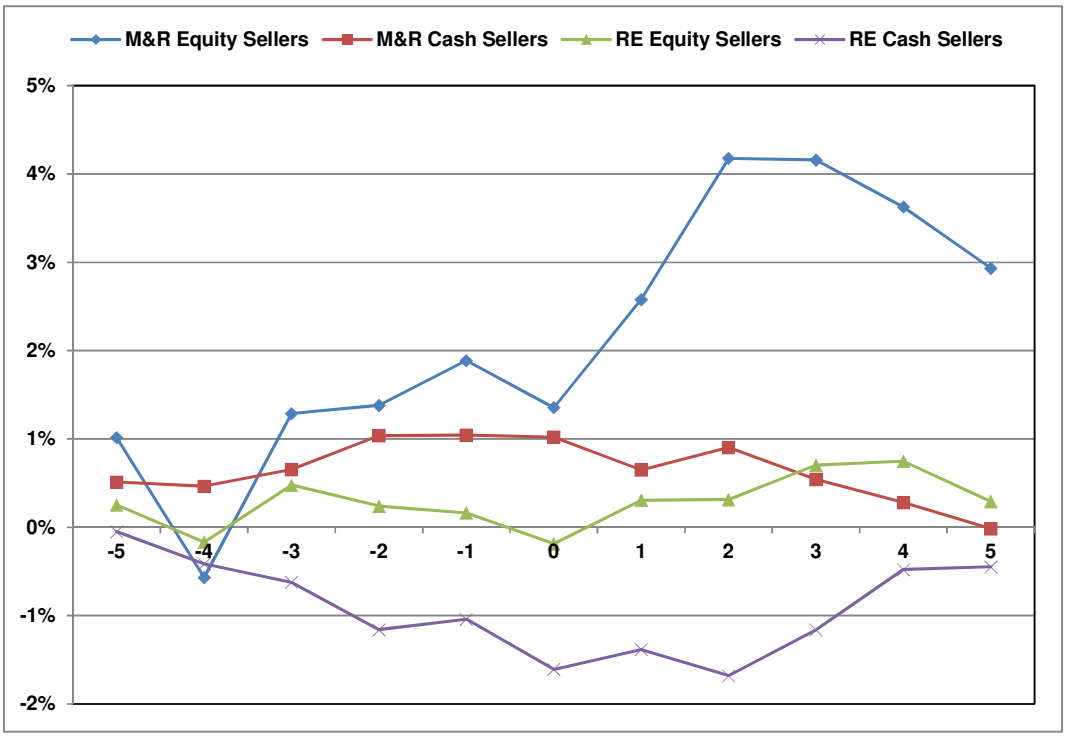
Average Cumulative Abnormal Returns for the Equity and Cash Seller Samples over 11 Day Event Window



Average Cumulative Abnormal Returns for the Equity and Cash Seller Samples over Five Day Event Window



Average Cumulative Abnormal Returns for Mining & Resources and Real Estate Equity and Cash Seller Samples over 11 Day Event Window



Average Cumulative Abnormal Returns for Mining & Resources and Real Estate Equity and Cash Seller Samples over Five Day Event Window