

# Accounting Earnings Quality and Merger & Acquisition Performance in South Africa

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This paper examines the relationship between the quality of accountings earnings and long-run performance for South African acquirers in the context of market-to-book value classifications. Glamour acquirers show significant earnings momentum prior to acquisition; however this momentum is not sustainable. In the period after the acquisition glamour acquirers exhibit a decreasing earnings trend and it is found that South African value acquirers outperform value acquirer's post-acquisition. This paper does not however identify the determinant of this phenomenon as the hypothesis that the pre-acquisition earnings momentum of glamour acquirers is in part bolstered by their aggressive investments is rejected.

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# CHAPTER 1

## 1.1 Introduction

This chapter introduces the major objectives and themes of this study. The chapter is structured as follows: Section 1.2 presents an overview of this study. Section 1.3 gives the major problem statement. Section 1.4 outlines the research questions. Section 1.5 provides the research objectives and desired outcomes. Section 1.6 explains the limitations identified in completing this study.

## 1.2 Overview

Mergers and acquisitions are important events in the life of corporations. The effects for shareholders have been extensively studied. A general result is that the shareholders of target firms earn positive and significant returns, whereas returns for acquiring firms are much lower and possibly negative (Gonenc and Plantinga, 2007).

This study seeks to investigate the link between the poor quality of the earnings of high market to book value acquirers (defined as a glamour acquirer) pre-acquisition with its operating underperformance relative to low market-to-book value acquirers (value acquirer) post acquisition in the South African economy. This study will define criteria that characterises glamour/value acquirers, poor earnings quality and pre/post acquisition, and apply these criteria to South African mergers and acquisitions as well as identify and measure long-run performance.

Existing research has shown that some acquiring firms earn negative abnormal stock returns after mergers and acquisitions (M&A's), with the poor performance mainly associated with "glamour" acquirers (Rau and Vermaelen, 1998).

Glamour acquirers are those firms that are highly valued as a result of their prior market performance. Their stocks receive premium ratings in the form of a high market to book value ratio. In contrast firms with a low market to book value rating are undervalued but have the potential for subsequent value gains (value acquirers). Glamour stocks are high growth and value stocks are low growth (Rau and Vermaelen, 1998).

Using a sample of 797 South African acquisitions from 2001 to 2009, I find that glamour acquirers have a significant upward trend in earnings (measured by different accounting

components of earnings) in the three years leading up to the acquisition. This upward trend peaks at the time of the acquisition and there is a downward trend in earnings in the years following the acquisition. Prior valuations of acquirers matters. Overvalued acquirers are more likely to make acquisitions. Temporary overvaluation, if not fully adjusted for by the market during the initial merger process, will be corrected eventually and will appear as negative long-term abnormal returns. (Ang, Cheng and Nagel, 2008)

I observe using BHR abnormal returns that South African value acquirers outperform glamour acquirers in the long-run post-acquisition.

Firms that are valued too high relative to their fundamental value find it easier to bid higher prices for acquisitions. In particular there is evidence that investor overvaluation of acquirers fuels takeover activity (Gonenc and Plantinga, 2007).

This study, as in Zhu (2008) hypothesises that the above mentioned trend in glamour acquirer earnings is due to the fact that the pre-acquisition earnings momentum is bolstered by an unsustainable earnings component. The measure of earnings stability used in this study is based on the difference between residual income and earnings and is used to detect the presence of aggressive investments for the purpose to increasing earnings and thus the share price. I found that analysis of the data however proved inconclusive in proving that the pre-acquisition earnings momentum of glamour acquirers is in part bolstered by their aggressive investments.

The remainder of this study is organised as such: Chapter 2 gives a brief review of studies that are pertinent to this study and of literature on relevant themes and concepts. Chapter 3 outlines the data sample used as well as a breakdown of the methodology used to conduct this analysis. Chapter 4 provides a discussion of the results this paper. Chapter 5 provides conclusions and recommendations. Chapter 6 gives the references.

### **1.3 Problem Statement**

South Africa has seen a rapid increase in mergers & acquisitions activity since 1994. However there remains very little empirical evidence surrounding the long term performance of South African mergers & acquisitions. This paper seeks to shed some light

on the details and cause of post-acquisition earnings phenomena in South African mergers & acquisitions.

#### **1.4 Research Question**

1. Do South African glamour acquirers experience a larger earnings run-up than value acquirers in the years before an acquisition?
2. Is the pre-acquisition earnings momentum of South African glamour investors bolstered mainly by unsustainable earnings components?
3. What is the relationship between the pre-acquisition earnings momentum of an acquirer in South Africa and its long-run performance post-acquisition?

#### **1.5 Research objectives and expected contribution**

This study seeks to investigate the link between the poor quality of earnings momentum of a glamour acquirer pre-acquisition with its operating underperformance relative to value acquirers post acquisition in the South African economy. This study will define criteria that characterises poor earnings quality and apply these criteria to the glamour and value acquirers of South African mergers and acquisitions.

The research carried out in this study will be useful to accounting regulatory bodies as well as institutional and private investors in gauging the role that the quality of earnings momentum and reporting has on share value in a mergers and acquisitions context.

This paper contributes to the literature on earnings momentum surrounding major corporate events and the literature on earnings management.

#### **1.6 Limitations**

In carrying out this research for the South African context, the availability of comprehensive data is a problem. In addition, there are much fewer mergers and acquisitions taking place in South Africa relative to the U.S and the U.K, thus the time line of the sample data must be extended. However, since earnings data is needed three years prior to the acquisition as well as three years after the acquisition, acquiring an appropriate sample period will be very important. The fact that there are vastly different periods of financial and political periods in

South Africa's history, adds to this difficulty. Further difficulty arises due to an increase in political and socially motivated transactions (Black Economic Empowerment deals etc.) brought about by the introduction of democracy in South Africa.

## **CHAPTER 2 - Literature Review**

### **2.1 Introduction**

This chapter presents the extent of literature on mergers and acquisitions and related subjects. The chapter is structured as follows: Section 2.2 presents evidence of studies that are similar in nature and objective to this study but use data from different countries. Section 2.3 gives literary insights into major themes that are found throughout this paper. Section 2.4 gives a summary of the literature review as well as the rationale behind the structure of this study. Section 2.5 presents the hypothesis development of this study.

### **2.2 Evidence from other countries**

The four studies below are most similar to this study and formed the basis of the hypothesis, methodology and reasoning used in this study.

#### **2.2.1 UK Evidence: Sudarsanam, Mahate and Freedman (2001)**

Sudarsanam, Mahate and Freedman (2001) investigated the performance of acquirers both in the short and long run and whether short- and long- run performance of acquirers is dependent on their status as glamour or value acquirers (measured by market-to-book value ratio and price-to-earnings ratio). They found using a sample of 543 U.K acquirers during 1983-1995 that shareholders of acquirers with low market to book value experience greater abnormal returns than shareholders of acquirers with high market to book value over a three year period following an acquisition regardless of how they financed their acquisitions.

They further studied the effect of different acquirer type (defined by financial status and their payment method) on their performance in terms of abnormal returns. Their main goal was to test the effect of method of payment on long and short run success. The results strongly favoured the extrapolation hypothesis as opposed to the method of payment hypothesis. The method of payment hypothesis proposes that managers are motivated to increase the stockholder value by acquiring relatively under-valued companies using their own stock as payment when their stocks are over-valued (Shleifer and Vishny, 2002). The extrapolation hypothesis proposes that acquirers commanding a market rating due to their recent past performance (glamour acquirers) may act out of confidence or hubris in making acquisitions. The stocks of such companies may also be overvalued. The managers may be

aware of such overvaluation but the stock market is not. The acquirer managers capitalise on this information asymmetry but over time on the post-acquisition period the overvaluation is corrected and the glamour stocks are rated down leading to significant value decline (Rau and Vermaelen, 1997).

### **2.2.2 US Evidence (1980 – 1991): Rau and Vermaelen (1997)**

Rau and Vermaelen (1997) found using 3169 U.S mergers and 348 tender U.S. offers that acquirers in mergers underperform in the three years after the acquisition. They also conclude that the long-term underperformance of acquiring firms in mergers is not uniform across firms and that is predominantly caused by the poor post-acquisition performance of low book to market glamour acquirers. Rau and Vermaelen (1997) examined three hypotheses: the performance extrapolation hypothesis, the means of payment hypothesis, and the earnings per share (EPS) myopia hypothesis as possible reasons for this conclusion. Their research concludes that underperformance of glamour acquirers relative to value acquirers is attributed to the performance extrapolation hypothesis i.e. the market over-extrapolates the past performance of the bidder management when it assesses the benefits of an acquisition decision. As a result, the market overestimates the ability of the glamour bidder to manage other companies. At the same time, the market tends to be overly pessimistic about the managerial capacities of bidders with poor past performance (value firms). In some ways, the market fails to understand that past managerial performance is not necessarily a good indicator of future performance, at least in the case of acquisitions (Rau and Vermaelen, 1997).

In contrast to this study which examines poor quality of accounting earning (due mainly to increase in negative net present value or value decreasing investments), Rau and Vermaelen (1997) look at the distinction between long run price behaviour in mergers and tender offers.

### **2.2.3 US Evidence (1990 – 2005): Zhu (2008)**

Using data from 1850 M&A of companies listed on U.S Stock Exchanges from 1990-2005 Zhu (2008) found that the underperformance of glamour acquirers' stock is partially driven by investors' failure to recognize the poor earnings quality of glamour acquirers until after the acquisition and the reversal of operating performance has been observed. She found that

glamour acquirers have higher market to book values than value acquirers in the build up to the acquisition; however they exhibit lower earnings quality. Earnings quality was tested using three measures; increasing investments without covering costs of capital, inflating accruals, and delaying the recognition of core expenses. All of these measures allow firms to grow earnings that cannot be sustained in the long run (Zhu, 2008).

#### **2.2.4 Greek Evidence (2001-2003): Georgopoulos, Koumanakos and Siriopoulos (2005)**

Georgopoulos, Koumanakos and Siriopoulos (2005) investigated whether 47 Athens Stock Exchange listed acquiring firms from 2001-2003 tend to manipulate accounting earnings upwards in the period before the transaction. The proxy for accounting manipulation used is discretionary current accruals. Their study concludes that discretionary current accruals grow before the offering, peak in the offering year, and decline thereafter and that this accruals pattern is mirrored by net operating income in each of the periods. They compute total accrual as the change in non-cash working capital less total depreciation expense.

In summation, of the four related studies only Zhu (2008) attributed the post-acquisition underperformance of glamour acquirers (relative to value acquirers) to the poor quality of glamour acquirers' earnings momentum in the period prior to the acquisition. Rau and Vermaelen (1998) attribute this anomaly to the performance extrapolation hypothesis and Sudarsanam, Mahate and Freedman (2001) sight market over reaction as the cause. Georgopoulos, Koumanakos and Siriopoulos (2005) found evidence of accounting manipulation in acquirers, but they did not use the glamour or value classification.

### **2.3 Literature on Relevant Themes**

The following is a collection of literature findings relating to the major themes that are pertinent to this study.

#### **2.3.1 The Classification as a Glamour/Value Acquirer**

This study seeks to explain the long-term earnings phenomenon empirically associated with glamour and value acquirers. The following section outlines the literature surrounding the financial classification of glamour and value as well as the proxies that are used to form this distinction.

### *2.3.1.1 Glamour versus Value*

Lakonishok, Shleifer and Vishny (1994); Ikenberry, Lakonishok and Vermaelen (1995); Rau and Vermaelen (1998) have all classified firms with relatively low market-to-book value ratios as value firms and those with high market to book firms as glamour firms. Fama & French (1992); Ikenberry, Lakonishok, & Vermaelen (1995) and Pontiff & Schall (1998) found that when evaluating the performance of firms, a relevant classification for firms is whether they are glamour or value firms.

Glamour acquirers are those firms that are highly valued as a result of their prior market performance. Their stocks receive premium ratings in the form of a high market-to-book value ratio. In contrast firms with a low market-to-book value rating are undervalued but have the potential for subsequent value gains (value acquirers). Glamour stocks are high growth and value stocks are low growth. Glamour bidders are more likely to make value-decreasing takeover decisions than value bidders are in the long run (Rau and Vermaelen, 1998).

A lot of the literature on glamour versus book value and mergers and acquisitions relate to the acquirers glamour/value status and the resultant choice of method of payment. Martin (1996) found that stock offers are more likely for acquirers with high growth opportunities and high acquisition stock returns. Kohers, Kohers and Kohers (2006) found that specifically, in cash offers, tender offers are less likely for glamour targets, while in stock offers, glamour acquirers are less inclined to make tender offers.

### *2.3.1.2 Market-to-Book Value Ratio*

Fama and French (1992) found that the ratio of book equity to market equity (BE/ME) along with market equity (ME) capture much of the cross-section of average stock returns by looking at six portfolios formed on ranked values of size and BE/ME for individual stocks. They concluded that BE/ME is related to persistent properties of earnings i.e. low BE/ME is typical of firms with high average returns on capital, whereas high BE/ME is typical of firms that are relatively distressed.

In their paper, Fama and French (1992) also highlighted the results of Penman (1991) that low book-to-market equity firms remain more profitable than high book-to-market firms for at least five years after portfolios are formed on the basis of book-to-market.

### ***2.3.1.3 Methods of Payment***

The method of payment may signal valuable information to the market with regards to the valuation of the common stock. This is because bidding firms' managers will finance acquisitions in the most profitable way for existing shareholders to take advantage of information that is not fully reflected in the pre-acquisition stock price (Travlos, 1987).

Myers and Majluf (1984); DeAngelo, DeAngelo, and Rice (1984) found that managers will prefer a cash offer if they believe that the common stock price of the firm is undervalued, while a common stock exchange offer will be preferred if they believe that the common stock price of the firm is overvalued.

Fishman (1984) attributed acquisition payment choice to asymmetric information and the threat of competitive bidding. Bidders have greater incentives to finance using stock when the asymmetric information about target assets is high (Fishman, 1984).

## **2.3.2 The Earnings Momentum around M&A Transactions**

### ***2.3.2.1 Long-Term Merger and Acquisition Performance***

Literature on merger and acquisition performance focuses primarily on economic benchmarks even though managers describe a complex set of motives for acquisitions. This stems from reasoning that the managers' motives may be inappropriate, or the managers themselves foolhardy and that special deal-specific definitions of success, limit generalising from research findings.

Bruner (2001) concluded that the aggregate, abnormal returns to buyer shareholders from M&A activity are essentially zero. Bruner (2001) compiled a database of studies that examine the returns to various stakeholders of mergers and acquisitions. The table, that is most relevant to this study is the returns to the acquiring firm's shareholders, is presented in the *Table 1* below:

**Table 1**

**Summary of Shareholder Return Studies for M&A: Returns to Acquiring Firm Shareholders  
Studies Reporting Long-Term Returns to Acquirers**

Study (Cont.)	Cumulative Abnormal Returns	Sample Size	Sample Period	Event Window (days)	% Pos. Returns	Notes
Mandelker (1974)	-1.32% Successful bids only	241	1941-63	(0,365)	N.A.	Mergers only. Event date is date of consummation of the deal.
Dodd and Ruback (1977)	-1.32% Successful -1.60% Unsuccessful	124 48	1958-78	(0,365)	N.A.	Tender offers only. Event date is date of offer.
Langtieg (1978)	-6.59%** Successful bids only	149	1929-69	(0,365)	N.A.	Mergers only. Event date is date of announcement of the deal.
Asquith (1983)	-7.20%** Successful -9.60%** Unsuccessful	196 89	1962-76	(0,240)	N.A.	Mergers only. Event date is date of announcement.
Bradley, Desai, and Kim (1983)	-7.85%** Unsuccessful bids only.	94	1962-80	(0,365)	N.A.	Tender offers only. Event date is date of announcement.
Malatesta (1983)	-2.90% Whole sample -13.70%** After 1970 -7.70% Smaller bidders	121 75 59	1969-74	(0,365)	N.A.	Mergers only. Event date is date of approval.
Agrawal, Jaffe, Mandekler (1992)	-10.26%**	765	1955-87	(0,1250)	43.97%	Mergers only; 5 yr. post-merger performance; tender offer post-acquisition performance is not significantly different from zero
Loderer, Martin (1992)	+1.5%	1298	1966-86	(0,1250)	N/A	Mergers and tender offers; 5 yr. post-acquisition performance
Gregory (1997)	-12% to -18%**	452	1984-92	(0,500)	31% to 37%	Uses six variations of the event study methodology; U.K. mergers and tender offers; 2 yr. post-acquisition performance
Loughran, Vijh (1997)	-14.2% merger +61.3%** tender -0.1% combined	434 100	1970-89	(1,1250)	N/A	5 yr. post-acquisition returns; segment data also available on form of payment
Rau, Vermaelen (1998)	-4%** mergers +9%** tender offers	3,968 348	1980-91	(0,36 months)	N/A	3 yr. post acquisition returns, with insights into value and glamour investing strategies.

*Source: Bruner. R. F., (2001). Does M&A Pay? A Survey of Evidence for the Decision-Maker.*

Bruner (2001) compiled the following summary of the findings of 41 studies. With regards to the returns to the buyer firm, he found that 20 studies report negative returns with 13 of the 20 significantly negative. On the other hand 24 studies report positive returns with 17 of the 24 significantly positive. In short, the findings are distributed rather evenly: one-third (13) show value destruction; one third show value conservation (14); and one-third show value creation (17). Eleven studies consider returns well after the consummation of the transaction. Eight studies report negative and significant returns. The studies show a slight tendency for returns to decline over time.

Datta, Pinches and Narayanan (1992) in considering 41 studies wrote that on average, shareholders of bidding or acquiring firms do not realize significant returns from mergers and acquisitions. Magenheimer and Mueller (1988) found that the stock market performance of the acquiring firms deteriorated over a 60-month period after the acquisition.

### **2.3.3 The Quality of Earnings Momentum of Acquirers**

#### **2.3.3.1 Earnings Momentum Quality**

Earnings manipulation refers to choosing accounting procedures to meet a specific goal. Graham, Harvey, and Rajgopal (2005); Nelson, Elliott, and Tarpley (2002) both found using survey evidence that managers seek to manage earnings to beat earnings benchmarks because the equity market provides sufficient incentives for outperforming benchmarks.

According to Shleifer and Vishny (2003), in order to exploit relatively high equity valuations, managers tend to engage in equity-based transactions like stock-based acquisitions.

Managers are likely to manage earnings to avoid the costs associated with reporting poor results even if the lower growth is not a result of poor management. The managers hope that the company's performance will turn around allowing the company to absorb the effects of aggressive accounting choices. If the company's performance does not turn around, the managers may find themselves engaging in more aggressive accounting choices (Myers, Myers and Skinner, 2006).

Easterwood (1998); Erickson and Wang (1999) have cited evidence of earnings management in takeovers and stock for stock mergers. Erickson and Wang (1999) also found that correlation between the acquiring firm's share price and the use of shares in transactions increases the incentives for acquiring firms to attempt to increasing accounting earnings through manipulation. Louis (2004) reported that in the quarter preceding stock swap announcements, acquiring firms report significant positive abnormal accruals.

#### **2.3.3.2 Residual Income**

In their study, Balachandran and Mohanram (2008) showed that net income can be decomposed into an organic growth component, an investment-driven growth component and other components (which they attributed to changes in risks and interest expense). They concluded that residual income can be used to separate growth in profits into organic growth from existing investments and growth driven by new investments. It was also concluded that growth in accounting profits alone is incomplete and is not truly reflective of economic performance. Balachandran and Mohanram (2008) also found that the market over-reacts to (new) investment driven growth and under-reacts to organic growth.

Organic growth in earnings, which is often proxied by the change in residual income, is considered to be highly valuable to the market as it has the highest correlation with stock returns. This suggests that the market considers organic growth to be more sustainable than investment-driven growth (Balachandran and Mohanram, 2008).

### ***2.3.3.3 Stock market driven acquisitions theory***

Ang and Cheng (2006) found that the probability of a firm becoming a stock acquirer increases significantly with its degree of overvaluation.

Shleifer and Vishny (2002) presented a model of stock-market-driven acquisitions and found that there is a strong incentive for firms to get their equity overvalued so that they can make acquisitions with stock. They also found that firms with overvalued equity might be able to make acquisitions, survive, and grow, while firms with undervalued, or relatively less overvalued, equity become takeover targets themselves.

One of the incentives for companies to raise their stock price even through earnings manipulation is the benefit of having a high valuation for making acquisitions (D'Avolio, Gildor and Shleifer, 2001).

## **2.4 Study Structure**

Zhu (2008) has vastly influenced the methodology and objectives of this study. An analysis of the literature has allowed me to understand and interpret the task at hand and allowed me to tailor my methodology to best suit South African acquirers and the South African market. This leads to the following framework for this piece of research.

### **2.4.1 Market to Book Value**

In classifying the acquirer as glamour or value, this study uses market to book value as the appropriate proxy as opposed to price-to-earnings ratio or both. This is because Rau and Vermaelen (1998) found that underperformance of the acquiring firms' stock is mainly driven by high market-to-book value acquirers and this study intends to test (amongst others) the hypothesis that market-to-book value standing affects post acquisition performance of acquirers. Another factor contributing to the use of market to book value as a proxy is that Fama and French (1992) concluded that market to book value is related to persistent properties of earnings.

### **2.4.2 Accounting Earnings Choice**

As per Zhu (2008) this study uses net income and earnings before interest, tax, amortisation and depreciation (EBITDA) as the measures of accounting earnings for acquirers. According to Zhu (2008) the use of EBITDA is advantageous because it excludes the effects of depreciation, goodwill, interest expenses and taxes. This ensures that it is unaffected by the accounting method for the M&A transaction as well as the method of financing.

### **2.4.3 Residual Income**

This study relies on the residual income as the sole factor in determining the organic component of earnings because Balachandran and Mohanram (2008) conclude that residual income can be used to separate growth in profits into organic growth from existing investments and growth driven by new investments. It was also concluded that growth in accounting profits alone is incomplete and is not truly reflective of economic performance.

### **2.4.4 Performance Calculation and Benchmarks**

The benchmark index used in this study to measure long term performance is the JSE All Share Index because the sample of acquirers is taken from all sectors of the JSE main board. The measure of return used is abnormal stock performance, which is proxied by the excess return of a stock over the return of the JSE All Share Index. This study focuses on only BHR to gauge the extent to which glamour acquirers' share price corrects after the acquisition, because this type of returns is the most relevant for investors (Zhu, 2008).

## **2.5 Summary of Major Differences from Other Studies**

### **2.5.1 UK Evidence: Sudarsanam, Mahate and Freedman (2001)**

This study differs from Sudarsanam, *et al* (2001) in that first, they use two proxies (price-to-earnings ratio and market-to-book value ratio) to determine whether an acquirer is glamour or value, whereas this study only uses market to book value as a proxy. Second, Sudarsanam, *et al* (2001) explore how the method of payment explains the underperformance amongst glamour acquirers whereas this study looks at the role of poor earnings quality in long run glamour acquirer underperformance. Third, Sudarsanam, *et al* (2001) analyses UK data as opposed to South African data which this study utilises. Lastly, Sudarsanam, *et al* (2001) use price-to-earnings ratios, rates of return and other benchmark

models as the measure of earnings to determine if glamour acquirers underperform value acquirers and this study uses share price data.

### **2.5.2 US Evidence (1980 – 1991): Rau and Vermaelen (1997)**

In contrast to this study which examines poor quality of accounting earning (due mainly to increase in negative net present value or value decreasing investments), Rau and Vermaelen (1997) look at the distinction between long run price behaviour in mergers and tender offers.

### **2.5.3 US Evidence (1990 – 2005): Zhu (2008)**

The Zhu (2008) study forms the basis for the methodology of this study with the following exceptions: First, Zhu (2008) examines the earnings sustainability of both acquirers and targets whereas this study only considered acquirers when considering the sustainability of earnings. Second, Zhu (2008) focused on three measures of earnings quality, namely: increasing investments without covering costs of capital, inflating accruals, and delaying the recognition of core expenses, all of which allow firms to grow earnings that cannot be sustained in the long run. This study only focuses on increasing investments without covering cost of capital as a measure of earnings quality. Third, Zhu (2008) uses Cumulative Abnormal Returns (CAR) and Buy and Hold Returns (BHR) to test the reversal of earnings momentum in acquirers.

### **2.5.4 Greek Evidence (2001-2003): Georgopoulos, Koumanakos and Siriopoulos (2005)**

In contrast to this study, Georgopoulos, Koumanakos and Siriopoulos (2005) do not consider the status of an acquirer as glamour or value, the data they use is of Greek acquirers and the proxy for accounting manipulation used is discretionary current accruals.

## **2.6 Hypothesis Development**

Three major themes are addressed in this paper: The earnings momentum around M&A transactions, the quality of the earnings momentum of acquirers and the long-term stability of the pre-acquisition earning momentum of acquirers.

Formally these themes lead to the formulation of three hypotheses.

### **2.6.1 The Earnings Momentum around M&A Transactions**

**H<sub>0</sub>:** Glamour acquirers' earnings (relative to Value acquirers) exhibits an upwards trend, peaking just before the acquisition and then exhibits a downward trend in the years after the acquisition.

**H<sub>a</sub>:** Glamour acquirers' earnings (relative to Value acquirers) exhibit no trend.

### **2.6.2 The Quality of the Earnings Momentum of Acquirers**

**H<sub>0</sub>:** The organic component (as measured by residual income) of glamour acquirers pre-acquisition earnings supports the claim that glamour acquirers' pre-acquisition earnings are unsustainable.

**H<sub>a</sub>:** The organic component (as measured by residual income) of glamour acquirers' pre-acquisition earnings does not give any indication of the sustainability of glamour acquirers pre-acquisition earnings.

### **2.6.3 The Long-term Post-Acquisition Performance of Acquirers**

**H<sub>0</sub>:** The earnings momentum prior to acquisitions and subsequent decline affects the abnormal stock performance of glamour acquirers post-acquisition.

**H<sub>a</sub>:** The earnings momentum prior to acquisitions and subsequent decline does not affect the abnormal stock performance of glamour acquirers post-acquisition.

## **CHAPTER 3 - Research methodology**

### **3.1 Introduction**

This chapter outlines the methodology and data used in this study. The chapter is structured as follows: Section 3.2 presents the data selection criteria, data transformations as well as the different sources used to obtain data. Section 3.3 outlines the testable hypotheses within the study as well as the process followed to test them. Section 3.4 summarizes the chapter.

### **3.2 Data and Data Source**

The M&A data is obtained from the Ernst and Young (E&Y) M&A database. The sample is selected using the following criteria: (1) a M&A deal is announced between January 1, 1994 and December 31, 2009; (2) the acquiring firms are publicly listed and traded on the JSE; (3) the mode of the deals is a 100% acquisition. These criteria yield a sample of 797 deals.

Due to the nature of this analysis and the need for share price data 3 years before and after the deal (and the availability of such data), the sample period was restated as being between January 1, 2001 and December 31 2009. In the case of the same acquirer having multiple deals during the same calendar year, the largest deal was used in the sample. Financial Institutions (high leverage ratios) were excluded from the data sample. High leverage ratios distort operating performance measures and these firms are closely regulated, which may constrain their ability to invest and to manipulate accruals. The sample acquirers were required to have market-to-book value (MTBV) data available in the quarter preceding the deal announcement as well accounting earnings data available for three years before and after the deal announcement. Market value (MV) and book value (BV) data for each of the acquirers is obtained in the quarter preceding the announcement of each deal via Bloomberg. These additional filters reduced the sample size to 404 deals.

The first step in this study is to analyse the value that the market places on an acquiring company as opposed to its historic or book value and use this information to classify acquirers. Fama and French (1992) found that the ratio of market equity to book equity captured much of the variability of stock returns. MV is a market consistent financial variable and is calculated by multiplying a company's share price and its number of outstanding shares. The BV of a company is an accounting figure and it is obtained from the

financial reports of a company. Using these two measures of company value each acquirer's market-to-book value (MTBV) ratio is calculated as such:

$$\text{Market – to – Book Value} = \text{Market Value} \div \text{Book Value}$$

This allowed the classification of the acquirer as either glamour (high market-to-book value) or value (low market-to-book value). Glamour acquirers are those firms that are highly valued as a result of their prior market performance. Their stocks receive premium ratings in the form of a high market to book value ratio. In contrast firms with a low market to book value rating are undervalued but have the potential for subsequent value gains (value acquirers) (Rau and Vermaelen, 1998).

Acquiring firms are separated by the year of their acquisition and ranked by their MTBV. As per the Zhu (2008) study the top quintile of acquirers of each year is classified as glamour acquirers and the bottom quintile is classified value acquirers. This results in populations of 52 value acquirers and 52 glamour acquirers.

The analysis makes use of various accounting data. These include net income; earnings before interest, tax, depreciation and amortisation (EBITDA); investments, total assets and net operating profit after tax (NOPAT). This accounting data is sourced from McGregor BFA. The interest rate data, which includes R157 yields, weighted average cost of capital (WACC) estimates and cost of debt rates, is obtained from McGregor BFA. Share price data and the JSE All Share Index price data is used in portions of the analysis. This data is obtained from I-Net Bridge.

### 3.3 Research Design

#### 3.3.1 The Earnings Momentum around M&A Transactions

**H<sub>0</sub>:** Glamour acquirers' earnings (relative to Value acquirers) exhibits an upwards trend, peaking just before the acquisition and then exhibits a downward trend in the years after the acquisition.

**H<sub>a</sub>:** Glamour acquirers' earnings (relative to Value acquirers) exhibit no trend.

One of the main tests of the paper is to compare the performance of glamour acquirers and value acquirers three years before and three years after acquisitions. Gilchrist, Himmelberg

and Huberman (2005) have shown that research on asset prices is increasingly sympathetic to the idea that stock price bubbles are possible.

The measures of earnings used are net income and earnings before interest, tax, amortisation and depreciation (EBITDA). As implemented by (Zhu, 2008), earnings measure were standardised by the total assets of each acquirer. This study examines the long term actions and performance of acquirers, and as per (Zhu, 2008); the earnings of the acquirers three years before and after the acquisition are examined. This involves creating the variable subscripts; Year (-3), Year (-2), Year (-1), Year (+1), Year (+2), Year (+3) which represent the variables of each acquirer in both populations (Glamour and Value) exactly 1, 2 and 3 year before and after the acquisition.

As in Zhu (2008) study, the time period naming convention is as such:

**Year (0)** - **last fiscal year before the deal announcement**

**Year (1)** - **first fiscal year after deal completion...and so on**

The period between the deal announcement and the deal completion is not considered in the sample due to the speculative volatility during this period (Zhu, 2008).

By examining the earnings trend of acquirer's pre and post-acquisition it is possible to gain valuable insight into how the acquirer's earnings behave around the acquisition. In order to examine the long-term trend in the earnings the mean value for net income  $(Y - 3) - (Y + 3)$ , turnover  $(Y - 3) - (Y + 3)$  and operating profit  $(Y - 3) - (Y + 3)$  for glamour and value acquirers is calculated. This allows an examination of the difference in earning trends for glamour and value acquirers in the years preceding and following the acquisition. The mean value for each year of glamour and value acquirers is found in order to examine the trend.

The purpose of this analysis is to determine if glamour acquirers have increases in their earnings in the period before the deal and if so, if there is an opposite result in the period after the deal as found by Zhu (2008) using US acquirers.

### 3.3.2 The Quality of Earnings Momentum of Acquirers

**H<sub>0</sub>:** The organic component (as measured by residual income) of glamour acquirers' pre-acquisition earnings supports the claim that glamour acquirers pre-acquisition earnings are unsustainable.

**H<sub>a</sub>:** The organic component (as measured by residual income) of glamour acquirers' pre-acquisition earnings does not give any indication of the sustainability of glamour acquirers pre-acquisition earnings.

In their study, Balachandran and Mohanram (2008) showed that net income can be decomposed into an organic growth component, an investment-driven growth component and other components (which they attributed to changes in risks and interest expense). They concluded that residual income can be used to separate growth in profits into organic growth from existing investments and growth driven by new investments and that growth in accounting profits alone is incomplete and is not truly reflective of economic performance.

The measure of earnings stability used in this study is based on the difference between the trends in reported earnings and residual earnings as in Zhu (2008). In deriving earnings from investments, accrual accounting does not recognize the cost of equity capital raised to acquire the assets. Hence, a firm can show positive earnings growth in the short run simply by increasing investments as long as the return from incremental investment exceeds the amortized costs. By contrast, since residual earnings are obtained by charging the cost of capital against earnings, it has a built-in safeguard against short run earnings growth induced by increasing investment. Therefore, a comparison of earnings with residual earnings can identify earnings growth resulting from increasing investment that does not cover the cost of capital (Zhu, 2008).

In order to determine if the acquirers have increased their investments in order to boost income in the years prior to their acquisition, each acquirers investment figure is examined for each of the three years before and after the acquisition. Following the naming convention adopted above, the investment for every acquirer in the Glamour/Value sample for 1, 2 and 3 year before and after the acquisition is obtained and standardised by the total assets of each acquirer. The mean value of investment for each year of glamour and value acquirers is calculated and the trend examined.

The next step is to analyse the trend in residual income of the glamour acquirers and compare it to the glamour acquirer's trend in mean net income. Residual Income is calculated as follows:

$$\text{Residual Earnings}_t = \text{NOPAT}_t - (\text{Invested Capital}_t - 1 \times \text{WACC}_t).$$

$\text{NOPAT}_t$  = Net operating profit adding back after tax interest expense at time t

$\text{WACC}_t$  = Weighted average cost of capital at time t

Following the naming convention adopted above, the residual income is calculated, as per the above formula, for every glamour acquirer for the each of the three years before and after the acquisition. The weighted average cost of capital (WACC) estimates are obtained from McGregor BFA.

### 3.3.3 The Long-Term Post-Acquisition Performance of Acquirers

**H<sub>0</sub>:** The earnings momentum prior to acquisitions and subsequent decline affects the abnormal stock performance of glamour acquirers post-acquisition.

**H<sub>a</sub>:** The earnings momentum prior to acquisitions and subsequent decline does not affect the abnormal stock performance of glamour acquirers post-acquisition.

The goal of this test to evaluate the extent to which the earnings momentum prior to acquisitions and subsequent decline affects the abnormal stock performance of merged firms. Post-acquisition is defined in this study as the three years following an acquisition. Year -1 provides an indication of any increase in abnormal returns due to the positive earnings momentum pre-acquisition. Year +1 to Year +3 give inferences into any reversal of stock performance due to a decline in earnings. The benchmark index used is the JSE All Share Index because the sample of acquirers is taken from all sectors of the JSE main board. The measure of return used is abnormal stock performance, which is proxied by the excess return of a stock over the return of the JSE All Share Index. Buy and hold" (BHR) returns are used to examine the abnormal stock performance of the acquirers.

The BHR of stock prices for glamour and value acquirers is labelled "Raw" returns. The BHR returns are calculated via the formula:

$$R_I = \prod_{t=1}^{36} (1 + r_{it})$$

$r_{it}$  is the raw returns on firm  $i$  in month  $t$

The BHR for the JSE All Share Index are calculated in a similar manner. The abnormal return is calculated as the BHR for each acquirer minus the BHR of the JSE All Share Index for Year - 1 and each of the three years after the acquisition (Year +1, Year +2 and Year +3).

### 3.4 Summary

Accounting, interest rate, share price and M&A deal information is combined using methodology and statistical techniques gathered from numerous related studies to attempt to answer the following three questions.

First, do glamour acquirer's earnings (relative to Value acquirers) exhibits an upwards trend, peaking just before the acquisition and then exhibits a downward trend in the years after the acquisition?

Second, does the organic component (as measured by residual income) of glamour acquirers pre-acquisition earnings supports the claim that glamour acquirer's pre-acquisition earnings are unsustainable?

Third, does the earnings momentum prior to acquisitions and subsequent decline affect the abnormal stock performance of glamour acquirers' post-acquisition?

## CHAPTER 4 – Presentation of Results

### 4.1 Introduction

This chapter outlines the results of the analysis within this study, namely the results of the test of the three hypotheses. The chapter is structured as follows: Section 4.2 showcases the descriptive statistics surrounding the data samples used in this study. Section 4.3 presents the results of the main hypothesis tests identified by the study.

### 4.2 Descriptive Statistics

The sample consists of 797 completed 100% acquisitions by JSE listed companies from 01 January 2001 to 31 December 2009, which are documented on E&Y M&A Database. The deals are sorted by acquisition year and ordered by acquirer’s market-to-book value. The top quintile (highest market-to-book value) of acquirers for each year is labelled “glamour” acquirers and the bottom quintile (lowest market-to-book value) is labelled “value” acquirers. This process yields a sample of 52 value acquirers and 52 glamour acquirers. Table 1 below showcases the various properties of the data. Panel A reports, by announcement year, number of acquisitions made by glamour and value acquirers, the mean values of the deals the percentage of deals made by glamour and value acquirers. Panel B reports the mean characteristics of value and glamour acquirers at the end of fiscal year preceding the deal announcement date. Panel C reports the industry distribution of glamour and value acquirers. The industry classifications correspond to JSE Exchange sectors.

Table 1: Descriptive Statistics

Panel A: Acquisition by Announcement Year				
Year	Number of Acquirers		Average Deal Value (Rmil)	
	Value	Glamour	Value	Glamour
2009	6	6	781.63	229.12
2008	8	8	102.56	182.25
2007	0	0	0.00	0.00
2006	8	8	317.45	376.38
2005	8	8	32.01	189.60
2004	5	5	92.60	60.20
2003	5	5	30.12	2083.00
2002	7	7	9.71	7773.37
2001	5	5	10.68	63.95
	52	52	152.97	1217.54

**Panel B: The characteristics of glamour and value acquirers**

	Value	Glamour
Acquirers' assets (R mil)	132,238	231,743
Acquirer's market-to-book ratios	0.9	8.8
Number of observations	52	52

**Panel C: Distribution of acquirers by industry**

Industry	Number of Firms	
	Value	Glamour
Auto Parts	1	0
Beverages	0	1
Broadcasting Contractors	0	1
Building & Construction Materials	4	6
Business Support Services	3	2
Chemicals - Speciality	0	3
Computer Hardware	1	1
Computer Services	11	0
Containers & Packaging	1	2
Diversified Industrial	10	1
Electrical Equipment	2	2
Engineering - General	1	0
Food & Drug Retailers	1	5
Food Processors	1	4
General Retailers	1	3
Gold Mining	1	3
Hotels	1	2
Household Appliances & Housewares	2	1
Media Agencies	1	1
Mining	1	1
Pharmaceuticals	2	2
Platinum	1	1
Rail, Road & Freight	1	3
Real Estate Investment Trusts	1	1
Retail	3	3
Specialised Consumer Services	1	1
Telecommunications Equipment	0	1
Wireless Telecom Services	0	1
	52	52

## 4.3 Results

### 4.3.1 The Earnings Momentum around M&A Transactions

**H<sub>0</sub>:** Glamour acquirers' earnings (relative to Value acquirers) exhibits an upwards trend, peaking just before the acquisition and then exhibits a downward trend in the years after the acquisition.

Panel A below shows the trend analysis of net income/total assets for glamour and value acquirers. Net income is the bottom line of profit for a company and gives valuable insight into how well a company is performing. Glamour acquirers show an upwards trend in net income/total assets for the years preceding the acquisitions, peaking in the year of the acquisition followed by a decline in net income/total assets in the years post acquisition. This is consistent with the findings of Zhu (2008) that U.S glamour acquirers have increased earnings in the years leading up to an acquisition and have decreased earnings in the years after. Glamour acquirers' net income/total assets is 6.09% in Year -3 and rises to 8.73% in Year -2, 12.70% in Year -1 and peaks at 12.83% in Year 0. It falls to 11.14% in Year +1, 9.12% in Year +2 and 8.93% in Year +3. Value acquirers exhibit no consistent trend in the years preceding the acquisition. Net income/total assets is 5.60% in Year -3, 9.21% in Year -2 and 4.45% in Year -1. Net income/Total assets fall to -5.47% in the year of the acquisition and increases steadily in the years post acquisition. The net income/total assets is -5.47% in Year +1, -2.68% in Year +2 and 1.90% in Year +3. Glamour acquirers have a higher net income/total assets for the entire period before and after the acquisition with the exception of Year -2. The size of this difference, on average, changes from 0.49% to 7.03%, reaching a minimum of -0.47% in Year -2 and a maximum of 18.61% in Year 0.

Year	Panel A: Net Income/Total Assets				
	Glamour	Value	Difference	t-Stat	t-Critical
Year + 3	8.93%	1.90%	7.03%	-2.87	2.00
Year + 2	9.12%	-2.68%	11.81%	-2.59	2.01
Year + 1	11.14%	-5.47%	16.61%	-2.25	1.99
Year 0	12.83%	-5.78%	18.61%	-2.46	2.00
Year - 1	12.70%	4.45%	8.25%	-2.39	2.00
Year - 2	8.73%	9.21%	-0.47%	-2.21	2.02
Year - 3	6.09%	5.60%	0.49%	-0.17	1.99

Panel B below shows the trend analysis of EBITDA/total assets for glamour and value acquirers. EBITDA is an approximate measure of a company's operating cash flows based on the company's income statement. Glamour acquirers exhibit a general flat trend in EBITDA/total assets for the entire period of analysis. The mean level of EBITDA/total assets for glamour acquirers changes from 21.55% in year -3 to 26.90% in Year +3 with minimum value 19.62% in Year +1. Value acquirers' mean EBITDA/total assets changes from 16.45% in Year -3 to 12.89% in Year +3 with a minimum value of 6.41% in Year 0 and a maximum of 20.34% in Year -2. The mean EBITDA/total assets for glamour acquirers is on average greater than that of value acquirers (with the exception of Year -2) with the size of the difference, on average, changing from 5.10% to 14.02% reaching a maximum of 18.58% in Year 0.

Panel B: EBITDA/Total Assets					
Year	Glamour	Value	Difference	t-Stat	t-Critical
Year + 3	26.90%	12.89%	14.02%	-3.02	2.01
Year + 2	19.85%	10.89%	8.96%	-2.23	1.99
Year + 1	19.62%	11.70%	7.92%	-1.75	2.00
Year 0	24.98%	6.41%	18.58%	-2.39	2.00
Year - 1	26.04%	12.52%	13.52%	-3.17	1.99
Year - 2	20.02%	20.34%	-0.32%	1.22	2.02
Year - 3	21.55%	16.45%	5.10%	-1.60	2.00

Panel C and D summarise the trend analysis for glamour and value acquirers respectively. Glamour acquirers exhibit relatively flat trends for sales, operating income and EBITDA. Glamour net income, however exhibits an upward trend in the three years before the acquisition, peaking in Year 0 and then follows a downward trend in the three years post-acquisition. Value acquirers exhibit no trend for net income. For all measures of earnings used, glamour acquirers have higher figures than value acquirers.

Panel C: Glamour Acquirer Summary		
Year	Net Income	EBITDA
Year + 3	8.93%	26.90%
Year + 2	9.12%	19.85%
Year + 1	11.14%	19.62%
Year 0	12.83%	24.98%
Year - 1	12.70%	26.04%
Year - 2	8.73%	20.02%
Year - 3	6.09%	21.55%

Panel D: Value Acquirer Summary		
Year	Net Income	EBIDTA
Year + 3	1.90%	12.89%
Year + 2	-2.68%	10.89%
Year + 1	-5.47%	11.70%
Year 0	-5.78%	6.41%
Year - 1	4.45%	12.52%
Year - 2	9.21%	20.34%
Year - 3	5.60%	16.45%

Based on the trend of glamour acquirers' net income/total assets and the fact that for all measures of earnings used, glamour acquirers have higher figures than value acquirers the null hypothesis that glamour acquirer's earnings (relative to Value acquirers) exhibits an upwards trend, peaking just before the acquisition and then exhibits a downward trend in the years after the acquisition is accepted.

#### 4.3.2 The Quality of Earnings Momentum of Acquirers

**H<sub>0</sub>:** The organic component (as measured by residual income) of glamour acquirers' pre-acquisition earnings supports the claim that glamour acquirers pre-acquisition earnings are unsustainable.

**H<sub>a</sub>:** The organic component (as measured by residual income) of glamour acquirers' pre-acquisition earnings does not give any indication of the sustainability of glamour acquirers pre-acquisition earnings.

Panel G below shows the trend analysis of investments/total assets for glamour and value acquirers. Investments are recorded at cost (market price). Glamour acquirers exhibit an approximately flat trend in investments/total assets for the entire period of analysis. The mean level of investments/total assets for glamour acquirers changes from 5.30% in year -3

to 7.21% in Year +3 with a minimum of 4.29% in Year +1. Similarly, value acquirers have an approximately flat trend from Year -3 to Year +3. Value acquirers mean investments/total assets changes from 11.73% in Year -3 to 10.12% Year +3 with a minimum value of 10.12% in Year +3 and a maximum of 16.16% in Year +1. The mean investment/total assets for value acquirers is on average greater than that of glamour acquirers with the size of the difference (glamour – value), on average, changing from -6.43% in Year -3 to -2.91% in Year +3 reaching a minimum of -11.87% in Year +1. The evidence provided in Panel G shows that value acquirers have a higher investment to total assets ratio than glamour acquirers. This study hypothesises that glamour acquirers invest in negative net present value or value destroying investments and makes no inferences into glamour acquirers’ general level of investment. The mean level of investments for glamour acquirers does not show a substantial upwards trend in the years before the acquisition.

Year	Panel G: Investments/Total Assets				
	Glamour	Value	Difference	t-Stat	t-Critical
Year + 3	7.21%	10.12%	-2.91%	0.89	2.01
Year + 2	5.60%	12.36%	-6.76%	1.83	2.01
Year + 1	4.29%	16.16%	-11.87%	2.78	2.03
Year 0	6.13%	13.80%	-7.67%	1.82	2.01
Year - 1	6.90%	12.49%	-5.59%	1.29	2.00
Year - 2	5.05%	13.42%	-8.36%	2.03	2.04
Year - 3	5.30%	11.73%	-6.43%	1.79	2.03

Panel H below shows the trend analysis of NOPAT/total assets for glamour and value acquirers. Net operating profit after tax (NOPAT) is operating profit minus the tax expense. The mean NOPAT/total assets for glamour acquirers increased steadily in the three year preceding the acquisition with 12.66% in Year -3, 14.55% in Year -2 and 19.07% Year -1. It peaks in Year -1 and fall in the year of the acquisition as well as the three year after. Mean glamour NOPAT/total assets falls to 18.08% in Year 0, 16.48% in Year +1, 15.11% in Year +2 and 14.76% in Year +3. Value acquirers mean NOPAT/total assets changes from 14.05% in Year -3 to 14.76% in Year +3 with a maximum value of 17.66% in Year -2 and a minimum of 8.44% in Year +2. The mean difference (glamour – value) in NOPAT/total is positive from Year -1 (5.96%) to Year +3 (4.51%). Year -2 and Year -3 are -3.11% and -1.39% respectively.

Panel H: NOPAT/Total Assets					
Year	Glamour	Value	Difference	t-Stat	t-Critical
Year + 3	14.76%	10.25%	4.51%	-2.45	2.00
Year + 2	15.11%	8.44%	6.67%	-2.06	2.00
Year + 1	16.48%	9.28%	7.20%	-1.23	1.99
Year 0	18.08%	11.38%	6.70%	-1.84	2.01
Year - 1	19.07%	13.11%	5.96%	-2.32	1.99
Year - 2	14.55%	17.66%	-3.11%	1.26	2.02
Year - 3	12.66%	14.05%	-1.39%	-0.37	2.00

The measure of earnings sustainability used in this study is based on the difference of the trends of earnings and residual earnings. “In deriving earnings from investments, accrual accounting does not recognize the cost of equity capital raised to acquire the assets. Hence, a firm can show positive earnings growth in the short run simply by increasing investments as long as the return from incremental investment exceeds the amortized costs,” (Zhu, 2008, page 2). Panel I below shows the trend analysis of residual income/total assets for glamour and value acquirers. The mean residual income/total assets for glamour acquirers exhibits no obvious trend. It starts at 5.94% in Year -3 and decreases to 4.53% in Year-2. Year -1 sees an increase to 8.3%. There is a decline in Year 0 and Year +1 to 8.07% and 5.07% respectively. Year +2 and Year +3 sees an increase to 5.15% and 10.15%. The mean residual income/total assets for value acquirers similarly exhibits no informative trend. It changes from 2.19% in Year -3 to 0.22% Year +3 with a minimum value of -4.40% in Year -2 and a maximum of 3.94% in Year -1. Mean glamour residual income/total assets is on average greater than that of value acquirers for the entire time period of the study. The difference (glamour – value) is 3.75% in Year -3, which is also the minimum value, and reaches a peak at 9.93% in Year +3.

Panel I: Residual Income/Total Assets					
Year	Glamour	Value	Difference	t-Stat	t-Critical
Year + 3	10.15%	0.22%	9.93%	-2.37	2.00
Year + 2	5.15%	-1.27%	6.42%	-1.92	2.00
Year + 1	5.07%	0.32%	4.74%	-1.26	1.99
Year 0	8.07%	1.18%	6.89%	-2.59	1.99
Year - 1	8.30%	3.94%	4.36%	-1.73	1.99
Year - 2	4.53%	-4.40%	8.93%	-0.86	2.02
Year - 3	5.94%	2.19%	3.75%	-1.02	2.00

Panel J and K summaries the earnings momentum quality results for glamour and value acquirers respectively. The mean level of investments for glamour acquirers also does not show a substantial upwards trend in the years before the acquisition. This runs contrary to the fact that this study hypothesis that glamour acquirers will bid up their stock price in the years prior to acquisition by bolstering their earnings through increased investments. Mean glamour NOPAT experiences an upward trend in the three years prior to acquisition, peaking in Year -1 and falls in the years post acquisition. This is consistent with this studies acceptance of the hypothesis that the earnings that glamour acquirers' earnings (relative to value acquirers) exhibits an upwards trend, peaking just before the acquisition and then exhibits a downward trend in the years after the acquisition. In order for to identify the poor quality of accounting earnings as the determinant of glamour acquirers underperformance of value acquirers, it is necessary for the trend of mean glamour residual income to follow the opposite trend of glamour earnings (proxied by NOPAT and net income). The rationale behind condition is that if the quality of earnings is bolstered by excess investments, the cost of capital of those investments will decrease residual income (or organic income) even if net income and NOPAT are growing. Thus the residual income of glamour acquirers should be lower on average than value acquirers and it should exhibit a decreasing trend in the years leading up to the acquisition. Panel J and K show that none of these conditions are met by the data sample. Glamour residual income exhibits a slightly upwards trend in the year pre-acquisition and is on average larger than that of value acquirers for the entire period of the study. Thus, this study rejects the null hypothesis that the organic component (as measured by residual income) of glamour acquirers' pre-acquisition earnings supports the claim that glamour acquirers pre-acquisition earnings are unsustainable.

Panel J: Glamour Acquirer Summary			
Year	Investments	NOPAT	Residual Income
Year + 3	7.21%	14.76%	10.15%
Year + 2	5.60%	15.11%	5.15%
Year + 1	4.29%	16.48%	5.07%
Year 0	6.13%	18.08%	8.07%
Year - 1	6.90%	19.07%	8.30%
Year - 2	5.05%	14.55%	4.53%
Year - 3	5.30%	12.66%	5.94%

Panel K: Value Acquirer Summary			
Year	Investments	NOPAT	Residual Income
Year + 3	10.12%	10.25%	0.22%
Year + 2	12.36%	8.44%	-1.27%
Year + 1	16.16%	9.28%	0.32%
Year 0	13.80%	11.38%	1.18%
Year - 1	12.49%	13.11%	3.94%
Year - 2	13.42%	17.66%	-4.40%
Year - 3	11.73%	14.05%	2.19%

#### 4.3.3 The Long-Term Post-Acquisition Performance of Acquirers

**H<sub>0</sub>:** The earnings momentum prior to acquisitions and subsequent decline affects the abnormal stock performance of the glamour acquirer post-acquisition.

**H<sub>a</sub>:** The earnings momentum prior to acquisitions and subsequent decline does not affect the abnormal stock performance of the glamour acquirer post-acquisition.

Table 2 below presents the output of the long run post acquisition performance of glamour and value acquirers. Panel A presents the raw and abnormal BHR for value and glamour acquirers in Year -1. Glamour raw BHR in Year -1 is 35.95% and glamour BHR abnormal returns above the JSE All Share index is 12.73%. In contrast value acquirers underperform glamour acquirers in that year with value raw BHR in Year -1 of 16.28% and value BHR abnormal returns above the JSE All Share index of 4.15%.

Panel B presents the raw and abnormal BHR for value and glamour acquirers in Year +1. Glamour raw BHR in Year +1 is 16.05% and glamour BHR abnormal returns above the JSE All Share index is -3.62 %. In contrast value acquirers outperform glamour acquirers in that year

with value raw BHR in Year +1 of 23.99% and value BHR abnormal returns above the JSE All Share index of 2.54%

Panel C and D similarly show that value acquirers outperform glamour acquirers with respect to raw returns and abnormal returns in Year +2 and Year +3. Glamour raw BHR in Year +2 (Year +3) is 15.96% (11.12%) and glamour BHR abnormal returns above the JSE All Share index is -1.09% (-4.41%). Value raw BHR in Year +2 (Year +3) is 24.61% (20.56%) and value BHR abnormal returns above the JSE All Share index is 3.57% (1.67%).

The result show that glamour acquirers experience a significantly greater price run-up in the year prior to acquisitions, relative to value acquirers, followed by a more substantial drop in each of the three post-acquisition years. This indicates that market participant do not factor the future reversal of earnings momentum into their estimates of glamour stock prices and are thus shocked when reversal happens post-acquisition, thus the steeper decline in stock prices. Thus this study accepts the null hypothesis that earnings momentum prior to acquisitions and subsequent decline affects the abnormal stock performance of the glamour acquirer post-acquisition.

<b>Table 2: Long-Run Performance</b>		
<b>Panel A: BHR (Year - 1)</b>		
	<b>Raw</b>	<b>JSE All Share</b>
Value	16.28%	4.15%
Glamour	35.95%	12.73%
t-value	-2.038	-0.784
t-critical	1.989	1.985
<b>Panel B: BHR (Year + 1)</b>		
	<b>Raw</b>	<b>JSE All Share</b>
Value	23.99%	2.54%
Glamour	16.05%	-3.62%
t-value	0.585	0.458
t-critical	1.997	1.998
<b>Panel C: BHR (Year + 2)</b>		
	<b>Raw</b>	<b>JSE All Share</b>
Value	24.61%	3.57%
Glamour	15.96%	-1.09%
t-value	-0.511	0.266
t-critical	1.993	1.993
<b>Panel D: BHR (Year + 3)</b>		
	<b>Raw</b>	<b>JSE All Share</b>
Value	20.56%	1.67%
Glamour	11.12%	-4.41%
t-value	1.036	-0.847
t-critical	1.991	1.997

## **CHAPTER 5 – Discussion, Conclusion and Recommendation**

### **5.1 Introduction**

This chapter outlines the conclusions and recommendations of this study. The chapter is structured as follows: Section 5.2 presents a discussion on the link between the findings in this study and other studies. Section 5.3 provides the conclusions derived from this study. Section 5.4 gives insight into further study.

### **5.2 Discussion**

This paper contributes to the literature on earnings momentum surrounding major corporate events and the literature on earnings management and extends it to the South African M&A environment. Following Rau and Vermaelen (1998), Sudarsanam, Mahate and Freedman (2001) and Zhu (2008) this study finds that value acquirers outperform glamour acquirers in the long-run post acquisition. This study attempts to identify the poor quality of accounting earnings as the cause of this underperformance as Georgopoulos, Koumanakos and Siriopoulos (2005) and Zhu (2008) find. This study, however, cannot comprehensively prove that poor quality of accounting earnings contributes to the underperformance of glamour acquirers (relative to value acquirers) in the South African market.

### **5.3. Conclusion**

Research on post-acquisition underperformance of glamour acquirers relative to value acquirers has not frequently posited the accounting quality of earnings as a cause. Rau and Vermaelen (1998) attribute this anomaly to the performance extrapolation hypothesis while Sudarsanam, Mahate and Freedman (2001) sight market over reaction as the cause. However, Zhu (2008) highlighted poor quality of accounting earnings as a possible cause. Using a sample of 797 South African acquisitions over the period of 2001 to 2009, this study has found that value acquirers have outperformed glamour acquirer post-acquisition. It is also found that glamour acquirers have displayed a trend of an increase in earnings in the three years prior to acquisitions and a decline in earnings in the three years post-acquisition. Borrowing from Zhu (2008) this paper sought to explain this earnings trend using an analysis of residual income and earnings of glamour acquirers. The analysis of the data however proved inconclusive in proving that the pre-acquisition earnings momentum of glamour acquirers is in part bolstered by their aggressive investments. The study also finds that

market participant do not anticipate the future reversal of earnings momentum into their estimates of glamour stock prices and are thus shocked when reversal happens post-acquisition.

The following summarises the result of the three hypothesis tests as stated in the results section:

### **5.3.1 The Earnings Momentum around M&A Transactions**

**H<sub>0</sub>**: Glamour acquirers' earnings (relative to Value acquirers) exhibits an upwards trend, peaking just before the acquisition and then exhibits a downward trend in the years after the acquisition.

**H<sub>a</sub>**: Glamour acquirers' earnings (relative to Value acquirers) exhibit no trend.

Result: **H<sub>0</sub>** is accepted

### **5.3.2 The Quality of Earnings Momentum of Acquirers**

**H<sub>0</sub>**: The organic component (as measured by residual income) of glamour acquirers' pre-acquisition earnings supports the claim that glamour acquirers pre-acquisition earnings are unsustainable.

**H<sub>a</sub>**: The organic component (as measured by residual income) of glamour acquirers' pre-acquisition earnings does not give any indication of the sustainability of glamour acquirers pre-acquisition earnings.

Result: **H<sub>0</sub>** is rejected

### **5.3.3 The Long-Term Post-Acquisition Performance of Acquirers**

**H<sub>0</sub>**: The earnings momentum prior to acquisitions and subsequent decline affects the abnormal stock performance of the glamour acquirer post-acquisition.

**H<sub>a</sub>**: The earnings momentum prior to acquisitions and subsequent decline does not affect the abnormal stock performance of the glamour acquirer post-acquisition.

Result: **H<sub>0</sub>** is accepted

## 5.4 Further Research

Further research could identify the possible causes of the relative post-acquisition underperformance of South African glamour acquirer in the long run. Other proxies for accounting quality of earning could possibly be used for this purpose. For instance, Zhu (2008) use accrual persistence and shifting core expenses as alternative measures of accounting quality. Other theories that could be tested in the South African context include the performance extrapolation hypothesis as tested by Rau and Vermaelen (1998) and market over reaction as tested by Sudarsanam, Mahate and Freedman (2001)

## CHAPTER 6 - Reference

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