

**The impact of Black Economic Empowerment transactions on  
shareholder value creation in South Africa.**

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A research submitted to the Faculty of Management, University of Witwatersrand, in  
partial fulfillment of the requirements for the degree of Masters of Business  
Administration

Johannesburg

August 2006

## **Declaration**

I, Nomthunzi Jacobs-Nongxa, declare that this research is my own, unaided work. It is submitted in partial fulfillment of the requirements for the degree of Master of Business Administration in the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

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August 2006

## **Dedication**

To my mum, Nompumelelo Agnes Jacobs, my pillar of strength.

## **Acknowledgements**

My research was completed with sincere gratitude to the following people:

my supervisor Prof Mthuli Ncube for their guidance and support throughout this thesis writing;

all the information source such as Empowerdex, BusinessMap and IDC, Ernst & Young, my lecturers and colleagues for their guiding input;

my husband Prof. Loyiso G. Nongxa and my children Thandile and Buhle for their patience, encouragement and moral support; and

all my friends and everyone who have been supportive, resourceful and positive throughout this challenging time.

Nomthunzi A. P. Jacobs-Nongxa

## **Abstract**

The purpose of the study is to evaluate the impact of the Black Economic Empowerment (BEE) transaction on shareholder value. In this study a specific reference data of 2002 has been chosen for analysis.

The analysis measures and compares various financial ratios before 2002 and after 2002 for those companies that implemented BEE transactions in 2002. This is basically an event study where the event window is in 2002.

We have a sample of 33 companies from a population of 103 BEE transactions from listed and unlisted companies. The ratios such as ROI, ROIC, ROE, ROCE, EVA and CVA were calculated for each of the 33 companies before 2002 and after 2002.

Test results show there is no statistically significant change in the various ratios. Thus the BEE transactions are adding no significant value to current shareholders in the target companies.

The findings have significance for future BEE policy considerations.

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## **1. INTRODUCTION**

### **1.1 Context of the Study**

Shareholders' concern in being part of a business is to ascertain a realistic value creation. This study intends to assess whether the Black Economic Empowerment (BEE) approach to mergers and acquisitions (M&A) has resulted in the creation or destruction of value for the shareholder. The study intends to investigate whether value is created for the firm first, how those profits are transferred to shareholders and by inference, whether the BEE partner benefits from the value created.

### **1.2 The Purpose**

The study aims to investigate how Black Economic Empowerment (BEE) partnerships impact on shareholder value creation in South Africa. The BEE policy intends to bring into the mainstream previously disadvantaged groups in South Africa in order to escalate economic growth and poverty alleviation.

### **1.3 The Problem**

#### **1.3.1 The main problem**

The purpose of the study is to evaluate the impact of BEE transaction on shareholder value in South African companies. The study will:

- compare and analyse the shareholder value prior to and after the merger; and
- compare ROE, ROCE, ROIC, ROI, EVA and CVA for at least two year before and two years after the BEE transaction.

## Hypothesis

The test will seek to compare the mean of each ratio pre to post the BEE period. The hypothesis will be testing the difference between mean of the ratio before transaction ( $\tilde{X}_1$ ) and mean of the ratio ( $\tilde{X}_2$ ) after the transaction date of 2002. For example, for EVA what will be tested is:

**$H_0 : \mu$**  = *The mean of EVA before the BEE transaction ( $\tilde{X}_1$ ) is not different from the mean of EVA after the BEE transaction ( $\tilde{X}_2$ ) [ i.e.  $\tilde{X}_2 - \tilde{X}_1 = 0$ ].*

**$H_1 : \mu$**  : *The mean of EVA after the BEE transaction ( $\tilde{X}_1$ ) is higher than the mean of EVA before the BEE transaction ( $\tilde{X}_2$ ) [ i.e.  $\tilde{X}_2 - \tilde{X}_1 > 0$ ].*

The hypothesis is repeated for ROE, ROCE, ROIC, ROI and CVA. The hypothesis will be tested at a 5% level of significance and regarding the statistical test for the difference between population means, a t-test will be utilised.

## **1.4 Limitations**

The study has some limitations which are highlighted below. The limitations are that;

1. The acquired BEE partner may or may not have been listed prior the merger.
2. Data analysed would be post-1994. The study is limited to South African companies since BEE is a South African solution.
3. The study is not intended to analyse the rationale behind the acquisitions. These are often explained by management to their shareholders and the public.
4. The study does not attempt to analyse all the components of the sector scorecards nor the management issues except where relevant to the analysis of results: and
5. Factors such as the surrounding environment, weaker business climate, political situation and currency fluctuation do not have a significant impact on this study.

However, in spite of these limitations the results are still expected to produce informative information.

## **1.5 The Significance of the Study**

The study yields results which have some significance and importance to the literature.

The potential benefits of such a study are:

- to help future partnerships to assess the sources of success and failure in the past BEE mergers and acquisitions;
- to influence policy makers to make informed decisions about necessary changes for economic development of the country;
- to assess whether the existing BEE policy meets the objective of economic upliftment; and
- to encourage profitable mergers and acquisitions within the BEE policy framework.

## **1.6 Definition of terms and abbreviations**

The abbreviations listed below are terms used in the study.

- ATO -Asset Turnover
- APV -Adjusted Present Value
- BEE -Black Economic Empowerment
- CAR -Cumulative Abnormal Returns
- CFROI -Cash Flow Return on Investment
- CVA -Cash Value Added
- DTI -Department of Trade and Industry
- D/E -Debt Equity ratio
- Ebv -Equity book value
- EP -Economic Profit
- EVA -Economic Value Added
- EVCA -European Venture Capital Association
- HD -Historically Disadvantaged
- IB -Interest Burden Ratio

- JSE -Johannesburg Securities Exchange, South Africa
- Ke -Rate of return on Equity
- M&A -Mergers and Acquisitions
- MVA -Market Value Added
- NAV -Net Asset Value
- NCF -Net Cash Value
- NEP -Malaysian New Economic Policy
- NRI - Nomura Research Institute
- OCFD -Operating Cash Flow Demand
- ROE -Return on Equity
- ROCE -Return on Capital Employed
- ROI -Return on Investment
- ROIC -Return on Invested Capital
- ROS -Return on Sales
- SAET - South Africa's Economic Transformation
- RVM - Replacement Value Method
- WACC - Weighted Average Cost of Capital
- WCM -Working Capital Movement
- VBM -Value Based Management

## **2. LITERATURE REVIEW**

BEE transactions are an M&A phenomenon. The literature of BEE transactions is basically that of M&A. The following section of the chapter presents M&A literature that has led to adaptation such as BEE.

### **2.1 BLACK ECONOMIC EMPOWERMENT**

The apartheid era was a legislated strategy to marginalise black South Africans and systematically promote white supremacy. This stripped the black majority of their basic human rights, prohibited property ownership, training and procurement, and discriminated against participation in mainstream economy. Correcting the wrongs of the past required a systematic approach. Focus had to be put on issues such as raising the basic standards of living for a vast majority of South Africans.

Appropriate strategies had to be sought out and analysed thoroughly to bring creative solutions that would attempt to redress the injustices of the past. The US affirmative action policy and the Malaysian New Economic Policy (NEP) were a major influence in the conceptualizing of the BEE strategy for South Africa.

#### **2.1.1 The United State Model**

America had a fundamental crisis of black poverty and lack of self-love. Some called it lost pride. This was due to racial distribution of wealth, power and income resulting in denied opportunities for even qualified blacks until at least the 1970's. Though there were pockets of attempts to address this, such as, loans to selected immigrants and subsidies to certain farmers, these were seen to benefit the middle-class Americans disproportionately. A compromise position between progressive and liberal struggle and the powers that be was affirmative action (West, 1994).

President J. F. Kennedy, in March 1961, issued an Executive Order 10925 which established the President's committee on Equal Employment Opportunity. Its mission was to end discrimination in employment by government and its contractors. Each federal contract was to include a pledge that:

***"The Contractor will not discriminate against any employee or applicant for employment because of race, creed, colour or national origins. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, colour or national origin"*** (Cahn,1995).

A broader version of this principle was restated in the Civil Rights Act of 1964. To equalise the starting point for all races, an Executive Order 11246 issued by President Johnson promoted the policy with full realisation of equal employment opportunity through positive, continuing programmes in each department and agency. This was further amended to prohibit discrimination on the basis of sex. Though further commitment and adaptations, such as flexible quotas, were put in place during the tenure of President R. M. Nixon, affirmative action is still a divisive issue in the United States (Cahn, 1995).

### **2.1.2 The Malaysian Model**

The South African BEE Act has strongly been influenced by the Malaysian New Economic Policy (NEP) which was first announced in 1970 as the principal policy response to the post-election race riots of May 1969. With national unity as their overriding objective, the NEP had a two-pronged development programme, namely "poverty eradication regardless of race" and "restructuring society to eliminate the identification of race with economic function." (Jomo, 2004).

The ruling party, the Razak regime, was committed to increasing ethnic affirmative action on behalf of the ethnic Malays, in particular, and *bumiputera* (indigenous Malaysians) in general. Targets were set as follows:

- to reduce poverty from 49% in Peninsula Malaysia in 1970 to 16% in 1990; and
- to raise the *bumiputera* share of corporate stock ownership from 1.5% in 1969 to 30% in 1990.

### **2.1.3 South Africa**

The apartheid era was the culmination of a legislative and regulatory system that was initiated in the late 1800's. This involved the systematic destruction of black production assets, denying blacks access to jobs and skills, undermining self-employment and entrepreneurship, the removal of African people from family land, forced removals to designated areas with poor living conditions, little infrastructure and no business or development opportunities.

In dismantling apartheid the South African government had to devise a systematic strategy to address the exclusions, the disparities and the political instability caused by such policies over such a long period of time. The initial informal policies matured into legislation, the Broad-based BEE Act 53 of 2003.

The acknowledgement as articulated in the BEE Act, has led to the use and the development of international strategies to address the gross inequalities experienced by South Africa prior and during the apartheid era. South African objectives, as stated in the Act, intend systematically to address the imbalances of the past by focusing on:

- promoting economic transformation in order to enable meaningful participation of black people in the economy;
- achieving a substantial change in the racial composition of ownership and management structures and in skilled occupations of existing and new enterprises;
- increasing the extent to which communities, workers, cooperatives and other enterprises own and manage existing and new enterprises, increase access to economic activities infrastructure and skills training;

- increasing the extent to which black women own and manage existing and new enterprises, and increasing their access to economic activities, infrastructure and skills training;
- promoting investment programmes that lead to broad-based and meaningful participation in the economy by black people in order to achieve sustainable development and general prosperity; and
- promoting access to finance for black economic empowerment.

The preferential treatment policies have definitely brought some relief from intense tensions based on race and gender within communities. Arguments are still intense about the extent to which these policies address, and should address, the complexities of such injustices. It is arguable to what extent affirmative action has reduced poverty in America or to what extent is it a sufficient means to equality (West, 1994)

The NEP's restructuring target was to raise the *bumiputera* share of corporate stock ownership from 1.5% in 1969 to 30% in 1990. Though it fell short of its target, the government reported 18% ownership in 1990 and over 20% in 2000. Also observed was an over 90% rise in private individual *bumiputera* ownership from less than 30% (Jomo, 2004).

To manage and measure its targets, South Africa has engaged in a process of drawing BEE scorecards in each industry (Table 1). The positive additional aspects of the Black Economic Empowerment scorecards are that it gives credit to the skills development and shared option programme. This is a different approach to the traditional scorecard. These scorecards are supposed to be more detailed and an accurate reflection of the measures used in each sector. This study does not intend to focus on all the components of the scorecards. It focuses on the value creation component of the equity ownership.

There are three major aspects addressed in the BEE scorecard: direct empowerment, employment equity and indirect empowerment, each allocated 30% weighting. The weighting is further sub-divided for each of the objectives articulated in the Act.

**Table 1: The BEE scorecard**

Core Component of BEE	Indicator	Conversion factor	Raw Score	Weighting	Total Score
<b>Direct empowerment score</b>					
Equity ownership	% share of economic benefit			10%	
Management	% black persons in executive management and/or executive board and board committees			20%	
<b>Human resource development and employment equity score</b>					
Employment equity	Weighted employment equity analysis			10%	
Skills development	Skills development expenditure as a proportion of the total payroll			20%	
<b>Indirect empowerment score</b>					
Preferential Procurement	Procurement from black-owned and empowered enterprises as a proportion of total procurement			20%	
Enterprise Development	Investment in the black-owned and empowerment enterprises as a proportion of total assets			10%	
<b>Residual 10%</b>					
To be determined by sector/ enterprise				10%	
<b>Total BEE score out of 100%</b>					

Source: Empowerdex &, DTI, 2005

## 2.2 Activities on Merger & Acquisitions

A merger implies two or more free-standing companies of equal standing amalgamated in such a way that the original entity disappears to a greater or lesser extent, and a new entity is formed (Ernst & Young, 1999).

An acquisition implies a power imbalance (Ross *et al.*, 2001). This pertains to the procurement of one or more free-standing organizations by another company where the latter plays a dominant role (Ernst & Young, 1999).

At the beginning of the 20<sup>th</sup> century, the first period M&A was by horizontal integration. This period from; 1898 to 1902 (Dreyton, Emerson & Griswold, 1963), 1895 to 1905 (MacGregor, 1979) or from 1895 to 1905 (Bradley & Korn, 1981) saw small business being consolidated to achieve economies of scale in an expanding market (Nat. Ind. Conf. Board, 1929).

The second period was in the 1920's until The Depression. This period was characterized by vertical integrations (Bradley & Korn, 1981). Industrial holding companies grew up and rolled out a broad range of product lines (Drayton *et al.*, 1963).

The post-war era, 1950 onwards formed the third period. The 1960's were marked by the rise of conglomerates Drayton *et al.*, 1963, Macgregor, 1979; Bradley & Korn, 1981). Most companies diversified into unrelated businesses just to extend their portfolio, driven by the theory of financial diversification. The idea of the large portfolio was intended to minimise business cycle effects (Edwards, 1981). The long-term effect of this approach was below average PE ratio.

The 1970s and 1980s were characterised by introduction of synergy (Fray, Gaylin & Down 1984). This yielded to a time of market or industry driven strategic plans (Edwards, 1981; Johnson, 1985).

Globally, business is faced with intense competition in an aggressive economic environment. To fast track growth and to ensure continued viability, companies use vehicles such as mergers, acquisitions, joint ventures and strategic alliances. A Special Survey on M&A (2000), identified M&A as having been the single most important factor in acquiring market capitalisation for most of the successful listed companies (Cartwright & Cooper, 1995; Harvey & Lusch, 1998).

## **2.3 The Research Issue**

### **2.3.1 Short-term results of M&A**

Studies of traditional M&A demonstrate that there has been concern that acquirers buy other companies only to sell them afterwards. This is evident from various studies. In the 1960 – 1970 era, mergers, sell offs and economic efficiency study by Ravenscraft & Scherer (1987) proved that 33% divested. In the 1980s, a study by Porter (1987) proved

that over 50% divested and the Mergestat Review Report by Grimm (1989) proved that 35% divested.

These results led to the belief that acquisition strategies, especially the diversifying ones, fail to increase, instead they destroy value (Kaplan & Weisbach, 1992).

Using an event study approach, Kaplan & Weisbach's acquisition evaluation disputed the belief in support of the view that the acquirer's returns are slightly negative but the combined returns are positive. Though the study is over a short term around an announcement, it showed that only 34% of the sample failure is performance related. Less than 20% of related business acquisitions divested compared to 60% of unrelated business and the acquisitions have increased the combined value.

Most studies are criticised for the length of time taken to do the study or the sample used. A considerable number of studies reveal that in the short term, the target firm shareholders do gain value, while there is a less convincing evidence either way for the acquiring firms. Below is a list of studies and their results at short term around the announcement of a merger.

In the period 1976 to 1984, Affleck-Graves (1988), Flach & Jacobson (2000) studied returns of 25 mergers of companies listed in the JSE. They studied the 10 weeks pre-announcement returns. The results indicated that the target shareholder firms earn significantly positive abnormal returns. The returns for the acquiring firm showed to be from zero to slightly negative (Affleck-Graves *et al.*, 1988a). Looking at further issues, Affleck-Graves, Burt and Cleasby examined the target firm shareholder returns in 64 transactions. The extended study revealed that an average premium paid on acquisition was about 30% to 40% (Affleck *et. al.*, 1988b).

Bhana (1987) studied share price reaction during the same period as Affleck-Graves (1988), 1976-1985. Two important facts were established: the target shareholders earned CAR of 28% around the announcement time and more than 50% of this increase was

obtained 15 days before the announcement. Bhana (1999) increased his sample from 50 target firms in the first study, to 136 in the follow up research. This was an update study of the years 1985-1996. The share behaviour showed CAR of 20% to 30% gained 20 days before the announcement date.

Van Honert (1988) divided his study into an analysis of four features of mergers: medium of exchange; relative sizes of the acquirer compared to target firm size; the relatedness of the firms; and control.

The Sear's acquisition strategy raises the efficiency argument that synergy and efficiency result in more wealth to the owners. This is subject to ownership and management composition after the acquisition (Stybel & Peabody, 2001).

Evaluation of M&A shareholder value has over the years been based on share price reaction. It is the Van Honert and Sear acquisition strategy that seems to have informed the BEE strategy, as reflected in the BEE scorecards, hence the employment of different tools to measure shareholder value.

### 2.3.2 M&A and growth

Growth in merger activity has been reflected by various statistics over time. The United States showed initial dramatic growth in the 1960s, dampening in the 1970s which was later calmed down by diversification swallowing a number of big names in the US industry. The M&A United States data base, in the 1980s, demonstrated a faster growth compared to Britain. This was accompanied by the \$40 – \$200 billion increase in dollar value. Such significant values changes have an impact on people's lives.

**Table 2(a) The growth in numbers of M&A between 1980 -1986**

<b>M &amp; A in</b>	<b>1980</b>	<b>1986</b>
<b>US</b>	1500	4500
<b>Britain</b>	400	1200

Start up companies supported by private equity investors have been recognized as having the greatest potential for success of all new ventures in the US (Bruton, Fried & Hisrich, 1997 and Maier & Walker, 1987). The European Venture Capital Association (EVCA) reported that business indicators of a sample of the EVCA portfolio companies outperformed the top 500 European companies (EVCA, 1996).

**Table 2(b) No. of M&A in South Africa**

<b>South Africa; M &amp; A</b>	<b>No of Transactions</b>	<b>Value R(bn)</b>
<b>2000</b>	1002	372
<b>2001</b>	897	502
<b>2002</b>	783	292

**Source: Ernst & Young (2000, 2001, 2002)**

South Africa's M&A mirrored the international behavior fast. In 2000, M&A showed a gradual decrease in the number of transactions done beyond the millennium, though the 2001 values was larger than 2000. The pre-millennium BEE phases similarly tracked the world-wide mergers (Table 2c). From 1995 to 1997, the number of BEE transactions initially increased though the value decreased. This was followed by gradual increase with highest peak in 2000.

**Table 2(c): BEE transaction (1995 – 2004)**

<b>South Africa; BEE</b>	<b>No of Transactions</b>	<b>Value R(bn)</b>
<b>1995</b>	23	12,4
<b>1996</b>	45	7.0
<b>1997</b>	52	8.3
<b>1998</b>	111	21.2
<b>1999</b>	132	23.1
<b>2000</b>	126	28.0
<b>2001</b>	101	25.1
<b>2002</b>	104	12.4
<b>2003</b>	189	42.2
<b>2004</b>	244	52.9

**Source: Ernst & Young (Mergers & Acquisition, 2004)**

BEE has created hope for economic growth and poverty alleviation in South African. This hope has been dampened by difficulties relating to access to capital and lack of entrepreneurial experience (Boone & Kurtz, 1996). Funding since 2000 has dropped and BEE transactions seem to have suffered the most, due to the way the BEE transactions have been structured. This reality was exposed by unbundling, during which the actual percentage of black-ownership was found to be miniscule. Continuous policy upgrading improved numbers of transactions and values invested.

The success of M&A transactions also depends on the finance strategies. The strategies used to finance transactions are critical in ensuring the success of BEE in achieving its goals. Goals such as the integration of the first and second economy in South Africa can be made successful by clearly monitoring corporate value as the sum of debt and shareholder value (Black *et al.*, 1998). This pressurises management to be custodians of shareholder value.

Investments can be grouped into two types: strategic and non-strategic investments. Strategic investments are those that create new value for shareholders, while non-strategic are those that maintain the value created by the strategic investments (Weissenrieder, 1997). It is an important step for players to define the purpose of the transaction whether it is to create or to maintain value. That gives a strategic focus to where the value should be created.

The idea behind the acquisitions is the creation of value, based on enhanced strategic leverage. This is encompassed in the understanding that the value of a combined firm (AB) should be greater than the sum of individual firms (A and B) [Lewis *et al.*, (1999)].

$$V_{AB} > V_A + V_B$$

There tends to be two general types of mergers and acquisitions.

- The first type might best be called "***create wealth through leveraged buying followed by asset sales.***"
- A second type of mergers and acquisition ***is based on generating value by creating synergy and efficiency.*** By blending two companies with complimentary or different products, there will be added value for the new, larger company. (Sybil, Peabody, 2001)

The South African approach has been a development of the second type; generating value by creating synergy and efficiency between two companies using skills transfer, links to core business and other soft issues. The first type is a form of acquisition rather than merger due to the imbalance of power, since value has been put onto different aspects of a company than traditionally. The country's political and economic goals have given new meaning and value to the powers possessed by, especially, targeted companies. This results in the combination of companies representing more a strategic alliances, than being measured in power and asset value.

Gaughan (1999) verified this strategic approach to M&A gains, mathematically as:

$$V_{xy} = (V_x + V_y) - P - E$$

where:  $V_{xy}$  = the combined value of the two firms

$V_x$  = X's measure of its own worth

$V_y$  = the market value of the shares of Y

P = premium paid for Y

E = the expenses of the acquisition process.

The historical success rates of M&A activity are discouragingly low and the link between culture and corporate performance is well established. Though causes may not be easily isolated, some research points more to people issues than financial and operational issues, as the cause of M&A underperformance (Plani, 2002). Whatever the cause, underperformance in companies is reflected in the company's financial statements, if these properly reflect the company's performance. This results in perceptions influencing the share price fluctuation.

Buffett(1995), known as a fundamental analyst of business, argued for economic reality against accounting reality which overlooks intangible assets such as patents, trademarks, special managerial know-how and reputation. A key feature of Buffett's approach defined economic reality at the level of the business itself, not the market, the economy or the security. His analysis sought to judge the simplicity of the business, the consistency of its operating history, the attractiveness of its long-term prospects, the quality of management, and the firm's capacity to create value (Buffett, 1995).

Free cash flows are a consequence of management policies and practice. Survivors have been those who got their hands dirty and became involved at management and board level. In 1999 there were 132 transactions valued at R23,1 billion; 2000, 126 at R28,0bn, while 2001 had 101 transactions amounting to R25,1bn (Ernst &Young, 2002). A survey showed that BEE transaction-making continued to increase in 2004, with the number of transactions rising 29% to 244 from 189 the year before. The value of BEE transactions increased from R42, 2bn in 2003 to R52, 9bn in 2004 (Ernst &Young, 2005).

### **3. METHODOLOGY**

#### **3.1 Background to Evaluation Methods**

This research is directed towards public companies where highest returns are a reward for best performing shares. In this environment profit is used to offer returns to providers of finance, and in turn they reinvest. There are two types of providers of finance: the shareholder and the lenders. The shareholders take a bigger risk, in that return for shareholders is the dividend paid from profits after every due cost has been met. It is the management of the company who decide on whether dividends can be paid and how much should be paid. This is the shareholders risk as it is not certain how much the rate of growth on the invested funds is (Mills, 1994).

The lenders do not normally take risks as mentioned above. They expect to receive an interest rate on the capital investment and the payment thereof on a future date. Their risk is only when the business fails, which results in the loss of invested funds (Mills, 1994). Buffett believes that there is no fundamental difference between buying a few shares of a business in equity market and buying a company outright. He sees this as an investment opportunity against its next best alternative, the lost opportunity. The comparison of the two thus provides an important benchmark of performance (Buffett, 1995).

The BEE transactions are formulated around similar principles in terms of risk taking, as well as a choice of investment alternatives. The dilemma is that the Historically Disadvantaged (HD) majority often does not have the necessary capital to invest. They use about 90% from the financier, and the DTI requirement of 10% is most frequently, still other people's money. This money is protected by lenders to ensure their interest charges are met. It, therefore, becomes important that the businesses do well to ensure liquidity.

Some businesses protect themselves by minimising cash outlay using leverage buyout when making the purchase. It is preferable to follow the fundamentalist approach and

follow the economic reality to measure the firm's capacity to create value. A number of studies: Baker & Haslem, 1973; Epstein, 1975; Lee & Tweedie, 1975; Belkaoui, Kahl & Peyrard, 1977; Chang & Most, 1981, identified annual reports as the most important source of information whether it is for investors or analysts.

### **3.2. Residual income versus Discounted Cash Flows Valuation Methods**

Fernández (2001) argues that EP, EVA and CVA are parameters useful for measuring the performance of managers or business units, and as a reference parameter for executive compensation. He suggests valuing firms using a discounted EVA, EP or CVA. His research shows that the present value of EP, EVA and CVA gives the same equity value as by discounting the equity cash flows or free cash flows.

Penman and Sougiannis (1998) concurred that “dividend, cash flow and earnings approaches are equivalent when the respective payoffs are predicted to infinity” but, for finite horizon analysis, accrual earnings techniques dominate free cash flow and dividend discounting approaches.

Lundholm and O’Keele (2001a) argued that, even in practical implementation or a large-sample study, the residual income and cash flow models should be equivalent for every firm every year. Difference in price estimate between these models is seen as an indication of the difficulty to apply the same input assumptions to the different models. Common inconsistencies observed in implementation of the models were:

- Inconsistent forecasts error arising from e.g. valuing the perpetuity with a wrong residual or cash flow;
  - Incorrect discount rate error thus a wrong calculation of WACC; and
  - Missing cash flow as a result of inappropriate financial statement forecast.
- (Lundholm & O’Keele, 2001b)

This corresponds well with what Penman (2001) said remark that “the choice between cash accounting and accrual accounting is at the very heart of accounting research, for the

difference involves issues of recognition and measurement that define an accounting system”. A further response comes from Fernández (2002), which shows that the eight most commonly used methods for valuing companies by cash flow discounting or residual income discounting always give the same value.

Analysis in terms of the same hypothesis would result in the same value and would only differ concerning measures used as the starting point. The eight methods proved in Fernández (2002) are:

- free cash flow discounted at the WACC;
- equity cash flows discounted at the required return to equity;
- capital cash flows discounted at the WACC before tax;
- Adjusted Present Value (APV);
- the risk-adjusted free cash flows discounted at the required return to assets;
- The risk-adjusted equity cash flows discounted at the required return to assets;
- Economic profit discounted at the required return to equity; and
- EVA discounted at the WACC.

### **3.3 Methods of Measuring Shareholder value creation**

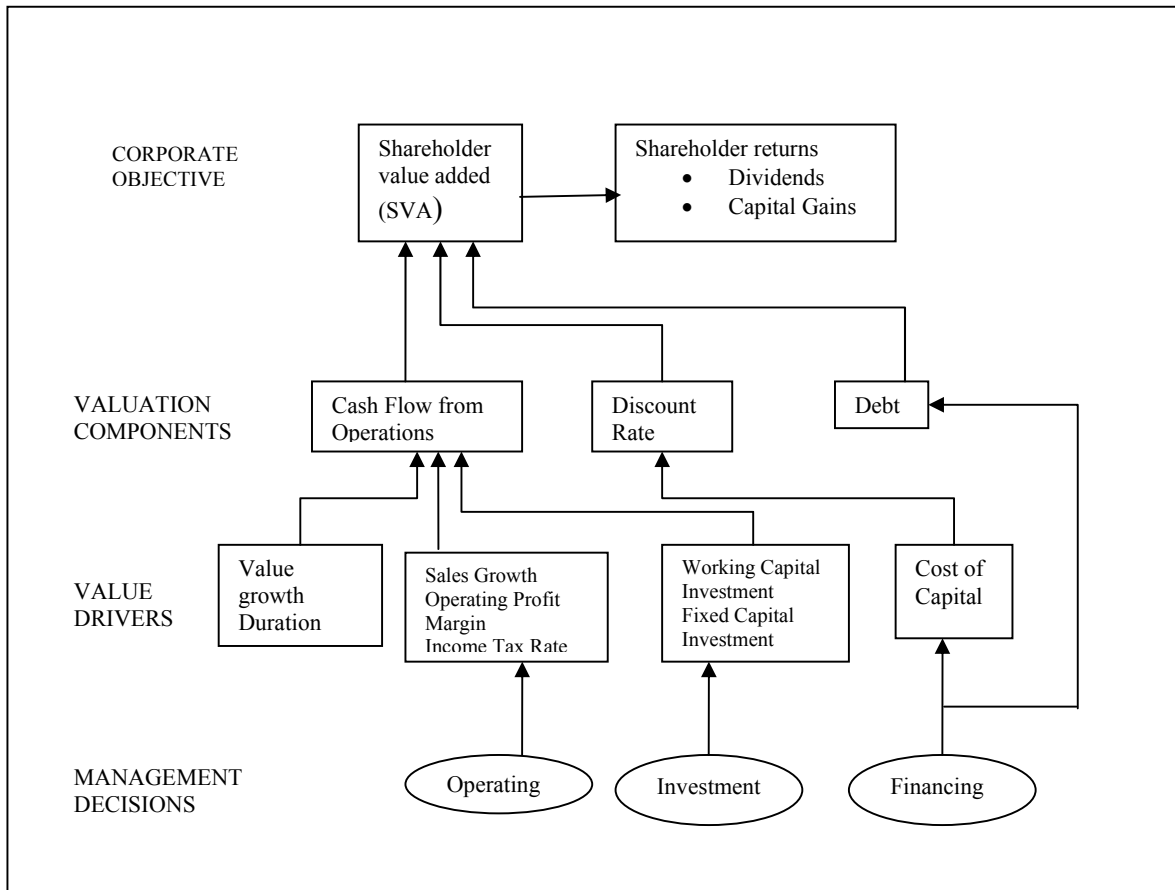
#### **3.3.1 ROE and ROCE as measuring tools**

Capital Market Valuation Theory is a well-established theory evaluating companies from the investors’ perspective using Discounted Cash Flows (DCF). As represented in Figure 1, from the investors’ perspective profitability and value creation in companies are a function of funds invested in one or many ventures, their operating cash flows, the economic lives of those, their capital costs and the utilisation of real options (Weissenrieder, 2004).

Figure1 below presents the connection or relationship between management, value drivers and the corporate strategy. It is the smooth interlinkage of these components

that determines the success of a company. Such success is reflected in profitability and thus the value created for the shareholder.

**Figure. 1: Shareholder Value Network**



Source: Rappaport, 1998

A combination of traditional measure is used with new ones to value the value creation. Different companies choose from the following measures; DCF, Du Point model, EBITDA, EPS, EVA, CVA, MVA, ROCE and ROI. Each of these measures is attained from the flow of value creation components as set out in Figure. 1. This study will follow the Shareholder Value Added (SVA), as influenced by the underlying management decisions.

### 3.3.2. EBITDA

EBITDA (Earnings before Interest, Tax, Depreciation and Amortization) is what the company would earn, if it were not for its obligations to creditors, investments and tax. Broad classes of expenses are deducted from operating revenues to obtain this value. The operating expenses consist of the cost of goods sold, general and administration, salaries and advertising costs. Its strength is in indicating the company's profitability expressed in;

$$\text{Annual Profit (Loss)/Turnover} \quad (1)$$

The importance of this measure is that it informs management of profitability which can be observed in different level/units of the company. Companies are faced with the challenge of raising the value curve per industry. Such a value (Turnover versus EBITDA) is, due to perception, closely connected to the shareholders' value. At group level, operating margins are used and EBITDA is also used with other measures.

### 3.3.3 Return on Capital Employed (ROCE)

ROCE is a ratio that indicates the efficiency and profitability of a company's capital investment, i.e. how a company utilises capital to generate revenue. This value should be higher than the rate at which the company borrows, otherwise any increase in borrowing will reduce shareholders' earnings (Bragg, 1997)

**ROCE =**

$$\frac{\text{(Operating income + interest expense)}}{\text{(Total assets – non-interest bearing short-term liabilities – deferred tax liabilities)}} \quad (2)$$

There are two methods most commonly used to measure Return on Capital Employed. The first is to measure Return on Net Assets (RONA), simplified as EBIT, divided by the difference between total assets and current liabilities. The other one is Return on Equity (ROE), formulated as operating profit divided by equity shareholders' funds.

The first method indicates return on capital, no matter what the long-term source was compared to the ROE, which measures returns on the funds provided by shareholders,

ignoring the interest paid to the lenders. The ROE based method seems to be a better measuring tool because it will give a clearer indication of the financial performance, based on the changes in equity over time.

### **3.3.4 Return on Equity (ROE)**

ROE is most commonly used for determining the company's growth rate of earnings. It is defined as the measure of the return on the shareholders' funds invested in the business (Hartley *et al.*, 1999). Its formula is:

$$\text{ROE} = \frac{\text{Net Profit after tax (NPAT)}}{\text{Shareholders' equity}} \quad (3)$$

This is an already taxed portion of annual results and the average shareholders' equity is adjusted for dividend, new bonus issues and minority interest.

Though a high ROE in the past does not necessarily indicate a high ROE in future, a declining ROE indicates that the new investments are bringing lower ROE than previous investments. In the analysis it is important to take cognisance of two factors; the debt-equity ratio and the interest rate on the company's debt (Bodie, Kane & Marcus, 2005).

ROE is informed by **ROI** and the **leverage component**. It is, therefore, the investment ratios and the operating ratios that need to be properly monitored to ensure ROI is always positive, while the financing ratios expose the leverage component.

#### **3.3.4.1 Operating Ratios**

Two major management components are responsible for a profitable operation. These are Cost Management and Revenue Management.

- Cost Management relates to the efficient use of material, ensuring successful human capital management and the strategic management of expenses.
- Revenue Management is informed by proper pricing strategy and the strategic management of customers and competition.

Success or failure to manage cost and revenue appropriately is reflected in the earnings before interest and tax (EBIT). Operating profit is then realized when income tax is deducted from EBIT. Operating profit informs ROI.

#### **3.3.4.2. The Investment Ratios**

For an in-depth study of the causes of underperformance, asset utilisation ratios can be measured. These are ratios for fixed assets, inventories and accounts receivable.

The investment ratio values give information about the use of capital in the company. The capital turnover is the second component that informs ROI.

#### **3.1.4.3. Financing Ratio**

This ratio analyses the debt equity structure and the leverage options a company has.

To measure the full impact of leverage a *Compound Leverage factor* is obtained by multiplying *IB\*Leverage ratio*. This value is greater than one when financial leverage contributes positively to ROE, and it is less than 1 when ROA falls below the interest rate.

Caution needs to be adopted in comparing the ratios. For instance, comparing ATO and ROS is meaningless, if companies are not in the same industry. Even within the same industry, these values differ significantly if the companies employ different marketing strategies.

### 3.3.5 ROI

This is a commonly used accounting valuation method that depends on Net Income.

$$\text{ROI} = \text{Net Income} + \text{Interest} (1 - \text{Tax Rate}) / \text{Book value of Assets} \quad (4)$$

Its short-comings are based on its dependence on Net Income as a numerator. The degree to which ROI overstates the economic value depends on the following:

1. the length of the project life, (the longer the project the bigger the overstatement);
2. capitalisation policy (the smaller the fraction of total investment capitalised in the books, the greater the overstatement);
3. the rate at which depreciation is taken on the books ( depreciation rates faster than straight-line basis will result in higher ROI);
4. the lag between investment outlays and the recovery of these outlays from cash inflows (the greater the time lag, the greater the degree of overstatement); and
5. the growth rate of new investment ( faster growing companies will have lower ROI) (Bragg & Walsh,1997).

The acknowledged short-comings on ROI have influenced different entities to produce specific forms of ROI that attempt to overcome some of the short-comings.

### 3.3.6 Cash Flow Return on Investment (CFROI)

One of the new equations used for value analysis is the CFROI. This is a financial metric used by the Boston Consulting Group in its Value Management practice and Holt Value associates. It compares the cash flows of a company to its owner with the total assets employed to generate those flows. The calculation involves two steps; First, it measure the inflation-adjusted cash flows available to all capital owners. The ratio of gross cash flow to gross investment is then translated into an internal rate of return by recognising

the finite economic life of depreciating assets and the residual value of non-depreciating assets such as land and working capital (Meyer, 1996).

CFROI can be understood as an estimate of the real internal rate of return earned by a company on all its assets. Consequently, the increase in wealth creation is higher when CFROI companies also grow quickly. CFROI as an economic performance metric is favoured as a more accurate model than even the EVA (Madden, 1999) in its attempt to remove accounting distortions.

### **3.3.7 Return on Invested Capital (ROIC)**

$$\text{ROIC} = \frac{\text{Net income after Tax}}{\text{Total Assets} - \text{Excess Cash} - \text{Non-interest bearing Current liabilities}} \quad (5)$$

This is an instrument that can be used for measuring the historical performance of a business unit or of the entire company. The ROIC model is often used to assess the value creation capabilities of a firm in an intuitive way. Compared to DCF, which is a leading indicator, ROIC is a lagging indicator because it provides information on how the company has performed in the past.

ROIC is an accounting measure, and is therefore susceptible to management manipulation, is influenced by changes in accounting conventions and affected by inflation and currency exchange movements. High ROIC levels are seen as proof of a strong company and solid company management. If the focus is unbalanced, that is, due to harvesting behaviour, ignoring growth possibilities, and long-term value destruction, ROIC may as well be an indicator of poor management. Value creation impact is observed when ROIC is greater than WACC.

The Economic profit, EVA and CVA are residual income measures used by companies such as Coca Cola. These values are used instead of book profit, to assess the performance of managers and as a reference parameter for executive compensation.

### 3.4 EVA

**EVA** is a combined measure of growth and profitability, and is sensitive to value drivers. It is the amount by which earnings exceed or fall short of the required minimum rate of return for shareholders or lenders at comparable risk (Stern Stewart & Co, 2004).

$$\text{EVA} = \text{Net Sales} - \text{Operating Expenses} - \text{Taxes} - \text{Capital charges} \quad (6)$$

[Capital charges = Invested Capital x Cost of Capital]

The EVA formula is the Net Operating Profit (NOPAT) minus an appropriate charge for opportunity cost of all capital invested in an enterprise. The latter value is captured in the company's book value of capital. Stern Stewart & Co. uses this value to determine the amount by which earnings exceed, or fall short, of the required rate of return the investors could get by investing in other securities of comparable risk (Froud, Haslam, Johal & William, 1998)

EVA is seen as a company's true economic profit. It is credited with providing a common language for all employees across all corporate functions. This is done by linking strategic planning with the operating divisions and the corporate treasury staff with investor relations and human resources (Stern *et al.*, 1995). EVA is therefore an economic profit based on the idea that a business must cover both the operating costs and the capital costs. By extension EVA is the difference between ROCE and WACC.

Key incentives for EVA as a measure of growth and profitability are improved efficiency and thus returns, growth if investments earn cost of capital, redeployment of capital from underperforming operations and risk management (Iceland Management Assoc.Conference, 1999).

### 3.5 CVA

The Cash Value Added (CVA) model is a new method of measuring financial performance (Ottosson & Weissenrieder, 1996).

The Boston Consulting Group (1996), define CVA as:

$$\begin{aligned} \text{CVA} &= \text{earning before interest (EBITDA)} \\ &+ \text{amortisation} \\ &- \text{economic depreciation} \\ &- \text{cost of capital employed} \end{aligned} \quad (7)$$

Discounted cash flows such as Cash Value Added (CVA) are used to estimate historic and future profitability, as well as value creation. CVA is a Net Present Value for Value Based Management (VBM). EBITDA, added to working capital movement (WCM) and non-strategic investments, gives Operating Cash Flow (OCF). Cash Flow amount discounted by Weighted Cost of Capital gives the NPV of a life of an investment. This is known as the Operating Cash Flow Demand (OCFD). Value is created if this value (OCFD) is exceeded by the OCF over time, thus, the NPV of the CVA must be positive.

$$\text{CVA Index} = \frac{\text{Operating Surplus margin} + \text{(WCM) margin} + \text{Non-strategic Investment margin}}{\text{OCFD margin}} \quad (8)$$

For accuracy it is important to consider the tax effect on WACC. Tax has an effect on three portion of the financials:

- operating Surplus;
- shield from debt; and
- shield from depreciation.

Ottosson and Weissenrieder (1996) argue that using the **CVA index** is more effective in showing the profitability of a new business sooner than ROI. They argue that ROI shows business as unprofitable earlier in its economic life since capital employed is a larger

denominator at the beginning and changes in later years. This makes managers who expand through profitable investments look like poor performers. The CVA method is credited with making managers responsible for the evaluation of the CVA information, since the measurement is fixed rather than relative to changing conditions.

### 3.6 MVA

The Market Value Added (MVA) method seeks to measure a firm's value creation, and is the difference between the market value of the firm's equity (or market value of the new investment) and the equity's book value.

$$\mathbf{MVA_0 = E_0 - Ebv_0} \quad \mathbf{(9)}$$

**where,  $Ebv_0$**  is the term used for the equity's book value and

$E_0$  for its market value at  $t = 0$ .

#### **The MVA relationships**

There are three main relationship that define MVA. The first is between MVA and EP where MVA is defined as the present value of Economic Profit discounted at the rate  $Ke$  (the required return to equity). Thus,

$$\mathbf{MVA = PV (Ke; EP).} \quad \mathbf{(10)}$$

The second is between MVA and EVA, in which MVA is also seen as a present value, but of EVA discounted at the WACC. Thus,

$$\mathbf{MVA_0 = [E_0 + D_0] - [Ebv_0 + D_0] = PV (WACC; EVA).} \quad \mathbf{(11)}$$

The third is the relationship between MVA and CVA. The Boston Consulting Group calculate the present value of CVA discounted at the WACC as being the same as the present value of the EVA discounted at the WACC, which is MVA in firms that have fixed assets and constant working capital requirements

$$\mathbf{MVA = PV (WACC; CVA).} \quad \mathbf{(12)}$$

### 3.7 The ROE total effect

The following equation summarises the relationship between ROE, ROA and leverage:

$$\text{ROE} = (1 - \text{Tax rate}) [\text{ROA} + (\text{ROA} - \text{Interest Rate}) (\frac{\text{Debt}}{\text{Equity}})]. \quad (13)$$

In other words this means that  $\text{ROE} = \text{Tax burden} \times \text{Margin} * \text{Turnover} \times \text{interest burden} \times \text{Leverage}$ .

The usefulness of ROE becomes evident when it is broken down into what is often referred to as the **Du Pont system**:

$$\text{ROE} = \frac{\text{Net Profit}}{\text{Pretax Profit}} \times \frac{\text{Pretax profit}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}} \quad (14)$$

In management terms this means:

*tax-burden ratio x interest-burden ratio x profit margin x asset turnover x leverage*, respectively (Bodie *et al.*, 2005). These terms are defined below.

- (i) **Tax-burden ratio** - This value reflects government's code and the policies employed by the company in trying to minimize its tax burden.
- (ii) **Interest-burden ratio (IB)** - This value is highest when there is no interest payment to made. The higher the degree of financial leverage the lower the **IB** value
- (iii) **Profit margin** - This value is also known as **Return on Sales (ROS)**. It gives the operating profit per rand of sales.
- (iv) **Asset turnover (ATO)** - It indicate the company efficiency by measuring annual sales generated by each rand of an asset.
- (v) **Leverage ratio** - This measures the degree of financial leverage. This value only improves ROE only if ROE is greater than the interest rate on debt.

### 3.8 Event Studies

The event study technique largely has its roots in an article by Fama, Fisher, Jensen and Roll (1969) in which the authors tested the reaction of share prices to stock splits. Over time it has become a widely used methodology to analyse share price reactions to either company-specific or broader market events.

A much more defined approach to event study is share price based and this methodology is adapted for use in this research. This is seen in the 1997 definition by McWilliams & Siegal that the event study methodology analyses the impact of unexpected events on share prices. The methodology determines whether the performance of a stock was 'abnormal' around the time of the event, given an expectation of what the 'appropriate' or 'normal' performance would have been, had the unexpected event not occurred (Brown & Warner, 1980).

A number of steps are typically followed in conducting event studies. The steps listed below are based on those by Bowman (1983) and McWilliams & Siegal (1997).

- Define an event that provides new information to the market.
- Identify a set of firms that experience this event.
- Identify the event dates.
- Select an appropriate event window.
- Calculate performance ratios.
- Organise and group the ratios.
- Analyse results using statistical tests, t-test in this regard.

The now follows a discussion of the statistical test that will be used in the event study analysis.

### 3.9 Statistical Test

The event study methodology compares the average ratios before the BEE transaction to their values post the BEE transactions. As aluded to above, the researcher will use the t-test that compares the average ratio values before and after the event. Therefore, one is testing for a difference between means of these ratios. The test is as follows:

$$t = (\tilde{X}_1 - \tilde{X}_2) - D_0 / s_p \sqrt{(1/n_1) + (1/n_2)} \quad (15)$$

where  $\tilde{X}_1$  = mean of the first sample  
 $\tilde{X}_2$  = mean of the second sample  
 $D_0$  = the borderline difference between  $H_0$  and  $H_a$   
 $s_p = \sqrt{\frac{(n_1 - 1) s_1^2 + (n_2 - 1) s_2^2}{n_1 + n_2 - 2}}$

$s_1$  = standard deviation of sample1, (Stdev $X_1$ ) and

$s_2$  = (Stdev $X_2$ ) for sample 2

$n$  = sample size

Section 4, below presents the characteristics of the data for the analysis.

## 4 DATA

### 4.1 Data collection

Data was obtained from BusinessMap groups of both listed and unlisted companies that engaged in BEE transactions in 2002. A total of 103 activities were recorded, as seen in Appendix B. This was matched with a list from Ernst & Young which highlighted listed companies that did BEE transactions in 2002 in Appendix A. These sources were used to gather information about the transaction dates, the vendor, the acquirer and the target, as well as the rand value involved. Only listed company information was selected.

Financial statement data was sourced from both I-Net Bridge and BFA McGregor. The data was compared and sifted out for inconsistencies. I-Net data has been consistent and reliable and has been predominantly used except in cases where there is a worrying value difference between the two.

The data sourced out included:

- i. financial Statements of companies that were involved in a BEE transaction in year 2002;
- ii. relevant ratios that were supplied by the above mentioned data sources were selected for analysis; and
- iii. additionally required ratios that were calculated from relevant financial databases.

### 4.2 Filtering the sample

- This is an event study which intends to analyse data for a minimum of two years prior and two years after a transaction. Some data has been rejected due to size, period and insufficient information. The DTI possesses substantial BEE

information, especially in unlisted BEE companies, but confidentiality prevented access.

- Only successful transactions have been considered. Selection of companies that were to be analysed followed the steps as presented in Table 3.

**Table 3: The Filtering order**

<b>FILTER</b>	<b>No. Affected</b>	<b>TOTAL</b>
1. All BEE transaction in 2002 listed and unlisted	103	103
2. Total transactions involving listed companies	-19	84
3. Transactions involving at least 1 listed company	-29	74
4. Number of companies acting once as acquirer/ as target/as seller	-41	62
5. Number of companies involved (with no repeated role)	-52	51
6. Companies affected by Time frame	9	42
7. Companies with Incomplete Data	4	47
<b>TOTAL ANALYSED (as complete)</b>		<b>43</b>

Only 43 transactions were considered complete.

### 4.3 Validity and Reliability

#### 4.3.1 Validity

“Validity of a measurement instrument is the extent to which an instrument measures what it is supposed to measure” (Leedy & Ormrod, 2001). Ryan *et al.*, (1992) explained that the internal validity is determined by how much control has been achieved in the study. They define external validity as the extent to which the result of a study can be generalised to other settings and samples. Merriam (1998) added that internal validity transactions with the question of how one’s findings match with reality.

The literature review has paid much attention to defining the context of the study and definition of the research issue. The methodology describes the strengths and weaknesses of measures used in the analysis to ensure the validity of this study. According to McWilliam and Siegal (1997:651), the event study methodology is suitable for studies in which “an event is likely to have a financial impact, unanticipated by the market and provide new information to the market”. The event study approach used in this study satisfies the criteria for internal validity.

#### **4.3.2 Reliability**

According to Ragin (1994) reliability is concerned with how much randomness there is in a particular measure. It refers to the extent to which a study, if repeated, could give the same results. In other words, does the study entail stability, equivalence and internal consistency? In this study the main source of data is audited information from financial statements of listed companies as recorded by I-NET Bridge and BFA McGregor.

Repeating the ratio measurement of the same companies would produce stable results that show homogeneity among each other. Different adjustments done to the values or a choice of a different sample would affect equivalence. This gives a certain degree of certainty that stability, equivalence and internal consistency will remain intact should the study be repeated.

#### **4.3.3 Data verification**

Several checks were done to ensure the reliability of the data. This included activities such as those listed below.

- BEE participating companies were selected from JSE and it was checked that the correct data was copied from other databases.
- Data from I-Net Bridge was compared company for company with data from BFA McGregor. The accuracy of the data was checked and in cases of discrepancy, the

I-Net data was used. Data was re-checked for discrepancies. If no certainty was found, the data will be excluded.

- Several additional checks were made. For example, using the ratio formula to calculate a ratio and match it against the database ratio.

#### **4.6 Defining the event**

This would be the date on which the BEE transaction took place. For this study it is the year 2002. It is most common in these transactions to do the announcement close to, or on the same day as the transaction date. Secondly it is best practice to do M&A transactions near the end of financial year. This enables the effects of the new transaction to be reported in the following year end annual statements. This was observed and in cases where it was not, the event date was adjusted and identified to give a true reflection of the necessary analysis. For example, in companies that changed their year end date, two dates appeared in the same year. The new date was adopted.

## **5. RESULTS**

### **5.1. Data Characteristics**

#### 5.1.1 Data composition

The population data is composed of a group of target companies as well as of acquirers of companies or business units that have carried out a successful BEE transaction in 2002. At least one of the companies involved in the transaction is listed. The other company may or may not have been a listed company. Only a few of the BEE transactions that took place had both companies listed: Real Africa and Afrox Health, JCI and Matodzi, JCI and Zarara, JCI and Rand Lease, Coronation Holdings and Africa Harvest Ltd.

Secondly, the source data, in some transactions, did not disclose the capital amount involved per transaction. Consequently, there could be no proportional parallel drawn in terms of the total capital to value created. It also made it difficult to point to the BEE transaction as the sole influence of the observed results.

#### 5.1.2 Number of companies analysed

In the data for this study, 47 companies were either a target, acquirer or a seller during 2002 BEE transactions. Five companies, AHI, AMB, JCI, Power Technologies and Tradek Holdings had financial reports only up to 2002, while Durban Roodeport Deep (DRD) Gold, Kumba Resources Ltd and Foord Compass Ltd were observed from 2002 to 2004. AMB gave a unique observation, as it participated in a joint ventured with Foord, whose reports begin in 2002. Coronation Fund shows data from 2003 only.

Table 4 below shows reference to the event window for each of the 47 companies we used in the analysis.

**Table 4: BEE Companies and length of reference spreadsheet**

Co Names	t-5	t-4	t-3	t-2	t-1	t <sub>0</sub>	t+1	t+2	t+3
	1997	1998	1999	2000	2001	2002	2003	2004	2005
ALEXANDER FORBES Ltd									
DORBYL Ltd									
HARMONY GOLD MINING Co Ltd									
MEDI-CLINIC Corp Ltd									
MTN GROUP Ltd									
MATHOMO GROUP Ltd									
ADCORP HldgS Ltd									
AFROX HEALTHCARE Ltd									
ANGLO PLATINUM									
ASPEN PHARMACARE HldgS Ltd									
BASIL READ HldgS Ltd									
BIDVEST GROUP									
DIMENSION DATA Hldg PLC									
GRINDROD Ltd									
HIGHVELD STEEL & VANADIUM Corp									
IMPERIAL HldgS Ltd									
RMB HldgS Ltd									
MVELAPHANDA RESOURCES Ltd									
RAND LEASES PROPERTIES Ltd									
ZARARA ENERGY Ltd									
POWER TECHNOLOGIES Ltd									
MATODZI RESOURCES Ltd									
ANGLOGOLD ASHANTI Ltd									
AQUILA GROWTH Ltd									
BRIMSTONE INVESTMENT Corp									
ENVIROSERV Hldg Ltd									
KAGISO MEDIA Ltd									
AFRICAN HARVEST Ltd									
AMB HldgS Ltd									
BRAIT S.A.									
DATACENTRIX HldgS Ltd									
GOLDFIELDS Ltd									
GLOBAL VILLAGE HldgS Ltd									
VALUE GROUP Ltd									
PINNACLE TECHNOLOGY HldgS Ltd									
JCI GOLD Ltd									
AFLEASE									
DNA SUPPLY CHAIN INVESTMENTS Ltd									
TRADEK HldgS Ltd									
APEXHI PROPERTIES - A									
M.CUBED HldgS Ltd									
REAL AFRICA HldgS Ltd									
CAPITAL ALLIANCE HldgS									
DRD GOLD Ltd									
FOORD COMPASS LTD									
KUMBA RESOURCES Ltd									
CORONATION FUND MANAGERS									

The difference in time of listing for periods before the transaction creates a staggering effect as observed in Table 5 above. A similar effect is observed in the reports after the transaction. Only Zarara and Rand Lease Properties existed up until 2003. Fifteen partners had data up to 2005; the rest of the data obtained was up to 2004. Hence, the average has been calculated for values before the transaction separately from the values after the 2002 transaction.

Two types of t-tests were accordingly administered to the data (see t-test results). The first t-test was done on the averages of values before the transaction, as a value independent of the averages of values after. 43 companies were observed before the 2002

transaction. These were observed as independent values from 47 listed companies after the transaction for all six ratios respectively. The added three were DGD, Foord and Kumba, since its values were listed in 2002, and Coronation began in 2003. Companies such as Brimstone Investment Corporation have acted as both a target to unlisted Capricorn Ventures, as well as an acquirer repurchasing ordinary shares in year 2002.

A second t-test was administered to capture the situation of dependence between the two means, hence t-test of paired means for the same ratios. Companies which did not have data beyond 2002 or beyond 2002 were eliminated for incomplete data. Thirty eight companies that had data before and after 2002 were then observed as paired samples.

## **5.2 Results and Interpretation**

### **5.2.1 Performance before and after the event**

In order to address the sub-problem, all six company ratios were calculated per annum for each company. The averages of each ratio were calculated for the years before 2002, separately from the years after 2002 for each company. Results are shown in Table 5.

**Table 5: Average Ratio before BEE Merger (2002) and average ratio after merger**

Company Names	ROE		ROCE		ROIC		ROI		EVA		CVA	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
ADCORP HOLDINGS LIMITED	47.56%	35.00%	57.94%	42.13%	-218.39%	-34.07%	49.14%	-40.67%	-19%	-36%	18.61%	-1.10%
AFLLEASE	14.75%	-68.50%	13.65%	-31.97%	11.54%	-37.21%	14.75%	-68.50%	-22.62%	-72.66%	-24.49%	-72.63%
AFRICAN HARVEST LIMITED	10.78%	1.20%	12.20%	2.20%	14.33%	1.37%	9.95%	1.20%	-23%	-26%	6.2%	2.3%
AFROX HEALTHCARE LIMITED	14.62%	24.57%	21.96%	31.37%	13.67%	17.37%	14.46%	22.97%	-24.20%	-27.07%	-9.61%	-7.01%
ALEXANDER FORBES LIMITED	171.88%	28.33%	37.98%	1.70%	-28.97%	1.03%	661.12%	581.90%	Undefined	-2	-92.93%	Undefined
AMB HOLDINGS LIMITED	13.50%	-10.90%	9.20%	-3.00%	7.11%	-10.90%	11.40%	-8.90%	-50.58%	-48.12%	-44.52%	-42.27%
ANGLOGOLD ASHANTI LIMITED	25.15%	25.53%	14.78	14.93	10.79%	11.05%	23.68	25.27	-36%	-35%	-29.26%	-30.91%
ANGLO PLATINUM	53.42%	30.10%	46.86	31.10	49.79%	21.24%	40.06	29.30	5%	-18%	50%	-34%
APEXHI PROPERTIES - A	1118.40%	72.08%	22.80%	14.48%	23.73%	11.24%	24.40%	15.70%	-141.98%	-48.70%	-100.90%	-42.35%
AQUILA GROWTH LIMITED	5.43%	4.33%	5.90%	-7.60%	5.60%	-16.26%	5.73%	-13.63%	-20.61%	-39.16%	-20.31%	-34.22%
ASPEN PHARMACARE HOLDINGS LIMITED	-10.08%	9.18%	30.58%	45.63%	20.93%	35.93%	-13.72%	50.70%	-29%	-21%	-10.08%	9.18%
BASIL READ HOLDINGS LIMITED	2.64%	-513.43%	21.98%	-31.80%	-15.22%	-93.94%	46.20%	269.60%	-144%	-205%	-53.13%	-166.71%
BIDVEST GROUP	21.50%	32.33%	25.86%	31.90%	27.48%	32.18%	20.96%	31.70%	-32%	-45%	-7.42%	-16.09%
BRAIT S.A.	13.13%	10.50%	12.90%	10.63%	30.98%	8.90%			-7.82%	-17.16%	-28.52%	-44.78%
BRIMSTONE INVESTMENT CORPORATION	6.98%	16.57%	6.05%	7.93%	2.73%	4.40%	3.20%	6.83%	-29%	-36%	-28.83%	-62.89%
CAPITAL ALLIANCE HOLDINGS	25.10%	29.30%	10.10%	2.97%	9.21%	2.84%	26.10%	27.70%	-26%	-28%	-21.93%	-26.51%
CORONATION FUND MANAGERS		77.35%		1.65%		1.24%		77.30%		-32%		-20
DATACENTRIX HOLDINGS LIMITED	32.83%	27.83%	42.17%	38.98%	302.88%	167.37%	35.27%	29.25%	0	-22.72%	2.22%	-4.64%
DIMENSION DATA HOLDINGS PLC	36.60%	0.60%	30.92%	4.37%	97.07%	-1.51%	29.54%	-1.27%	-42%	-70%	-17.95%	-71.63%
DNA SUPPLY CHAIN INVESTMENTS LIMITE	44.90%	-417.20%	52.15%	-370.47%	61.94%	399.14%	47.50%	-411.17%	-48.58%	-483.67%	16.68%	-442.65%
DORBYL LIMITED	11.46%	12.50%	15.48%	18.65%	10.19%	17.32%	10.98%	12.53%	-41%	-34%	-20.35%	-16.95%
DRD GOLD LIMITED	#N/A	-50.63	#N/A	-15.73	#N/A	-22.91%	#N/A	229.33	#N/A	-68.15%	#N/A	-76.62%
ENVIROSERV HOLDINGS LIMITED	22.15%	24.70%	17.00%	16.53%	13.32%	11.63%	21.38%	23.77%	-31%	-30%	-31.17%	-30.95%
FOORD COMPASS LTD	#N/A	272.13%	#N/A	21.53%	#N/A	25.44%	#N/A	272.13%	#N/A	231.22%	#N/A	-346%
GOLDFIELDS LIMITED	12.03	13.98	7.43	12.48	8.02%	10.63%	12.10	14.18	-20.26%	-20.40%	-22.89%	-21.24%
GLOBAL VILLAGE HOLDINGS LIMITED	8.63%	10.78%	11.47%	10.58%	10.47%	10.32%	8.63%	10.78%	-22%	-23%	0	-26.11%
GRINDROD LIMITED	7.18%	47.83%	7.62%	22.97%	4.53%	20.09%	7.32%	43.60%	-1	-47.12%	-53.45%	-36.71%
HARMONY GOLD MINING COMPANY LIMITED	11.60	6.85	10.43	6.45	9.60%	4.50%	11.90	6.65	-25.38%	-25.89%	-22.15%	-26.42%
HIGHVELD STEEL & VANADIUM CORPORATI	6.00%	18.80%	4.48%	23.30%	3.77%	17.17%	5.08%	18.80%	-41.26%	-28.40%	-35.12%	-14.80%
IMPERIAL HOLDINGS LIMITED	14.44%	19.17%	14.92%	17.67%	10.03%	10.56%	14.18%	18.87%	0	-42.29%	-32.99%	-36.06%
JCI GOLD LIMITED	5.53%	-6.60%	4.83%	-4.30%	1.51%	-4.38%	2.50%	-6.20%	-30%	-37.67%	-25.27%	-37.86%
KAGISO MEDIA LIMITED	19.95%	56.03%	20.95%	77.50%	32.80%	140.22%	14.30%	45.17%	-21%	-1%	-7.32%	48.30%
KUMBA RESOURCES LIMITED	#N/A	17.03%	#N/A	15.40%	#N/A	9.24%	#N/A	15.37%	#N/A	-27%	#N/A	-24.33%
MATHOMO GROUP LIMITED	91.26%	71.85%	8.40%	24.60%	-3.84%	10.25%	91.28%	17.55%	-31.72%	-402.61%	-12.92%	-253.65%
MATODZI RESOURCES LIMITED	-5.0	9.3	0.1	0.1	0.0	-0.1	-0.2	10.4	-27%	-58%	-73.2%	-6.5%
M.CUBED HOLDINGS LIMITED	33.70%	20.23%	0.20%	0.28%	0.13%	0.17%	32.70%	20.00%	-25%	-25.32%	-25.40%	-25.40%
MEDI-CLINIC CORPORATION LIMITED	14.84%	19.35%	20.38%	25.93%	12.89%	21.91%	14.12%	19.43%	-20%	-14%	9.3%	24.9%
MTN GROUP LIMITED	20.06%	34.17%	19.72%	32.10%	12.05%	24.70%	20.64%	33.53%	-39%	-23%	1.9%	39.1%
MVELAPHANDA RESOURCES LIMITED	221.7	2.57	118.15	-0.77	-163.06%	-11.78%	86.05	-13.83	34.34%	-43.77%	38.70%	-43.40%
PINNACLE TECHNOLOGY HOLDINGS LIMITE	9.37%	11.17%	14.37%	16.43%	6.40%	13.80%	11.57%	13.87%	-59%	-46%	-43.72%	-9.15%
POWER TECHNOLOGIES LIMITED	12.53%	11.60%	16.87%	13.60%	14.59%	14.32%	12.90%	11.30%	-28.61%	-28.33%	-20.43%	-14.74%
RAND LEASES PROPERTIES LIMITED	10.02%	2.60%	8.00%	11.30%	6.84%	0.22%	9.98%	2.70%	-37%	-64%	-52.86%	-143.71%
REAL AFRICA HOLDINGS LIMITED	-0.70%	14.28%	7.90%	4.08%	8.79%	3.93%	7.70%	3.85%	2	1	-17.76%	-24.59%
RMB HOLDINGS LIMITED	13.58%	23.47%	5.56%	4.73%	4.26%	4.47%	6.30%	4.37%	-67%	-26%	-22.25%	-22.24%
TRADEK HOLDINGS LIMITED	-2.10%	-18.10%	0.40%	-11.40%	-3.14%	-71.65%	-2.45%	-19.50%	-135%	-288%	-29.9%	-65.1%
VALUE GROUP LIMITED	23.17%	15.13%	24.53%	18.70%	16.45%	11.60%	23.23%	15.23%	-23.04%	-34.36%	-30.19%	-52.64%
ZARARA ENERGY LIMITED	-6.06%	86.10%	-2.60%	231.65%	-7.15%	-952.86%	-6.48%	210.90%	-35%	-35%	-29%	-16%
Average%	#N/A	-35.87%	#N/A	112.91%	#N/A	-2.95%	#N/A	700.63%	#N/A	-54.90%	#N/A	-95.74%

Values from 1yr before transaction  
 Values end in 2002  
 Values from 2002 only  
 Values after 2002  
 Improved ratios

To enhance the results from the table above, companies were compared using one ratio at a time. To observe the amount by which the ratio moved from pre-BEE ratio to post-BEE ratio, a table of spreads was created from a difference obtained per ratio per company. The results are shown in Table 6.

**Table 6: Ratio difference for means before 2002 and after the transaction**

RANKED PERFORMANCE											
Company Names	ROE	Company Names	ROCE	Company Names	ROIC	Company Names	ROI	Company Names	EVA	Company Names	CVA
MATODZI RESOURCES Ltd	1426.67%	GOLDFIELDS Ltd	504.17%	DNA SUPPLY CHAIN INVESTMENTS Ltd	337.20%	BRAIT S.A.	#REF!	ALEXANDER FORBES Ltd	#VALUE!	ALEXANDER FORBES Ltd	#VALUE!
FOORD COMPASS LTD	272.13%	ZARARA ENERGY Ltd	234.25%	ADCORP Hldg Ltd	252.47%	DRD GOLD Ltd	22933.33%	APEXHI PROPERTIES - A	93%	MATODZI RESOURCES Ltd	66.74%
GOLDFIELDS Ltd	194.17%	KAGISO MEDIA Ltd	56.55%	MVELAPHANDA RESOURCES Ltd	151.27%	MATODZI RESOURCES Ltd	1060.00%	RMB Hldg Ltd	41%	APEXHI PROPERTIES - A	58.55%
ZARARA ENERGY Ltd	92.16%	FOORD COMPASS LTD	21.53%	KAGISO MEDIA Ltd	107.42%	FOORD COMPASS LTD	272.13%	KAGISO MEDIA Ltd	20%	KAGISO MEDIA Ltd	55.63%
CORONATION FUND MANAGERS	77.35%	HIGHVELD STEEL & VANADIUM Corp	18.82%	ALEXANDER FORBES Ltd	30.00%	BASIL READ Hldg Ltd	223.40%	MTN GROUP Ltd	16%	MTN GROUP Ltd	37.18%
GRINDROD Ltd	40.65%	MATHOMO GROUP Ltd	16.20%	FOORD COMPASS LTD	25.44%	ZARARA ENERGY Ltd	217.38%	HIGHVELD STEEL & VANADIUM Corp	15%	PINNACLE TECHNOLOGY Hldg LIMITE	34.57%
ANGLOGOLD ASHANTI Ltd	38.33%	ANGLOGOLD ASHANTI Ltd	15.83%	GRINDROD Ltd	15.56%	GOLDFIELDS Ltd	207.50%	PINNACLE TECHNOLOGY Hldg LIMITE	14%	KUMBA RESOURCES Ltd	21.46%
KAGISO MEDIA Ltd	36.08%	KUMBA RESOURCES Ltd	15.40%	ASPEN PHARMACARE Hldg Ltd	15.00%	ANGLOGOLD ASHANTI Ltd	159.17%	GRINDROD Ltd	12%	HIGHVELD STEEL & VANADIUM Corp	20.31%
ASPEN PHARMACARE Hldg Ltd	19.26%	GRINDROD Ltd	15.35%	MATHOMO GROUP Ltd	14.10%	CORONATION FUND MANAGERS	77.30%	ASPEN PHARMACARE Hldg Ltd	9%	ASPEN PHARMACARE Hldg Ltd	19.26%
KUMBA RESOURCES Ltd	17.03%	ASPEN PHARMACARE Hldg Ltd	15.05%	HIGHVELD STEEL & VANADIUM Corp	13.40%	ASPEN PHARMACARE Hldg Ltd	64.42%	DORBYL Ltd	7%	GRINDROD Ltd	16.75%
REAL AFRICA Hldg Ltd	14.98%	MTN GROUP Ltd	12.38%	MTN GROUP Ltd	12.65%	GRINDROD Ltd	36.28%	DATACENTRIX Hldg Ltd	6%	MEDI-CLINIC Corp Ltd	15.60%
MTN GROUP Ltd	14.11%	AFROX HEALTHCARE Ltd	9.41%	KUMBA RESOURCES Ltd	9.24%	KAGISO MEDIA Ltd	30.87%	MEDI-CLINIC Corp Ltd	6%	ZARARA ENERGY Ltd	13.16%
HIGHVELD STEEL & VANADIUM Corp	12.80%	BIDVEST GROUP	6.04%	MEDI-CLINIC Corp Ltd	9.02%	KUMBA RESOURCES Ltd	15.37%	AMB Hldg Ltd	2%	POWER TECHNOLOGIES Ltd	5.68%
BIDVEST GROUP	10.83%	MEDI-CLINIC Corp Ltd	5.55%	PINNACLE TECHNOLOGY Hldg Ltd	7.40%	HIGHVELD STEEL & VANADIUM Corp	13.72%	ANGLOGOLD ASHANTI Ltd	1%	DORBYL Ltd	3.40%
AFROX HEALTHCARE Ltd	9.95%	RAND LEASES PROPERTIES Ltd	3.30%	DORBYL Ltd	7.14%	MTN GROUP Ltd	12.89%	ENVIROSERV Hldg Ltd	1%	AFROX HEALTHCARE Ltd	2.61%
RMB Hldg Ltd	9.89%	DORBYL Ltd	3.17%	BIDVEST GROUP	4.70%	BIDVEST GROUP	10.74%	ZARARA ENERGY Ltd	0%	AMB Hldg Ltd	2.25%
BRIMSTONE INVESTMENT Corp	9.59%	IMPERIAL Hldg Ltd	2.65%	AFROX HEALTHCARE Ltd	3.70%	AFROX HEALTHCARE Ltd	8.51%	POWER TECHNOLOGIES Ltd	0%	GOLDFIELDS Ltd	1.64%
IMPERIAL Hldg Ltd	4.73%	PINNACLE TECHNOLOGY Hldg Ltd	2.07%	GOLDFIELDS Ltd	2.62%	MEDI-CLINIC Corp Ltd	5.31%	M.CUBED Hldg Ltd	0%	ENVIROSERV Hldg Ltd	0.23%
MEDI-CLINIC Corp Ltd	4.51%	BRIMSTONE INVESTMENT Corp	1.88%	BRIMSTONE INVESTMENT Corp	1.67%	IMPERIAL Hldg Ltd	4.69%	GOLDFIELDS Ltd	0%	RMB Hldg Ltd	0.01%
CAPITAL ALLIANCE Hldg	4.20%	CORONATION FUND MANAGERS	1.65%	CORONATION FUND MANAGERS	1.24%	BRIMSTONE INVESTMENT Corp	3.63%	HARMONY GOLD MINING COMPANY Ltd	-1%	M.CUBED Hldg Ltd	0.00%
ENVIROSERV Hldg Ltd	2.55%	M.CUBED Hldg Ltd	0.08%	IMPERIAL Hldg Ltd	0.53%	ENVIROSERV Hldg Ltd	2.39%	GLOBAL VILLAGE Hldg Ltd	-1%	ANGLOGOLD ASHANTI Ltd	-1.65%
GLOBAL VILLAGE Hldg Ltd	2.14%	ENVIROSERV Hldg Ltd	-0.47%	ANGLOGOLD ASHANTI Ltd	0.26%	PINNACLE TECHNOLOGY Hldg Ltd	2.30%	CAPITAL ALLIANCE Hldg	-2%	IMPERIAL Hldg Ltd	-3.07%
PINNACLE TECHNOLOGY Hldg Ltd	1.80%	RMB Hldg Ltd	-0.83%	RMB Hldg Ltd	0.22%	GLOBAL VILLAGE Hldg Ltd	2.14%	AFROX HEALTHCARE Ltd	-3%	AFRICAN HARVEST Ltd	-3.86%
DORBYL Ltd	1.04%	GLOBAL VILLAGE Hldg Ltd	-0.89%	M.CUBED Hldg Ltd	0.05%	CAPITAL ALLIANCE Hldg	1.60%	AFRICAN HARVEST Ltd	-3%	HARMONY GOLD MINING COMPANY Ltd	-4.27%
POWER TECHNOLOGIES Ltd	-0.93%	BRAIT S.A.	-2.28%	GLOBAL VILLAGE Hldg Ltd	-0.15%	DORBYL Ltd	1.55%	IMPERIAL Hldg Ltd	-6%	CAPITAL ALLIANCE Hldg	-4.58%
AQUILA GROWTH Ltd	-1.09%	MATODZI RESOURCES Ltd	-2.50%	POWER TECHNOLOGIES Ltd	-0.27%	POWER TECHNOLOGIES Ltd	-1.60%	BRIMSTONE INVESTMENT Corp	-7%	GLOBAL VILLAGE Hldg Ltd	-6.09%
BRAIT S.A.	-2.63%	DATACENTRIX Hldg Ltd	-3.19%	ENVIROSERV Hldg Ltd	-1.69%	RMB Hldg Ltd	-1.93%	JCI GOLD Ltd	-8%	REAL AFRICA Hldg Ltd	-6.84%
DATACENTRIX Hldg Ltd	-5.01%	POWER TECHNOLOGIES Ltd	-3.27%	VALUE GROUP Ltd	-4.85%	REAL AFRICA Hldg Ltd	-3.85%	BRAIT S.A.	-9%	DATACENTRIX Hldg Ltd	-6.86%
RAND LEASES PROPERTIES Ltd	-7.42%	REAL AFRICA Hldg Ltd	-3.83%	REAL AFRICA Hldg Ltd	-4.86%	DATACENTRIX Hldg Ltd	-6.02%	REAL AFRICA Hldg Ltd	-11%	BIDVEST GROUP	-6.67%
VALUE GROUP Ltd	-8.04%	VALUE GROUP Ltd	-5.83%	HARMONY GOLD MINING COMPANY Ltd	-5.11%	RAND LEASES PROPERTIES Ltd	-7.28%	VALUE GROUP Ltd	-11%	JCI GOLD Ltd	-12.60%
AFRICAN HARVEST Ltd	-9.58%	CAPITAL ALLIANCE Hldg	-7.13%	JCI GOLD Ltd	-5.89%	VALUE GROUP Ltd	-8.01%	BIDVEST GROUP	-13%	AQUILA GROWTH Ltd	-13.91%
JCI GOLD Ltd	-12.13%	APEXHI PROPERTIES - A	-8.33%	CAPITAL ALLIANCE Hldg	-6.37%	ADCORP Hldg Ltd	-8.47%	ADCORP Hldg Ltd	-17%	BRAIT S.A.	-16.26%
ADCORP Hldg Ltd	-12.56%	JCI GOLD Ltd	-8.93%	RAND LEASES PROPERTIES Ltd	-6.62%	APEXHI PROPERTIES - A	-8.70%	AQUILA GROWTH Ltd	-19%	ADCORP Hldg Ltd	-19.71%
M.CUBED Hldg Ltd	-13.48%	AFRICAN HARVEST Ltd	-10.00%	MATODZI RESOURCES Ltd	-9.97%	JCI GOLD Ltd	-8.70%	ANGLO PLATINUM	-23%	VALUE GROUP Ltd	-22.45%
TRADEK Hldg Ltd	-16.00%	TRADEK Hldg Ltd	-11.80%	APEXHI PROPERTIES - A	-12.49%	AFRICAN HARVEST Ltd	-8.75%	RAND LEASES PROPERTIES Ltd	-27%	BRIMSTONE INVESTMENT Corp	-34.06%
MATHOMO GROUP Ltd	-19.41%	AMB Hldg Ltd	-12.20%	AFRICAN HARVEST Ltd	-12.96%	M.CUBED Hldg Ltd	-12.70%	DIMENSION DATA Hldg PLC	-28%	TRADEK Hldg Ltd	-35.23%
AMB Hldg Ltd	-24.40%	AQUILA GROWTH Ltd	-13.50%	AMB Hldg Ltd	-18.00%	TRADEK Hldg Ltd	-17.05%	KUMBA RESOURCES Ltd	-31%	AFLEASE	-48.13%
DIMENSION DATA Hldg PLC	-36.00%	ADCORP Hldg Ltd	-15.81%	AQUILA GROWTH Ltd	-21.85%	AQUILA GROWTH Ltd	-19.36%	MATODZI RESOURCES Ltd	-31%	DIMENSION DATA Hldg PLC	-53.68%
AFLEASE	-83.25%	DIMENSION DATA Hldg PLC	-26.55%	BRAIT S.A.	-22.07%	AMB Hldg Ltd	-20.30%	CORONATION FUND MANAGERS	-32%	DRD GOLD Ltd	-76.62%
ALEXANDER FORBES Ltd	-143.56%	ALEXANDER FORBES Ltd	-36.28%	DRD GOLD Ltd	-22.91%	DIMENSION DATA Hldg PLC	-30.81%	AFLEASE	-50%	MVELAPHANDA RESOURCES Ltd	-82.10%
DNA SUPPLY CHAIN INVESTMENTS Ltd	-462.10%	AFLEASE	-45.62%	ANGLO PLATINUM	-28.54%	MATHOMO GROUP Ltd	-28.54%	BASIL READ Hldg Ltd	-73.73%	ANGLO PLATINUM	-83.73%
HARMONY GOLD MINING COMPANY Ltd	-475.00%	BASIL READ Hldg Ltd	-53.78%	AFLEASE	-48.75%	ALEXANDER FORBES Ltd	-48.75%	DRD GOLD Ltd	-68%	RAND LEASES PROPERTIES Ltd	-90.85%
BASIL READ Hldg Ltd	-516.07%	HARMONY GOLD MINING COMPANY Ltd	-398.33%	TRADEK Hldg Ltd	-68.51%	AFLEASE	-83.25%	MVELAPHANDA RESOURCES Ltd	-78%	BASIL READ Hldg Ltd	-113.58%
APEXHI PROPERTIES - A	#####	DNA SUPPLY CHAIN INVESTMENTS Ltd	-422.62%	BASIL READ Hldg Ltd	-78.73%	DNA SUPPLY CHAIN INVESTMENTS Ltd	-458.67%	TRADEK Hldg Ltd	-153%	FOORD COMPASS LTD	-208.80%
ANGLO PLATINUM	#####	DRD GOLD Ltd	#####	DIMENSION DATA Hldg PLC	-98.58%	HARMONY GOLD MINING COMPANY Ltd	-515.00%	FOORD COMPASS LTD	-234%	MATHOMO GROUP Ltd	-240.73%
DRD GOLD Ltd	#####	ANGLO PLATINUM	#####	DATACENTRIX Hldg Ltd	-135.51%	ANGLO PLATINUM	-1076.00%	MATHOMO GROUP Ltd	-371%	DNA SUPPLY CHAIN INVESTMENTS Ltd	-458.33%
MVELAPHANDA RESOURCES Ltd	#####	MVELAPHANDA RESOURCES Ltd	#####	ZARARA ENERGY Ltd	-945.71%	MVELAPHANDA RESOURCES Ltd	-998.33%	DNA SUPPLY CHAIN INVESTMENTS Ltd	-435%	CORONATION FUND MANAGERS	#####

Table 6 presents a clear breakdown on which of the companies are the best performers (above yellow), and which are the worst performers (below yellow block) in value creation. There is an obvious difference in results obtained using the traditional ratios compared to results from the modern ratios.

### **5.2.2 Results and interpretation associated with traditional metrics**

Traditional metrics have an emphasis on the quantity of earnings. They have been discredited because of their distortion of true value. These values, at the very least, give a picture of the unadjusted earnings. The metrics inform the accounting management. Ottosson and Weissenrieder (1996) acknowledge the need to evaluate companies from the investors' perspective. This sees company profitability and value creation as a function of funds initially invested in a venture, their operating cash flows, the economic life of the venture and their capital costs.

ROE averages are observed to have percentages closer in value to ROI averages than any other ratio. This indicates use of equity or the effects thereof in the investment undertaken. An observation of averages before, compared to averages after the transaction, shows a negatively sloped parity curve. For both ROE and ROI, Matodzi followed by Foord are the upper level extreme outliers. Matodzi has been positively affected by the BEE transaction, showing over 1426% gain on ROE and a 1060% ROI. Matodzi acted as a seller in three BEE transactions. Others in the top five companies to have positive ROE gains are Zarara, a targeted company, Coronation and Grindrod, who are the acquirer.

The largest bottom five value losers are mainly resources. Mvelaphanda lead with over 21913% loss, DGD Gold with -5063%, AngloPlatinum followed with a 2332% loss. Apexhi is at 1046%, Basil Read and Harmony each with around 500% loss. Resources generally take a considerable number of years before there is a reflection of returns. These are seriously high value losses which are generally related to the large amounts of invested funds compared to the short-term returns. All these five resource companies were the acquirers; Mvelaphanda processed three transactions and AngloPlatinum two BEE transactions in 2002. The losses are multifold when taking into consideration the investment strategies used to fund BEE entities.

The least spread observed for ROE is from Dorbyl (1.04%), Pinnacle (+1.80) and Power (-0.93%). This is an indication that Pinnacle and Power, which are technology

companies, are the least affected by the BEE transaction in terms of return on equity in 2002. Characteristics observed in both these companies are a drop in average debt and a consequent drop in D/E ratio. Added to this is a drop in WACC, though they were the acquiring companies. This creates an expectation that these companies will perform in a similar way for ROI.

ROI has the best five performers ranked similarly to ROE except that Basil Read came in third position. Companies that show the least difference in ROI spread are Dorbyl (1.55%), Capital (+1.60) and as expected Power (-1.60). Pinnacle, Global Village and Enviroserve show below 3% ROI spread.

ROCE has Zarara at the upper tail while it has Mvelaphanda and AngloPlatinum at the lower tail. ROIC shows the opposite effect. This is the only ratio that shows Mvelaphanda at the upper positive level and Zarara at the lower level. In both ratios M-Cube show the least transaction effect. As previously mentioned ROIC is a lagging indicator of the company's previous performance. Being an accounting measure high ROIC is seen as a proof of a strong company and strong management.

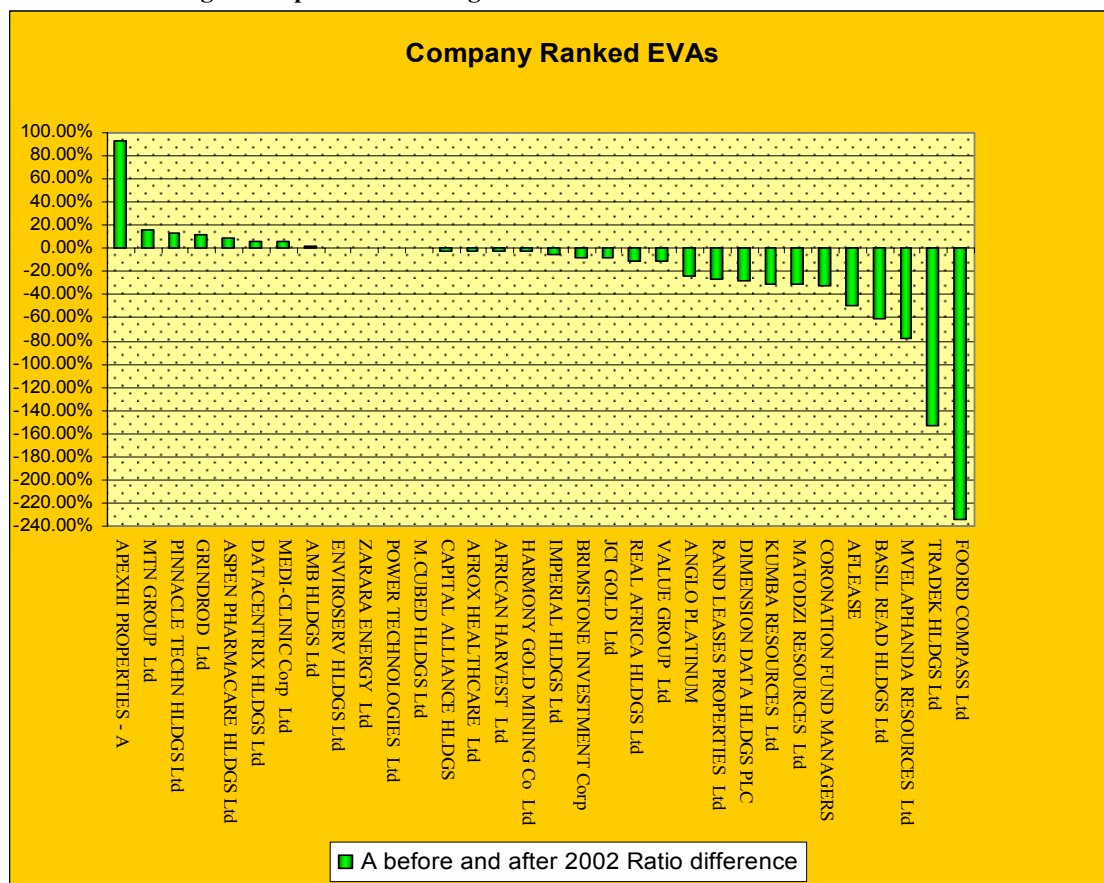
Kagiso Media has the second highest ROIC gains (107%). Kagiso Media has shown gains in all the ratios. Alexander Forbes has the third highest ROIC gains (30%), though it shows losses in other ratios; one of the top ten equity return losers, with a loss of ROE (-143,6%), ROCE (-36,3%) and fifth highest loss of ROI (-79,2%). ROIC is a ratio considerably influenced by changes in accounting conventions, and affected by inflation and currency exchanges as well as being susceptible to management manipulation. To gain credibility, support from other ratios should qualify the company performance and its value creation abilities.

### **5.2.3 Results associated with new value-based measures**

EVA, a departure from traditional accounting models, is a value-based metric rooted in economic income rather than in accounting income. This, therefore, requires adjustment of items that significantly distort value. Values that create future economic benefit are capitalised instead of being expensed and the results reflect how much value has been created or destroyed by management.

Exhibit 1 below has presented the differences in EVA before and after the event. These differences were then ranked and the gap in movement is as reflected in the graphs. Exhibit 2 reflects the difference in CVA averages before and after.

**Exhibit 1: Ranking of companies according to differences in EVA before and after 2002**



ApexHi show the most value gains followed by RMB, Kagiso Media, MTN, Pinnacle and Grindrod. ApexHi Properties-A established trusts with Corpcapital (51% interest),

Mvelaphanda and ApexHi management. Corpcapital established a trust with ApexHi Properties Ltd, Mvelaphanda and ApexHi management. In all the trust formations ApexHi Manco Trust was the target, using new shares of undisclosed amounts.

Pinnacle Technology created value in an acquisition of related business. This was a 45% stake in an empowerment company, Tswela Services. Grindrod formed a R27m partnership with P&O Ports and Worldwide Africa Investment Holdings/ Investment in the Kusasa Bulk Terminal Storage project in Richards Bay.

Companies that remain positive in both traditional and modern value measures are Aspen, Goldfields, Grindrod (hence the 2006 Top BEE company award), Kagiso Media, Mediaclinic and Pinnacle. Kumba has positive values in all ratios, except for the 30% loss of EVA. Afrox is similarly positive in all ratios, except EVA. This is an indication of attention paid to accounting and economic procedures that render modern adjustments insignificant.

Brimstone, Coronation and Imperial have positive gains reflected by all the traditional measures, yet show loss of EVA and CVA. Foord and Mathomo, in after the event performance, reflect similar behaviour with the highest gains when traditional methods are used and the highest losses when EVA and CVA are measured. Foord shows the most loss of value after the transaction, but it is a unique case in that a joint venture was formed with AMB. AMB's financial reports end in 2002 while Foord's begin in 2002. AMB was showing EVA destroyed at -50% and CVA at -42% before 2002, while all the other ratios were in the low positive. Foord similarly show positive traditional ratios while large negative EVA and CVA are observed.

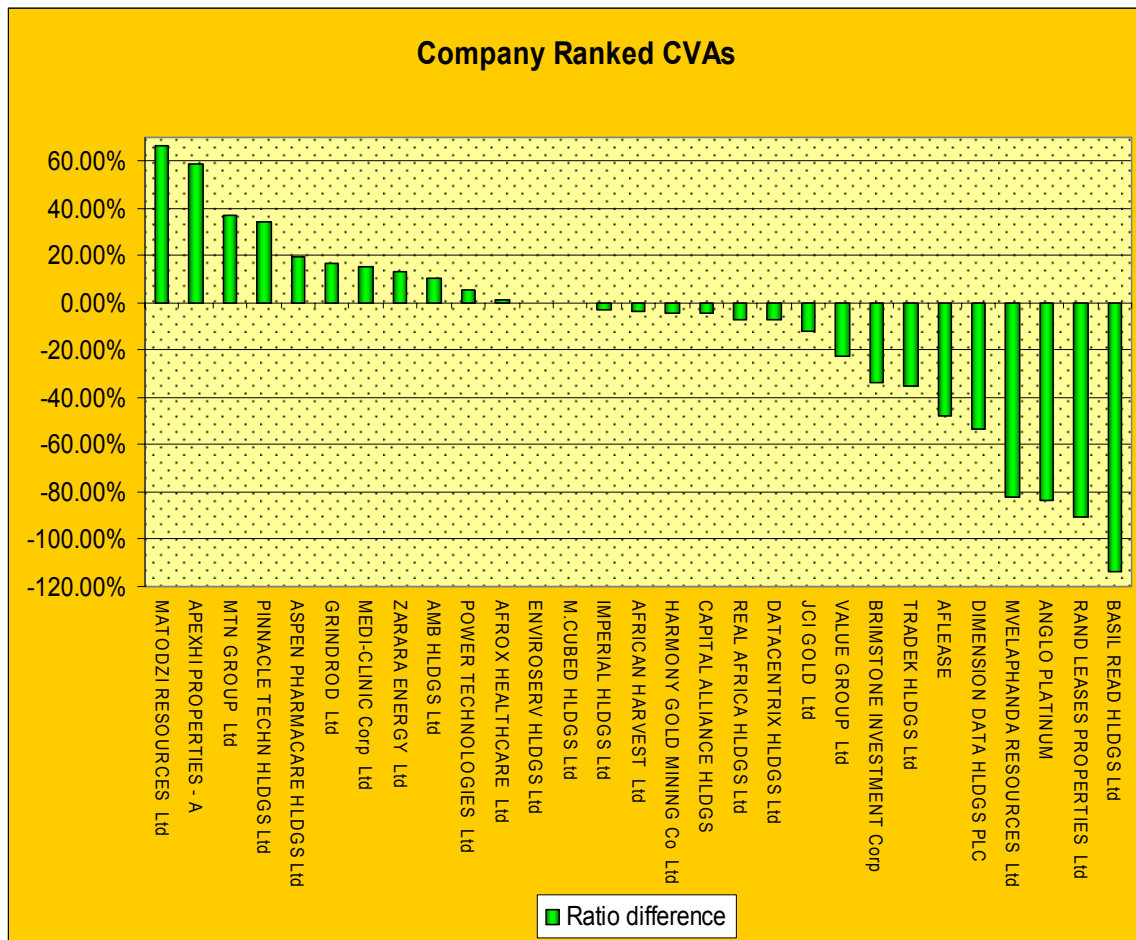
M-Cubed does not seem to have been affected by the transaction as there were very insignificant moves observed. Power shows very a slight shift to the negative values when using traditional measures and a slightly positive one when modern measures are used. This suggests that its value creation is better reflected when adjustments to accounting values are done.

The following companies show deviation in only one ratio.

- Rand Leases Property shows all negative ratios, except ROCE.
- Mvelaphanda remains with mostly the largest negative in all measurements except ROIC, while Zarara does the exact opposite, positive in all, with the largest loss in ROIC.
- Basil Read is negative in all, except ROI.
- Datacentric is also negative in all, except EVA.

African Harvest Limited, Anglo Platinum, Dimension Data, DRD Gold, JCI, Tradek and Value Group Limited lose value, whether traditional or modern measures are used. Pinnacle and MTN, show an above 30% cash value added with Mathodzi showing the highest CVA gain at 66%. The biggest loss of cash value is seen in Basil Read and Rand Lease.

**Exhibit 2: Ranking of companies according to differences in CVA before and after 2002**



The top two companies with the highest positive gains in both EVA and CVA are Apexhi and MTN.

- Apexhi shows the third biggest loss of ROE (-1046,3%) and remains in the negative for all the traditional value measures; ROCE, ROIC, ROI, yet Apexhi appears to be the best value creator using EVA and the second highest gains in CVA.
- MTN group was a target in an acquisition of 18.7% interest owned by Transnet. MTN shows above 10% returns for all; ROE, ROCE, ROIC and ROI. It shows one of the best economic value added at 16% and in the top five CVA at 37%.

### 5.3 Statistical test Results

In this section, the average ratios were pooled and tested for changes in each ratio, before and after the event.

The research hypothesis stated that there is no statistically significant difference between the ratio values before and to the ratio values after 2002. In order to determine the t-test hypothesis, a paired two sample for means test as well as a two sample assuming unequal variance test was performed. The tables below summarise the test results for each ratio measured.

All ratios, namely ROE, ROCE, ROIC and EVA except ROI and CVA show a positive but very insignificant correlation coefficient. These values show a weak relationship between the ratios before and the ratios after 2002. The two-tailed test of hypothesis fall within the -2.042 and +2.042 region results in the decision not to reject the null hypothesis.

To ensure better results, the mean ratios are treated, first, as dependent (or paired) and then as independent (unpaired) samples. Unpaired data exhibits two kinds of variations; difference between the two samples (before and after) and difference in the mean value of the ratios. Pairing reduces variation observed in unpaired samples. When paired, the standard error is smaller, resulting in a smaller denominator, and therefore results in slightly larger t-values. Larger test statistics provide a greater chance to reject the null hypothesis.

**Table 7a: ROE t-test results**

**Table 7b: ROE t-test results**

t-Test: Two-Sample Assuming Unequal Variances		
ROE	Variable 1	Variable 2
Mean	7.855625	0.828189
Variance	1200.423	97.40125
Observations	43	47
Hypothesized Mean Difference	0	
df	48	
t Stat	1.28326	
P(T<=t) one-tail	0.102781	
t Critical one-tail	1.677224	
P(T<=t) two-tail	0.205562	
t Critical two-tail	2.010635	

t-Test: Paired Two Sample for Means		
ROE	Variable 1	Variable 2
Mean	6.046688	0.716652
Variance	1143.173	8.596131
Observations	43	43
Pearson Correlation	0.142276	
Hypothesized Mean Difference	0	
df	42	
t Stat	1.042716	
P(T<=t) one-tail	0.151522	
t Critical one-tail	1.681952	
P(T<=t) two-tail	0.303045	
t Critical two-tail	2.018082	

**Table 7a** above shows that the average ROE, assuming unequal variance, is the same before and after the event. The pattern is similar for the case where the researcher assumes similar variance, as shown in **Table 7b**.

**Table 8a: ROCE t-test results**

t-Test: Two-Sample Assuming Unequal Variances		
ROCE	Variable 1	Variable 2
Mean	4.74646	1.114073
Variance	370.7315	34.75098
Observations	43	47
Hypothesized Mean Difference	0	
df	49	
t Stat	1.187217	
P(T<=t) one-tail	0.120433	
t Critical one-tail	1.676551	
P(T<=t) two-tail	0.240866	
t Critical two-tail	2.009575	

**Table 8b: ROCE t-test results**

t-Test: Paired Two Sample for Means		
ROCE	Variable 1	Variable 2
Mean	4.74646	1.574626
Variance	370.7315	31.01559
Observations	43	43
Pearson Correlation	0.316462	
Hypothesized Mean Difference	0	
df	42	
t Stat	1.138284	
P(T<=t) one-tail	0.130727	
t Critical one-tail	1.681952	
P(T<=t) two-tail	0.261453	
t Critical two-tail	2.018082	

**Table 8a** above shows that the average ROCE, assuming unequal variance, is the same before and after the event. The pattern is similar for the case where the researcher assumes similar variance, as shown in **Table 8b**.

**Table 9a: ROIC t-tests results**

**Table 9b: ROIC t-tests results**

t-Test: Two-Sample Assuming Unequal Variances			
	ROIC	Variable 1	Variable 2
Mean		0.101501	-0.021632
Variance		0.439869	2.477817
Observations		43	47
Hypothesized Mean Difference		0	
df		63	
t Stat		0.490771	
P(T<=t) one-tail		0.312647	
t Critical one-tail		1.669402	
P(T<=t) two-tail		0.625293	
t Critical two-tail		1.998341	

t-Test: Paired Two Sample for Means			
	ROIC	Variable 1	Variable 2
Mean		0.101501	-0.026669
Variance		0.439869	2.710597
Observations		43	43
Pearson Correlation		0.19387	
Hypothesized Mean Difference		0	
df		42	
t Stat		0.508944	
P(T<=t) one-tail		0.306727	
t Critical one-tail		1.681952	
P(T<=t) two-tail		0.613455	
t Critical two-tail		2.018082	

**Table 9a**, above shows that the average ROIC, assuming unequal variance, is the same before and after the event. The pattern is similar for the case where the researcher assumes similar variance as shown in **Table 9b**.

**Table 10a: ROI t-test results**

t-Test: Two-Sample Assuming Unequal Variances			
	ROI	Variable 1	Variable 2
Mean		4.438179	6.862877
Variance		221.3267	1167.587
Observations		42	46
Hypothesized Mean Difference		0	
df		63	
t Stat		-0.437954	
P(T<=t) one-tail		0.331459	
t Critical one-tail		1.669402	
P(T<=t) two-tail		0.662918	
t Critical two-tail		1.998341	

**Table 10b: ROI t-test results**

t-Test: Paired Two Sample for Means			
	ROI	Variable 1	Variable 2
Mean		4.438179	1.96931
Variance		221.3267	47.39762
Observations		42	42
Pearson Correlation		0.119297	
Hypothesized Mean Difference		0	
df		41	
t Stat		1.0237	
P(T<=t) one-tail		0.15599	
t Critical one-tail		1.682878	
P(T<=t) two-tail		0.31198	
t Critical two-tail		2.019541	

**Table 10a** above shows that the average ROI, assuming unequal variance, is the same before and after the event. The pattern is similar for the case where the researcher assumes similar variance as shown in **Table 10b**.

**Table 11a: EVA t-test results**

**Table 11b: EVA t-test results**

**Table 11a** below shows that the average EVA, assuming unequal variance, is the same before and after the event. The pattern is similar for the case where the researcher assumes similar variance as shown in **Table 11b**.

t-Test: Two-Sample Assuming Unequal Variances		
EVA	Variable 1	Variable 2
Mean	-0.330347	-0.545081
Variance	0.197126	1.168053
Observations	42	47
Hypothesized Mean Difference	0	
df	63	
t Stat	1.249258	
P(T<=t) one-tail	0.108096	
t Critical one-tail	1.669402	
P(T<=t) two-tail	0.216192	
t Critical two-tail	1.998341	

t-Test: Paired Two Sample for Means		
EVA	Variable 1	Variable 2
Mean	-0.330347	-0.598444
Variance	0.197126	1.08152
Observations	42	42
Pearson Correlation	0.464113	
Hypothesized Mean Difference	0	
df	41	
t Stat	1.884486	
P(T<=t) one-tail	0.033301	
t Critical one-tail	1.682878	
P(T<=t) two-tail	0.066602	
t Critical two-tail	2.019541	

**Table 12a: CVA t-test results**

t-Test: Two-Sample Assuming Unequal Variances		
CVA	Variable 1	Variable 2
Mean	-0.226648	-0.93687
Variance	0.081536	8.773763
Observations	43	46
Hypothesized Mean Difference	0	
df	46	
t Stat	1.618201	
P(T<=t) one-tail	0.056228	
t Critical one-tail	1.67866	
P(T<=t) two-tail	0.112457	
t Critical two-tail	2.012896	

**Table 12b: CVA t-test results**

t-Test: Paired Two Sample for Means		
CVA	Variable 1	Variable 2
Mean	-0.209917	-0.452461
Variance	0.071195	0.658945
Observations	42	42
Pearson Correlation	-0.023919	
Hypothesized Mean Difference	0	
df	41	
t Stat	1.826639	
P(T<=t) one-tail	0.03752	
t Critical one-tail	1.682878	
P(T<=t) two-tail	0.075041	
t Critical two-tail	2.019541	

**Table 12a** above shows that the average CVA, assuming unequal variance, is the same before and after the event. The pattern is similar for the case where the researcher assumes similar variance as shown in **Table 12b**.

## 5.4 Interpretation of t-stats

The **t-stats values** above, for both paired and unpaired tests show that the researcher failed to reject the null hypothesis. In particular the results also show that there is no statistical significance of average EVA and CVA before and after the event and therefore the researcher is unable to reject the null hypothesis.

In all the t-test results *p*-value is greater than 0.05 at the confidence level of 95%. The t-test on all the other ratios proves that the difference in ratio means after is not strong enough to reject the null hypothesis. The researcher therefore has failed to reject the null-hypothesis, since the test value lies within -2.042 and +2.042.

## 6. CONCLUSION AND RECOMMENDATIONS

## **6.1 Summary of major results**

In this section, the major research findings are summarised and suggestions for further research are made

The average values of ratios before and after the event year 2002 show that there is no significant changes in the values of the ratios. EVA and CVA gains or minimal losses were observed in the health, technology and pharmaceutical sector, while losses of value were observed from the resources sector.

The analysis has shown that BEE transactions that occurred in 2002 did not add significant value to existing shareholders.

## **6.2 Suggestions for further research**

This study has raised some questions about the financial impact of the BEE policy on shareholder value creation. Such questions which need further research include these listed below.

- Does vendor financing based BEE policy add or destroy value for the shareholders?
- What is the real cost of capital for these BEE transactions?
- Should the BEE policy put additional emphasis on other value gains and not just shareholder value?
- What is the overall value creation capacity of the BEE policy to the whole economy of South Africa?

The questions could be the subject of further research which will inform developments in BEE policy in the future.

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## 8. APPENDICES

### 8.1 APPENDIX A: List of companies that took part in BEE transactions in 2002

2002 Black Economic Empowerment Deals					
EY Ref	Seq	Acquirer	Target	Seller	Value (Rm)
1	2	REAL AFRICA HLDGS LTD	AFROX HEALTHCARE LTD	AFRICAN OXYGEN LTD ORD	38.6
2	2A	REAL AFRICA HLDGS LTD	AFROX HEALTHCARE LTD	AFRICAN OXYGEN LTD ORD	56.5
3	4	CEPPWAWU Pharmaceutical Investments (Pty) Ltd	ASPEN PHARMACARE HLDGS	Existing Aspen shareholders	150
4	5	WDB Investment Holdings (Pty) Ltd	Rennies Travel (Pty) Ltd	BIDVEST LTD ORD	270
5	34	Eglin Investments (Pty) Ltd	DATACENTRIX HOLDINGS LTD	New Shares	18.9
6	39	Khumo Bathong Holdings (Pty) Ltd	Crown Gold Recoveries (Pty) Ltd	DURBAN ROODEPT DEEP	105.5
7	39A	Khumo Bathong Holdings (Pty) Ltd	DURBAN ROODEPT DEEP	New Shares	68
8	41	ENVIROSERV HOLDINGS LTD	Millennium Waste Management	Undisclosed	0
9	51	De Beers	Newco	Newco	0
10	51A	MVELAPHANDA RESOURCES LTD	Newco	Newco	0
11	56	GRINDROD LTD	Newco	Newco	27
12	56E	P&O Ports	Newco	Newco	0
13	56F	Worldwide Africa Investment Holdings	Newco	Newco	0
14	62	IMPERIAL HOLDINGS LTD	Citroen distributorship	Undisclosed	0
15	75	NEW AFRICA INVEST LTD ORD	Nail Outdoor SA FORMERLY Natanya Outdoor SA	Undisclosed	22
16	75A	NEW AFRICA INVEST LTD ORD	Nail Outdoor Africa FORMERLY Natanya Outdoor Africa	Undisclosed	0
17	91	Thebe Investment Corporation (Pty) Ltd	Shell South Africa Marketing (Pty) Ltd	Undisclosed	0
18	92	New Africa Millennium Telecommunications (Africom)	Siemens Southern Africa	Siemens Southern Africa	130
19	94	Aka Capital (Pty) Ltd	SOUTHERN AFRICAN INVESTMENTS	BOE LTD ORD	75
20	108	Zama Resources Corporation	Plantations at Pointe Noire	Government	0
21	110	Zimele	Thabo Piping Systems	Newco	0
22	110A	Petzetakis Africa	Thabo Piping Systems	Newco	0
23	110B	Zaragon Plastics	Thabo Piping Systems	Newco	0
24	118	AMB HOLDINGS LTD	AMB Foord Asset Management (Pty) Ltd	Newco	5
25	118A	Foord Asset Management (Pty) Ltd	AMB Foord Asset Management (Pty) Ltd	Newco	5
26	123	Two strategic empowerment partners	Irvin & Johnson	Undisclosed	0
27	133	New Diamond	Kamfersdam diamond mine	De Beers	38

		Corporation			
28	135	135 Consortium led by Letsema Holdings (Pty) Ltd	DNA Micor	New Shares	0
29	140	140 Valour Trading (Pty) Ltd	Fasic Investment Corporation Ltd	Institutional shareholders	0
30	140	140A Valour Trading (Pty) Ltd	Fasic Investment Corporation Ltd	Minorities	0
31	152	152 Kagiso Trust Investments	Kagiso Asset Management	Newco	0
32	152	152A CORONATION HOLDINGS LTD	Kagiso Asset Management	Newco	0
33	171	171 Phambili Waste Management Services	Phambili Wasteman	Merger	0
34	171	171A Wasteman Specialised Cleaning	Phambili Wasteman	Merger	0
35	183	183 SACCAWU Investment Holdings	Toolquip & Allied	Undisclosed	0
36	192	192 Dynamic Global Defence Technologies	Vickers OMC	Undisclosed	25
37	197	197 Lwami Investments (Pty) Ltd	AFRIKANDER LEASE LTD	Undisclosed	120
38	253	253 Bytes Business Solutions	Newco	Newco	0
39	253	253A eCom Institute	Newco	Newco	0
40	285	285 POWER TECHNOLOGIES ORD	Newco	Newco	0
41	285	285A Kutlwano Engineering	Newco	Newco	0
42	301	301 Shareholders	ALEXANDER FORBES LTD	WOMEN INVESTMENT PORTFOLIO	144
43	301	301A Shareholders	Cash	WOMEN INVESTMENT PORTFOLIO	110.9
44	301	301B WOMEN INVESTMENT PORTFOLIO	Wipcapital (Pty) Ltd	Thembekile Ltd	0
45	308	308 BASIL READ HLDGS LTD	BR-Ilima Projects	Newco	0
46	308	308A Consortium of emerging contractors and businessmen	BR-Ilima Projects	Newco	0
47	312	312 Lexshell 519 Investments (Pty) Ltd	CAPITAL ALLIANCE HLDG LTD	INVESTEC GROUP LTD	419.4
48	316	316 Friedshelf 230	Cluff Mining SA	Cluff Mining	27.4
49	336	336 M CUBED HLDGS LTD	Newco	Newco	0
50	336	336A NUMSA Investment Company	Newco	Newco	0
51	337	337 Mamalu	Ogilvy & Mather Rightford	Undisclosed	25
52	347	347 Equity Aviation (Pty) Ltd	Apron Services	Transnet Ltd	117.5
53	362	362 Business Venture Investments No. 674 (Pty) Ltd	African Harvest businesses	AFRICAN HARVEST LTD	366.1
54	377	377 Black Empowerment Company	DNA Micor's operating subsidiaries	DNA SUPPLY CHAIN INVESTMENT	0
55	379	379 Lungisa	Sediba AND SanuMed AND Wade Refuse AND National Landfill	ENVIROSERV HOLDINGS LTD	0
56	386	386 MVELAPHANDA RESOURCES LTD	Certain participation rights	GOLD FIELDS LTD	0
57	387	387 De Beers Consolidated Mines	Ndowana Exploration (Pty) Ltd	Newco	0

		Ltd				
58	387	387A	MVELAPHANDA RESOURCES LTD	Ndowana Exploration (Pty) Ltd	Newco	0
59	388	388	Mvelaphanda Strategic Investments (Pty) Ltd	Secureco Holdings Ltd	Undisclosed	0
60	402	402	Safika Holdings	LogicalOptions (Pty) Ltd	BRAIT S.A.	0
61	419	419	ADCORP HLDGS LTD ORD	Ethoz (Pty) Ltd	Undisclosed	0.9
62	429	429B	BIDVEST LTD ORD	Two Cecil Nurse assembly plants in Gauteng and Port Elizabeth	Newco	0
63	429	429C	Undisclosed	Two Cecil Nurse assembly plants in Gauteng and Port Elizabeth	Newco	0
64	429	429D	BIDVEST LTD ORD	Ubuhle be Dauphin	Newco	0
65	429	429E	Undisclosed	Ubuhle be Dauphin	Newco	0
66	429	429F	BIDVEST LTD ORD	SheNixsa Travel	Newco	0
67	429	429G	Undisclosed	SheNixsa Travel	Newco	0
68	429	429H	BIDVEST LTD ORD	Tuka Travel and Twafika	Newco	0
69	429	429I	Undisclosed	Tuka Travel and Twafika	Newco	0
70	429	429J	BIDVEST LTD ORD	Vuka Catering Supplies	Newco	0
71	429	429K	Undisclosed	Vuka Catering Supplies	Newco	0
72	445	445	Free Gold	St Helena Gold Mine	GOLD FIELDS LTD	120
73	448	448	Khuma Bathong	10 % Participation right in Elandskraal	HARMONY GOLD MINING Co. LTD	105
74	448	448A	HARMONY GOLD MINING Co. LTD	10 % Participation right in Elandskraal	Khuma Bathong	210
75	450	450A	Consortium led by Dr Oscar Dhlomo and including Brait and the executive management	Rheem's container business	HIGHVELD STEEL AND VANADUM	0
76	463	463	MATODZI RESOURCES LTD formerly NEW MINING CORPORATION	JCI LTD formerly CONSOLIDATED AFRICAN MINING	Undisclosed	0
77	463	463A	JCI LTD formerly CONSOLIDATED AFRICAN MINING	ZARARA ENERGY LTD	MATODZI RESOURCES LTD formerly NEW MINING CORPORATION	1.7
78	463	463B	JCI LTD formerly CONSOLIDATED AFRICAN MINING	RAND LEASES PROP LTD	MATODZI RESOURCES LTD formerly NEW MINING CORPORATION	20.9
79	463	463C	JCI LTD formerly CONSOLIDATED AFRICAN MINING	Tavlands (Pty) Ltd	MATODZI RESOURCES LTD formerly NEW MINING CORPORATION	38
80	464	464	Kagiso Trust Investments	KK Combi Investments	Zitulele Combi	0
81	465	465	Kagiso Enterprises	Citigate SA	Undisclosed	0
82	466	466	KUMBA RESOURCES LTD	Ticor Ltd	Undisclosed	0
83	468	468	Mvelaphanda Holdings	Broll Property Group	Undisclosed	0
84	471	471	Makana Investments	Vasoline Investment Holdings	Undisclosed	0
85	472	472	Marriott Property Services	Motseng Marriott Property Services	Newco	0
86	472	472A	Motseng Investment Holdings	Motseng Marriott Property Services	Newco	0

87	482	482	Mvelaphanda Strategic Investments (Pty) Ltd	Unitrans Express Deliveries (Pty) Ltd	UNITRANS LTD	0
88	482	482A	Mvelaphanda Strategic Investments (Pty) Ltd	Unitrans Fuel & Chemical (Pty) Ltd	Unitrans Freight	0
89	485	485	Nexus	SA's second network operator	Government	0
90	495	495C	Omina (Pty) Ltd	Diaz Point Explorations (Pty) Ltd	Otjua Minerals (Pty) Ltd	0
91	495	495D	Omina (Pty) Ltd	Grosse Bucht Diamonds (Pty) Ltd	Otjua Minerals (Pty) Ltd	0
92	508	508	CommLife Holdings	African People's Organisation Burial Society	Undisclosed	5
93	515	515	Empowerment company controlled by Millennium Consolidated Investments (Pty) Ltd	South African business	ALEXANDER FORBES LTD	810
94	517	517D	APEXHI PROPERTIES -A-	ApexHi Manco Trust	New Shares	0
95	517	517E	CORPCAPITAL LTD	ApexHi Manco Trust	New Shares	0
96	517	517F	Mvelaphanda Holdings	ApexHi Manco Trust	New Shares	0
97	517	517G	ApexHi management	ApexHi Manco Trust	New Shares	0
98	522	522	Capricorn Ventures (Pty) Ltd	BRIMSTONE INVESTMNT CORP	White Wing Investments CC	2.3
99	522	522A	Capricorn Ventures (Pty) Ltd	BRIMSTONE INVESTMNT CORP	White Wing Investments CC	45.3
100	522	522B	BRIMSTONE INVESTMNT CORP	BRIMSTONE INVESTMNT CORP	Capricorn Ventures (Pty) Ltd	2.26
101	522	522C	BRIMSTONE INVESTMNT CORP	BRIMSTONE INVESTMNT CORP	Capricorn Ventures (Pty) Ltd	39.3
102	536	536	Black Economic Empowerment Company	Cadre Management Services (Pty) Ltd	DNA SUPPLY CHAIN INVESTMENT	0
103	568	568	Phumelela Gaming & Leisure Ltd	TAB North West (Pty) Ltd	Shareholders	8.1
104	568	568A	Racing Association	North Rand Training Centre (Pty) Ltd	Phumelela Gaming & Leisure Ltd	60
105	568	568B	Undisclosed	Gosforth Park Racecourse	Phumelela Gaming & Leisure Ltd	18.5
106	568	568C	Black empowerment shareholders	Phumelela Gaming & Leisure Ltd	New Shares	9.6
107	569	569C	PINNACLE TECH HLDGS LTD	Tswela Services	Undisclosed	0
108	589	589	WOMEN INVESTMENT PORTFOLIO	ABB Holdings (Pty) Ltd	ABB SA	0
109	591	591	Undisclosed	AFRIKANDER LEASE LTD	Lwami Investments (Pty) Ltd	0
110	595	595	Kgorong Investment Holdings AND Tiso Capital Partners AND Local management AND its bankers	SA operations	Alstom	518
111	596	596	A group of black entrepreneurs and existing management	Stone & Allied Industries	ANGLOGOLD LTD	5
112	596	596A	Masakhisane	Stone & Allied Industries	ANGLOGOLD LTD	0
113	607	607	Clidet No. 409 (Pty) Ltd	Dorbyl Engineering	DORBYL LTD ORD	271.3
114	619	619	Mineworkers Investment Company (Pty) Ltd	Mathomo Financial Services (Pty) Ltd	MATHOMO GROUP LTD	2.6

115	619	619A	Miners Credit Guarantee (Pty) Ltd	Mathomo Financial Services (Pty) Ltd	MATHOMO GROUP LTD	0.9
116	620	620	MEDI-CLINIC CORP LTD ORD	Curamed Holdings Ltd	Undisclosed	0
117	644	644	Sun Microsystems	Newco	Newco	0
118	644	644A	Orcom	Newco	Newco	0
119	653	653	Worldwide African Investment Holdings	DIMENSION DATA HLDGS PLC	New Shares	398.8
120	657	657	Victor Ramanala	Compu Cable Projects	Compu Cable Projects	0
121	657	657A	Compu Cable Projects	Newco	Newco	0
122	657	657B	Emani Computer Peripherals	Newco	Newco	0
123	661	661	CORONATION HOLDINGS LTD	AFRICAN HARVEST LTD	Undisclosed	0
124	672	672	Kagiso Ventures	Prowalco	RMB Corvest Ltd	0
125	683	683	Newshelf 664 (Pty) Ltd	MTN GROUP LTD	Ice Finance BV	4120
126	688	688A	RMB Corvest Ltd	Ozz business	OZZ LTD	552.1
127	692	692	3 Black women directors	Sishayela Phezulu Executive Recruitment Services	Undisclosed	0
128	695	695	Northpark Trading 47 (Pty) Ltd	TRADEK HOLDINGS LTD	Archway Venture Partners Trust and Genbel Securities Ltd	8.2
129	695	695A	Northpark Trading 47 (Pty) Ltd	TRADEK HOLDINGS LTD	Minorities	7.3
130	695	695B	Northpark Trading 47 (Pty) Ltd	TRADEK HOLDINGS LTD	Minorities	0
131	697	697	Inani Investments	Value Inani (Pty) Ltd	Newco	0
132	697	697A	VALUE GROUP LTD	Value Inani (Pty) Ltd	Newco	0
133	699	699	Undisclosed	Bidwip	WOMEN INVESTMENT PORTFOLIO	0
134	703	703	AKA Capital	Corobrik	Undisclosed	50
135	706	706	Empowerment consortium comprising Maluti Mining AND Khumo Bathong Holdings AND Matodzi Resources	Newco	Newco	0
136	706	706A	ANGLO AMERICAN PLATINUM	Newco	Newco	0
137	706	706B	Empowerment grouping	Newco	Newco	0
138	706	706C	ANGLO AMERICAN PLATINUM	Newco	Newco	0
139	710	710	i.a. Platinum Mile Investments 398 (Pty) Ltd representing a consortium backed by the management of Global Resorts SA (Pty) Ltd and Metallon Corporation Ltd	Global Resorts SA (Pty) Ltd	AQUILA GROWTH LTD	175.4
140	710	710B	Platinum Mile Investments 398 (Pty) Ltd	Global Resorts SA (Pty) Ltd	RMB HOLDINGS LTD	852.6
141	710	710C	Consortium including Metallon Corporation Ltd	Global Resorts SA (Pty) Ltd	Genbel Securities	0
142	710	710D	Consortium including Metallon Corporation Ltd	Global Resorts SA (Pty) Ltd	Management	0
143	710	710E	Undisclosed	Caesars Gauteng	Marang empowerment group	0

144	714	714	Peu Health (Pty) Ltd	ASPEN PHARMACARE HLDGS	Shareholders	0
145	717	717	Bridgeway	Shocraft Exhibitions	Undisclosed	0
146	717	717A	Bridgeway	Ulti	Undisclosed	0
147	719	719	Empowerment consortium led by African Legend Investment	Caltex Oil SA	Chevron Texaco	0
148	737	737	Ifa LeSizwe Investments (Pty) Ltd	GILBOA PROPERTIES LTD	New Shares	50
149	740	740	African Genesis Construction	Intertyre	Goodyear	0
150	745	745	Millennium Consolidated Investment	Newco	Newco	0
151	745	745A	Majo Property Development	Newco	Newco	0
152	745	745B	Investec Bank	Newco	Newco	0
153	745	745C	Rabie Property Projects	Newco	Newco	0
154	745	745D	Cavcor Property Group	Newco	Newco	0
155	750	750	Jay & Jayendra	Perago	COMPAREX HOLDINGS LTD	0
156	759	759	Pamodzi Investment Holdings	Namitech	Undisclosed	120
157	759	759A	Mphatlalatsane Investment Company	Namitech	Undisclosed	0