

## The relationship between a black economic empowerment score and shareholder returns in Johannesburg Stock Exchange-listed companies

U. Mehta & M. Ward

### ABSTRACT

One of the major initiatives to redress the social and economic injustices of apartheid in South Africa is the black economic empowerment (BEE) legislative framework currently enacted by government. One of the core tenets of BEE is to facilitate the inclusion of previously disadvantaged blacks as shareholders of companies, thereby providing them with a stake in the economy. Since these new shareholders lack the means to acquire shares, existing shareholders devise various mechanisms which, in essence, bestow scrip on the newcomers, and simultaneously open up opportunities for BEE-compliant companies to benefit. Studies into the impact of BEE on shareholders have delivered conflicting findings, with some showing significant benefits to existing shareholders while others contradict this. The present study examines the association between a company's BEE score/rating and shareholder returns, using an event study methodology and a buy-and-hold portfolio analysis to understand both the short- and long-term effects of a company's BEE score. The authors observed a positive association between a change in BEE score and abnormal returns in the short term. In the longer term, portfolios which were comprised of companies with better BEE scores generated lower returns than those with worse BEE scores – a surprising phenomenon which may be attributable to the high cost of BEE compliance. These results add weight to the existing body of literature which questions the efficacy of BEE.

**Key words:** abnormal returns, BEE, black economic empowerment, event study, buy and hold

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M. Ward is Professor of Finance and U. Mehta is a MBA graduate, Gordon Institute of Business Science, University of Pretoria. E-mail: mchlwr@gmail.com

## Introduction

The first democratically elected government of South Africa, which was voted into power in 1994, quickly determined that there was a need for greater social and economic equality (Tangri & Southall 2008). One core mechanism through which to achieve this was the creation of the broad-based black economic empowerment (B-BBEE) framework, which scores companies to reflect how well they have adopted prescribed codes of good practice. A higher/better BEE score improves a company's access to government contracts, and (hopefully) creates a trickle-down effect which ultimately narrows income inequality.

Significant costs are, however, incurred by companies in meeting and maintaining a particular BEE compliance rating. In addition, there are likely to be both short-term signalling effects to shareholders when a company increases/decreases its BEE level as well as longer-term economic effects related to the costs versus benefits.

This article seeks to interrogate the economic value proposition of a better BEE score to the shareholders of listed companies in both the short and longer term. The authors aim to demonstrate the beneficial (or adverse) effects of adopting the BEE codes of good practice for investors and, by extension, the economy as a whole. These are important considerations for social and economic equality.

## Theory and literature review

BEE as a concept emerged in South Africa in the early 1990s, with a focus on increasing the number of black-owned shares in major corporations (Ponte, Roberts & Van Sittert 2007). However, in 1998 the South African government became aware that, in its original state, BEE was enriching only a select few 'elite' blacks, and it subsequently repackaged the construct in an improved legislative framework in the form of the Broad-Based Black Economic Empowerment Act, no. 53 of 2003 (RSA 2003). As the name suggests, B-BBEE was designed to be more inclusive in terms of participants and scope. That is, each of the codes of good practice (see RSA 2003) was designed to address a different area so as to maximise the degree of transformation in the economy and thereby empower future generations of "bread-winners" with the ability to lift their families out of poverty.

In its current form, a company's BEE score can range between 0 and 100. Companies are evaluated on seven criteria, each of which is weighted: ownership (20%), management control (10%), employment equity (10%), skills development (20%), preferential procurement (20%), enterprise development (10%) and socioeconomic development initiatives (10%) (RSA 2003). Based on the overall score, a BEE recognition level is assigned, with Level 1 being the best score and Level 8

the worst. Companies which score at least 65 points (i.e. Level 4) are considered to be “compliant” and can claim 100% of their procurement expenditure (increasing to 135% for Level 1 companies) (DTI 2007).

The announcement of a BEE deal typically elicits a substantial amount of press coverage, and there is speculation that the media and investors view the company in a positive light, which is beneficial for its image and ultimately its performance (Jackson, Alessandri & Black 2010). Such publicity may encourage other companies to transform through the implementation of BEE structures, and thereby act as a positive mechanism to improve corporate social responsibility.

Although black ownership of companies has been a contentious area in the transformation of postapartheid South Africa, the focus in the literature and in this study is on whether BEE creates value for existing shareholders. Alessandri, Black and Jackson (2011) found that BEE transactions, which are typically offered at a discount to the existing share price, create significant positive returns. Conversely, when completed at a premium they were found to destroy value for shareholders. When interviewing individuals involved in structuring BEE deals, only 45% stated that the rationale was to grow the business (Alessandri et al. 2011). By extension, this was interpreted as an indication that many deals were altruistic; existing shareholders voluntarily opted to dilute their shareholding to redress past wrongs (Alessandri et al. 2011).

Ward and Muller (2010), in a detailed event study using a large sample across several years and many industries, found announcements of BEE deals to be value creating, with cumulative abnormal returns (ARs) of 10% after 180 trading days. By examining various cross-sections of their sample they also noted that smaller (versus larger) companies as well as earlier adopters were the major beneficiaries of improved returns from BEE deals (Ward & Muller 2010).

In contrast, Chipeta and Vokwana (2011) found that peak ARs occurred 20 days prior to a deal announcement. Furthermore, they observed negative cumulative ARs after the event, indicating that the market did not view BEE deals favourably. Despite this, BEE transactions were still found to be value creating for new shareholders participating in the scheme, but value destroying for existing shareholders (Chipeta & Vokwana 2011).

Van der Merwe and Ferreira (2014), in an analysis of the Empowerdex BEE scores, found that a better BEE score was strongly negatively correlated to share returns. They proceeded to break down their analysis into component scores, to show that only the “ownership” and “preferential procurement” factors were associated with negative share returns, whereas the “quality of management” was associated with positive returns.

In conclusion, while there is considerable debate about the effectiveness of BEE in creating value and uplifting society, research into value creation for investors is both limited and contradictory, and it is this issue which will be examined here.

## Research hypotheses

In this analysis there are both a short-term and a long-term perspective. For the former, the null hypothesis  $H_1$  states that there is no association between a change in BEE score and cumulative abnormal share returns. The data are divided into two subsets (“upgrade” or “downgrade”) and each is analysed independently.

$$H_{10}: CAAR_{st} = 0$$

$$H_{1A}: CAAR_{st} \neq 0$$

where  $CAAR_{st}$  = cumulative average abnormal return over the short-term window.

For the latter, the null hypothesis  $H_2$  states that there is no association between BEE score and long-term share returns. Companies are grouped into four portfolios as follows:

Portfolio 1: All companies with a BEE score of one or two (highest levels)

Portfolio 2: All companies with a BEE score of three or four

Portfolio 3: All companies with a BEE score of five or six

Portfolio 4: All companies with a BEE score of seven or eight (lowest levels)

The alternative hypothesis is that there is an association between the BEE score and abnormal share returns, thus the ARs from at least one portfolio will not be equal to zero.

$$H_{20}: BHR_{lt} = 0$$

$$H_{2A}: BHR_{lt} \neq 0$$

where  $BHR_{lt}$  = buy-and-hold portfolio return over the long term.

## Research methodology

Since it is difficult to obtain price-related data for unlisted companies, the population was defined as all shares included in the J203 Johannesburg Stock Exchange (JSE) All Share Index (ALSI) for the period January 2009 to June 2015. This time frame was chosen due to the poor quality of data and lack of availability of BEE score data prior to 2009. Many companies which responded to requests for data could

not produce BEE certificates prior to 2009, and as a result that year was chosen as the start date for the analysis. The unit of analysis was daily total share returns (see below).

Although more than 450 shares are listed on the JSE, the J203 (ALSI), which represents only the largest 160 companies, was chosen as the source of subject companies: the index represents approximately 99% of the JSE's market capitalisation, and these are the more liquid and tradable shares. A total of 254 companies were (at one stage or another) in the J203 over the period of the study, and these formed the basis of the sample. Annual BEE scores were sourced by contacting companies directly, or, where available, were taken directly from their websites or from the Mpowered Business Solutions<sup>1</sup> website. Where a score was not available in a particular year for a specific company, the year was excluded. The total dataset comprised 410 observations of BEE scores over the analysis period and covered 118 unique companies. Some survivorship bias exists, as certain companies did not provide data, but this was not thought to be a material limitation for the study.

To test the hypotheses listed earlier, two different approaches were used.

### Short-term analysis

To test hypotheses related to a short-term change in shareholder returns as a consequence of a BEE score re-rating, the researchers used event study methodology over a period of 200 trading days (20 days prior to and 180 days after the event). The event itself was defined as the day on which a new BEE certificate was issued to the company.

Event methodology is well described in the literature (see, for example, Bowman 1983; Brown & Warner 1980, 1985; McWilliams & McWilliams 2000). The key issue in event methodology is the manner in which ARs are estimated. The researchers followed the Ward and Muller (2010) event methodology pertaining to ARs, using their 12 control portfolios approach instead of the single-parameter CAPM (capital asset pricing model). Although more complex, the advantage of the control portfolio methodology is that it caters for possible market effects (e.g., size, value/growth, resource/non-resource) in the estimates of the ARs, resulting in more accurate estimates (Ward & Muller 2010).

$$AR_t = \sum_{i=1}^{i=12} (\beta_i * RCPI_i) \quad (1)$$

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<sup>1</sup> Mpowered Business Solutions is a company specialising in the rating and accreditation of BEE compliance.

where:

$AR_t$  is the abnormal log-return on the share on day  $t$

$\beta_i$  is the beta of share  $i$  against each of the 12 control portfolios

$RCP_i$  is the return of the control portfolio  $i$  on day  $t$

Each subset of the sample was analysed graphically and CAARs were calculated for the event window. On account of the non-normality of the CAARs, the results were evaluated graphically using a Monte Carlo randomised bootstrap method to create 5% and 95% confidence limits (Ward & Muller 2010).

### Long-term analysis

To test the association between long-term share returns associated with the holding portfolios of companies with a specific BEE score, a buy-and-hold or 'style' investment methodology was used. The principle of style investing, pioneered by Fama and French (1992), is essentially a buy-and-hold portfolio analysis in which companies are placed into quartile portfolios on the basis of ranked attributes (styles), and the quartile returns are measured over extended periods. This approach has two major advantages over the more common approach of cross-sectional tables of returns: first, the use of portfolios reduces the specific volatility of individual shares, and, second, the returns are cumulated over several years to clearly reveal any benefits.

The method works as follows: quartile portfolios are initially seeded based on the ranked opening BEE score of the company at the beginning of the analysis (January 2009 in this instance). So, for example, the quartile 1 portfolio would comprise an equal weighting of the 20% of the sample whose BEE score was the lowest, and quartile 5 the highest 20%. Each quarter, the portfolios are equally re-weighted after rebalancing to account for any changes in BEE scores, as well as new entrants into or exits from the sample. Dividends are included into the estimation of returns, and care was taken to correct for share splits and corporate actions in the data. The investment style analysis was carried out in this manner until the end of July 2015, and the performance of each portfolio was recorded on a daily basis over the period. The performance of each portfolio was analysed graphically and compared to the other portfolios as well as a benchmark, that being the J203T (ALSI total return index). In addition, so-called "price-relatives" can be calculated as the value of quartile1/quartile5, providing useful graphical insight into the duration and extent of trends in the data.

## Results and discussion

### Short-term analysis – event study

The results presented here show the CAARs for 20 days prior to and 180 days after the announcement of a BEE score change. The researchers deal separately with the upgrades, followed by the downgrades. The 5% and 95% confidence limits (from the bootstrap distribution described earlier) are also plotted as a visual hypothesis test to determine the significance of the findings.

#### Upgrades

The CAARs of all upgrade events were analysed (see Figure 1). The subset of data used in this study consisted of 70 upgrade events which were generated from 48 unique companies over the study period January 2009 to September 2015. The largest magnitude upgrade was a three-level improvement, while the smallest upgrade was one level. The CAARs of the event are deemed significant if the line crosses the threshold of either the upper or lower confidence limit, that is, if the cumulative ARs are greater than the 95% limit or less than the 5% limit as generated by the bootstrap distribution of CAARs.

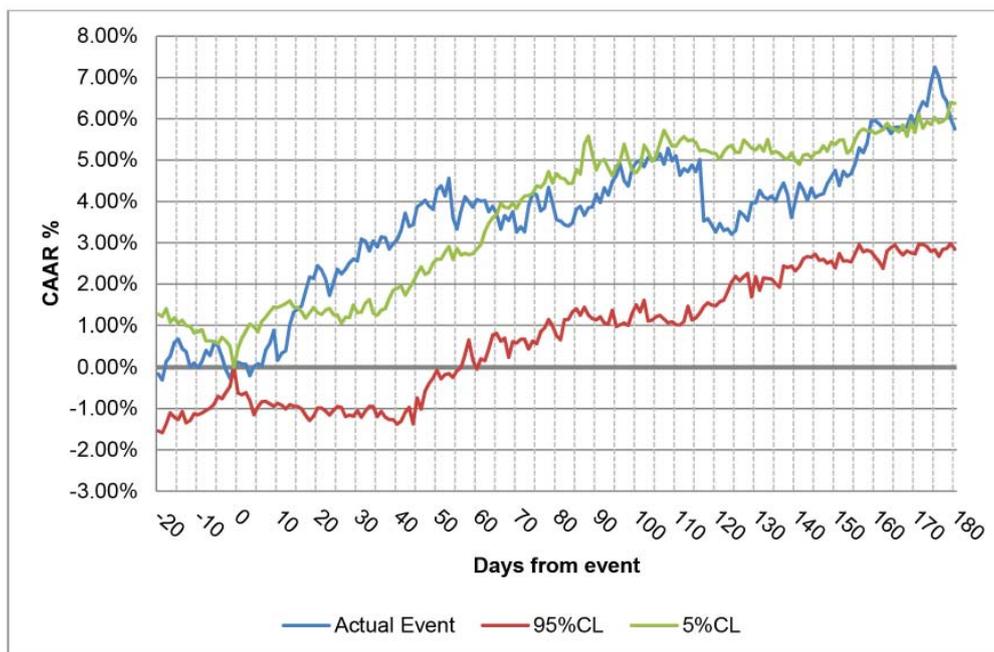
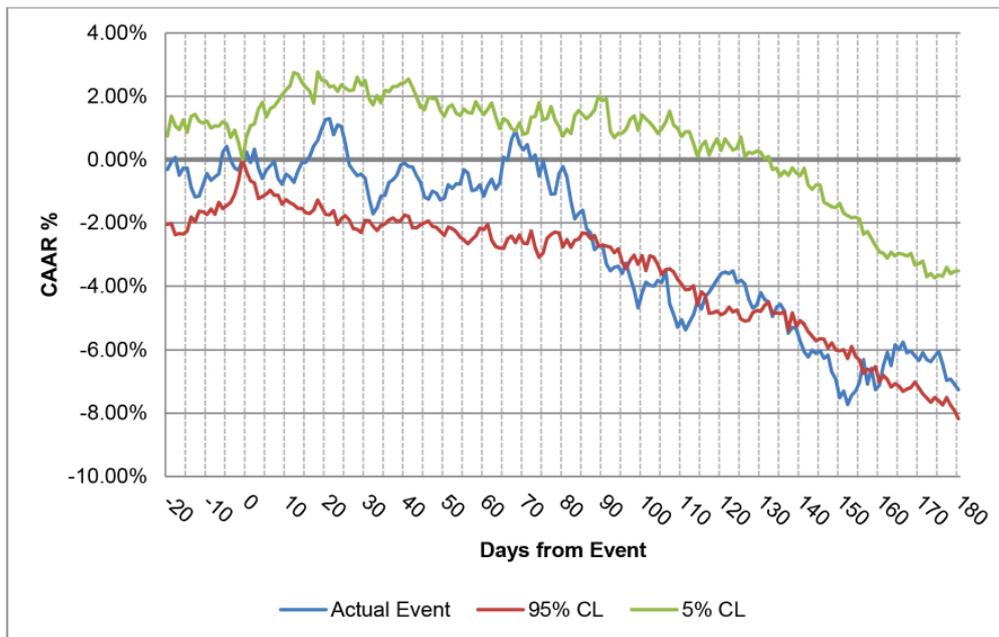


Figure 1: All upgrades, equally weighted

From the above, it is evident that the CAARs became significant between day 14 and day 64 after the event, with a peak CAAR of 4.54% at day 53, which levels out at just over 4% after day 64. Beyond this the results are less accurate, but nevertheless sustained. According to hypothesis  $H_1$  the upgrade events are found to be significant, and therefore reject the null hypothesis that cumulative ARs for upgrade events are equal to zero.

### Downgrades

The subset of data consisted of 24 events generated from 21 unique companies where the BEE score was downgraded.



**Figure 2:** All downgrades, equally weighted

From Figure 2 it is clear that the CAARs remain relatively flat from day 0 to 80, after which they display a downward trend (day 90 to day 114), with a peak CAAR of -5.36% occurring at day 111. These results are less convincing on account of the time between the event and the reaction seen in the CAARs. Nevertheless, the results appear to be significant, therefore the null hypothesis as stated in  $H_2$  is rejected in favour of the alternative hypothesis.

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The short-term study revealed a positive association between a change in BEE score and return to shareholders. This association is stronger for improvements in BEE score and less clear-cut for downgrades in scores, possibly on account of the smaller sample of downgrade events.

### Long-term analysis – style investment

The style investment analysis was conducted to determine the long-term returns of portfolios of companies with better BEE scores (compared to those with worse scores) for the period of analysis (1 January 2009 to 30 September 2015). Total returns were calculated so that the effects of dividends could be factored in. The analysis assumed an initial investment of R1m in each quartile portfolio on 1 January 2009, with an equal rand value weighting of shares within each portfolio. The portfolio was equally rebalanced every three months, and reconstructed to ensure that changes in BEE scores resulted in shares being reallocated appropriately. Transaction costs of 2% were included in the rebalancing.

The results for each portfolio and the ALSI (J203T) are shown in Figure 3.

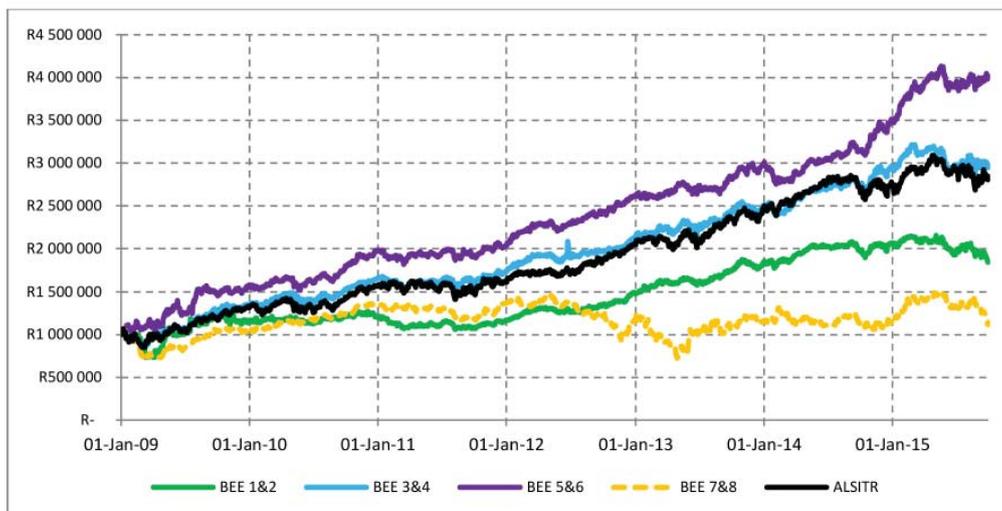


Figure 3: Style investment results

The ALSI benchmark portfolio ended the holding period with a total value of R2,843,264. The results indicate that Portfolio 1 (BEE 1 & 2) underperformed the All Share Index, with an end value of R1,848,041. Portfolio 2 (BEE 3 & 4) more or less tracked the market, with a value of R2,975,186. Portfolio 3 (BEE 5 & 6)

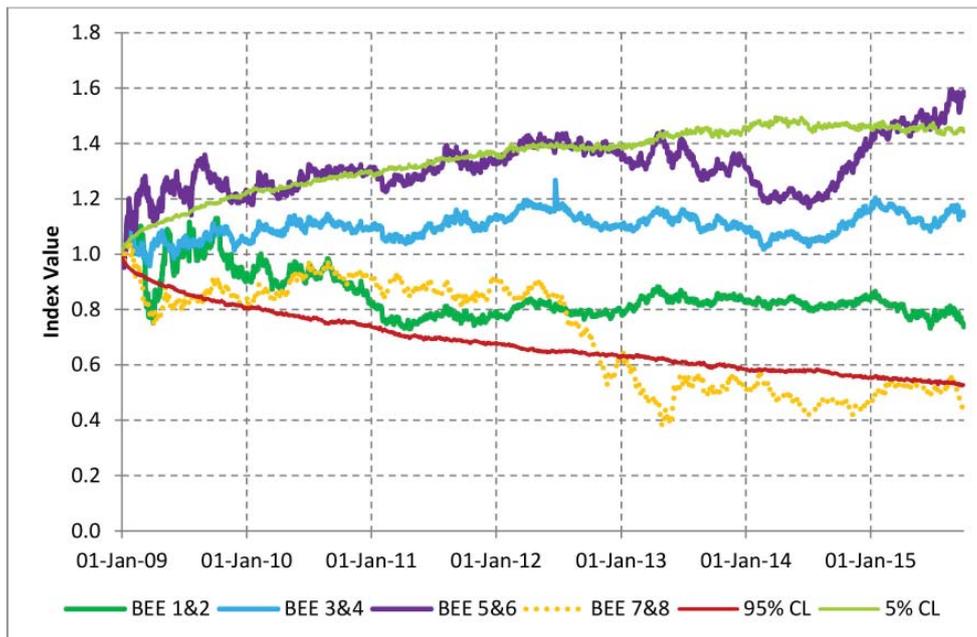
performed best, substantially exceeding the performance of the market, with a final value of R4,020,919. Portfolio 4 (BEE 7 & 8) significantly underperformed the market, ending with a value of R1,144,759.

There were concerns relating to portfolio 4 (BEE 7 & 8) on account of the very small number of companies (between two and three) held in the portfolio over the period under study. Table 1 lists the average number of companies held in each portfolio over the duration of the study, and the annualised returns.

**Table 1:** Style analysis portfolio statistics

Portfolio	Average number of companies	Annualised return	Significantly different from ALSITR?
Portfolio 1 – BEE 1 & 2	9.89	11.3%	No
Portfolio 2 – BEE 3 & 4	31.70	20.9%	No
Portfolio 3 – BEE 5 & 6	13.85	27.4%	Yes+
Portfolio 4 – BEE 7 & 8	2.70	2.4%	(Yes-)
ALSITR Benchmark		16.8%	

The abnormal returns for each portfolio were calculated against the ALSI, and are shown in Figure 4 together with the 95% and 5% confidence limits which were generated using a Monte Carlo bootstrap process.



**Figure 4:** Style investment: abnormal returns versus the ALSI (J203T)

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What is surprising is that the results indicate an inverse association between BEE score and returns. Portfolio 3, with lower BEE scores 5 & 6, performed better than Portfolio 2 (BEE 4 & 5) and Portfolio 1 (BEE 1 & 2). Portfolio 4 (BEE 7 & 8) is the exception to the trend, but had a very small sample size and can perhaps be ignored. It is also apparent that the abnormal returns in Portfolio 3 (BEE 5 & 6) were significant at the 5% confidence level for the duration of the analysis.

## Discussion of findings

The overall goal of this research was to determine whether there was an association between a company's BEE score and subsequent share returns. With this in mind, the research was divided into a short- and a long-term study, using two different methodologies, to assist investors in identifying good entry and exit points, as well as the long-term economic benefit to shareholders of BEE compliance.

The short-term investigation took the form of an event study and showed that upgrade events (where a BEE score improved) resulted in significantly positive CAARs, with a peak CAAR of 4.5% at day 54. It also found that downgrade events resulted in significantly negative CAARs, with a peak CAAR of -5.4% occurring around day 111. The event study reaffirmed the finding that the market views companies positively/negatively when their BEE scores improve/worsen, and rewards those companies appropriately.

An explanation for this is that the market views improvements to a company's BEE score in a positive light, signalling anticipated future economic benefits, as described by Jackson et al. (2010). An alternative and related interpretation would be that an improved score may be a signal of good corporate governance and transparency to investors, thus providing an indication of good management and an improved share return, as noted by Ntim, Opong, and Danbolt (2012). Lastly, the view that BEE benefits compliant companies through improved government contracts could also be a reason for the short-term positive share returns, and vice versa (Strydom, Christison & Matias 2009).

The long-term study looked at the effect of constituting portfolios on the basis of BEE scores, and took the form of a style analysis. It should be noted that *a-priori* one might expect a positive association between BEE score and shareholder returns on the assumption that BEE benefits investors, as noted in the short-term event study above. In this instance, however (and somewhat surprisingly), an inverse relationship between BEE score and return was observed over the (almost) seven-year time-series. If one omits Portfolio 4 (with the lowest BEE scores, Levels 7 & 8) on the grounds that it had only two or three companies in it, Portfolio 3 (BEE 5 & 6) showed a

compound average annual growth rate (CAGR) of 27% pa, Portfolio 2 (BEE 3 & 4) 21% pa and Portfolio 1 (BEE 1 & 2) only 12% pa. Indeed, Portfolio 3 was found to significantly out-perform the ALSI.

These unexpected results may indicate that, in the long run, BEE is an expensive means of transformation (Cronje & Endres 2013) which diminishes company performance in the long run. Additionally, it reaffirms the view that BEE legislation may not assist individual companies through improved revenues, because the costs of achieving improved scores outweigh the benefits of doing so (Strydom et al. 2009). Ultimately, this means that the pursuit of an improved BEE score is an altruistic endeavour which may lead to lower company performance, as suggested by Alessandri et al. (2011).

The contradiction between the short-term response and the long-term analysis may also be explained by the irrationality of investors who, in the short-term, invest based on sentiment and mood, whereas more established and rational approaches reveal unfulfilled promises (Bollen, Mao & Zeng 2011).

## Conclusion

The implications of this research for management are controversial. The pursuit of an improved BEE score may not necessarily pay for itself in the long run, with the costs of compliance exceeding the benefits. Ultimately, this means that management needs to be cognisant of the costs associated with pursuing improved BEE scores and must ensure that company decisions are made with all stakeholders in mind. The findings also add weight to the argument that BEE is not an effective mechanism for transferring wealth.

It should be noted that the primary limitation of this study was the lack of sufficient data. The lack of coordination between the Department of Trade and Industry and BEE verification agencies means there is no central body which collects and maintains accurate, historical BEE data. This means that tracking companies' BEE progress over time is a difficult task which requires researchers to contact each company individually for information on its track record. Given the importance of BEE as a major initiative aimed at redressing economic and social inequalities, more needs to be done to facilitate further research in this area.

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