**Gordon Institute
of Business Science**
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A historical analysis of the relationship between
B-BBEE score and share return in South Africa

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# ABSTRACT

This research is aimed at understanding the impact of Broad-Based Black Economic Empowerment (B-BBEE) scores on share return with a specific emphasis on looking at the effects of a change in BEE score on abnormal returns for shareholders as well as looking at the long term performance of holding portfolios that track specific BEE scores. The study will take the form of an event study and buy and hold analysis in order to understand both the short term and long term effects of BEE on abnormal returns. All companies listed on the J203 who were BEE compliant between January 2009 and September 2015 were analysed. The results found that in the short term, upgrades in BEE scores produced positive abnormal returns while downgrades produced negative abnormal returns. In the long term, portfolios which tracked companies with the best BEE scores generated the lowest abnormal return, while those with poorer scores generated the highest abnormal return.

# KEYWORDS

Abnormal returns

BEE

Black economic empowerment

Buy and hold

Event study

Score

Share returns

# DECLARATION

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

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**Ushir Mehta**

**13 January 2016**

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A historical analysis of the relationship between B-BBEE score and share return in South Africa

## 1.2 Introduction

When the Dutch arrived in South Africa in 1652, along with them came colonialism, and with it, slavery and forced labour. As a result, many South Africans are descendants of slaves who were brought to the Cape Colony from 1653 to 1822. Even with slavery, the Dutch lacked sufficient labour power for their ships and as a result, the Dutch East India Company released officials from their contracts, and allocated them land in South Africa. These officials became known as the Boers or Afrikaners, and were essentially the beginning of the white South African population. The Boers realized that if they were to become successful agricultural producers, they would require substantial labour and so turned to the indigenous Khoikhoi people of South Africa ("History of slavery and early colonisation in South Africa," n.d.).

The Khoikhoi people had been settled for at least a thousand years prior to the arrival of the Dutch and were not willing to provide services to the Boers in the form of labour. The Khoikhoi were pastoral people who depended on seasonal migration in order to survive, and this came into direct conflict with the new settlers who practiced agriculture. Thus as the new settlement of the Dutch expanded, Khoikhoi communities were displaced, with their land being taken from them by the settlers. Some Khoikhoi individually integrated into colonial society as servants, but eventually the Dutch settlers were forced to look elsewhere for the labour they required and so began importing slaves into South Africa (Vermeulen & Tibane, 2013).

Between 1652 and until the end of the slave trade in 1807, sixty thousand slaves were imported into South Africa. While the population of the settlers doubled naturally from

generation to generation, the population of the slaves could only be increased by importing more of them, due to the harsh conditions that the slaves lived under. Thus South Africa became not just a society where people were enslaved, but a society of slaves. The functioning of society and the economy thus became dependant on slaves and society became polarised by dividing people between those who were slaves, and those who were not. It is important to note that the majority of slaves were black and their owners were white. Thus from the early days, society in South Africa has been divided on racial lines as a result of slavery ("History of slavery and early colonisation in South Africa," n.d.).

Looking back in history, one can see that the racial divide between black and white people was ingrained in culture and that in order to break this norm, the government needed to provide motivation for companies to break down these barriers. When the newly elected government of South Africa was voted into power in 1994, it determined that there was a need for greater social and economic equality (Tangri & Southall, 2008). The African National Congress-led government decided that transformation would take too long if it left business to its own devices and instead needed to be sped up if our country was to move forward. This need led to the creation of the Broad-Based Black Economic Empowerment (henceforth known as BEE in this research) framework that was used to rate companies in the form of a scorecard, which reflected how well a company had adopted the frameworks codes of good practice (Krüger, 2011). The basis of scoring companies in the form of a BEE score was part of the greater initiative that in order to do business with government, a company would need to be BEE compliant and thus it was hoped this would create a trickle-down effect with downstream companies becoming BEE compliant as a result.

Thus, becoming BEE compliant and achieving a better score could have led to better company performance due to increased revenues, which was part of the rationale for writing this paper. That being said, BEE is generally a contentious topic in South Africa with some viewing it as necessary to correct the wrongs of the past, while others see it as an expensive means of transformation (Cronje & Endres, 2013). Nevertheless, whether one viewed the adoption of BEE as an altruistic endeavour or a requirement in order for a business to be successful is debatable, but what remained was an agenda

which was important for South Africa and which had broader implications for the performance of companies in this country.

Politics aside, the question remains, does BEE lead to better company performance? This paper will therefore seek to understand how the stock market views the adoption of BEE by firms, with a specific emphasis on understanding if the markets place more value on firms with a better BEE score. By doing so, the researcher aims to demonstrate to company leaders the beneficial effects (or drawbacks) of adopting BEE codes of good practice for their shareholders so that they can better quantify the costs of doing so. Furthermore, the researcher also wishes to conduct a practical analysis of listed firms adopting BEE in order to determine if BEE can be used by investors as a determinant in valuing firms and to provide an indication of each BEE scores associated excess returns, if any.

## 1.3   The current business problem

The Johannesburg Stock Exchange is becoming increasingly efficient (Bhana, 1994) with opportunities for identifying value becoming more difficult. As such there is a need for research which identifies new avenues of value creation to assist investors and traders in constructing new trading and investing strategies. With this in mind, there has been little research done on the impact of BEE on listed company performance in South Africa with respect to helping investors make decisions on whether to invest in a company.

South Africa is unique in the sense that the Johannesburg Stock Exchange now has requirements that listed companies must report on their BEE compliance and progress (although it is not a requirement to be BEE accredited).  The researcher is therefore fortunate that there is a new source of data or information in order to conduct analysis, where other countries do not. However, this source of information has largely gone unnoticed by company executives and investors, who traditionally have only taken cognisance of "BEE deals" where equity is sold to black investors (Benjamin, 2014). Equity or ownership only forms one part of the code of good practice that forms the foundation of BEE, and thus much of the other information about companies' BEE scores has been largely ignored. This therefore raises the question whether there is

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untapped value in the remaining data about BEE and if value can be derived for investors and traders from this data. It also raises the question for company executives if pursuing a better BEE score actually results in improved company performance and an improved share return for shareholders, or if the pursuit of improved BEE scores can be anything more than altruistic.

So given that there is an untapped source of information about companies BEE scores, what now? The problem investors face with listed companies is determining how much value to place on a firms BEE score and if movements in a firms score represent an opportunity for long term or short term returns. The question therefore is whether movements in, or a change to a firm's BEE score represents a signal to buy or sell, or provides an opportunity for investors due to the firm's shares being mispriced. Furthermore, it is unclear if an improvement in a firm's BEE score leads to share returns due improved company performance from increased revenues, which may be reflected in an improved share price and greater dividend pay-outs in the future. So in order for this BEE scorecard information to be useful, it needs to be determined under what scenarios BEE scores can create value, over what period the value can be derived, and how much value can be created. Doing so would provide enough information to investors and traders to design a portfolio strategy or investment style that they could use.

There has of course been some research on the impact of BEE on share price. However, the most current research has been contradictory, with one paper finding that BEE does matter in the short term, with BEE events attracting a peak abnormal return of 10% after 180 days (Ward & Muller, 2010), while another paper finds that BEE is irrelevant and is associated with negative returns (van der Merwe & Ferreira, 2014). However, there is little information to be found on the long term effects of BEE on share returns, nor is there any indication of the changes an investor can expect when a firm's BEE score changes for better or worse. Past research has also been too shallow: in one instance only equity deal announcements were analysed, while in another only short term reactions associated with each code of good practice were analysed. The contradictory results of each report further indicates that this area requires more research in order to identify where such differences in results arose, and if in fact there is value to be found in BEE as a whole. The goal is to make it as simple as possible for

investors using data that is readily available. Essentially an investor should be able to observe that a company's score has changed, and through this research, understand if this is a signal to buy or sell.

Furthermore, from a practical point of view, there does not appear to be any research that has been directed at investors or portfolio managers directly, or even for the lay man who invests from home with respect to BEE investing. The aim of this research is therefore to uncover if it is possible to look past the traditional BEE equity deals for value, and instead look at other factors which together form the codes of good practice that form the BEE score. It will also determine if value can be gained by investing according to BEE score and present an investment style that could possibly be used by investors.

This research paper will therefore look to explore the relationship between share returns and BEE scores with an emphasis on analysing short term and long term effects associated with changes in BEE score. The goal is to present this in a practical manner utilising tools that are readily available to investors and traders. If the results of this research do prove such a relationship exists, it would mean that investors could structure portfolios differently, by taking into account BEE scores, and subsequently, react to changes in a company's BEE score in order to take advantage of potential share returns. The results of this report would therefore be of significance to all stakeholders in companies in addition to investors in the stock market.

## 1.4  Motivation for research

The motivation for this research was to gain a deeper understanding of how the South African stock market reacts to BEE as a whole. From both an investor and a socio-political perspective, there appears to be an unspoken curiosity of whether the adoption of BEE is beneficial for companies with respect to performance.

It would be of great significance to private individuals, as well as investors and businesses to understand if there is more to gain from the adoption of BEE other than the adoption being purely an altruistic motive. If such a relationship is found, it may

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assist investors attaining superior returns by utilising new criteria for investing, and furthermore it may persuade businesses who have not focussed on BEE, to do so.

The result is that if a positive relationship is found, all of society gains. Investors are able to identify a new source of value creation, businesses are able to perform better, government is able to meet its transformation objectives and the people of South Africa are better off for being in a society that is better able to embrace transformation.

## 1.5   Scope

This study is limited to those companies listed on the JSE between January 2009 and September 2015 which were included on the JSE All Share Index (J203). This study also only covers those companies that had a BEE scorecard rating which could be obtained. As not all companies' historical scores were available, this study makes use of a sample of the scores available and therefore may be subject to survivorship bias due to the unavailability of historical scores for companies that no longer exist. Companies who chose to refrain from sharing their historical scores have been omitted from this research.

## 1.6   Research aim

The aim of this paper is to provide clarity on the short and long term effects of a change in a company's BEE score on its share price, the results of which will determine if it is permissible for investors to make decisions based on a firm's BEE score and to determine if it can be used to forecast abnormal return. The goal therefore is to get a better understanding whether BEE scores contain material "priced information", or are a useful investment style which would allow investors to take advantage of share price movements in order to earn returns that are superior to the market, as represented by the JSE All Share Index. The secondary aim is also to determine if there are short term effects as a result of a BEE score change which could help investors with finding a good entry or exit point.

## 1.7   Research objectives

The question this research seeks to answer is: "Does the adoption of BEE accreditation by listed entities produce excess returns in the short and long term, and are there any differences in returns produced by different scores?"

Thus, the main objectives of the research will be:

- Objective 1: To determine if there is an association between the change in a company's BEE score and shareholder return
- Objective 2: To determine if there is any association between a company's BEE score and shareholder return

Therefore the goal is to determine if an upgrade or downgrade in a BEE score adds or detracts from value to shareholders, and furthermore, if investors are able to utilize this relationship to improve the returns of their portfolios.

# 2. Literature summary

## 2.1 Introduction

This chapter will focus on the literature and theory base that will form the basis of this paper. The structure will be divided into looking at progress of BEE over time, looking at how BEE worked, looking at BEE equity deals, and its impact on transformation and the empowerment agenda, looking at the role of empowerment in corporate governance and finally the perceptions of Black Economic Empowerment in South Africa.

## 2.2 Black Economic Empowerment

Black Economic Empowerment as a concept emerged in the early 1990s in South Africa 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 that format, BEE was only enriching a select few elite and not achieving its goals of transformation. This ultimately led to BEE being repackaged as Broad-Based Black Economic Empowerment where ownership was only one of seven major criteria that would be used to assess the credentials of businesses in South Africa (Ponte et al., 2007). This was a stark contrast to the original implementation of BEE where ownership was the sole concern.

Broad-Based Black Economic Empowerment was a legislative framework that was adopted in 2003 by the parliament of South Africa. The purpose of this framework was to promote black economic empowerment; to empower the Minister of Trade and Industry to issue codes of good practice and to publish transformation charters; to establish the Black Economic Empowerment Advisory Council; and to provide for matters connected therewith (Minister of Trade and Industry, 2003). According to the Broad-Based Black Economic Empowerment Bill, the objective of the Act was to promote economic transformation in order to enable meaningful participation of black people in the economy, where black people is a generic term which includes Africans, Coloureds and Indians (Minister of Trade and Industry, 2003).

Broad-Based Black Economic Empowerment is defined as the economic empowerment of all black people including women, workers, youth, people with disabilities and people living in rural areas through diverse but integrated socio-economic strategies that include but are not limited to increasing the number of black people that manage, own and control enterprises and productive assets; facilitating ownership and management of enterprises and productive assets by communities, workers, cooperatives and other collective enterprises; human resource and skills development; achieving equitable representation in all occupational categories and levels in the workforce: preferential procurement; and investment in enterprises that are owned or managed by black people (Minister of Trade and Industry, 2003, pg. 3).

Colonial and apartheid policies resulted in a series of laws that confined black people to the fringes of the national economy (Iheduru, 2004). Part of the process of Black Economic Empowerment was to undo this and get Black people participating in the economy. As Dr Nthato Motlana put it, "We do not want guilt offerings or hand outs. We cannot wait decades to participate fully and effectively in the economic future of South Africa" (Iheduru, 2004). The ultimate goal of Black Economic Empowerment was not to give free hand-outs but rather to provide an opportunity to those who needed it so that they could fend for themselves and hopefully over time become self-sufficient and become a contributing member to society. According to Sanchez (2011), unemployment rates in 2004 were in the region of 30-40% but mainly affected rural communities where unemployment rates approached 75%. Without employment, they would continue to remain trapped in poverty which would affect generations further down the line. Sanchez further goes onto to state that socio-economic empowerment is more likely to be achieved and sustained if it creates a large pool of educated youngsters who will either access the labour market or create small businesses to absorb those affected by the current high unemployment rate (Sanchez, 2011, pg. 13).

The vision was that Black Economic Empowerment would redress the wrongs of the past and to attempt to bring all previously disadvantaged people up to the same level as those who were not disadvantaged so they would be able to complete on an even playing field (Iheduru, 2004). As one can imagine, through the lack of education and through lack of resources, many previously disadvantaged people could not progress in life due to apartheid and the laws that existed during the time. As a result, the

generations that followed continued to suffer because they lacked the sufficient education and resources to escape poverty. Black Economic Empowerment was a means to redress this by giving those people a stepping stone to get access to jobs and resources that they otherwise would not have had in the past (Andrews, 2008).

Edigheji (1999) delves into the question of BEE by drawing two approaches, namely the minimalist approach, and the maximalist approach. The maximalist approach, according to him, emphasised collective empowerment, which involved improving the living conditions of the majority of the black population. On the other hand, the minimalist approach was one which emphasised individual empowerment by creating a small, but rich black business class. This enrichment comes at the cost of aggravating the realities experienced by the majority of the black population in South Africa, which ultimately would harm economic performance.

From the above, we can draw conclusions that in its initial form, Black Economic Empowerment policy took a minimalist form which enriched a select few elite, whether intended or not. The subsequent policy changes that took place when Broad-Based Black Economic Empowerment came into being attempted to address this, by ensuring that other factors other than ownership were considered in evaluating the empowerment initiatives of a business (Ponte et al., 2007). Thus one could assume that the goal of the government was to create a maximalist approach, where all of society needed to be restructured, and not just a select few.

The minimalist approach, whose effects are to enrich a select few, could have dire consequences on the restructuring of the economy. As a quote from William Mervin Gumede, a senior associate of St Antony's College, says, "Very few of the new rich put their money into bricks and mortar; they much prefer to simply acquire more money" (Freund, 2007, pg. 11). The minimalist approach would have been a dire blow to the long term success of the country's economy, where money is not put back into the economy, but rather put away so as not to benefit anyone else.

There was no doubt that the government sought to achieve the maximalist approach in the beginning but ended up in the minimalist approach which saw the BEE legislation being redrafted into Broad-Based Black Economic Empowerment to indicate that a

broader transformation was required other than just equity ownership. The result was the new BEE scorecard published in 2003 where a firm's BEE score was made up of seven criteria, called the Codes of Good Practice. If a company wanted to do business with the government they were compelled to have a good score in order to secure that business. This was dubbed as the "carrot-based" method as opposed to the "stick-based" method by Andrews (2008), where only those businesses which could seek to benefit from government business (directly or indirectly) would be compelled to transform.

## 2.3   How does Black Economic Empowerment work?

Broad-Based Black Economic Empowerment in its current form is evaluated on seven criteria, namely: ownership, management control, employment equity, skills development, preferential procurement, enterprise development, and socioeconomic development initiatives (Krüger, 2011). Each criteria has a weighting assigned to it and the total score can range anywhere from 0 to 100%. Based on these scores, a BEE recognition level is assigned with Level One being the best score, and Level Eight being the worst (Krüger, 2011). The employment equity provisions of the Black Economic Empowerment Act pertain to organizations with a turnover of R35 million or more while Micro Enterprises with turnovers less than R300,000 are exempt from the Act and are thus automatically empowered, the results of which make them more likely to be compete (Sanchez, 2006). These turnover provisions are important because they recognize that small businesses create more employment than large ones and so aid in their competitiveness in the South African environment. The employment equity provisions stipulate that these organizations must set goals and timetables to address under-represented groups in the organization and to retain, train and develop designated groups and to eliminate discriminatory job barriers in their staffing policies (Horwitz & Jain, 2011).

Broad-Based Black Economic Empowerment, as the name suggests, was designed to be broad. That is, each of the Codes of Good Practice was designed to address a different area of transformation so as to maximize the degree of transformation a company undergoes. It gave companies an overview of where their strengths and weaknesses were and gave stakeholders an idea of a company's commitment to

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achieving transformation and progress over time. The results of achieving broad transformation could suggest a much longer lasting impact that could empower future generations by providing bread-winners with the ability to lift their families out of poverty and to educate and guide them to make the correct decisions for their future. According to the new Broad-Based Black Economic Empowerment Act, the weightings for each pillar in the generic scorecard are shown in Table 1 below (Minister of Trade and Industry, 2007).

Table 1. Generic Scorecard Weightings

| Element | Weighting |
|---|---|
| Equity Ownership | 20% |
| Management | 10% |
| Employment Equity | 10% |
| Skills Development | 20% |
| Preferential Procurement | 20% |
| Enterprise Development | 10% |
| Social and Economic Development | 10% |

Companies scoring a total of less than 30% were considered non-compliant, while companies scoring 100% or more were considered Level One contributors whose customers could claim 135% of spend for their procurement score (Sanchez, 2011). This was an example of the trickle-down effect where downstream customers benefit from suppliers' improved BEE score when calculating their own BEE score. Procurement was just one of the seven ways that a company could improve their scores which could bring about transformation in a much broader manner than just equity ownership. As can be seen from Table 1 above, ownership only accounts for 20% of the scorecard, which is a huge shift from the original BEE implementation which focused entirely on ownership.

The BEE framework has been revised over the years, and in its current form focuses on seven different categories of measurement (Krüger, 2011). It has been designed to

speed up transformation by offering revenue enhancement that results from preferential procurement, concessions, licenses and financial support from state owned enterprises (Strydom, Christison, & Matias, 2009). The goal therefore was to entice companies to adopt as best they could the codes of good practice outlined in the BEE framework, which was hoped would lead to improved revenue either directly or indirectly from government tenders (Strydom et al., 2009).

One of the drawbacks of BEE in its current state is that it only attracts those industries where at least one major supplier in the supply chain can directly or indirectly benefit from government tenders, prompting the rest of the chain to seek BEE compliance in order to be a part of the supply chain process. Government spending for example, has no leverage in the retail sector and as a result, adoption of BEE codes of practice has been slow ("Retail sector 'needs BEE charter,'" 2012). Additionally, the fact that the Department of Trade and Industry released a revised Code of Good Practice in 2013 may assert the claim that BEE in its current form may not be functioning as intended (Minister of Trade and Industry, 2013). The government attempted to address those issues by developing sector and industry charters which fell outside the scope of the Department of Trade and Industry but which compelled sectors to transform. These charters were voluntary and there was no legal requirement to comply, but it provided a standardized method for organizations which did not fit into the standard charter to have a basis on which to be measured (Horwitz & Jain, 2011).

As will be discussed further below, it is clear that equity ownership has had mixed results with respect to share returns, with one report finding positive correlations and the other finding negative correlations. With respect to management, one expected that a diverse management team from different backgrounds would have led to superior company performance due to the broader knowledge base and ability to lead different groups of people. However, surprisingly, research suggested that management diversity did not lead to superior company performance (Richard, 2010). Employment equity, which promoted equal and fair treatment of all employees in the workplace was found to have no significant impact on share returns in South Africa (van der Merwe & Ferreira, 2014). This was surprising considering Equity Theory says that when employees are under the impression they are being unfairly treated as compared to others, their performance drops (Goodman & Friedman, 1971). This would imply that

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either methods of evaluating employment equity in South Africa requires improvement or that there are other factors at play.

With respect to skills development, the spirit with which Black Economic Empowerment is implemented would suggest that employee skills development should ultimately benefit the employee who would be able to progress upward and hopefully earn more as a result. Research however suggests that the employee does not capture 100% of the benefit, but instead the company benefits substantially from training where the increased productivity of employees more than offsets the cost of training (Ballot, Fakhfakh, & Taymaz, 2006).

Preferential procurement, which is the measurement of a company's track record of purchasing from preferred BEE suppliers, was found to be strongly and negatively correlated to share returns (van der Merwe & Ferreira, 2014). This isn't surprising considering that often companies change a preferred supplier to one that may not be preferred on merit, but purely because they have a better BEE score. Service and cost effectiveness may then be sacrificed, which ultimately leads to degraded company performance.

Enterprise development and socio-economic development, which may both be viewed as an altruistic endeavour by an organization to assistant a small "black" business through loans, technical skills, training, or through providing monetary or non-monetary contributions in the instance of socio-economic development, may assist a company in improving its corporate social image, and through improved market perceptions, win the support of customers and thereby improve revenues and share returns. However, once again, no association was found between share return and both enterprise development and socio-economic development. This may at least indicate that a company recovers its cost of doing so through improved employee morale and through improved market perceptions of the company's corporal social responsibility (van der Merwe & Ferreira, 2014).

Further to the thoughts above about the improvement in a company's corporate social responsibility is the impact that BEE deals have on a company's perception in the marketplace. Although sometimes unintended, when companies announced BEE deals

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there was a substantial amount of press coverage. As a result, there was speculation that the media and investors would view the company in a positive light which was good for the company's image and ultimately for its performance (Jackson, Alessandri, & Black, 2005). Such publicity may lead to other companies, which may not be compelled to transform, to use BEE equity deals as a mechanism to improve its corporate social responsibility image.

## 2.4   BEE equity deals

Black ownership of companies has been a greatly contentious area in the transformation of post-apartheid South Africa. BEE in its original form focussed solely on black ownership within companies which had the unexpected result of enriching only a select few elite (Ponte et al., 2007). This resulted in the BEE Act being adjusted to being more broad-based so that companies had to transform beyond just equity ownership. However, this has not moved businesses away from equity deals and much of the coverage we hear in the media concerning BEE is to do with BEE equity deals (Alessandri, Black, & Jackson, 2011).

Have BEE deals or transactions created value? Have they been good for the community and assisted in transformation at all? One researcher found that BEE transactions which were completed at a discount created significant positive returns for both shareholders and firms, while those that were completed at a premium created significant negative returns for both the firm and shareholders (Alessandri et al., 2011). BEE groups, which are the vehicles through which BEE transactions are conducted, are required to be at least 50% black, and must also have substantial management control. Initially, those BEE groups were dominated by people with strong ties to the ANC but eventually this evolved to groups which included unions such as the South African Harbour and Railways Union and the National Union of Mineworkers (Alessandri et al., 2011).

One of the underlying currents of BEE deals is that the equity issuing companies do this because of a need or want to correct the wrongs of the past. When interviewing those people involved in such deals, only 45% stated that those BEE deals were to grow their business, which indicates that perhaps the nature of many of these deals

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were altruistic where existing shareholders voluntarily opted to dilute their shareholdings (Alessandri et al., 2011). However, despite this altruistic cause, Ward & Muller (2010) found BEE events to be value creating with peak abnormal returns of 10% after 180 days, while Chipeta & Vokwana (2011) found that peak abnormal returns occurred 20 days prior to the deal announcement. However, cumulative returns were found to be negative indicating that the market did not view BEE deals favourably. Interestingly, Chipeta & Vokwana (2011) still found BEE transactions to be value creating for those participating in the scheme, but value destroying for those outside the scheme, which may indicate the altruistic nature of the transaction in diluting the shares in order to right the wrongs of the past.

Ultimately, there are two factors that were considered when a BEE deal was put together: shareholder costs and the value of partners. With respect to shareholder costs, there is no doubt that these deals came at a cost but still needed to be issued at a discount in order for them to be enticing and value creating to the proposed BEE group. One option was to find prospective shareholders who had cash to invest and thus negate any costs associated with having the backing of a financial institution. However, this method resulted in the enrichment of a select few elite and went against the spirit of broad transformation. The second option was to structure the deal differently, such as using options instead of equity. When deals were structured such that shareholder costs were minimized, broad access was achieved, and value was created for the new shareholders, which was considered a success (Theobald, 2014).

The second factor, the value of partners, would be the sort of people who were part of the BEE group that bought into these transactions. The best candidates were the company's own black employees who could add value to the company and who would become loyal if such a deal was a success. Of course, companies needed to be careful as they would not want to go forward with such deals and exclude their own employees which would have resulted in resentment and poor performance, thereby destroying value for those who were part of the deal and ultimately leaving people worse off than before (Theobald, 2014).

## 2.5 Corporate governance

Research has shown that companies that follow good corporate governance practices and who are transparent in those practices generate higher market value (Collins G. Ntim, Opong, & Danbolt, 2012). This is of particular importance in South Africa which has had a long history of good corporate governance as a result of the King Committee and the King Reports that describe guidelines on corporate governance.

Following the end of apartheid, South Africa pursued new corporate governance policy reforms which required more transparency with respect to corporate governance practices that affected shareholders and stakeholders (Collins G. Ntim et al., 2012). This was a stark change to corporate governance practices which were only concerned about the interests of shareholders. With the release of the King Report, the boards of companies were required to include all stakeholder interests when running a company, which included local communities, employees and customers (C. G. Ntim, Opong, Danbolt, & Thomas, 2012). Unsurprisingly, these requirements tied in closely with those requirements set out in the Codes of Good Practice in the Black Economic Empowerment Act, which also encompassed many of the stakeholders of a business.

In particular, the King Report required that listed companies made available an Integrated Sustainability Report together with their financial statements which required companies to make disclosures on non-financial information. These disclosures included: a narrative on how the firm was complying with and implementing Black Economic Empowerment; a narrative on how the firm was complying with employment equity laws; a narrative on the occupational health and safety of its employees; whether a firm's board is formed by at least one white and one non-white person; and a narrative on the company's community support and corporate social investments or responsibilities (Collins G. Ntim et al., 2012). The purpose of these new requirements was to extend the required reporting of companies beyond just the bottom line and to have them report on how the company affected the community and the environment around them (Ramlall, 2013). These changes ultimately meant that the buck stopped at the Board and that they were solely responsible for broad transformation which ensured that their companies did not milk the economy, but uplifted it.

It is interesting to note that despite research showing that increased transparency leads to improved market value (Collins G. Ntim et al., 2012), other research showed that factors such as enterprise development and socio economic development initiatives did not lead to increased market value or share returns (van der Merwe & Ferreira, 2014). Perhaps it was the shareholders' minds being put at ease from companies' transparent behaviour that created value, rather than the actual acts of corporate social responsibility which creates value. Perhaps the research methods used by researchers such as van der Merwe and Ferreira were weak and the results inaccurate. The contradictory nature of these findings most certainly indicates that this area requires further research, which this paper seeks to tackle.

## 2.6  Perceptions of Black Economic Empowerment

Perceptions and psychology play a large part in the listed equities market. There is a growing consensus that movements in share prices are predominantly a result of irrational behaviour on the part of investors and traders who trade based on emotion and other psychological factors rather than the fundamentals of an organization. Case in point, research has found that when extracting the mood sentiment from tweets on Twitter, researchers were able to predict movements in the stock market, specifically on the Dow Jones Industrial Average (Bollen, Mao, & Zeng, 2011). Therefore, being able to understand how markets react to Black Economic Empowerment reactions from a behavioural and psychological point of view is important in determining possible share price movements which could impact stakeholders.

The negative views of BEE stem around concerns that it has had mixed results and has not achieved any substantial transformation in the form of structures of ownership or control within the economy (Andrews, 2008). The attitude of many companies seems to be to do the least that can earn them the most points on their BEE scorecards (Andrews, 2008), which is indicative of a scavenging attitude that does not implement the Codes of Practice with the spirit in which it was intended. A column on a popular news website claims that *"BEE is monumentally expensive. It drives money away from productive uses… that contribute nothing to the economy"* (Cronje & Endres, 2013, par 4) further entrenching the idea that some view BEE as detracting from a company's primary goals.

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Recent research revealed the results of a survey which saw most respondents agree that BEE was nothing more than reverse discrimination to correct the wrongs of the past caused by apartheid and white minority rule. Another survey of the same research saw respondents agree that BEE can be disastrous for a company because it limits its ability to compete freely in the market (Kruger, 2014). These were interesting results because the consequence was that there was a negative perception associated with adoption of BEE which could impact a company's performance and subsequently its share return. These findings would then tend to agree with those of van der Merwe & Ferreira (2014) who found a negative correlation between share return and BEE.

On the other hand, others view the BEE policies with respect to skills development as encouraging and a step in the right direction which should be supported by the business sector (Marlize Van, 2005). BEE was seen are being largely responsible for the growth in the black middle class which had grown from 8.8% of the middle class in 1994 to 50% in 2000 (Macdonald, 2007). According to the South African Motor Vehicle Licensing Department, in 2006, 31% of new vehicle owners were black as compared to 11% in 1990 (Macdonald, 2007) which may be a good indication that the transformation policies in South Africa may be working.

One criticism of the implementation of BEE within companies has been the "managerialization" of BEE and it being treated as a separate technical entity that is managed according to the principles of corporate social responsibility and auditing. (Ponte et al., 2007). This echoes the sentiment of the "carrot-based" approach where companies merely comply but don't implement BEE reforms with the imperative intended in economic policies of the government.

From a company performance perspective, one may look to the stock exchange to get a better understanding of how the markets view BEE transactions. Ward and Muller (2010) show that BEE announcements had a positive effect on share prices, with a peak abnormal return of 10% occurring 180 days after the announcement was made. Another study concluded that only those BEE deals where equity was offered at a discount were found to be value creating (Alessandri et al., 2011). So while these two studies concluded that BEE transactions tended to have a positive effect on share

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price, it remains unclear what the impact of further transformation through the other six pillar of the code of good practice may have had on value creation or share returns.

To the contrary, van der Merwe & Ferreira (2014) found that overall, a better BEE score was strongly and negatively correlated to share returns. However, they went further to break down the scores by its seven pillars and found that only ownership and preferential procurement were associated with negative share returns, while management was associated with a positive share return. The results of this study are surprising as it conflicts with those of Ward & Muller who found a positive association of BEE on share returns. It is important to note that the samples which these two researchers used differed in that Ward & Muller analysed the all BEE deals under its horizon, while van der Merwe & Ferreira only analysed those companies that were included in the Empowerdex top empowerment companies report. This could imply that there are other market effects at play which affect equity deals of companies that are already empowered. Secondly, it's important to point out that there is a stark difference to the ownership pillar under scrutiny in van der Merwe & Ferreira's report and Ward & Muller's deal announcement analysis. Both reports analyse ownership, but through different mechanisms.

The contradictions in the above studies indicate that more research needs to be done in this area. Additionally, it may warrant investigating investment strategies, or styles in shares that exhibit specific BEE traits that would be useful for investors.

From a socio-political perspective, Horwitz & Jain (2011) argue that the current framework of applying BEE is too mechanistic as opposed to transformative and that measures of progress may be nded. They go on to suggest that further research is needed to identify effective processes that assist managers in transforming organisational culture. In a similar vein, Hamann, Khagram & Rohan (2008) discuss the success of the Mining Charter through government involvement and lauded the direct role government played in transforming the mining sector albeit at the cost of distrust and acrimony from the relevant stakeholders. This approach was completely different to the rest of the industry where compliance with the BEE framework was voluntary, which may suggest that more stringent regulations need to be applied in order to bring about real transformation.

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Horwitz & Jain (2011) also argue that the biggest challenge to economic transformation is a shortage of skills, especially in technical and managerial areas. These arguments demonstrate the importance of education and skills development in the country which may suggest the importance of skills development in the application of BEE. However, Horwitz & Jain (2011) go on to argue that critical entrepreneurial skills for learners in black schools is as much as 50 % lower than their counterparts in other schools, meaning that these students will face a substantially higher chance of failure when attempting to open or run a business. Their research indicates that an entrepreneur opening an SMME has the potential to create 20 new jobs, which could be a substantial source of job creation. This may then suggest that achieving substantial economic transformation cannot be redressed through the current BEE framework, but rather through skills development and education at the grass roots level.

A large criticism of the original BEE implementation was that it only benefited a select few, and there may be some truth to that sentiment. Research showed that the most affluent 10% of black households took home more than 50% of total income owing to blacks while the poorest 10% took home less than 1% (Gray, 2006). This may be another possible reason why the new BEE codes, implemented as of October 2015, have been updated and made "stricter". According to an article on Fin24, Broad-Based Ownership Schemes will now receive no points in the ownership pillar of the BEE scorecard  because they are seen as passive and having no voice ("'Broad-based' gets dumped from BEE codes," n.d.). This is confusing because it sends a signal to companies that these schemes may no longer be beneficial to improving their scores and so avoid them all together.

## 2.7   Conclusion

In conclusion, there has been much debate and research concerned with the different pillars of BEE and its effectiveness on creating value and uplifting society. Most notably, research seems to be contradictory in nature with some studies finding some elements of BEE to be value destroying, while others find them to be value creating. Furthermore, there is an overlap with the intentions of the BEE Act and the spirit in which it is implemented and the new corporate governance requirements within South Africa which requires reporting on companies abilities to uplift society. While

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requirements tend to be viewed as a cost to doing business in South Africa, it is unclear if such actions create value which can be used as an imperative to further drive transformation if a relationship is found. The results of the literature review therefore re-iterate that there is a need for research in the Black Economic Empowerment space that is of relevance to stakeholders such as potential investors and traders.

# 3. Research hypothesis

## 3.1 Introduction

In order to explore the impact of BEE on short and long term share value, the research objectives and hypothesis are proposed in this chapter. The methods proposed will focus only on the BEE score as measured by the generic scorecard in order to conduct the analysis.

The method of evaluation will take two forms. The first will be a short term analysis through the use of an event study, where cumulative average abnormal returns (CAARs) are determined when BEE events take place (when a firm's BEE score changes). The method will utilize both graphical and statistical measures to determine if abnormal returns are significant and at which period the most abnormal return occurs. The second method will be through the use of buy and hold portfolio where multiple portfolios will be constructed where shares are selected based on their BEE score. This method will provide a long term analysis of company performance separated out based on BEE scores and will also be tested using graphical and statistical measures to determine if the returns are significantly different from the market. Together, both these methods will provide a short and a long term analysis to help achieve the below objectives.

## 3.2 Objectives

### 3.2.1 Objective 1

The null hypothesis for Objective 1 is that there is no association between a change in BEE score and abnormal share returns. This objective will be tested through the use of an event study where a change in a firm's BEE score will be regarded as an event and the corresponding share price will be analysed to identify if any abnormal returns occur before or after the event. The alternative hypothesis is that there is an association between a change in BEE score and share returns.

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This analysis will be a short term analysis where changes in a firm's BEE score trigger an event, which will be included as part of an event study to determine CAAR returns over a 200 day period. These events will be divided into subsets, such as "upgrade" and "downgrade" to split events based on their nature. Each subset will be analysed independently as its own portfolio.

$$H_{10}: \mu = 0$$

$$H_{1A}: \mu \neq 0$$

Where $\mu$ = cumulative average abnormal return of each portfolio (CAAR)

The testing method will be done through the use of an event study and subsequently through significance tests to determine if differences are significant.

### 3.2.2 Objective 2

The null hypothesis for Objective 2 is that there is no association between BEE Score and excess share returns, and thus abnormal returns from all portfolios will be zero. There will be four portfolios, as follows:

Portfolio 1: All companies with a BEE score of one or two
Portfolio 2: All companies with a BEE score of three of 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

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

The objective of this analysis is to test the association between the two variables (score and abnormal share return) over the long term to determine if excess returns exist. This will also determine if portfolios fall in ranked order.

Thus the null hypothesis, $H_{20}$, as shown below, tests the hypothesis that the share returns (CAAR) from all portfolios are equal, and thus no one portfolio produces a greater return than the other in the long term.

$$H_{20}: \mu_{LVL1} = \mu_{LVL2} = \mu_{LVL3} = \mu_{LVL4} = 0$$

Where $\mu$ = cumulative average abnormal return of ranked portfolios (CAAR)

The alternative hypothesis, $H_{2A,}$ as shown below, tests the hypothesis that at least one of the portfolios generated an abnormal return that was different to the returns of the other portfolios and thus the BEE score of said portfolio provides pricing information which is relevant to the aim of this paper.

$$H_{2A}: \text{At least one portfolio's abnormal return is} \neq 0$$

The testing method will be done through the use of buy and hold portfolio and thereafter significance tests will be performed to determine if returns between portfolios are actually different.

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# 4. Research methodology

## 4.1 Introduction

The purpose of this study was to gain a better understanding of the relationship between BEE score and share returns on listed companies in South Africa with a specific emphasis on different styles or approaches that could be used to generate superior performance. The study was designed to be easy to use such that it could be replicated and used at home should the results indicate a positive outcome.

The research was split into two methods, where one approach analysed the short term effects on share return over the short term while the other looked at the long term effects of holding a position in companies with a specific BEE score. The results of both approaches were relevant to investors who could utilize the results of a short term analysis to identify entry and exit points, while the results of the long term analysis could be used to assist in the construction of a portfolio that used a "style" based approach to investing.

## 4.2 Unit of analysis

The unit of analysis in this research is the abnormal share return from the JSE All Share Index Top (J203), grouped by BEE score.

## 4.3 Population, sample size, and sampling method

The population under analysis is all shares that were included in the J203 for the period January 2009 to September 2015. This period was chosen due to the poor quality and availability of BEE score data that was available prior to 2009. Most companies who responded to requests for data could not provide any BEE certificates prior to 2009, and as a result, 2009 was chosen as the start date for sampling. The end of September 2015 was chosen as this was the period during with the paper was being written and when most companies' BEE certificates were expiring before they were being forced to use the new BEE codes. It should be noted that the BEE regulations were due to

change with any new BEE audits performed post October 2015 being done on the new codes. As a result, most companies chose to renew their certificates prior to this cross-over date on the old codes. Any company whose certificates were obtained on the new BEE codes were removed from the sample.

The J203 was chosen as source of equities as the equities listed in this index represented 99% of the JSE by market value which was a representative sample of the entire listed equities market. Additionally, companies listed in this index are highly traded equities whose share prices are less susceptible to individual trades and/or irregular effects that are associated with illiquid shares.

It should also be noted that while this research attempted to gather all scores for companies listed in the J203, this was not possible due to companies if liquidated and could not be contacted for historical scores. Furthermore, some companies did not respond to requests for data and in some cases they had misplaced some historical certificates making the data set incomplete. As a result, this study therefore makes use of a sample of companies from the J203 and is not the entire population on the J203.

## 4.4   Sampling method and size

All daily end-of-day share values will be used over the entirety of the analysis for shares that were included in the J203. The J203 is an index comprised of the top 160 shares by market value which represents the vast majority of the market value of the JSE. Thus the J203 will serve as the sample because it is representative of the market or population.

BEE scores of these companies, where available, are used for this study. Where a score is not available in a particular year for a company, that year is excluded from this study. Due to the nature of the data collection process, collecting historical data for companies which no longer exist was not possible if it was not available from an online repository. Therefore there is a degree of survivorship bias prevalent in these results. tThis bias has been somewhat mitigated by data for some existing companies also being excluded due to companies refraining from sharing historical scores.

The total data set comprised 410 observations of BEE scores over the analysis period. The observations resulted in the study covering a total of 118 unique companies from the total of 254 unique companies that appeared on the J203 over the analysis.

No specific sampling method was used in the dataset available. All available data was used to maximize the accuracy of the analysis.

## 4.5   Data collection process

The data being collected was purely quantitative in nature with most data being publicly available. The process by which data was collected is described below.

Step 1: A list of all constituents comprising the J203 over the time period January 2009 to September 2015 was obtained from the JSE Bulletins Access database available from GIBS. Ticker codes, full company name and years of inclusion on the J203 were recorded in a spread sheet

Step 2: A thorough process was conducted where each company was looked up on the Mpowered website for the company's historical BEE scores. Mpowered is a free website that stores historical company BEE certificates. Where this information was not available via Mpowered, the company's own website was then used, failing which the company was contacted directly for the information. The BEE scores for each year, issue dates and expiry dates were recorded in our spread sheet. Where companies were non-compliant in a specific year or where scores were unavailable, this was noted on our spread sheet.

Step 3: Daily abnormal returns data for each constituent was retrieved from the "JSE Style Indices" database available from GIBS. This database keeps a record of how each shares daily returns differed from the J203 and is known as abnormal returns. For the event study, abnormal returns data was 20 days prior to an event, and 180 days post an event was retrieved. For the buy and hold study, total return share prices were retrieved from Thomson Datastream for each of the shares in the database.

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Step 4: Abnormal returns data was screened for outliers where data appeared "wild" and experienced substantial volatility. These outliers were removed from the sample.

## 4.6   Data analysis approach

In order to test the hypotheses listed above, two different approaches will be used.

### 4.6.1   Short term analysis

According to Israelov and Katz (2011), investors should utilize short term thinking in long term investments. By trading on information that would traditionally be used by short term traders, investors can achieve superior returns over the long term. A BEE signal, which may imply short term performance gains as suggested by Ward & Muller, could be used to generate superior returns on long term investments as well, by allowing said signals to guide the investor in his investment decisions. This is not to say that investors should trade with high frequency, but rather to trade on information that they otherwise wouldn't have. Israel and Katz conclude that trading on information over the long term improves portfolio performance by 3% and increases the Sharpe ratio from 0.61 to 0.63 (Israelov & Katz, 2011). So, investors should be concerned with any information that could lead to superior performance in the long run, and thus any information relating to BEE should be of importance to them.

To test hypotheses related to the short term share price changes, an event study will be performed covering a period of 200 days (20 days prior to the event and 180 days post the event). Only events where a BEE score changed will be included in the event study in order to estimate abnormal returns associated with BEE score changes. In order for an event to qualify for use in the event study, it had to have been compliant in one period and remained compliant in the next, yet experience some change, whether an upgrade or a downgrade.

The event data was recorded in a spread sheet with additional information such as the ticker code, score prior to the event, score post the event, and the date of the event. Abnormal returns data for the constituent was retrieved for 20 days prior and 180 days post the event. Once all data for all events was retrieved, the cumulative abnormal

return for each day was computed for subsets of data. For weighted calculations, the daily abnormal returns were weighted according to the log of the companies' market cap at the event date. Subsets that were looked at included the following:

- Unweighted Upgrades (all levels)
- Unweighted Downgrades (all levels)
- Unweighted Upgrades (only one level changes)
- Unweighted Downgrades (only one level changes)
- Unweighted Upgrades (only two level changes)
- Unweighted Downgrades (only two level changes)
- Weighted Upgrades (all levels)
- Weighted Downgrades (all levels)
- Weighted Upgrades (only one level changes)
- Weighted Downgrades (only one level changes)
- Weighted Upgrades (only two level changes)
- Weighted Downgrades (only two level changes)

Each subset was then analysed graphically to determine if there were any abnormal returns evident which required further statistical testing. Due to the nature of an event study, it is not possible to perform t-tests due to the results not being normally distributed. Therefore, the results are evaluated graphically using a randomized boot strap method to create confidence limits. A 5% and 95% confidence limit is generated and plotted graphically against the actual event results. The confidence limits are computed using a bootstrap method where random dates preceding events are chosen as new even dates. This process is repeated many times with sampling from the events to generate a new curve. The results are aggregated and a weighting assigned to arrive at a 5% or 95% confidence limit. Where the actual event results exceed the boundaries of the confidence limits, the result is deemed significant.

### 4.6.2 Long term analysis

In order to test hypotheses related to long term share returns associated with holding positions in companies with a specific score, a buy and hold portfolio strategy was

used. This strategy used a "style" based approach in order to determine how shares were selected within each portfolio. The principle of style investing, first introduced by Fama & French (1992), showed that there were strong associations between equity returns and style variables such as size, P/E ratio, gearing and book to market (Muller & Ward, 2013). Thus the use of appropriate style variables can be used to generate excess returns if chosen correctly. We therefore chose to use a style based approach in assessing if BEE score had a positive association with share returns, thus providing an additional variable that investors could use when constructing portfolios.

According to Fama (1965), it is impossible to beat the market because stock markets are efficient and all available information is already priced into the share. This would imply that the moment a firm's BEE status changes – either by adopting BEE codes of good practice for the first time, or through a change in the score either for better or worse, an immediate change in the share price should be seen if there is any value to be had from BEE. Of course, this is not true, as Ward & Muller pointed out, peak abnormal returns occur 180 days after the BEE event (Ward & Muller, 2010), indicating that South Africa's markets are not efficient in the way described by Fama.

Does this imply there are other forces that need to be considered? According to Cubbin, Eidne, Firer & Gilbert (2006), markets are the result of many decisions made by people every day and there is evidence to suggest that people place a greater weight on recent data when making forecasts and it is this behavioural bias that creates trading opportunities. This may imply that investors and traders over-react to BEE related announcements and therefore "misprice" the share as a result. This therefore necessitates a long term look at share performance to gain a better understanding of how BEE impacts the share over a long period when the share has had a chance to revert to its mean.

To test this view, four ranked BEE portfolios will be created – with each containing companies with BEE score of one and two, or three and four, five and six or seven and eight. A model was built to replicate the actions of an investor utilizing the style characteristic of each portfolio (namely its BEE score), where each portfolio will be rebalanced/re-indexed every quarter.

Each portfolio was originally seeded based on the scores of companies at the beginning of the analysis (January 2009). Every quarter, the portfolios will be rebalanced where new information is analysed to see if BEE scores changed. Those companies whose score changed, were sold from the old portfolio into its new portfolio according to its new score. If the share was removed from the J203, it would only be sold on the rebalancing date. Likewise, shares entering the J203 would only be bought on the rebalancing date. The investment style was carried out in this manner until the end of September 2015 and the performance of each portfolio recorded over the period.

The performance of each portfolio was analysed graphically and compared to each other and against the performance of the J203. The relative differences of each portfolio at the end of September 2015 were reviewed to determine if any portfolio outperformed the rest and outperformed the J203. A paired t-test was performed on each portfolio's performance against the J203 to determine if the results were significant.

Additional tests were conducted to determine if the portfolios fell in rank order (i.e. if the portfolio which held companies with a score of one and two outperformed the portfolio which held companies with a score of three and four and so forth).

It should be noted that dividends were included in the analysis. The results of the portfolios were then analysed graphically to determine if any abnormal returns existed and if further tests were necessary. Where abnormal returns were found, a t-test was performed to understand if answers to the hypothesis could be found to be significant.

## 4.7   Research limitations

The limitations of this research paper are as follows:

- It does not cover the accuracy with which the BEE verification process was done.
- It excludes those periods where a BEE score was unavailable.

- It excludes those companies which were liquidated during the analysis period and where BEE data is unavailable.
- It does not take into account BEE deals in isolation where shares are sold through Special Purpose Vehicles to "Black" investors.
- It does not take into account the applicability of the results under the new BEE criteria implemented in 2015.
- It does not factor in any autocorrelations that may occur with respect to other market factors which may inadvertently be producing abnormal returns in our analysis of BEE scores.
- It does not cover those companies which fall outside of the J203 and where shares are more illiquid.
- It does not take into account the media coverage associated with a BEE score change.
- It assumes all investors are privy to relevant information when a company's BEE score changes due to the public nature of such information.
- It excludes preference shares.
- It excludes all companies which do not follow the Generic BEE scorecard requirements. Therefore industries which follow their own specific charter are excluded.
- It excludes transaction costs.

# 5. Results

In this chapter, the results from the analysis conducted on the data collected are presented. The chapter will first cover the results from the short term analysis event study and will be followed by the long term style investment analysis. The reporting style follows the research objectives that were posed in Chapter 3 to ensure these questions are answered.

## 5.1 Short term analysis – event study

The event study was divided into subsets in order to analyse the impact on share returns as a result of specific types of BEE score events. The goal was to understand if specific types of events related to BEE score had an impact on share returns in the short term. An upgrade was defined as an event where a company's BEE score improved (i.e. from a score of eight to a score of seven) and conversely, a downgrade was defined as an event where a company's score worsened (i.e. from a score of seven to a score of eight). Given the above, the following subsets were chosen were as follows:

- All upgrades
- Upgrades with only one level of change
- Upgrades with only two levels of change
- All downgrades
- Downgrades with only one level of change
- Downgrades with only two levels of change

In addition to looking at the above subsets, the two different methods of weighting the allocation of shares within each "portfolio" was tested. In the first portfolio, each share was given an equal waiting. In the second portfolio, each share was weighted according to the log of its market capitalisation at the date of the event.

The results presented below show the abnormal returns, also known as cumulative average abnormal returns (CAARs) to depict how the portfolio performed over an even

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period against the J203. The average returns for each company within this portfolio were companies for 20 days prior and 180 days post the event date. These results were then cumulated and average to show how the portfolio performed as a whole.

Together with the CAARs of the actual event, the confidence limits are also plotted as a visual hypothesis test to determine the significance of the findings.

### 5.1.1  All upgrades

The CAAR of all upgrade events were analysed and shown in Figure 1 and Figure 2 below. These events include only those events where a BEE score improved. The subset of data used in this study consisted of 70 upgrade events which were generated from 48 unique companies over the study period from January 2009 to September 2015. The largest magnitude change was a three level improvement, while the smallest improvement was a one level score improvement.

The CAAR's of the actual events are shown together with the 5% and 95% confidence limits to demonstrate the significance of the results. The abnormal returns of the actual event are deemed significant if it crosses the threshold of either of these confidence limits, that is, if the abnormal returns are greater than the 95% limit, or lower than the 5% limit.

Figure 1. All upgrades - unweighted
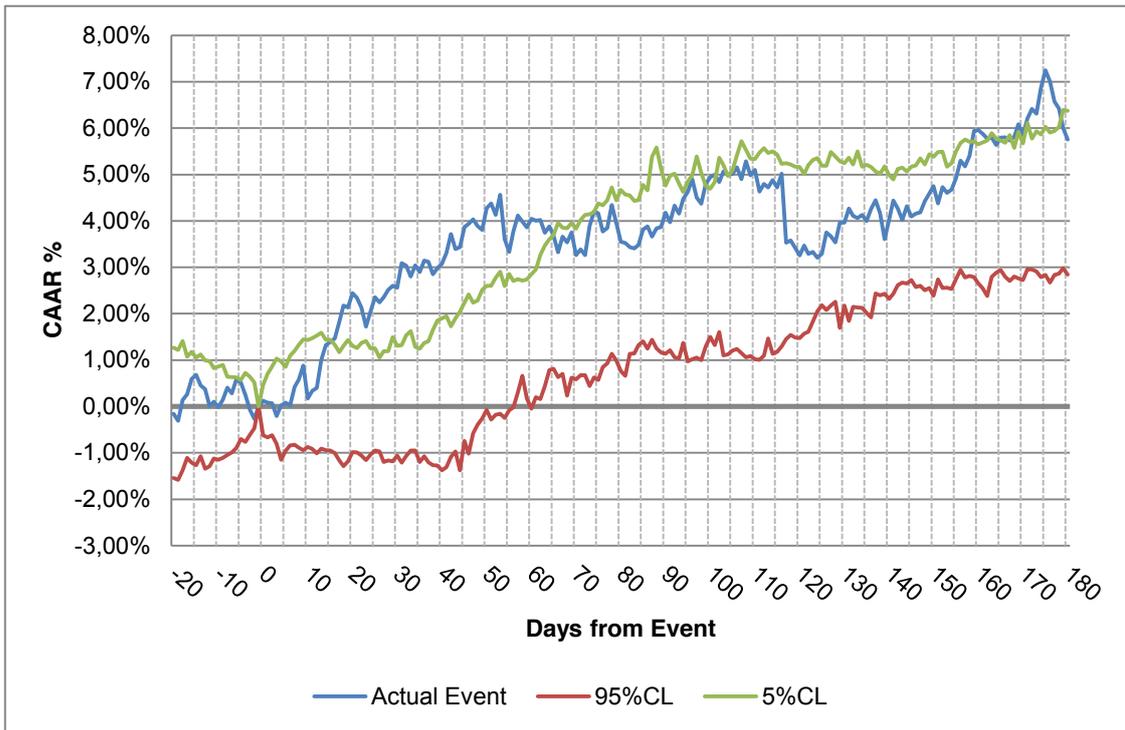


Figure 2. All upgrades - weighted
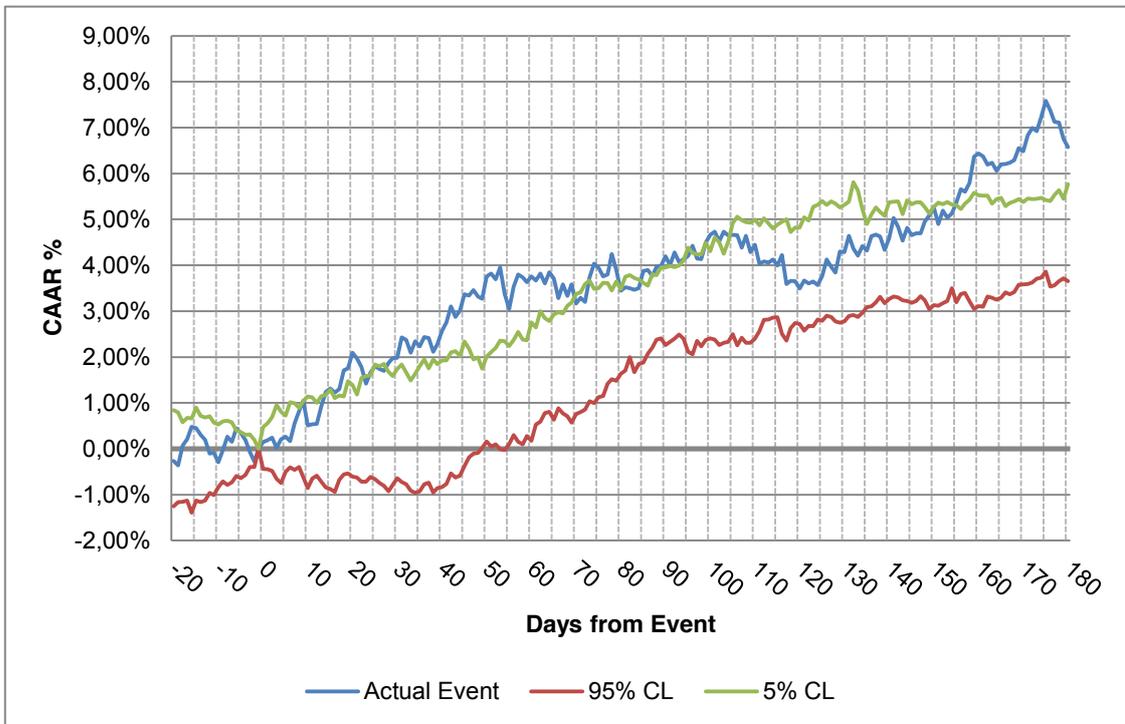
From Figure 1 above, we see that the significant period occurred between day 14 and day 64 post the event with a peak cumulative average abnormal return of 4.54% at day 53 which levelled out at just over 4% post day 64. From Figure 2 above, we see that the significant period occurred between day 15 and day 70 post the event, with a peak cumulative average abnormal return of 3.95% at day 53. The CAARs also remained around the 4% level post day 70. Therefore, the unweighted portfolio performed marginally better than the weighted portfolio with respect to CAAR with a slightly shorter period of significance.

Therefore, according to the hypothesis set out in Objective 1 in Chapter 3, we find the upgrade events to be significant and therefore reject the null hypothesis that abnormal returns for upgrade events are equal to zero.

### 5.1.2   One level upgrades

The CAAR of all one level upgrade events were analysed and shown in Figure 3 and Figure 4 below. These events included only those instances where a company's score improved by one level only and therefore ignores those that moved by two or three levels. There were a total of 57 events in this analysis which were generated from 41 unique companies.

The CAARs of the actual events are shown together with the 5% and 95% confidence limits to demonstrate the significance of the results. The abnormal returns of the actual event are deemed significant if they cross the threshold of either of these confidence limits, that is, if the abnormal returns are greater than the 95% limit, or lower than the 5% limit.

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Figure 3. One level upgrades - unweighted
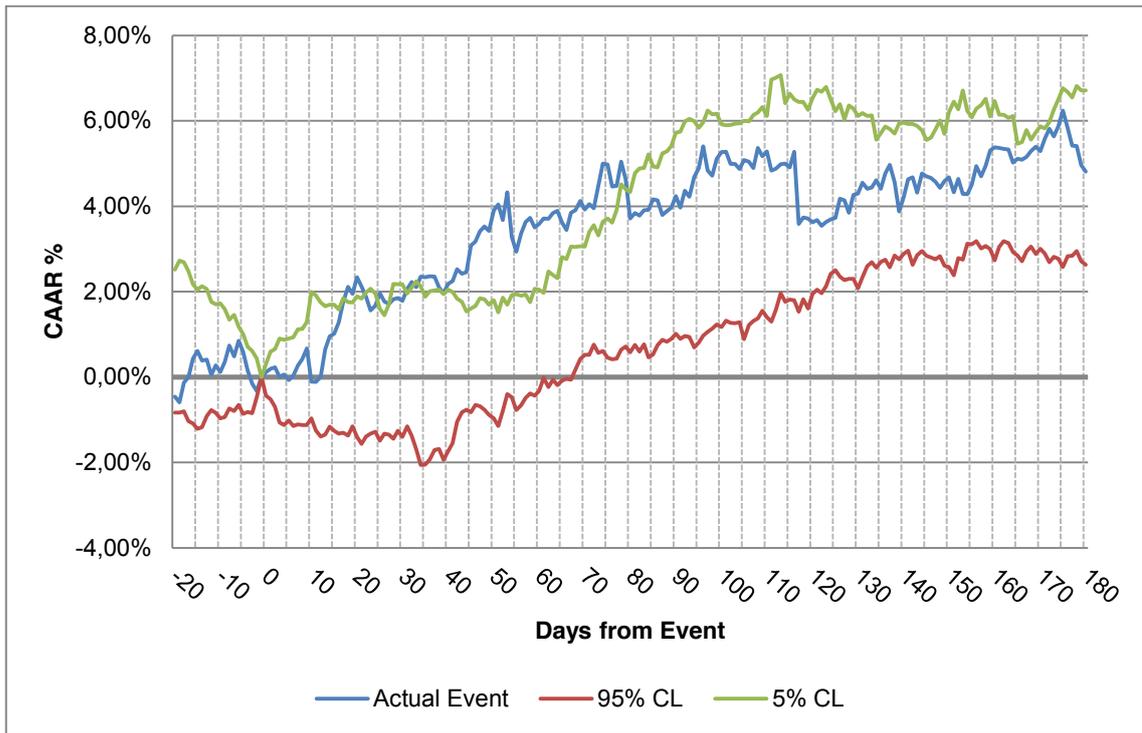


Figure 4. One level upgrades - weighted
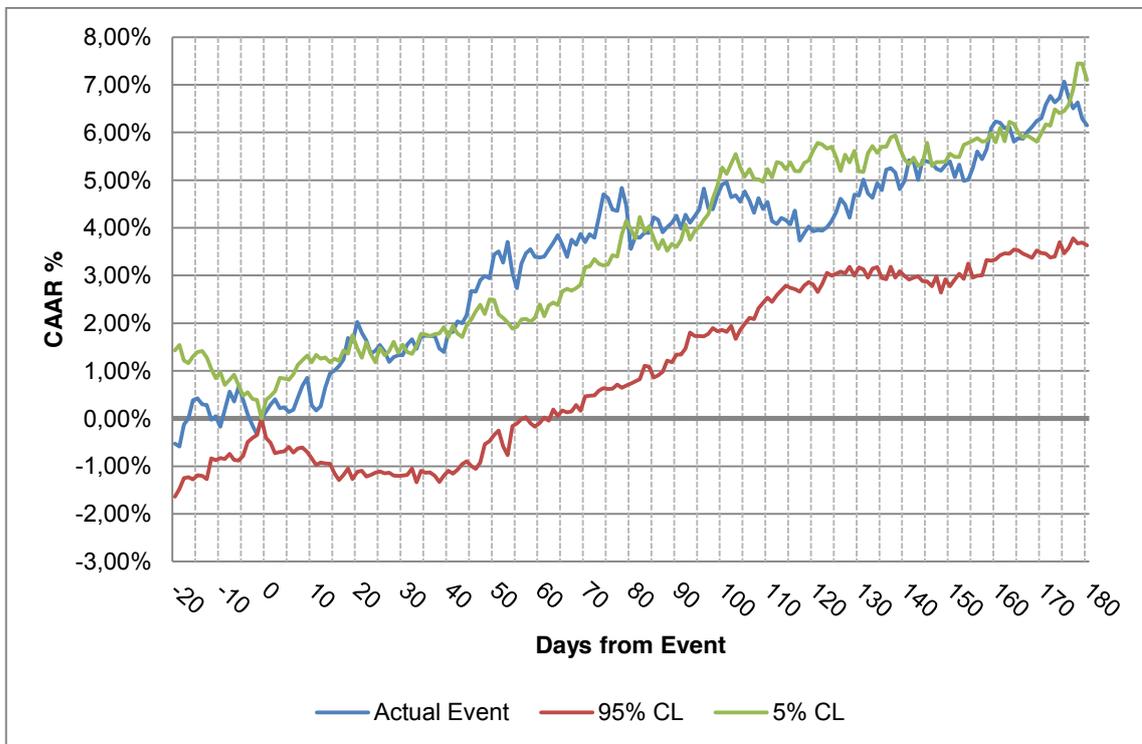
From Figure 3 above, we find the results to be significant from day 39 to day 79 with a peak CAAR of 5% occurring at day 74. The CAAR then levels out to approximately 4.5% after day 79. From Figure 4 above, we find the results to be significant from day 41 to day 79 with a peak CAAR of 4.84% occurring at day 78. The CAAR continues to level out at approximately 4.5% before continuing to increase to 7% by day 180. The significance of results becomes less accurate the further out in the event study due to the nature of the analysis method.

Therefore, the results from the unweighted one level upgrade portfolio are found to generate a greater CAAR than the weighted portfolio and approximately the same significance period. Based on these results, the null hypothesis set out in Objective 1 in Chapter 3 that the mean abnormal return is equal to zero is rejected, and finds a peak positive CAAR of 4.84% from events related to single level BEE upgrades.

### 5.1.3   Two level upgrades

The CAAR of all two level update events were shown in Figure 5 and Figure 6 below. The subset here contained only those events where a company's score improved by two levels (i.e. from a score of eight to a score of six, for example). There was a total of 10 events generated by 10 unique companies. It should be noted that this sample size is fairly small and therefore the results may not be indicative of the entire population.

The CAARs of the actual events are shown together with the 5% and 95% confidence limits to demonstrate the significance of the results. The abnormal returns of the actual event are deemed significant if they cross the threshold of either of these confidence limits, that is, if the abnormal returns are greater than the 95% limit, or lower than the 5% limit.

Figure 5. Two level upgrades - unweighted
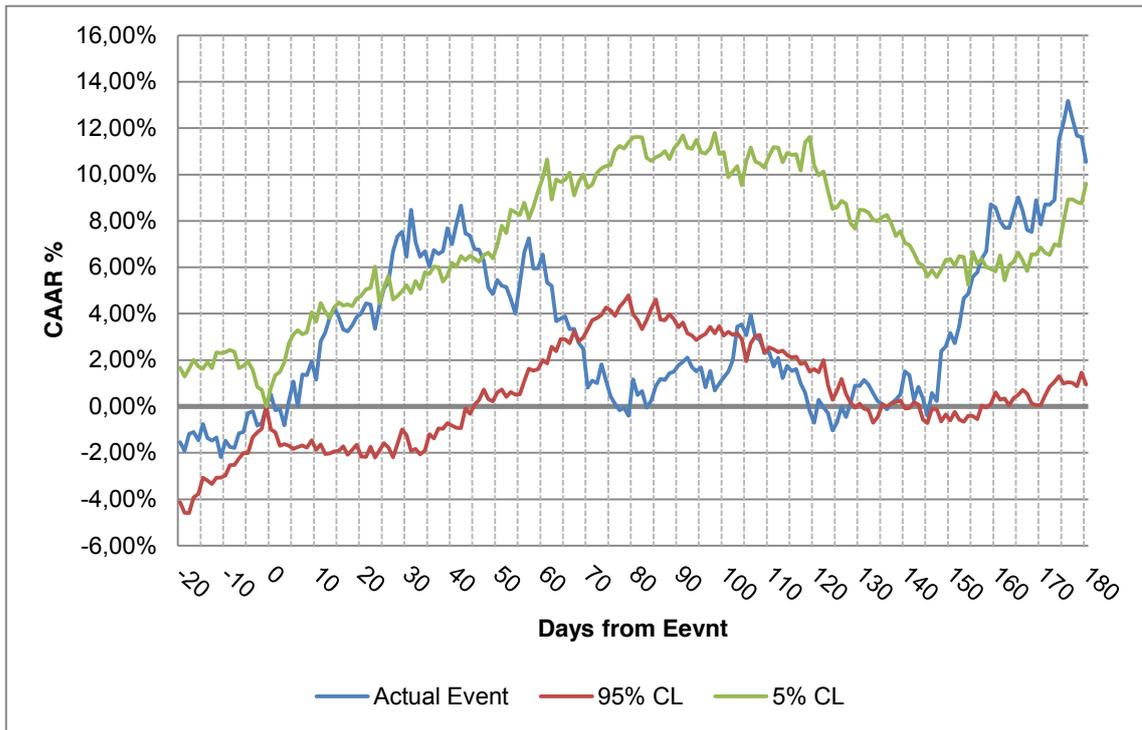


Figure 6. Two level upgrades - weighted
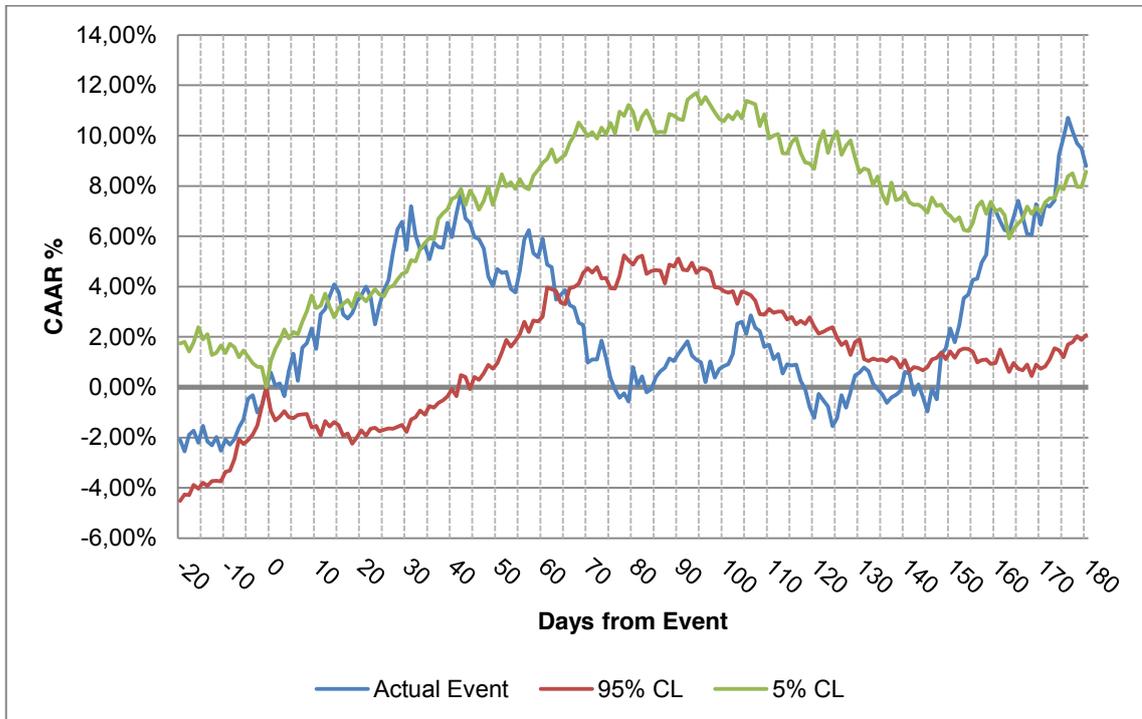
From Figure 5 above we see a mild significance occur between day 26 and day 47 with a peak CAAR of 8.48% occurring at day 31 before dropping close to 0% and then back up to 13% toward day 180. It was noted that the event CAAR was only marginally significant with only a 3.26% difference from the 95% confidence limit. From Figure 6 above we see a mild significance occur between day 24 and day 33 with a peak CAAR of 7.19% occurring at day 31 before dropping close to 0% and then increasing to 10.71% toward day 180. Again, it should be noted that the event CAAR was only marginally significant with only a 2.13% difference from the 95% confidence limit. The low number of events available for this subset of data is of concern and therefore low reliability should be placed on these results. The large variability shown in the event CAARs is indicative of the small sample size where the results of one company have a large impact on the overall results. A larger sample size is required in order to confirm the above results.

However, based on the data available, the results are found to be significant and therefore the null hypothesis stated in Objective 1 of Chapter 3 is rejected and then mean is found not to be equal to zero.

### 5.1.4   All downgrades

The CAAR of all downgrade events was analysed in this subset of data and the results shown in Figure 7 and Figure 8 below. The subset of data consisted of 24 events generated from 21 unique companies.

The CAARs of the actual events are shown together with the 5% and 95% confidence limits to demonstrate the significance of the results. The abnormal returns of the actual event are deemed significant if they cross the threshold of either of these confidence limits, that is, if the abnormal returns are greater than the 95% limit, or lower than the 5% limit.

Figure 7. All downgrades - unweighted
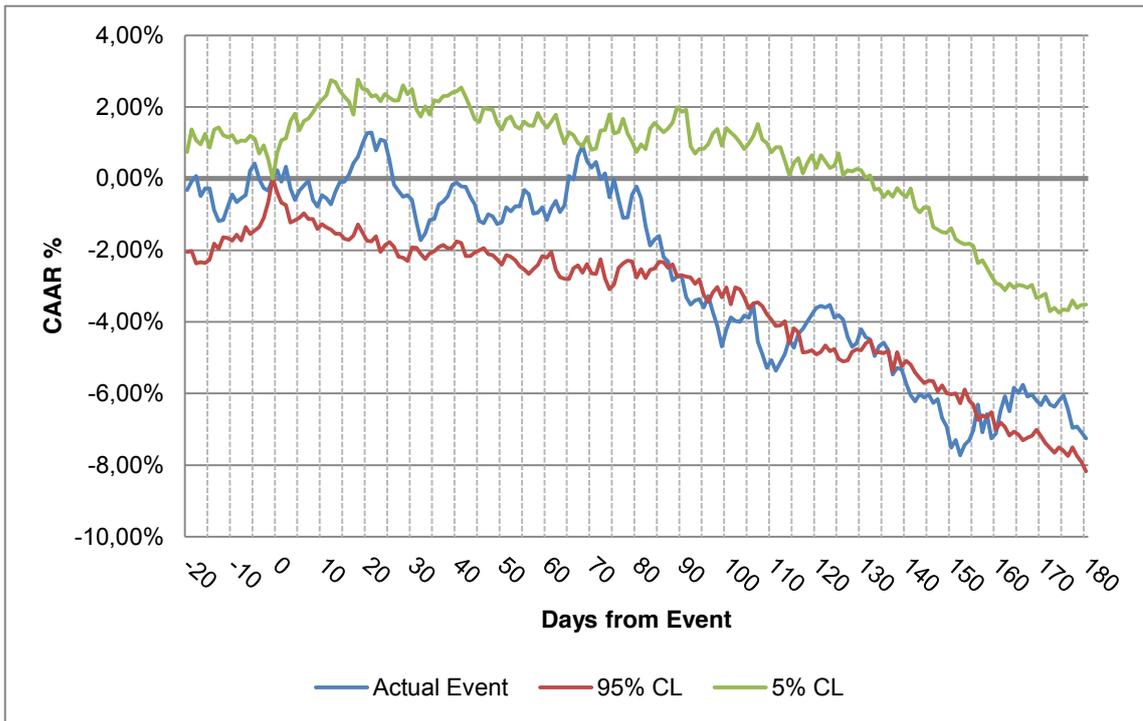


Figure 8. All downgrades - weighted
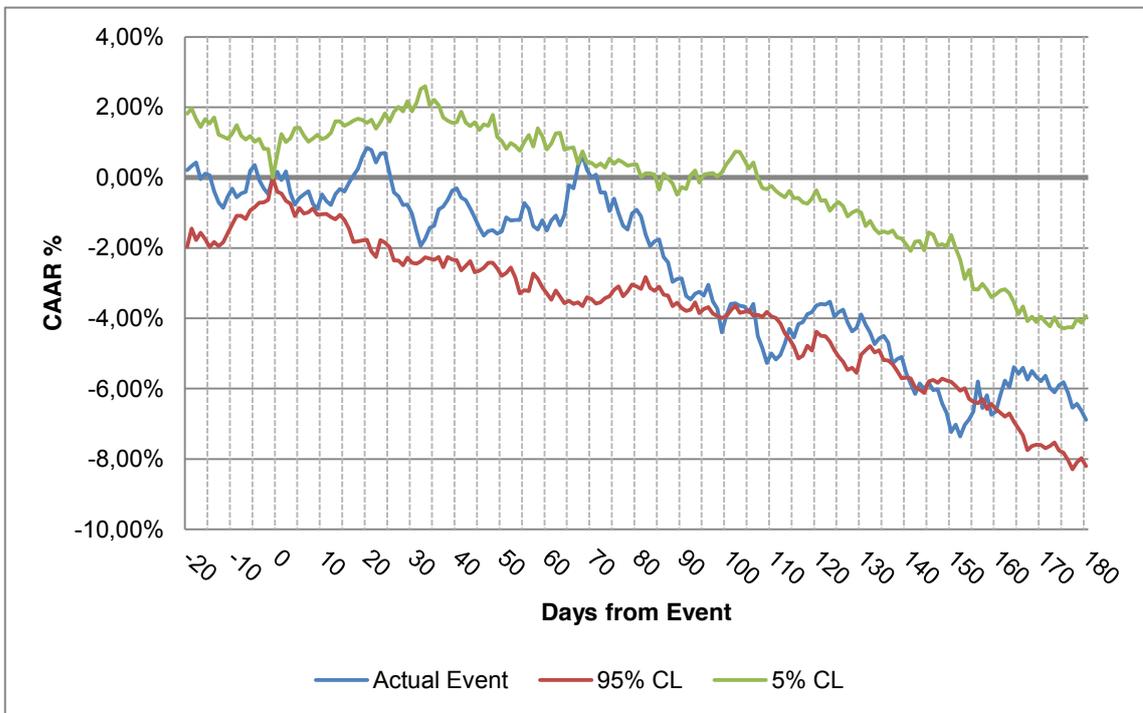
From Figure 7 above the period of significance occurs from day 90 to day 114 with a peak abnormal CAAR of -5.36% occurring at day 111. The CAAR remained relatively flat from day 0 to 80, after which the CAAR displayed a downward trend which became significant at day 90 and continued the downward trend to the end of the analysis period at day 180. From Figure 8 above the period of significance occurs from day 106 to day 114 with a peak abnormal CAAR of -5.27% occurring at day 109. Similar to the unweighted portfolio, the CAAR remained relatively flat from day 0 to 68, after which it displayed a downward trend until the end of the analysis period at day 180. It should be noted that both the unweighted and weighted portfolio displayed only marginally significant results.

Based on the results above, the results are found to be mildly significant and therefore the null hypothesis stated in Objective 1 in Chapter 3 that the CAARs are equal to zero is rejected in favour of the alternative hypothesis.

### 5.1.5 One level downgrades

This subset of data analysed only those events where a company's score was downgraded by one level only (i.e. from level seven to level eight) with the results shown in Figure 9 and Figure 10 below. The subset of data consisted of 20 events generated from 17 unique companies.

The CAARs of the actual events are shown together with the 5% and 95% confidence limits to demonstrate the significance of the results. The abnormal returns of the actual event are deemed significant if they cross the threshold of either of these confidence limits, that is, if the abnormal returns are greater than the 95% limit, or lower than the 5% limit.

Figure 9. One level downgrade – unweighted
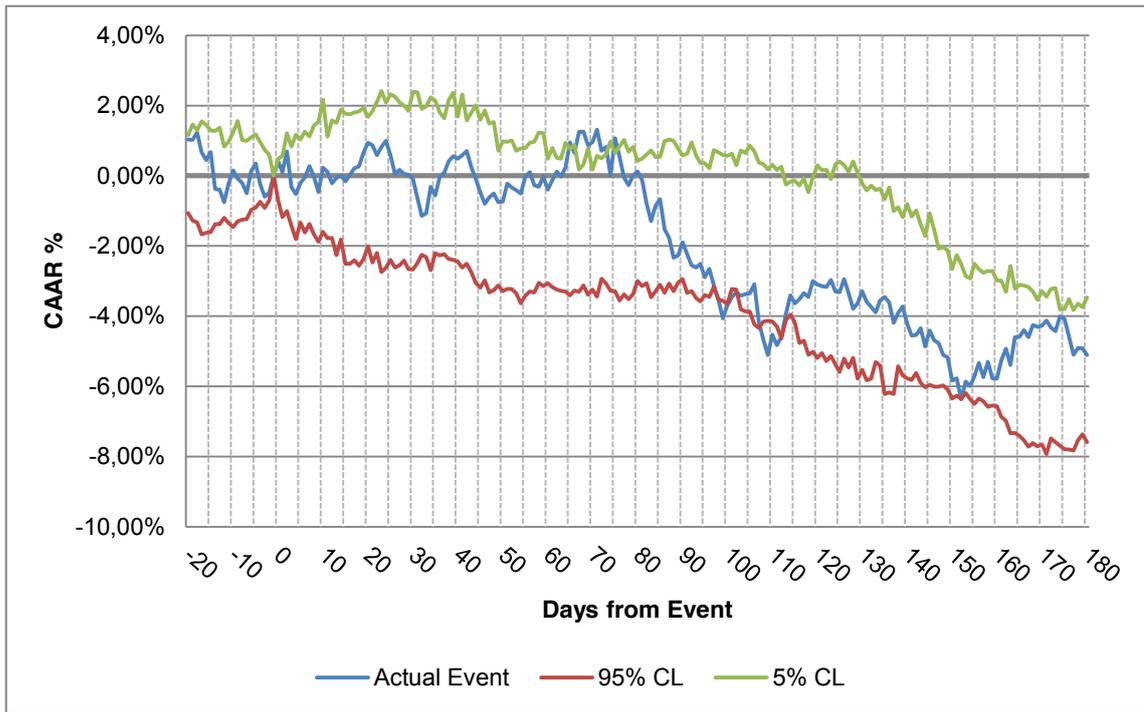


Figure 10. One level downgrade - weighted
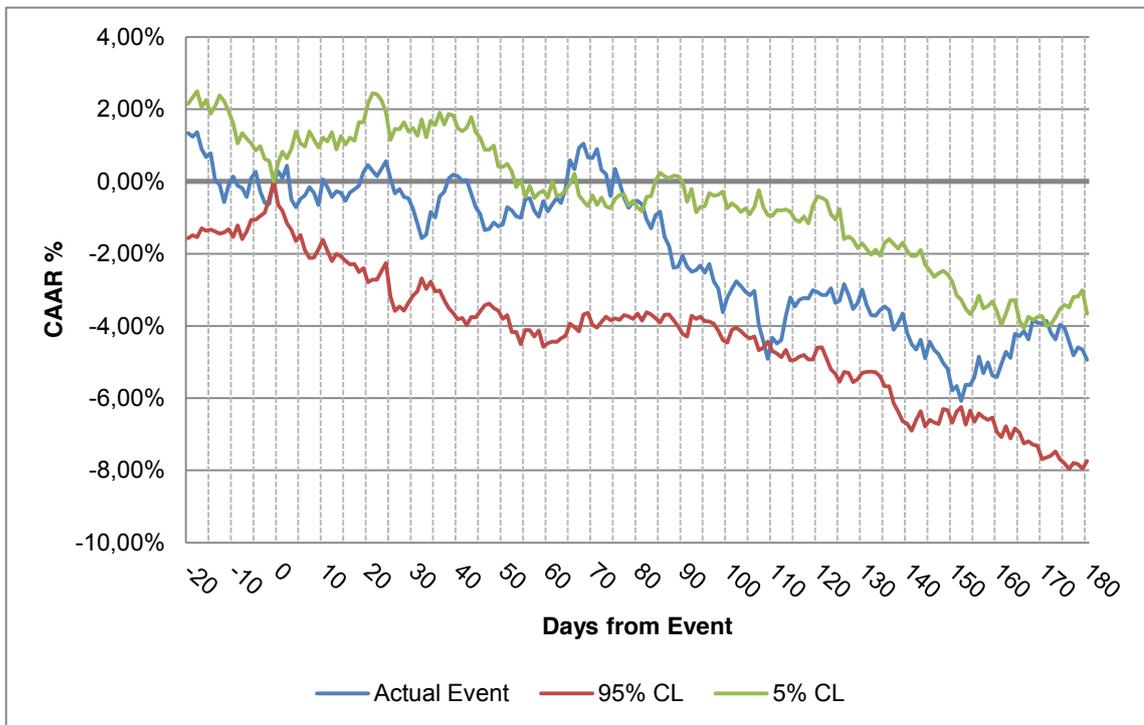
From Figure 9 above the period of significance occurred between day 107 and day 113 with a peak CAAR of -5.11% occurring at day 109. The CAAR remained relatively flat from day 0 to day 71 after which it displayed a downward trend until the end of the analysis period at day 180. From Figure 10 above the period of significance occurred between day 64 and day 76 with a peak CAAR of 1.04% occurring at day 68. This is a surprising result given the positive CAAR which may be as a result of the weightings assigned to stocks. However it should be noted that the CAAR displayed an overall downward trend from day 76 to the end of the analysis period at day 180.

Based on the results above, the results are found to be mildly significant and therefore the null hypothesis stated in Objective 1 in Chapter 3 that the CAARs are equal to zero is rejected in favour of the alternative hypothesis.

### 5.1.6   Two level downgrades

This subset of data included only those events where BEE scores were downgraded by two levels (i.e. from level six to level eight). The CAARs are shown in Figure 11 and Figure 12 below. The subset of data consisted of 3 events generated by 3 unique companies. This subset was noted for having too few events and thus the results may not be indicative of the population.

The CAARs of the actual events are shown together with the 5% and 95% confidence limits to demonstrate the significance of the results. The abnormal returns of the actual event are deemed significant if they cross the threshold of either of these confidence limits, that is, if the abnormal returns are greater than the 95% limit, or lower than the 5% limit.

Figure 11. Two level downgrade - unweighted
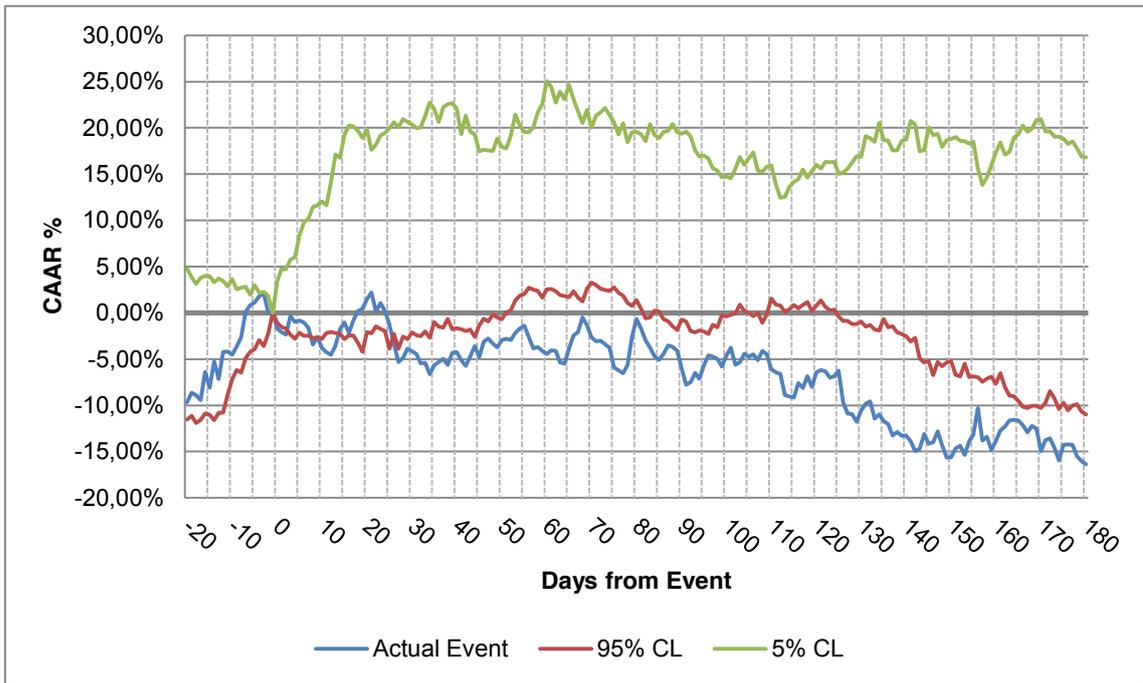


Figure 12. Two level downgrade - weighted
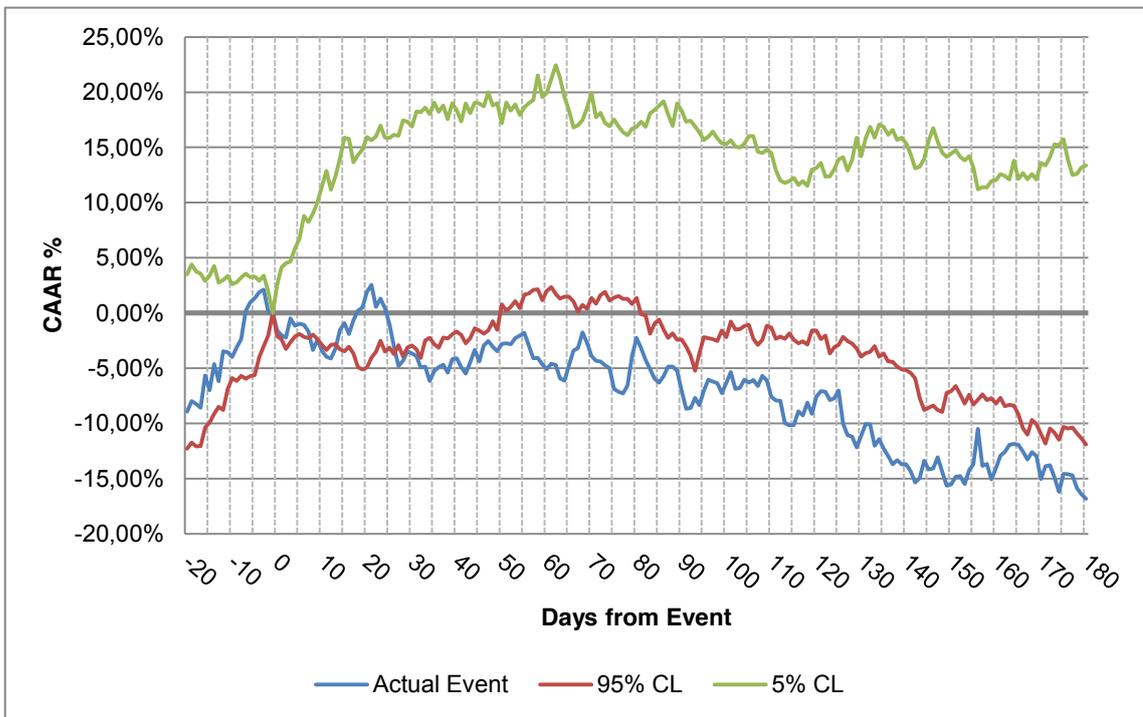
From Figure 11 above the period of significance occurred at day 26 until the end of the study at day 180 with a peak CAAR of -16.03% occurring at day 180. The CAAR remained relatively flat at approximately -2.5% from day 0 to day 124 before continuing on a downward trend. From Figure 12 above, the period of significance occurred at day 26 until the end of the study at day 180, with a peak CAAR of -16.82% occurring at day 180. The CAAR was relatively flat at approximately -5% from day 0 to day 124 before continuing on a downward trend. It should be noted that due to the nature of an event study, results become more inaccurate the further out an analysis is conducted. Also, due to the limited number of events in this subset these results may not be indicative of the real population.

Based on the results above, the results are found to be mildly significant and therefore the null hypothesis stated in Objective 1 in Chapter 3 that the CAARs are equal to zero is rejected in favour of the alternative hypothesis.

### 5.1.7 Conclusion of results

Based on the above analysis, the results of the CAARs can be summarised as shown in Table 2 and Table 3 below. From the results in Table 2 it is clear that upgrade events generated positive CAARs while downgrade events generated negative CAARs. Two level movements appeared to generate larger magnitude movement than one level movements, however, more data is required in order to reaffirm this. Downgrade events also appeared to generate a slightly large magnitude CAAR than the upgrade event, with the exception of the weighted one level downgrade subset. Additionally, the unweighted portfolio tended to produce the greatest magnitude results from events in all cases except for the one level downgrade subset.

Table 2. Summary of Peak CAARs

|  | Unweighted | | Weighted | |
|---|---|---|---|---|
|  | Upgrade | Downgrade | Upgrade | Downgrade |
| All | 4.54% | -5.36% | 3.95% | -5.27% |
| One Level | 5.00% | -5.11% | 4.84% | 1.04% |
| Two Levels | 8.48% | -16.03% | 7.19% | -16.82% |

From the results in Table 2 above it is clear that upgrade events generated positive CAARs while downgrade events generated negative CAARs. Two level movements appeared to generate larger magnitude movements than one level movements, however, more data is required in order to reaffirm this. Downgrade events also appeared to generate a slightly large magnitude CAAR than the upgrade event, with the exception of the weighted one level downgrade subset. Additionally, the unweighted portfolio tended to produce the greatest magnitude results from events in all cases except for the one level downgrade subset.

Table 3. Summary of Day of Peak CAARs

|  | Unweighted | | Weighted | |
|---|---|---|---|---|
|  | Upgrade | Downgrade | Upgrade | Downgrade |
| All | 53 | 111 | 53 | 109 |
| One Level | 74 | 109 | 78 | 68 |
| Two Levels | 31 | 180 | 31 | 180 |

From the results in Table 3 above it is clear that upgrade events are priced in much sooner than downgrade events with upgrades taking approximately two months to be priced in and downgrades taking approximately 3.5 months to be priced in. Both the weighted portfolio and the unweighted portfolio displayed similar results in terms of the time taken for results to be priced in.

In summary, all events were found to be significant and therefore the null hypothesis set out in Objective 1 can be rejected in all circumstances. It is therefore concluded that

upgrade events generate positive CAARs while downgrade events generate negative CAARs. It was also found that the unweighted portfolio generated greater abnormal returns than the weighted portfolio.

## 5.2  Long term analysis – buy and hold strategy

The buy and hold analysis was conducted in order to determine the long term reaction of portfolios when the style of the portfolio was aimed at holding portfolios of companies with a specific BEE score.

Typically a style investment portfolio is divided into ranked portfolios in order to better analyse the effects of holding such a style. As a result, four ranked portfolios were chosen as follows:

Portfolio 1 – Shares with a BEE score of one and two
Portfolio 2 – Shares with a BEE score of three and four
Portfolio 3 – Shares with a BEE score of five and six
Portfolio 4 – Shares with a BEE score of seven and eight

The period of analysis took place from 1 January 2009 to 30 September 2015. Total return share prices were used so that the effects of dividends could be factored into the analysis. The analysis assumed an initial investment of R1,000,000 in each portfolio on the 1 January 2009 with an equal rand value weighting among all shares within each portfolio. The portfolio was then rebalanced every three months where any changes in BEE scores resulted in shares being sold from one portfolio and bought in another. It should be noted that these results excluded the impact of transaction costs.

The results were then compared to the J203 to ascertain how the performance of such a portfolio compared to the market. The significance of the results was then tested using a paired t-test against the J203 in order to test the objectives set out in Chapter 3.

### 5.2.1  Results

The results for each portfolio and the J203 are shown in Figure 13 below.

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Figure 13. Buy and Hold Investment Results
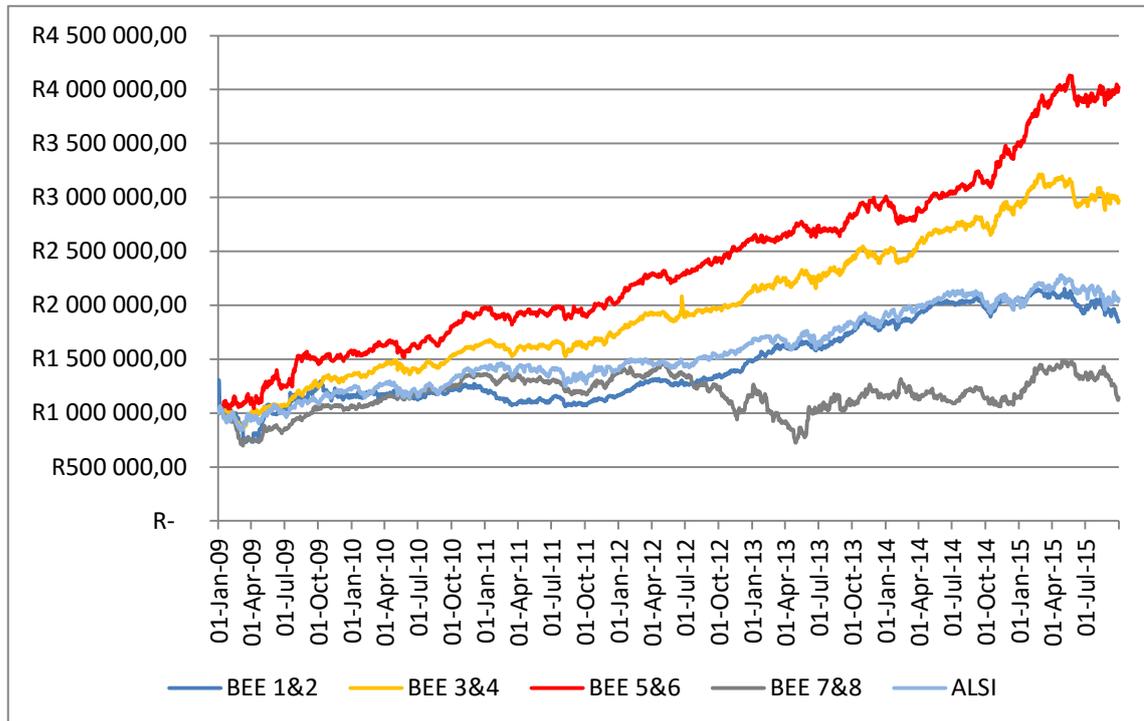


The J203 ended up with a total value of R2,063,264. The results indicate that Portfolio 1 (BEE 1&2) closely followed the performance of the All Share Index although marginally underperforming it, ended with a value of R1,848,041. Portfolio 2 (BEE 3&4) exceeded the performance of the market and ended with a value of R2,975,186. Portfolio 3 (BEE 5&6) performed the best, substantially exceeding the performance of the market, and ended with a value of R4,020,919. Portfolio 4 (BEE 7&8) significantly underperformed against the market, ending with a value of R1,144,759.

It appears that with the exception of Portfolio 4, the worse the BEE score portfolio rank, the better its performance, which is a surprising result. There were concerns around Portfolio 4 (BEE 7&8) and its respective performance because of the small number of companies that were held in the portfolio over the period of the style investment.

Table 4 below lists the average number of companies held in each portfolio over the course of the style investment.

Table 4. Average number of companies in portfolio

| Portfolio | Average Number of Companies |
|---|---|
| Portfolio 1 – BEE 1&2 | 9.89 |
| Portfolio 2 – BEE 3&4 | 31.70 |
| Portfolio 3 – BEE 5&6 | 13.85 |
| Portfolio 4 – BEE 7&8 | 2.70 |

According to

Table 4 above, Portfolio 4 contained only an average of 2.7 companies per period which may be why the results of the style investment indicate that the BEE 7&8 portfolio performed poorly and out of style with the trend that the worse the score, the better the performance. More data will be required in order to reaffirm Portfolio 4's results.

However, given the analysis, it appears that overall the portfolios that contained poorer scores performed substantially better. The compounded annual growth rates are shown in Table 5 below.

Table 5. CAGR of each portfolio

| Portfolio | CAGR |
|---|---|
| Portfolio 1 – BEE 1&2 | 11.27% |
| Portfolio 2 – BEE 3&4 | 20.88% |
| Portfolio 3 – BEE 5&6 | 27.38% |
| Portfolio 4 – BEE 7&8 | 2.38% |
| All Share Index | 13.42% |

Portfolio 3 performed the best out of the four portfolios, beating the market's annual growth rate by more than double at 27.38%. Portfolio 4 performed the poorest with a very low annual growth rate of 2.38%.

5.2.2  Hypothesis tests

With respect to the Objective 2 set out in Chapter 3 to determine if there was an association between share return and BEE score, the null hypothesis stated that the CAARs of each portfolio would be equal to zero. In order to test the significance of this hypothesis, a paired t-test was performed on the daily returns of each portfolio against the All Share Index. These results are shown in the tables below.

Table 6. Paired t-test BEE 1&2 against J203

| | BEE 1&2 | J203 |
|---|---|---|
| Mean | 1457474,8 | 1567199,6 |

| | | |
|---|---|---|
| Variance | 146088644479,6 | 136900492475,8 |
| Observations | 1758,0 | 1758,0 |
| Pearson Correlation | 1,0 | |
| Hypothesized Mean Difference | 0,0 | |
| df | 1757,0 | |
| t Stat | -45,7 | |
| P(T<=t) one-tail | 0,0 | |
| t Critical one-tail | 1,6 | |
| P(T<=t) two-tail | 0,0 | |
| t Critical two-tail | 2,0 | |

According to Table 6 above, the t-stat for the paired test was -45.7 with the two tailed critical value being 2.0 at a 5% significance level. Therefore, the null hypothesis is strongly rejected in favour of the alternative hypothesis. It is concluded that the CAARs of the BEE 1&2 portfolio are significant and non-zero.

Table 7. Paired t-test BEE 3&4 against J203

|  | BEE 3&4 | J203 |
|---|---|---|
| Mean | 1991157,3 | 1567199,6 |
| Variance | 393639527373,4 | 136900492475,8 |
| Observations | 1758,0 | 1758,0 |
| Pearson Correlation | 1,0 |  |
| Hypothesized Mean Difference | 0,0 |  |
| df | 1757,0 |  |
| t Stat | 66,7 |  |
| P(T<=t) one-tail | 0,0 |  |
| t Critical one-tail | 1,6 |  |
| P(T<=t) two-tail | 0,0 |  |
| t Critical two-tail | 2,0 |  |

According to Table 7 above the t-stat is 66.7 and the critical value is 2.0 for the paired t-test at a 5% significance level. The null hypothesis is therefore strongly rejected in favour of the alternative hypothesis. The CAAR of the BEE 3&4 portfolio is found to be significant and non-zero.

Table 8. Paired t-test BEE 5&6 against J203

|  | BEE 5&6 | J203 |
|---|---|---|
| Mean | 2373388,5 | 1567199,6 |
| Variance | 631109941095,3 | 136900492475,8 |
| Observations | 1758,0 | 1758,0 |
| Pearson Correlation | 1,0 |  |
| Hypothesized Mean Difference | 0,0 |  |
| df | 1757,0 |  |
| t Stat | 76,0 |  |
| P(T<=t) one-tail | 0,0 |  |
| t Critical one-tail | 1,6 |  |
| P(T<=t) two-tail | 0,0 |  |
| t Critical two-tail | 2,0 |  |

According to Table 8 above, the t-stat is equal to 76 and the critical value is equal to 2.0 for the paired t-test at a significance of 5%. Therefore the null hypothesis is strongly rejected in favour of the alternative hypothesis. The CAAR of the BEE 5&6 portfolio is found to be significant and non-zero.

Table 9. Paired t-test BEE 7&8 against J203

|  | J203 | BEE 7&8 |
|---|---|---|
| Mean | 1567199,6 | 1170992,3 |
| Variance | 136900492475,8 | 28068822958,7 |
| Observations | 1758,0 | 1758,0 |
| Pearson Correlation | 0,4 | |
| Hypothesized Mean Difference | 0,0 | |
| df | 1757,0 | |
| t Stat | 48,8 | |
| P(T<=t) one-tail | 0,0 | |
| t Critical one-tail | 1,6 | |
| P(T<=t) two-tail | 0,0 | |
| t Critical two-tail | 2,0 | |

According to Table 9 above, the t stat is equal to 48.8 and the critical value is equal to 2.0 for the paired t-test at the 5% significance level. The null hypothesis is therefore strongly rejected in favour of the alternative hypothesis. The CAAR of the BEE 7&8 portfolio is found to be significant and non-zero.

## 5.2.3  Conclusion of results

The returns from each portfolio were found to be significantly different to the returns generated from the J203 over the analysis period. The results seem to indicate that portfolios with worse scores tended to perform better than the All Share Index where the portfolio containing companies with BEE scores of five and six significantly outperformed the market. The results from the BEE 7&8 portfolio tended to cast doubt on this observation, however, as this portfolio contained so few companies over the analysis period there was insufficient data to provide confidence to the findings of this portfolio.

# 6. Discussion of results

## 6.1  Association between BEE score change and abnormal returns

In this analysis an event study was conducted to determine the short term effects of a BEE score change on returns. An event study was conducted from -20 to 180 days from the event to monitor the abnormal returns created from BEE score changes. Upgrades and downgrades were looked at as well as subsets within these to observe how single level and two level changes differed in their generation of abnormal returns.

The results showed that upgrades generated positive abnormal returns, while downgrades generated negative abnormal returns, indicating that the market views improvements in BEE score as positive in the short term. Conversely, it also showed that markets penalize companies for downgrades in the short term. Furthermore, downgrades took significantly longer to be priced in than upgrades, with upgrades taking on average two months to reach peak abnormal return, while downgrades took 3.5 months on average to reach peak abnormal return.

Our total data set of events consisted of 94 events over the period 1 January 2009 to 30 September 2015. While it was sufficient to do a rudimentary analysis of overall score changes, a much larger data set would be required to do finer analysis, such as analysing the abnormal returns generated from moving from a specific score to another (i.e. from a level eight to a level seven). Unfortunately, the sample size was not large enough to give such an analysis any credibility and therefore a wider approach was used where upgrades and downgrades were looked at as a whole. As a side note, there is a lack of co-ordination between BEE verification agencies and the Department of Trade and Industry in this respect and as a result there is no central database where scores are logged and tracked over time. This results in needing to contact companies individually for their BEE track records over time which is an extremely time consuming endeavour. Furthermore, many companies have no need to keep track of their BEE scores for a considerable time frame and often failed to supply such information.

Given the nature of the results, several observations can be made. The first observation was that upgrades produced positive abnormal returns and vice versa. This reaction indicates that markets view upgrades favourably, where upgrades in scores possibly lead to increased profits, thereby necessitating a higher share price in order to capture the increased value the company will create. Accordingly, the view that an improved BEE score leads to greater revenues (directly or indirectly) from government tenders and government work (Strydom et al., 2009) may indicate that markets perceive this to be true.

Furthermore, according to van der Merwe & Ferreira (2014), market perceptions may play a role in the abnormal returns seen from both upgrades and downgrades. Upgrades may lead to an improved perception of the company in the light of consumers as well as investors, and the psychological element may be a contributor in the improved share price either through increased investor confidence or through improved customer loyalty. Conversely, downgrades would achieve the opposite effect where the investors lose confidence and customers lose loyalty. This may also explain why downgrades take significantly longer to be priced in than with upgrades. Companies whose scores were upgraded may choose to market this event widely and make it known, so markets react quicker to such news, whereas companies whose score experiences a downgrade may choose to disclose information quietly and therefore markets are slow to react as a result.

According to Collins G. Ntim et al (2012), companies which display signs of good corporate governance and who are transparent generate high market value. The improvement of a company's BEE score may send a strong signal of good corporate governance practices and therefore lead to greater market value. Investors may view the improved BEE score as a sign of a functioning and effective management team that is able to run a company succesfully. Likewise, a degradation in a company's score may signal problems within a company and an ineffective management team and create a lack of confidence in investors resulting in negative abnormal returns.

An interesting observation from the event study results were that two level upgrades did not produce twice the level of abnormal returns as one level events. In the unweighted portfolio, one level ugprades produced a 5% CAAR, while two level

upgrades produced an 8.48% CAAR. This may indicate that each subsequent improvement in score generates less and less positive abnormal returns and investors struggle to find benefit in a continuing improvement. It may also indicate that markets do not necessarily differentiate on the magnitude of improvement, but rather if there was an improvement or not which tends to play into the psychological impact on investors when investing in companies as opposed to a true efficient market hyopthesis impact.

On the contrary, two level downgrades produced significantly higher negative CAARs as compared to one level downgrades with a two level downgrade generating a -16.03% CAAR and a one level downgrade generating a -5.11% CAAR. This indicates that markets are harsher on companies when they show a degredation in score as opposed to when they improve. This may be a symptom of the small sample size available for two level downgrades which is producing erroroneous results, or it may be symptomatic of deeper problems in companies who allow their scores to degrade by two levels. Either way, this tends to confirm the view that companies who allow themselves to degrade by two levels tend to be viewed negatively by the market, either through potential loss of government revenue, poor corporate governance or negative pscyhologic effects on investors.

In summary, the event study provided an insight into the short term reactions of score changes on companies' share returns. Such insights are valuable for investors in helping them find a good entry and exit point on investments. An investor who would like to use BEE as a predictor for share returns may choose to monitor companies BEE scores and if an upgrade occurs, they have a two month window with which to invest before peak CAAR occurs. Likewise, if there is a downgrade, they have a 3.5 month window in which to exit before peak CAAR occurs. It also provides an approximation for the level of abnormal return that can be expected and thus may choose to look for specific events when constructing portfolios and deciding on risk return benefits. Furthermore, this analysis also provides evidence to managers and executives of business that improvements in BEE score produce short term share returns and therefore is a sound corporate governance strategy to pursue improvements in their BEE processes and frameworks. Ultimately an improved BEE score is beneficial for all

stakeholders in a business in the short term and therefore provides evidence that its pursuit is more than an altruistic endeavour.

## 6.2 Association between BEE score and abnormal returns

In order to assess if there is an association between BEE scores and abnormal returns, a buy and hold analysis was conducted in order to determine the long term abnormal returns associated with BEE scores. In this analysis, four portfolios were created to give a wider view of abnormal returns. Had this data set been larger, each individual score would have been analysed separately, however, because of the dataset available, four ranked portfolios were created to give a more credible finding.

The results of this study were surprising, indicating that portfolios which tracked poor BEE scores performed substantially better than portfolios which tracked companies with good BEE scores (with the exception of the portfolio which tracked companies with a score of seven and eight). The results indicated that the portfolio which tracked companies with a score of five and six (Portfolio 3) performed the best with a CAGR of 27.38% while the market (J203) produced a CAGR of 13.42%. This is in stark contrast to the portfolio which tracked companies with a score of one and two (Portfolio 1) which generated a CAGR of 11.27% which substantially underperformed against Portfolio 3 and performed marginally poorer than the J203. With the exception of Portfolio 4, the results showed that ranked portfolios produced ranked results, with Portfolio 1 performing the poorest, followed by Portfolio 2 and lastly Portfolio 3 with the best results. It is believed that the results of Portfolio 4 are a result of insufficient data and therefore more data is required in order to reaffirm Portfolio 4's results.

Overall, these results echo the view of Cronje & Endres (2013) who view BEE as an expensive means of transformation. These results indicate that companies with better scores perform poorly, possibly showing that the pursuit of an improved BEE score results in expenses which directly impact bottom line profits and therefore long term share returns. There may be some truth to this view where improvements in the enterprise development and socio-economic development pillars of a BEE score being a direct cost to companies with little direct benefit to them other than improved market perceptions.

Furthermore, these results also tend to place into dispute if an improved BEE score creates revenues from increased government work as claimed by Strydom et al. (2009). This view claims that improved BEE scores would result in greater government revenue which should ultimately improve profitability and therefore share returns. However, we see the opposite effect here where the companies with improved scores tend to perform considerably poorer against the market as a whole. This does not necessarily mean companies performed poorly, but it does show that their performance was considerably poorer than the market. One may consider that companies with extremely good scores to be established companies with a long track record while those with poor scores may be new entrants onto the Johannesburg Stock Exchange and therefore minor improvements in new entrants tend to have larger long term returns than improvements in more established companies. However, this was beyond the scope of this analysis and more research is needed in this regard.

The results of Portfolio 4 (BEE 7&8) bucked the trend and showed the poorest performance from all portfolios. As stated in Chapter 5, it is believed that this is purely due to the lack of data for this category, as this portfolio overall had the lowest average number of companies in its portfolio over the analysis period. More data is necessary in order to understand if this association holds true over the long term. However, should the association hold true, it may be an indication of companies with extremely poor corporate governance who do not bother about transformation and therefore perform poorly as a result. Lack of investor confidence, poor employee morale and poor customer loyalty may all contribute to the poor performance of Portfolio 4.

As found by Richard (2010), management diversity did not lead to improved company performance. This again may indicate why Portfolio 1 underperformed the market. With the pursuit of an improved BEE score, company boards may be influenced to improve the diversity of management with respect to cultural and racial backgrounds at the cost of side-lining those with the best experience which may result in poor company performance as a result. Companies with poor BEE scores may rather opt to forego transformation and the associated costs of doing so, therefore resulting in superior overall performance. This is not to say that non-black managers perform better, but rather that the pursuit of a single pillar such as management diversity does not lead to

improved company performance. Perhaps other factors, such as diversity in experience would be a better creator of company performance as opposed to racial diversity.

Therefore in terms of the objective set out in Chapter 3, it certainly seems that there is an association with BEE score and share returns where companies with poor scores perform substantially better than the market in the long term. Investors may therefore chose to construct portfolios which go long on companies with poor scores and go short on companies with good scores in order to extract the greatest returns over the long run. In particular, investors should target companies with a score of five and six until more clarity is attained around the performance of companies with a score of seven and eight.

In conclusion, the results of this analysis are somewhat controversial as they cast doubt on the long term benefits of BEE adoption by company executives and if the pursuit of BEE is beneficial for all stakeholders in the long run. Perhaps this is an indication that the adoption of BEE is in fact an altruistic endeavour (Alessandri et al., 2011) and one where companies need to forego bottom line profits in order to correct the wrongs of the past. Be that as it may, the results are relevant for investors who wish to construct portfolios with BEE as a factor and it has been shown that it most certainly can be used as a factor in constructing portfolios.

## 6.3   Combined view

When combining both the short term analysis and the long term analysis together, there is a far more comprehensive view as to how investors could utilize BEE as a factor when investing in companies or when construction portfolios. The event study provided insight as to how investors could use BEE as a determinant of entry and exit points and also the period they have before any benefits of the change in score. It also provided an indication of short term returns they could achieve if they got in early enough. The long term investment analysis gave a view of how investors could construct portfolios over the long term and which scores they should target in order to generate the largest return. Both these work together to give a most dynamic method of investing using BEE scores as a factor. It would be beneficial to consider any autocorrelations which may exist with other factors (such as market cap, price to

earnings etc.) before combining BEE with other factors, however this was beyond the scope of this research.

A point to consider is how sustainable such a method is in the future where legislation and BEE frameworks are changing. Case in point, in 2015 the new BEE regulations came into effect which considerably changed how companies are scored and many companies scores are expected to change as a result. It is unclear how these changes will affect how investors value companies in the short and long term and what impact this may have on their share returns. However, provided that legislation remains relatively unchanged going forward, there is no apparent reason why such a method should not work for investors in the future.

What is interesting is how the event study results and buy and holdresults differed from each other. While the event study tended to indicate that upgrade events produced positive abnormal returns, the buy and hold results indicated that companies with a poorer score tended to perform substantially better in the long term. These conflicting results may be an indication of behavioural effects of investors who place value on upgrades in score but which fail to materialize into long term value creation. As Bollen, Mao & Zeng (2011) found, investor sentiment can have an effect on share returns and share value, and this may be exactly what is seen here. Investors place value on upgrades which is reflected in the short term share price returns. However, over the long term, the share price converges towards its mean which gives a more accurate representation of performance. This divide over short term and long term performance provides an ideal opportunity for investors to benefit and create a new type of trading strategy which takes advtantage over this so called arbitrage opportunity.

In conclusion, the questions and objectives raised in in Chapter 3 have been addressed and found that there is indeed an association between a score, changes in a score, and share returns.

## 6.4   Shortcomings

Perhaps one of the greatest shortcomings of this paper and the analysis conducted was a lack of BEE data. The lack of a central body to collect scores makes it extremely

difficult for anyone to use this is a full time strategy in BEE investing. It is most certainly possible if one has a good grasp on scraping data feeds for BEE score announcements, but it is believed that such methods are beyond the capabilities of most investors.

# 7. Conclusion

## 7.1 Principal findings

The overall goal of this research was to determine if there was an association between BEE score and share returns in order to see if investors could utilize BEE scores as a viable method to invest in the stock market. With this in mind, the research was divided into a short term and long term study in order to assist investors with identifying a good entry and exit point, as well as to identify long term performance of holding stocks where BEE was a factor.

The short term study took the form of an event study where changes in BEE score triggered an event. The days prior and post the event were analysed over many stocks and the results aggregated into an overall view of cumulative average abnormal returns over time. The results were also plotted against confidence limits in order to provide a visual hypothesis test of where the results became significant, if at all.

The results of the event study found that upgrade events (where a BEE score improved) resulted in positive CAARs with a peak CAAR of 4.54% at day 54. It also found that downgrade events resulted in negative CAARs with a peak CAAR of -5.36% occurring at day 111. The results were both found to be significant at a 5% level of significance. The event study reaffirmed the view that markets view companies positively when BEE scores improved and thus rewarded those companies with a positive abnormal return. Conversely, it also reaffirmed the view that markets viewed downgrades negatively and likewise penalized those companies with a negative abnormal return. An explanation for this view is that markets viewed improvements to companies scores in a positive light and through improved market perception improved the short term share returns (Jackson et al., 2005). Another view found to echo this reaction was that an improved score was a signal of good corporate governance and transparency which gained the trust of investors and provided an indication of good management at the company resulting in an improved share return (Collins G. Ntim et al., 2012). Lastly, the view that BEE benefits compliant companies through improved government revenues (Strydom et al., 2009) could also be a reason for the short term

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positive share return when scores improve as investors attempt to price in any future value that may be derived from the new improved score.

Furthermore, the results also indicated that downgrades take significantly longer to be priced in than upgrades, with upgrades taking 54 days to reach peak CAAR, while downgrades took 111 days. This may be an indication that a large reason for the abnormal returns is due to market perceptions (Jackson et al., 2005) created through the advertising of scores by firms. One might expect a company whose score improved to make that fact widely known and to publicise so clearly in its communications with investors thereby causing the investors to price such information in quickly. To the contrary, companies who experience a downgrade may choose to downplay such information and to quietly report the information so as not to raise the ire of the market. Such companies would experience a longer time for the negative information to be priced into the market as the market is much slower to come across such information when it is not widely publicised.

The next part of the research involved performing a long term study to look at the effect of holding portfolios where BEE was a factor. This study took the form of a buy and hold strategy where portfolios were divided into ranked portfolios where each portfolio contained companies with ranked scores (i.e. Portfolio 1 contained scores of one and two, Portfolio 2 contained score of three and four etc.). The purpose of this study was to identify if companies with specific scores performed better than the market over a long run, and additionally to determine if scores could be ranked in accordance with their performance.

This study found that the portfolio which tracked companies with BEE scores of five and six (Portfolio 3) performed the best, achieving a CAGR of 27.38% while the market (ALSI) achieved a CAGR of 13.42%. This meant that the annual performance of this portfolio more than doubled the annual performance of the All Share Index. The study also found that companies with BEE scores of three and four (Portfolio 2) also outperformed the market with a CAGR of 20.88%, although it did not perform as well as Portfolio 3. And lastly, the study found the companies with a BEE score of one and two (Portfolio 1), only marginally underperformed against the market with a CAGR of 11.27%. The portfolio which tracked companies with a score of seven and eight bucked

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the trend and performed the worst with a CAGR of 2.38%, although the results of this portfolio contained too small a sample size with which to make an accurate assessment.

Overall, the results suggest that the poorer a company's BEE score, the better the returns that company produced. The results above were all found to be significant when utilizing a paired t-test to assess the performance of each portfolio against the All Share Index. The results therefore indicate that there is an association between BEE score and share returns in the long run and such information would be of use to investors when making investment decisions or when creating a portfolio.

The results of the long term analysis indicate that in the long term companies with good BEE scores tended to perform poorer in comparison to companies with worse scores. An explanation of this may be from the view that BEE is an expensive means of transformation (Cronje & Endres, 2013) that hurts company performance in the long run. Additionally, it reaffirms the view that BEE legislation may not be geared to helping individual companies perform well through improved government revenues (Strydom et al., 2009) because the costs of achieving improved scores outweigh the benefits of doing so. Ultimately this means that the pursuit of an improved BEE score is an altruistic endeavour which may lead to lower company performance, but which may be necessary to correct the wrongs of the past.

Lastly, when combining the short term and the long term results, it was found that the results tend to contradict each other. While the short term study found positive abnormal returns when scores were upgraded, the long term study found the better scores resulted in poorer performance. This contradiction may be explained by the irrationality of investors who invest based on sentiment and mood (Bollen et al., 2011) as opposed to other rational methods such as CAPM. This irrational behaviour may lead to positive short term abnormal returns which eventually revert to their mean in the long run where likewise the opposite is true with respect to downgrades. This may provide a rationale for why this apparently contradiction exists. Nevertheless, this contradiction itself provides an opportunity for traders to benefit from an apparent arbitrage opportunity.

In summary, the researcher finds that changes in BEE score do create abnormal share returns in the short term, while in the long run we find that there is also an association with share returns and BEE scores. Such an association therefore provides a new tool for which investors can use as a factor when designing portfolios and investment strategies.

## 7.2  Implications for management

The implications of this research on management are a controversial one. The short term study indicates that markets viewed upgrades as positive and downgrades as negative and accordingly the share returns reflected this in the short term. However, the long term, analysis showed that companies with better scores performed poorer in comparison to those with worse scores. The implication therefore is that the pursuit of an improved BEE score may not necessarily pay for itself in the long run, with costs far exceeding the benefits. Ultimately this means that management needs to be cognisant of costs associated with pursuing improved BEE scores and to ensure that company decisions are made with all stakeholders in mind. One must also bear in mind that BEE was been designed to coax companies into compliance through potential increase government revenues, dubbed the "carrot" method (Andrews, 2008). It is therefore prudent that companies weigh up the benefits of pursuing a BEE policy if it does not indeed benefit them.

Of course, one also needs to be aware that the BEE framework was designed to correct the wrongs of the past, and that the "carrot" method of promising improved government revenue was only a means to entice companies to speed up transformation. Therefore, while the potential for increased revenues from an improved BEE score was an incentive, it is not the only reason one needs transformation. Management therefore needs to also consider that the pursuit of BEE may in the end be a completely altruistic endeavour where one cannot expect to reap rewards for compliance.

## 7.3 Limitations of the research

The primary limitation of the research was a lack of sufficient data. The lack of co-ordination between the Department of Trade and Industry and BEE verification agencies means that there is no central body which collects historical BEE data. This means that tracking BEE progress over time for companies is an extremely difficult task which requires contacting each company individually for information on its BEE track record. Furthermore, it also means that the history is lost when companies are acquired or liquidated.

This lost data therefore means that the results in this analysis would be subject to survivorship bias as it mostly contains data from companies that exist today but excludes data from companies which have closed or which were merged into another entity. The lack of data also means that for certain subsets of scenarios which were analysed there was insufficient data to provide credibility to some of the analysis. Substantially more BEE data would be required in order to reaffirm the results that were presented.

## 7.4 Suggestions for future research

This research only covered those companies which were bound by the requirements of the generic scorecard which is governed by the Department of Trade and Industry. Other industries which do follow BEE policies, but which may not be governed by the generic scorecard requirements, were not covered in this analysis. It would be extremely useful and insightful to have a standardized measure across all industries to track progress. Furthermore, an even more useful study would be an analysis that covered inter-industry performance which would give a clearer view as to how government revenues affect share returns.

Another area which requires further research is to see if returns associated with BEE scores are auto-correlated with other factors such as market capitalization, length of compliancy, length of time in listed on the stock exchange etc. There may be other factors associated with BEE scores which create medium term abnormal returns which

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diminish in the long term, and thus the goal of such research would be to discover what those factors were.

Lastly, the revision of BEE policy in 2015 and a more stringent method for evaluating BEE scores may require a reassessment of the findings in this research based on the new scores that are collected post 2015.

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# 9. Appendices

## 9.1 Databases

| Name of Database | Source | Use |
| --- | --- | --- |
| McFAS | Gordon Institute of Business Science | JSE Listed company tickers and full names |
| Bulletins Database | Gordon Institute of Business Science | Index constituents |
| Thompson Datastream | Gordon Institute of Business Science | Share prices and Total Share Returns |
| Mpowered.co.za | Online | BEE scores |
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## 9.2 Turnitin report

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Submitted to University of Lancaster on 2011-09-14

paper text:

100A historical analysis of the relationship between B-BBEE score and share return in South

Africa USHIR B. MEHTA

19STUDENT NUMBER 15384935 A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration. 13 January 2016 ABSTRACT This research

93is aimed at understanding the impact of Broad-Based Black Economic Empowerment

(B-BBEE) scores on share return with a specific emphasis on looking at the effects of a change in BEE score on abnormal returns for shareholders as well as looking at the long term performance of holding portfolios that track specific BEE scores. The study will take the form of an event study and buy and hold analysis in order to understand

9**both the short term and long term effects of** BEE **on**

abnormal returns. All companies listed on the J203 who were BEE compliant between January 2009 and September 2015 were analysed. The results found that in the short term, upgrades in BEE scores produced positive abnormal returns while downgrades produced negative abnormal returns. In the long term, portfolios which tracked companies with the best BEE scores generated the lowest abnormal return, while those with poorer scores generated the highest abnormal return. KEYWORDS Abnormal returns BEE Black economic empowerment Buy and hold Event study Score Share returns

6**I DECLARATION I declare that this research project is my own work. It is submitted in partial fulfilment** of **the requirements** for **the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination** in **any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.**
_____ Ushir Mehta 13 **January** 2016 **II ACKNOWLEDGEMENTS I would like to** thank **my**

parents for all their hard work in ensuring I am in the position I am today.

70**I would also like to** acknowledge **Professor Mike Ward**

for his valuable insights and recommendations,

81**without which, this paper would not have been possible.** Lastly, **I would like to thank**

my fellow classmates

35**at the Gordon Institute of Business Science** who gave me **the**

support, laughter, and motivation I needed to get through this program. III CONTENTS

24**1. Introduction to the research problem 1.1 Research title** A historical analysis **of the**

relationship between B-BBEE score and share return in South Africa 1.2 Introduction When the Dutch arrived in South Africa in 1652, along with them came colonialism, and

43**with it, slavery and forced labour. As a result, many South Africans are** descendants **of slaves** who were **brought to the Cape Colony from 1653** to **1822.**

7**Even with slavery, the Dutch** lacked **sufficient labour power for their ships**

and as a result, the Dutch East India Company released officials from their contracts, and allocated them land in South Africa.

7**These officials became known as the** Boers or Afrikaners, **and** were essentially **the** beginning **of the white South African population.** The Boers realized **that** if they were **to**

become successful agricultural producers, they would require substantial labour and so turned to the indigenous Khoikhoi people of

87**South Africa ("History of slavery and early colonisation in South Africa,"** n.d.). **The**

Khoikhoi people had been settled

7**for at least a thousand years** prior to **the** arrival of the **Dutch and were**

## 9.3   Ethical Clearance

Dear Ushir Mehta

Protocol Number: **Temp2015-02141**

Title: **A historical analysis of the relationship between B-BBEE score and share return in South Africa**

Please be advised that your application for Ethical Clearance has been APPROVED.

You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards,

Adele Bekker