The Impact of Broad Based Black Economic Empowerment on Financial Performance of Top Empowered Companies Listed on the JSE in South Africa

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ABSTRACT

This dissertation aims to provide insight into the relationship between Broad-Based Black Economic Empowerment (BBBEE) compliance and the financial performance of top empowered companies listed on the Johannesburg Stock Exchange (JSE) in South Africa. This study is similar to two previous studies; the first is on the impact of corporate governance on JSE listed companies for the period 2003 until 2006 and on a sample of 97 JSE listed companies (Abdo & Fisher, 2007). The second is on the contribution of BBBEE on the financial performance on a sample of 49 JSE listed companies from 2005 until 2008 and 2008 until 2010 (van Heerden, 2011).

This empirical study was initially on a sample of 100 JSE listed companies from 2009 until 2012 that was derived from JSE listed companies which featured in the annual Financial Mails Top Empowerment Survey Publication from 2009 until 2012. The sample was reduced to 64 units due to delisting, corporate name changes and data unavailability for the period. Corresponding company financial data (share price, price to earnings ratio, price to book value) were obtained for the period 2008 until 2012 from McGgregor BFA database and correlated to BBBEE compliance ratings as published by Financial Mail. JSE indices were obtained from I-Net Bridge.

Based on the types of companies, they were grouped into 10 JSE economic sectors such that the performance of each sector could be correlated to the total average BBBEE compliance ratings, financial metrics and JSE indices. For each sample unit, the average BBBEE rating was calculated for the period 2009 until 2012. This was then correlated to the annualised share price return for the same period and to price to earnings ratio and price to book value for 2012. The findings suggest there was a negative and weak relationship between share price and BBBEE compliance rating.

There is a positive and weak relationship between price to earnings and price to book value.

The cluster of companies with high BBBEE compliance ratings achieved higher and lower annualised share price returns than the respective JSE sector indices. The cluster of companies with low BBBEE compliance ratings also achieved higher and lower annualised share price returns than the respective JSE sector indices. It was also observed that high BBBEE rated companies achieved higher and lower share price returns than low BBBEE rated companies. Companies with high BBBEE compliance ratings achieved both higher and lower price to earnings than the respective JSE indices. Companies with low BBBEE compliance ratings also achieved higher and lower price to earnings than the respective JSE indices. Companies with low and high BBBEE compliance ratings achieved profit to book values below the respective JSE sectors.

Of the seven BBBEE compliance indicators five positively correlated to the annualised share price return i.e. employment equity, skills development, preferential procurement, enterprise development and socio- economic development. Ownership, skills development, preferential procurement, enterprise development, socio- economic development positively correlated to the price to earnings ratio. Skills development, preferential procurement, enterprise development, socio-economic development positively correlated to the price to book value ratio

DECLARATION

I, Tamara Govender, hereby declare that the work on which this dissertation/thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

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LIST OF ABREVIATIONS

BBBEE	Broad Based Black Economic Empowerment
CAGR	Compound annual growth rate
P : E	Price to earnings ratio
PTBV	Price to book value

CHAPTER 1 – INTRODUCTION AND STATEMENT OF PROBLEM

1.1. Introduction

In the report, South Africa's Economic Transformation: A Strategy for Broad Based Black Economic Empowerment (BBBEE) by the Department of Trade and Industry, it was affirmed that the South African governments objective by 2014 was to achieve economic growth, employment and equity (Department of Trade and Industry, n.d.). As a result of the wealth in South Africa being confined to the racial minority, the South African government created a means to undo this uneven wealth distribution not only from an economic point of view but also from a constitution a point of view. Due to the inadequacy of the redistribution of wealth a strategy referred to as broad based black economic empowerment was introduced.

The South African government promulgated the Broad-Based Black Economic Empowerment Act No. 53 of 2003 almost 10 years ago in 2003. The intention of this Act was to establish a legal framework for black economic empowerment, authorizing the Minister of Trade and Industry to create a BBBEE Advisory Council along with the issuance of Codes of Good Practice (Department of Trade and Industry, 2012). In 2007 the BBBEE Codes of Good Practice was issued and in 2009 members were appointed to the BBBEE Advisory Council (Department of Trade and Industry, 2012). These codes provide clear criteria for each of the BBBEE scorecard indicators such it is unbiased without interpretation. Thus since 2007 the BBBEE scorecard has been required for publication.

It is this strategy that includes policy instruments for the government to use such as the "balanced scorecard" as a regulatory means to measure the performance of BBBEE. This scorecard is based on the sum of the weighted scoring of seven components as in Figure 1 (Department of Trade and Industry, n.d.).

The BEE scorecard

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

Figure 1 BEE Scorecard (Department of Trade and Industry, n.d.)

Improving on the BBBEE objectives; to increase BBBEE compliance by public entities and evaluation and monitoring thereof; to provide a BBBEE Commission to deal with BBBEE compliance and to provide penalties and offences, in November 2012 the South African government published the Amendment to Broad-Based Black Economic Empowerment Act No. 53 of 2003 (Department of Trade and Industry, 2012). This is thus evidence that BBBEE is one of the top priorities of the South African government.

Following the promulgation of the Procurement Policy Financial Act in December 2011, public enterprises in South Africa are thus required to measure and evaluate the BBBEE compliance of potential suppliers or service providers (Rowe, 2012). As the legislation was affected three months away from the end of the 2012 financial year, it is not expected that the financial metrics in this study will reflect the impact of this legislation.

Depending on the weighting of BBBEE compliance in tender adjudications,

companies with higher BBBEE compliance will thus benefit in being measured for level of compliance in such a process. Although this legislation is not yet mandatory for non-public enterprises, those JSE listed and unlisted companies providing goods and services to the public sector will be motivated to improve on BBBEE compliance.

1.2. Motivation for research

Literature relating to the effectiveness of the BBBEE policies in South Africa is very limited. This study will provide insight into the relationship of BBBEE compliance, indicators of BBBEE compliance to financial performance and confirm to confirm or reject current studies.

There is evidence that implementation principles of BBBEE are evolving in South Africa. Amended Codes of Good Practice went for public comment in Oct 2012 by DTI (Department of Trade and Industry, 2012). This suggests that there is an attempt by the policy makers to close gaps in the current seven-indicator generic scorecard either in terms of weighting or categories towards achieving the government's empowerment objectives.

One of the reasons given by DTI for the proposed amendment was to align to the government's high priority objectives PPT (Department of Trade and Industry, 2012). In a press release on the gazetted Codes of Good Practice, the new 105 total points from 100 total point's scorecard will be reduced from seven to five categories (Department of Trade and Industry, 2013). New requirements include those priority indicators such as ownership, skills development and supplier development.

The revised Codes of Good Practice have since been promulgated in South Africa in October 2013 and effective October 2014 (Department of Trade and Industry, 2013). The weightings and the five indicators in the new generic scorecard are in Table 1.

Table 1 Amended BBBEE Code of Good Practice Generic Scorecard Effective October 2014 (Department of Trade and Industry, 2012)

Element	Code series	Revised Weighting
Ownership	100	25 points
Management Control (MC)	200	15 points
Skills Development (SD)	300	20 points
Enterprise & Supplier Development (ESD	400	40 points
Socio-economic development (SED)	500	5 points
TOTAL		**105 POINTS**

As of 2014, to be awarded any recognition of BBBEE compliance companies must comply to at least 40% of the compliance categories namely, ownership, skills development and enterprise and supplier development. Should any of the priority elements and scores not be met, the BBBEE compliance status shall decrease by 1 status level notch (Department of Trade and Industry, 2013). The comparison of the BBBEE status levels from before and after 2014 is in Table 2 (Department of Trade and Industry, 2013).

Table 2 Amended BBBEE Code of Good Practice Recognition Level Before and After 2013 Legislation (Department of Trade and Industry, 2012)

BBBEE Status	Current Qualification	New Qualification	BBBEE recognition
Level One Contributor	≥100 points on the Generic Scorecard	≥100 points on the Generic Scorecard	135%
Level Two Contributor	≥85 but <100 points on the Generic Scorecard	≥95 but <100 points on the Generic Scorecard	125%
Level Three Contributor	≥75 but <85 on the Generic Scorecard	≥90 but <95 on the Generic Scorecard	110%
Level Four Contributor	≥65 but <75 on the Generic Scorecard	≥80 but <90 on the Generic Scorecard	100%
Level Five Contributor	≥55 but <65 on the Generic Scorecard	≥75 but <80 on the Generic Scorecard	80%
Level Six Contributor	≥45 but <55 on the Generic Scorecard	≥70 but <75 on the Generic Scorecard	60%
Level Seven Contributor	≥40 but <45 on the Generic Scorecard	≥55 but <70 on the Generic Scorecard	50%
Level Eight Contributor	≥30 but <40 on the Generic Scorecard	≥40 but <55 on the Generic Scorecard	10%
Non-Compliant Contributor	<30 on the Generic Scorecard	<40 on the Generic Scorecard	0%

According to Table 2 the lower the contributor levels of a company the higher the

BBBEE status. Currently a level four contributor requires between 65 and 75 BBBEE compliance. From 2014, for the same level, the compliance will be between 80 and 90 points. It is thus more difficult to achieve a BBBEE level with the current criteria than it will be with the new criteria.

A recent study also identified a gap in literature to understand the long term effects of BEE ownership transactions (Fairbairn, 2009). Even though ownership is a component of BBBEE scorecard it still contributes towards the total score and the effect if any on the financial performance of business entities is unknown.

This study shall be for the period 2009 and 2012 and is similar in methodology to the studies done by van Heerden (2011) from 2005 until 2008 and 2008 until 2010 and Abdo and Fisher (2007) from 2003 until 2006 on samples JSE listed companies.

This study is also similar to that by van Heerden in 2011 except that this study is over a larger sample of 64 companies than 41 companies and over a longer period from 2009 until 2012 as opposed to 2005 to 2008 and 2008 to 2010. Lastly the 10 economics sectors that this sample represents are similar to that by van Heerden in 2011 with the exception that one sector is excluded and two additional sectors are now also analysed.

The similarity to the study done by Abdo and Fisher in 2007 is that this study applies the design methodology that was used on a scorecard to evaluate the impact of corporate governance on the financial performance of companies. The financial parameters included compound annualised growth rate of share prices (CAGR), price to earnings (P:E) and price to book value (PTBV) (Abdo & Fisher, 2007).

This empirical study also builds on the previous research done by (Mathura, 2009) in that the design methodology is based on drawing a correlation between the average BBBEE compliance for each of the JSE sectors against the share price, price to earnings performance and price to book value. It thus investigates each of the

BBBEE factors in addition to the just the total BBBEE score. Another difference is that this study analyses data from 2008 until 2012 whereas the data from (Mathura, 2009) was from 2004 until 2009. The main difference between the study done by Mathura and this study is the statistical techniques applied (2009). This study shall utilise the design methodology applied to study the relationship between corporate governance compliance and financial performance as done by (Abdo & Fisher, 2007) whereas the 2009 research study used a cluster analysis.

Compliance to BBBEE or higher BBBEE scores suggests increased financial performance. Evidence suggested that for increasing BEE scores there was an increase in financial performance however there was no indication to suggest that poor BBBEE scores negatively impacts financial performance (Mathura, 2009). The examination of the BBBEE scorecard indicators builds on the research ideas that were proposed in that research report (Mathura, 2009).

This study aims to provide empirical evidence to clarify the perception that higher BBBEE compliance yields higher financial performance in companies.

1.3. The current business problem

Business enterprises in South Africa are financially incentivised to conform to the BBBEE requirements and to further achieve above 60% conformance. The incentive is the BBBEE preferential procurement instrument that the South African government and state owned enterprises employs (Department of Trade and Industry, n.d.) in tender adjudications of their suppliers. The choice of procurement is thus a function of the BBBEE score amongst other weighted factors. Business compliance to BBBEE compliance requires adhering to the requirements prescribed in terms of ownership, management control, employment equity, skills development, preferential procurement, enterprise development and socio-economic development initiatives. Satisfying BBBEE compliance would suggest a competitive advantage to those companies that don't comply. On the one hand the government utilises this transformational mechanism to achieve key government priorities and on the other

hand the businesses that are catalysts to this mechanism will be incentivised to comply if there is a benefit with the business itself. This research will provide evidence of financial benefit to companies with BBBEE compliance.

1.4. The scope of the study

This study is limited to JSE listed companies that featured in the Financial Mails Top Empowerment Companies Survey from 2008 until 2012. It is further limited to these companies that data on the share price, P:E ratio and PTBV ratio was available for the same period. Lastly if the company delisted, changed corporate identities or data was missing, it was not part of the sampling frame.

1.5. Research aim and objective

The aim of this research is to determine the relationship between the seven BBBEE compliance indicators and the total BBBEE generic scorecard rating to financial performance of companies listed in the JSE.

The main problem that will be investigated:

a) Companies with high BBBEE compliance achieve higher than average returns over time
b) Companies with low BBBEE compliance achieve lower than average returns over time
c) Companies with High BBBEE compliance achieves higher company valuations than companies with low levels of BBBEE compliance

The sub-problem that will be investigated:

i. Which of the seven BBBEE scorecard indicators positively impacts financial performance of empowered JSE companies?

1.6. Purpose of the research

In the study of BEE in the South African mining industry that explores the challenges associated with such transactions the study identified a need for empirical studies and literature on this topic (Fauconnier & Mathur-Helm, 2008). This present study shall seek to contribute towards that information cavity.

The purpose of this empirical study is to determine the relationship between BBBEE compliance and the financial performance of empowered JSE listed companies. This study also provides which factors of the Broad Based Black Economic Empowerment (BBBEE) scorecard impacts on the financial performance. Secondly it is to contribute to the knowledge base on financial performance post the implementation of BBBEE. Thirdly the results shall confirm or contradict the findings of similar research studies.

1.7. Assumptions of the research

One of the assumptions is that the published BBBEE compliance scores are factual from 2008 until 2012 as the data in 2012 Financial Mail Survey is the first time that the scores were verified prior to being published (Rowe, 2012). Previously the data was obtained via questionnaires. This may thus suggest that the method of data collection is different and thus the data itself may be distorted to the true values.

It is also assumed that the financial data McGregor BFA are a true reflection of the data and of the time it was deemed to have been reported. The latter data is drawn from published financial statements. It also assumes that all JSE listed companies have a valid BBBEE compliance scorecard that is a true indication of their status. The major assumption is that JSE listed companies compliance to BBBEE is reflected in the BBBEE scores that was retrieved by Financial Mail. It assumes that that that empowered listed companies financially benefited from the Procurement Preference Policy. It also assumes that the BBBEE ratings as published by

Financial Mail are indeed valid for that year as it was used that year's analysis.

The matter of ethics is not of concern as all the data that would be part of this research is readily available to the public. Permission to disclose such data is thus not required.

This study spans a five year period since the implementation of the BBBEE scorecard in 2007 from 2008 until 2012. The financial data that was used was from 2008 until 2012 and the BBBEE compliance data from 2009 until 2012.

1.8. Chapter summary

There is a need to contribute towards the study of BBBEE compliance and the financial performance of companies especially since the literature is limited. As part of that contribution this study shall be limited to the companies that featured in the top empowered lists of the Financial Mails Top Empowered Companies Annual Survey from 2009 until 2012. BBBEE compliance and indicator ratings shall be analysed against financial performance parameters such as share price for the period 2008 until 2012; price to earnings ratio and price to book value for 2012 (Abdo & Fisher, 2007). The objective shall evaluate where higher BBBEE compliance is associated with higher financial performance; lower BBBEE compliance is associated with lower financial performance; companies with higher shareholder value achieve higher financial performance and the factors of the BBBEE scorecard that impacts positively on the financial performance of companies.

CHAPTER 2 LITERATURE REVIEW

The literature reviewed is on BBBEE related research undertaken since the implementation of the BBBEE scorecard compliance as part of the Codes of Good Practice in 2007 (Department of Trade and Industry, 2012).

This review entails studies and methodologies related to BBBEE and its impact on financial performance of companies. It relates to the methodologies of scorecard performance and financial performance. There is limited theory on this topic and thus this is an inductive research study and to confirm or contradict the findings of recent studies. The articles reviewed range from being directly to indirectly relevant towards this topic.

2.1. Introduction

Broad based black economic empowerment is referred to as BBBEE in South Africa. As part of advancing transformation and the economic capacity of black people in South Africa the government promulgated Black Economic Empowerment (BEE) Act, No. 53 of 2003 as part of Broad Based Black Economic Empowerment. The result of the implementation of this legislation is expected to increase employment and redistribute income from the wealthy to the poor in South Africa, thus facilitating poverty eradication and economic growth (Small Enterprise Development Agency, n.d.). The growth strategy by the DTI is to provide access to the previously disadvantage population to participate in economic activity. As part of aiding this objective the DTI issues the Codes of Good Practice in 2007 that measures a company's compliance to black empowerment. The DTI also issued economic sector charter that has specific requirements for each sector such as the mining charter for the transformation of the mining sector. As part of improving the implementation of the black empowerment the Broad Based Black Economic Empowerment (BBBEE) Act, No. 53 of 2003 was amended in 2012 and what followed was an amendment to the BBBEE Codes of Good Practice. The history on

the black empowerment framework is in Figure 2. Thus as in the Figure 2 the history of BBBEE began in 1998 with BEE Commission Report and has evolved up to 2012 with the issuance of the amended Codes of Good Practice in the same year.

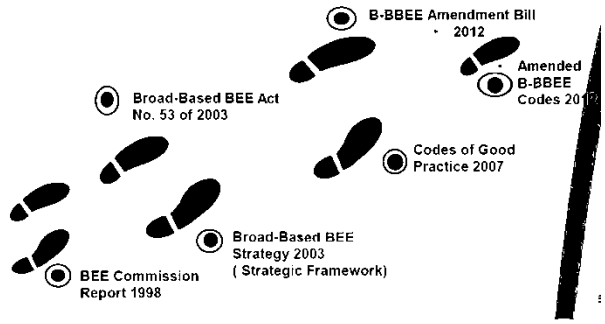

Figure 2 BBBEE Implementation Framework (Department of Trade and Industry, 2012)

BBBEE is an indication of the South African government facilitating South Africa to reach its economic capacity. It will also aid political stability by closing the income gap and racial inequality (SA Info Reporter, 2013). It is such that the entire population will be participating in that growth. BBBEE is about sustainable redistribution of wealth and economic growth and not just creating superficial wealth for the poor. The legislation aims to aid previously disadvantaged groups such as women, disabled people and the black population towards being part of the economically active population (SA Info Reporter, 2013).

The amended Code of Good Practice in 2012 means that government enterprises no longer just evaluate ownership and management control as part of the procurement assessment, they will have to assess the entire five indicator generic scorecard performance (Rowe, 2012). This effectively means that public enterprises will incorporate a portion of the procurement evaluation criteria to BBBEE compliance. The weighting of that portion in relation to all other criteria assessed during procurement is not prescribed and thus for this criterion to be effective the weighting would have to be prominent. It would thus be in the interest of potential suppliers to achieve the best possible BBBEE rating as it would influence the overall procurement evaluation score of the supplier. The implication of this revision is that public sector suppliers will have to focus on the subminimum targets of ownership,

skills development and enterprise and supplier development (Creamer Media Reporter, 2013). This implies that suppliers that achieve the minimum compliance will be actively developing skills internal or external to their business and investing in black empowered suppliers. Such a change contributes towards sustainable development of skills and thus improving the level of skills in South Africa. Furthermore should the target for any of these three elements not be met the entire BBBEE status level will be demoted by one level (Creamer Media Reporter, 2013). It will take a lot more implementation to achieve the a BBBEE status as compared to the pre 2012 Codes of Good Practice Amendment and this is highlighted in Table 2.

The BBBEE score can be classified based on the percentage of compliance. A total score of 65% and above implies a good contributor to BBBEE. A total score off 40% - 64.9% implies a satisfactory contributor towards BBBEE while a score of below 40% is deemed to be a limited contributor to BBBEE (Department of Trade and Industry, n.d.)

2.2. BBBEE in South Africa

The pre-2014 BBBEE compliance scorecard comprises seven elements i.e. equity ownership, management, employment equity, skills development, preferential procurement, enterprise development and a sector/enterprise specific measure (Department of Trade and Industry, n.d.). Each element contributes to the government's objectives of direct empowerment, people empowerment and indirect empowerment (Department of Trade and Industry, 2012). This is summarised in Table 3.

Table 3 BBBEE Generic Scorecard Seven Indicators and SA government objectives (Department of Trade and Industry, 2012)

SA Government Objectives	Generic Scorecard Indicator
Direct Empowerment	Black Ownership
	Management Control
Human Resources Empowerment	Employment Equity
	Skills Development
Indirect Empowerment	Preferential Development
	Enterprise Development
	Socio Economic Development

In terms of drivers of BBBEE, a government report suggests that the strategy adopted by the South African government in 2003 was to facilitate the redistribution of wealth across previously disadvantaged races by fast tracking the BBBEE regulatory instrument by leveraging government spending (Department of Trade and Industry, n.d.).

BBBEE is very much a progressive and current topic in South Africa which is evident in the Broad-Based Black Economic Empowerment Amendment Bill that includes an update to the definitions; to provide compliance by state owned enterprises and government departments and to deal with compliance, offences and penalties (Department of Trade and Industry, 2012). There is strong government support and transparency in providing all the information, tools and the latest developments relating to BBBEE in South Africa (Department of Trade and Industry, 2012). Thus BBBEE is current and relevant in South Africa.

In the recent study it is suggested that BEE does contribute towards economic transformation and the government has a more critical role to (Hamann, et al., 2008) Again the intended research study shall point out which factors are contributing towards this development in financial performance.

In the study on the case of the metals and engineering industries employment equity and skills developments are not evident in BEE compliance amongst firms. However the qualitative, interview based questionnaire study doesn't take into consideration the effect on business performance (Mohamed & Roberts, 2008).

In a study in the Sedibeng region in South Africa an empirical study on a sample of small and medium enterprises, found that the respondents didn't believe there was any benefit to BBBEE within a small and medium businesses (van Wyk, 2010). This indicates ironically those potential business owners that would benefit from the procurement preferential policy are in fact not of the view that BBBEE is going to add value to their businesses. This sentiment is again reflected in an empirical survey that was conducted where a qualitative research was done on five hundred managers on the perception of BEE on the ten business performance indicators with the conclusion that most respondents disagreed with the notion that BEE compliance would improve business performance (Kruger, 2011). Although this is a qualitative study, the conclusion still suggests that there is no positive association to business performance and BEE compliance. This current empirical study shall provide a quantitative insight that may or may not support this conclusion.

A study shows that the BEE programme charters are in fact restricting socio-economic transformation in SA that favours large corporations and requests that the implementation of BEE be investigated (Hamann, et al., 2008). This suggests that there are gaps in achieving the objectives of BBBEE. If this was true then large corporations that are listed would benefit from BBBEE.

2.3. BBBEE and financial performance

Research suggests that annual average share price return is a key financial performance measure (Abdo & Fisher, 2007). The annual average share price was calculated for period 2003 and 2006 and this value was then correlated to the key

measures of corporate governance. The calculation for annual average share price return took into account the period and the start and end share price value (Abdo & Fisher, 2007).

A similar approach was applied in the study of BBBEE and financial performance where the compound annual growth rate or CAGR was calculated for the period 2004 and 2009 and correlated with the total BBBEE rating of 2009 (Mathura, 2009).

The calculation for CAGR is defined as below (Investopedia, n.d.)

$$Compound\ Annual\ Growth\ Rate = \left(\frac{Ending\ Value}{Beginning\ Value}\right)^{\left(\frac{1}{\#\ of\ years\ of\ return}\right)} - 1$$

Equation 1 Compound Annual Growth Rate (CAGR) (Investopedia, n.d.)

where,

Ending value is the the value of share price including dividends,

Beginning value is the start value of the share

In the studies by van Heerden, Abdo & Fisher and Mathura the calculation for annual share price return did not suggest that dividends were included in the CAGR computation. Alternatively it is unlikely there may not have been dividends issued during those periods and by all sample units. In the event that dividends were excluded from the annual share price return then the values of CAGR will be computed as lower than reality.

In managerial accounting various ratio analyses are computed to determine various measures of a company's performance. To measure how many times the price of a share is selling to the amount the same share is earning; one computes a price to earnings ratio. The price-earnings ratio is the current or market price per share

divided by the earnings per share (Brewer, et al., 2007). Often a high price-earnings ratio suggests that investors expect the earnings to be higher than average and are thus willing to pay a premium price for the share and the share is relatively expensive to the current earnings. For low price-earnings ratio, it suggests that investors believe that the earnings are not optimistic and the demand for shares is lower than for optimistic earnings sentiments, thus the share is cheap in comparison to present earnings (Brewer, et al., 2007). If investors sentiments are reflected in the share price and in the case of price-earnings ratio, in a BBBEE context, companies that are suppliers to public entities would naturally receive favourable sentiments from investors since earnings would be expected to increase on the basis of the Preferential Procurement Policy. For these reasons it is expected that where higher price-earnings ratios positively correlates with BBBEE ratings, it is a reflection of investor's optimistic sentiments. An alternative ratio to evaluating the quality of a company's performance is earnings per share (Harrison & Horngren, 2006) which influences the price-earnings ratio. The earnings per share ratio is computed by the net income less dividends paid to preferred share investors divided by average number of common shares outstanding (Brewer, et al., 2007). The advantage of this ratio is that it is not dependant on shareholder sentiment.

Price-earnings ratio is a measure of the company share as an investment decision whereas earning per share (outstanding common shares) is a measure of companys profitability (Harrison & Horngren, 2006). This thus contradicts the usage of price-earnings ratio to measure financial performance of companies as done by Mathura in 2009, van Heerden in 2011 and Abdo & Fisher in 2007.

The efficient-market-hypothesis (EMH) suggests that share prices are a reflection of all known information (The Economist, 2009). To use a share price as a financial performance metric would then suggest that the share price of JSE listed companies reflects the information known about companies that are suppliers of public enterprises as well as BBBEE transactions. It assumes that investors will demand more of a share from a company is a prospective public enterprise supplier and a

potential company for BBBEE ownership deals. Thus there are advantages and disadvantages towards utilising share price as a measure of a company's performances as it is merely the sentiments of investors' and not the actual company performance.

Compliance to Black Economic Empowerment (BEE) Act, No. 53 of 2003 is measured by utilising the Codes of Good Practice as published in 2007 and then revised in 2012. One of the government's objectives of BBBEE policy is to achieve economic growth (SA Info Reporter, 2013). Increased economic growth is achieved by increasing a country's gross domestic product and this is in-turn is related to increased revenue, sales and sales of all producers of goods and services (Begg & Ward, 2007). Thus if companies are BBBEE compliant and suppliers of public entities, this would favour their position in terms of preferential procurement subject to other procurement criteria. Therefore compliance to BBBEE would suggest an increased likelihood of being awarded business and hence increased revenue for those companies supplying goods and services to the public sector.

The legislative beginning of BBBEE was when the Broad-Based Black Economic Empowerment Act No. 53 of 2003 was promulgated and signifying a start of a transitioning process from the apartheid South Africa to a democratic South Africa. This was the legal framework to promote black empowerment (Government Gazette, 2004).

In a research report done in 2009 there was no significant linear relationship between the BEE scorecard rating and profitability (i.e. annual share price, price-to-book value and price-to-earnings ratio) for 209 companies (Mathura, 2009). The research analysed the BEE score over a single period and not each of the seven BBBEE components over a period of time. Furthermore the report evaluated the BBBEE financial performance of four clusters by using the k-means clustering method of the companies comparing the scores in 2004 and in 2009. This means

there was no evidence to suggest high BBBEE compliance increases financial performance. There was no evidence to suggest that low BBBEE scoring companies achieved negative profitability. This research will investigate each BBBEE compliance indicator to the financial metrics as well as to compare the performance of high BBBEE compliant companies' portfolios to the JSE sector indices. Since this research applies a different data analysis methodology it would be of interest to note the similarity or difference in trends.

The empirical study on corporate governance and shareholder financial benefit (share price, price to earnings and market to book value) of companies listed on the JSE concluded a positive correlation of corporate governance and share price returns for the period 2003 and 2005 (Abdo & Fisher, 2007). Also portfolio sectors comprising high scoring corporate governance companies out-performed the sector index. The converse was also proven that portfolio sectors comprising low scoring corporate governance companies under-performed the sector index. This research provides insight into the design methodology of evaluating a scorecard with several indicators and financial performance for a sample of population of sector categories on the JSE. This study doesn't however take into consideration compliance to BBBEE (Abdo & Fisher, 2007). The same financial metrics were utilised by Mathura (2009) however the methodology differed. This research study utilises the same financial metrics and methodology utilised by Abdo and Fisher (2007) however instead of measuring the impact of corporate governance indicators, BBBEE compliance indicators are measured.

This conclusion by Abdo and Fisher study in 2007 is inconsistent with the empirical study of 74 companies listed on the JSE where high governance disclosure does not lead to share appreciation but leads to a higher firm evaluation. The period was from 2003 until 2009 and thus indicates that perhaps over a longer period disclosure of corporate governance has a negative correlation with share price (Kolobe, 2010). The method employed is also the same as was done by Abdo and Fisher and in this report the sample was over a longer period which may explain the difference in

correlation. It may suggest that the method of analysing scorecards on financial performance becomes inconsistent when the period is increased as in this case. Since this study is from 2009 until 2012, the result may differ should the period be extended.

The recommendation that for South Africa to transition from an apartheid country to one of liberation meant that BEE preferential procurement is used as a tool to expand small businesses. The Black Business Council was the body that was appointed to formulate the BEE legislation in 1998. The BEE Act is effectively reported as an affirmative action approach towards training and labour recruitment. The article recommends that BEE should not measure empowerment by focusing on ownership. However this contradicts the existence if the ownership component of the current BBBEE scorecard because it forms part of the BBBEE measurement. The beneficiaries of BBBEE should be amongst the majority of South Africans and not limited to the ANC which suggests that the government spending might be biased towards procurement from companies that are ANC affiliated as well as BBBEE compliant (Asaf, et al., 2005) This biasness will not be considered in the relationship of the dependant and independent variables.

In a study on the top 200 BEE companies there is evidence that the share price increases following BEE announcements (Fairbairn, 2009). The share price may be a financial performance indicator although the price is based on demand and supply. This research study to be conducted considers share price as a financial performance indicator even though there is subjectivity to a share price. The main reason is to compare the findings of this study with research and that could be done by using the same metrics.

Recent media articles indicate that increasing the skills development target component of the BBBEE scorecard from 3% of the payroll of all employees to 6% of black employees could have a detrimental impact to the business as a large

percentage of the work force would be unproductive for the period of training (Odendaal, 2012). This suggests by taking productive staff out of production activities and to focus on skills development for that period may actually be to the detriment of the companies' productivity and hence financial performance. This intended research study shall ascertain if the BBBEE skills performance indicator has any positive or negative to financial metrics.

The empirical qualitative study done on a sample of 69 family businesses concludes that compliance to BBBEE implies a greater opportunity for winning contracts. This implies that compliance to BBBEE increases business performance and hence financial performance (Orton, 2008). This yet another example of qualitative study on financial implication of business from BBBEE compliance however this positive correlation contradicts that where there was negative association with BBBEE compliance and business performance improvement (Kruger, 2011).

In another qualitative survey of JSE listed companies, the ownership indicator on the BBBEE scorecard received the highest ranking reason by 72 respondents as needed to sustain economic and democratic structures (Sartorius & Botha, 2008). The study draws lessons from Malaysian experience in 1970 where the New Economic Plan was almost equivalent to BEE and in terms of procurement 30% of the shareholders equity had to consist of Malays (Sartorius & Botha, 2008). It is interesting to note that skills development is probably the most sustainable indicator had been surpassed in this analysis. This research shall confirm if there is a correlation with ownership and any of the financial metrics per sector or across all sectors.

The survey relating to the corporate governance disclosure compliance and governance performance does indicate that there is a difference between the sample from the private sector and from the public sector (Centre for Corporate Governance in South Africa: University of Stellenbosch Business School, 2011). This suggests another method to analyse scorecard indicators however it compares performance to

different samples (JSE top 40 listed and state owned enterprises) and not to financial or business metrics.

Companies with higher BBBEE compliance scores did not outperform those with lower ratings in terms of financial performance (van Heerden, 2011). BBBEE compliance positively correlates to financial metrics however it is statistically insignificant (van Heerden, 2011). This confirms the study by Mathura in 2009 because in that study there was no correlation established between BBBEE scores and profitability metrics.

Another study showed a negative correlation between BBBEE ratings and market performance indicators (share price, market-to-book-value and price to earnings ratio) for the period 2005 to 2008 on 200 JSE listed companies (Ferreira & de Villiers, 2011). This however contradicts the findings by Mathura in 2009 and van Heerden in 2011.

2.4. BBBEE and company value

Literature indicates that shareholder value or corporate value added depends on the type of investments made and the choice of financing. Market capitalisation refers to the product of share price and the number of shares whereas market value added refers to the market capitalisation minus the amount that investors bought shares for or book value of shares (Brealy, et al., 2012). Thus a positive market value also known as book value added implies that total current value of the shares increased in the market to the price it was bought for. A negative market value added implies that the total current value of the shares decreased in relation to the total price the shares were bought for. The former is thus favourable from a company and investor performance point of view. This measure shows the actual value added and where it is positive or negative and not the percentage value added. This deficiency is addressed in the market-to-book ratio which is the ratio of the market value of shares

and the book value of shares. A market-to-book-value or price to book value of greater than 1 means that for every currency unit the market would have multiplied that value by the market-to-book-value ratio. For a MTBV ratio of less than one means that for every currency unit invested the market would have reduced the value invested to value proportional to of the ratio (Brealy, et al., 2012). Thus a MTBV of greater than one is favoured by investors and companies as it generates a return on investment. This measure of investor or shareholder value or company value was used to correlate governance scorecard compliance (Abdo & Fisher, 2007). In the study where shareholder value was correlated to BBBEE ratings, PTBV was used as a metric (Mathura, 2009). Lastly in a similar study to this MTBV was used a measure of shareholder or investor value when correlating with BBBEE ratings and the seven indicator ratings ((van Heerden, 2011). Thus in this study PTBV will be utilised as measure of investor value when correlating with BBBE ratings and BBBEE indicator ratings.

Even though recent research uses MTBV as a measure of company value, there is evidence to suggest there are disadvantages to using this metric. The market value fluctuates due to various influencing factors; the market value is a reflection what investors the future price to be. The MTBV metric is useful to judge whether the listed company as a whole has a positive or negative performance (Brealy, et al., 2012). To know the actual value added theory suggests economic value add or EVA which measures after-tax interest and net income less the cost of capital times total market capitalisation (long-term debt and value of shareholder equity) (Brealy, et al., 2012). A positive EVA implies the company created value for the shareholders and negative EVA implies the opposite. The benefit of EVA is that it is based on actual data and not future sentiments and it is not affected by market forces. The downside is that the accuracy of the long-term debt value may be questionable in being updated with the asset value. (Brealy, et al., 2012). Both the EVA and MTBV have advantages and disadvantages.

BBBEE compliance was correlated to price-to-book-value on a sample of JSE listed

companies that showed no relationship (Mathura, 2009). Although in another study BBBEE compliance was positively yet insignificantly correlated to the market-to-book-value on a sample of 49 JSE listed companies (van Heerden, 2011). The study on the relationship between corporate governance and financial performance such as market-to-book-value showed that for each sector, companies with higher firm values achieved higher than average firm values and the same for companies with lower firm values achieved lower than average firm values (Abdo & Fisher, 2007). Lastly in a study off BBBEE and business performance a sample of JSE listed companies BBBEE score was correlated to market-to-book-value (Ferreira & de Villiers, 2011).

Thus in the research directly relating to firm value metric price-to-book-value or market-to-book-value is widely used and will thus be utilised in this study. Since previous literature used this metric, for comparison of results it MTBV ratio will be used as well.

2.5. Justification of the research design

The voluntary disclosure of a value added statement (VAS) by South African companies in 2004 is positively correlated with labour related performance such as the BBBEE rating. In this instance the measure is a voluntary disclosure and not a mandatory or legislative disclosure and it further not biased towards government spending. This study fails to analyse the performance indicators of the VAS and merely just the disclosure of it. The strength of the analysis lies in the evaluation of the components of the BBBEE scorecard that confirms the correlation between the component performance and VAS disclosure (Cahan & van Staden, 2009). This is yet another method of analysing a scorecard to another statistic. This methodology does not measure the actual ratings of a VAS to BBBEE ratings.

Gender-related Development Index (GDI) and Gender Empowerment Measure

(GEM) are calculated by the simple arithmetic average of the indicators. The limitation of this calculation is if the variance is large on any one of the indicators then it influences the result of the index (Charmes & Wieringa, 2003). This is the advantage of the BBBEE scorecard in that each component is weighted and not just the average which contributes to the integrity of the score.

The method of measuring scorecard indicator values to financial metrics is an analysis of governance scorecards of listed companies and the relationship to price to earnings, share price and price to book value (Abdo & Fisher, 2007). BBBEE compliance ratings were measured to financial metrics in the form of four clustering group across the four most frequent JSE sectors according to the BBBEE ratings and then (Mathura, 2009).

BBBEE compliance positively correlates to financial metrics on a sample of 49 JSE listed companies however it is insignificant (van Heerden, 2011). In that study the methodology of correlation of BBBEE to share prices, price to earnings and price to book value was based on the Abdo and Fisher (2007) design although the period was from 2005 until 2008 and 2008 until 2010 to compare the impact of the 2008 recession. This research study shall span 2009 until 2012 and thus the period shall be longer than the previous studies of three years and over a larger sample size.

Thus this study shall be for the period 2009 and 2012 similar to the studies done by van Heerden (2011) from 2005 until 2008 and 2008 until 2010 and Mathura (2009) from 2004 until 2009 and Abdo and Fisher (2007) from 2003 until 2006 on samples of JSE listed companies. Another difference is that the JSE sector combination analysed is different to previous research.

2.6. Chapter summary

The literature review provides evidence that the topic is fresh and current and there is a need to contribute toward the empirical knowledge on the impact of BBBEE and financial performance especially since there are inconsistent findings with the available literature.

Financial performance shall be measured with three metrics namely calculated average share price, price to earnings and profit to book value where the latter is company value. These metrics have been used in recent research studies. The difference with previous literature is that the CAGR will take into account the dividends that were issued during the period 2009 until 2012.

Qualitative research on BBBEE and financial performance indicates there is positive association between BBBEE and financial or business performance (Kruger, 2011). However findings that contradict this suggest there is no benefit. In one study there was no correlation between companies with high and low (Orton, 2008) and (van Wyk, 2010).

There is no significant correlation between BBBEE compliance ratings and financial performance (Mathura, 2009) and in another study utilising a different design methodology the same result was confirmed (van Heerden, 2011). However this was contradicted another study where a negative relationship was found between BBBBE compliance and financial performance (Ferreira & de Villiers, 2011).

CHAPTER 3 RESEARCH PROPOSITIONS

One of the government's key objectives is to increase economic growth by leveraging the public sector to achieve the BBBEE Code of Good Practice targets. The key catalysts are the Preference Procurement Policy and the Codes of Good Practice that dictate that public entities shall evaluate a supplier's compliance to BBBEE in all procurement transactions. This effectively means public entities shall employ the services of BBBEE compliant suppliers. This indirectly means that a favourable score and pending the procurement evaluation weighting of BBBEE compliance such a supplier would increase its chance of being awarded that business to competitors with a lower BBBEE compliance score.

The main problem that will be investigated:

a) Companies with high BBBEE compliance achieve higher than average returns over time
b) Companies with low BBBEE compliance achieve lower than average returns over time
c) Companies with high BBBEE compliance achieves higher company valuations than companies with low levels of BBBEE compliance

The sub-problem that will be investigated:

i) Which of the seven BBBEE scorecard indicators positively impacts financial performance of empowered JSE companies?

The propositions are similar to that proposed by Abdo & Fisher (2007) and van Heerden (2011).

3.1. Chapter summary

There are three main problem propositions and one sub problem that will be tested. The first two propositions relate to the levels of BBBEE compliance in relation to average returns. The third proposition relates to the levels of BBBEE compliance in relation to shareholder value. Lastly the sub problem relates to those contributing BBBEE compliance factors that positively correlate to financial performance.

CHAPTER 4 RESEARCH METHODOLOGY

The method applied shall confirm and contradict previous research findings. The approach shall be similar to that done by Abdo and Fisher (2007) although in this instance the governance scorecard is replaced with a BBBEE scorecard. The approach used by Abdo and Fisher was also applied by van Heerden (2011). This research will confirm or contradict these findings and by using the same parameters the results could be compared.

The research shall be an empirical study in the form of a quantitative statistical analysis to measure the correlation of BBBEE compliance to financial metrics on a sample of 64 JSE listed companies for the period 2009 until 2012. The financial metrics include calculated average share price, price to earnings ratio and price to book value.

The literature relating to evaluating scorecard ratings and the financial performance of companies was found in the study of corporate governance disclosure and the financial performance of listed companies (Abdo & Fisher, 2007). In recent literature by applying the same methodology, it was found that BBBEE compliance is measured to these financial metrics such as share price returns, price-to-earnings ratio and market-to-book-value.

4.1. Research design

The longitudinal design shall entail statistical correlation of BBBEE compliance and the seven BBBEE indicators to the average share price return, price-to-earnings ratio and price-to-book-value ratios. The annual average share price return is calculated for the period 2009 until 2012 (Abdo & Fisher, 2007) although utilising the 2008 values as the initial values of the 2009 financial year and takes into account the dividends issues for the same period. The price-to-earnings ratio and price to book

value ratios are for the period 2012. The advantage of this approach is to the test of correlation of the BBBEE scorecard indicators and financial performance indicators. It is further advantageous because the scorecard indicators that do positively correlate with the financial performance will also be identified.

4.2. Population, sample size and sampling method

The population is initially limited to the top empowered companies listed on the JSE the period 2009 and 2012. Because the calculation includes the 2008 values of the share price, this implies that the top empowered companies would have also been in the top empowered list in 2008. This was to calculate the annual return for the period 2009 and 2012. The data shall thus be obtained from secondary data sources. The population is all of the listed JSE companies however because BBBEE compliance data for each of these companies is not readily available, the sample was selected based on the annual Financial Mails Top Economic Empowerment Survey. This survey provides the full BBBEE rating and the rating of the seven indicators on the generic scorecard. The sample was further reduced from 100 to 71 observations that featured annually from 2008 until 2012. Where data was not available the observations were reduce even further to 64 sample units.

This is thus a nonprobability sampling method as the units don't all have an equal chance of being selected and is further referred to as judgement/purposive sampling because its restricted to the most empowered JSE listed companies (Ramaboa, 2012). Companies that were delisted or that were subject to corporate names changes were also excluded. The result of a shrinking sample size is that not all JSE sectors will be evaluated and those sectors that will be evaluated may not have a large enough sample size. However in this study, even though the sample size of some sectors reflects at least one unit the analysis was carried out.

4.3. Research instrument

The study shall utilise a multivariate techniques in the form of a simple Pearson correlation, analysis of variance and linear regression (Keller, 2009). The correlation shall be utilised to ascertain the relationship between average BBBEE compliance ratings and indicator scores to average annualised share price, price-to-earnings ratio and price-to-book-values. This will be further analysed across JSE sectors. A correlation will be drawn between each sectors performance and the performance of the portfolios comprising high BBBEE compliant companies and low BBBEE compliant companies respectively. These BBBEE portfolios are classified into two groups using the k-means cluster method (Ramaboa, 2012). The variance of the BBBEE and financial data is analysed with the analysis of variance method whilst the extent and validity of the correlation is analysed with linear regression.

4.4. Data collection

The source of information is from secondary data sources. Each company shall be associated to BBBEE scorecard ratings from 2008, until 2012. BBBEE data for each sample unit identified from the Financial Mails Top Empowered Companies Survey. For each sampling unit, each of the BBBEE indicator scores and total scores shall be obtained from Times Media Limited. All the data is readily available to the public.

The data for the financial performance in the form of ratios reported in the annual financial statements shall be obtained from McGregor BFA. McGregor BFA is a database of financial data of public and private companies in South Africa. The data for the share price, price to earnings and price to book values was obtained from McGregor BFA database from 2008 until 2012. The 2012 JSE sector indices converted to the South African currency were also obtained from McGregor BFA. The share price, price to earnings and price to book value sector indices were aggregated value obtained from McGregor BFA.

4.5. Data analysis

The independent variables are the total BBBEE ratings the seven BBBEE scorecard indicators. The dependant variables are the financial performance indicators. The multivariate statistical analysis shall be adopted such as dependence techniques. A simple Pearson correlation is used to determine the relationship between the dependant and independent variable (Keller, 2009). That shall be for the period 2009 and 2012. A further correlation shall be determined within industrial sectors and between two groups of BBBEE ratings. Each group shall be identified with the k-means cluster classification (Ramaboa, 2012). The variance of the data of BBBEE ratings, CAGR, P:E and PTBV is evaluated with a single factor analysis of variance approach (Keller, 2009). To determine the extent and validity of the relationship between BBBEE and CAGR, BBBEE and P:E and BBBEE and PTBV, a linear regression is applied. In both instance tests for normality is applied. Depending on the distribution of the data parametric or non-parametric techniques shall be used (Ramaboa, 2012) unless research dictates otherwise.

4.6. Limitations

The analysis is subject to the availability of all the BBBEE ratings and indicator ratings for all of the top empowered companies listed on the JSE. This applies to the financial data and JSE sector as well. The sample size will thus be smaller than the original sample of companies due to unavailability of data. The 2013 BBBEE data could not be obtained as it was published by a different publisher i.e. The Mail and Guardian. Another reason was that the method of data validity differed between The Financial Mail and the Mail Guardian and it was of the view that the results would not be fairly analysed.

Since all data relating to share price, price to book value and price to earnings was for each company was obtained from McGregor BFA and drawn from financial year end statement for the period 2008 until 2012, it is assumed that the date of the data

is at the 30 March 2013 of that year.

In terms of the JSE share price, price to earnings and price to book value sector indices, it is assumed that since the information is drawn from the annualised database it is for the 31 March 2012 year end.

4.7. Validity and reliability

Validity refers to evaluating the instrument to verify if it's measuring what was intended to be measured and reliability refers to the consistency of results if the interval or respondents changed (Ramaboa, 2012). The BBBEE compliance data is collated in a database by Financial Mail from compliance scorecards and the indicators are pre-determined by the Codes of Good Practice. Thus the BBBEE data is indeed measuring compliance against the Codes of Good Practice policy. Interestingly the reliability of the data is of question since various studies over different periods do not yield the same conclusion about BBBEE and financial performance. The sector indices are as reflected by the JSE and thus the validity of the share price, price to earnings and price to book value are dependant not only on the share price but also on the earnings reported by the company and the market value of assets.

As this study is an empirical one of a quantitative nature the validity and reliability evaluation is limited and excludes the qualitative evaluation of validity such as criterion-related validity and face validity. It also excludes qualitative evaluation of reliability such as equivalent/parallel form of reliability, split-half reliability, inter-scorer/.rater reliability and internal consistency.

4.7.1. External validity

The objective is to establish which of the independent variables or the BBBEE scorecard indicators contribute towards each financial performance indicator or the dependant variables. Thus a linear regression with a test for co-efficient of correlation and co-efficient of determination shall indicate the relationships between two variables (Keller, 2009:137). This is sufficient construct validity in that the instrument measures what was intended to measure. The linear regressions will also contribute in providing insight towards BBBEE and financial performance for each sample and is therefore content valid. Linear regression will also provide the validity of the models to BBBEE and each of the financial metrics.

4.7.2. Reliability

If the linear egressions and the test between variables are conducted again the results will be identical as the data is quantitative and will change unless the period or the sample changes. This is the same for the analysis of variance. This confirms the test-retest for reliability of the instrument (Ramaboa, 2012). Thus there will not be reliability testing as it is applicable to qualitative data.

4.8. Chapter summary

From a sample of 100 top empowered companies reported in the Financial Mails Annual Top Empowerment Companies Survey, 71 was chosen based on the company featuring in these surveys from 2008 until 2012. This was further reduced to 64 after financial data was not available for 7 companies for one or more periods. Share price, price to earnings and price to book value data from 2008 until 2012 is obtained from McGregor BFA database. The 2012 JSE sector indices are also obtained from McGregor database. BBBEE ratings shall be correlated to average share price, price to earnings and to book value using the Pearson correlation.

Variance of the BBBEE data, share price, price to earnings and price to book value shall be analysed with the analysis of variance method. The sector analysis across two BBBEE groups shall employ the k-means cluster classification. The model of BBBEE ratings to share price, price to earnings and price to book value shall be assessed with linear regression. The main assumption is BBBEE ratings, financial metrics and JSE sector data are actually what was reflected at the time of the period being reported as.

CHAPTER 5 RESULTS

The independent variable, BBBEE compliance is measured and rated from 1 until 105 points. Each of the seven contributing indicators were measured and rated from 0 or the maximum per category i.e. equity ownership (20 points), management, (10 points), employment equity (10 points), skills development (20 points), preferential procurement (20 points), enterprise development (10 points) and corporate social investment (10 points). The values of these parameters were for the period 2009 and 2012 (Financial Mail, 2012) and (Financial Mail, 2009). The financial metrics of performance or the dependant variables were obtained for period 2008 until 2012. The annual share price return was calculated for period beginning 2009 and period ending 2012.

The findings of analysis are then compared to literature and previous research findings where applicable.

5.1. Research findings

In 2009 the distribution of the BBBEE compliance ratings for the 64 companies is that forty percent of the scores equate to all scores that are above fifty points, thus more than half of the sample are above the fifty percent point. This is described in Figure 3. The pattern if distribution is close to normal.

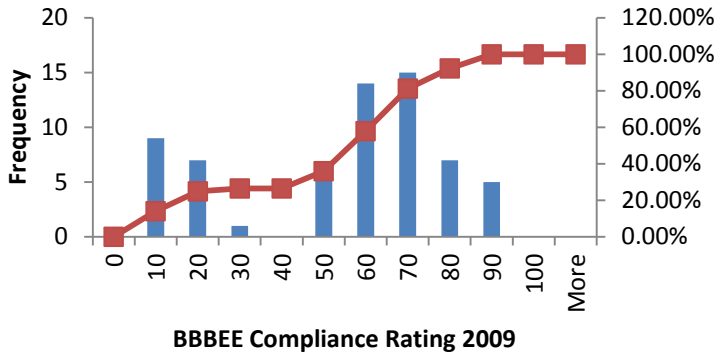

Figure 3 Distribution of BBBEE compliance ratings on the sample of 64 companies in 2009; cumulative plot of BBBEE compliance ratings

In 2012 the distribution of the BBBEE compliance ratings for the 64 companies is that twenty percent of the scores equate to all scores that above fifty points, thus more than eighty percent of the sample are above the fifty percent point. This is described in Figure 4. The pattern of distribution is close to normal. In comparison to 2009, there is marked increase from the total number of companies with at least a fifty point BBBEE rating.

When compared to previous research the sample distribution is not normally distributed (van Heerden, 2011).

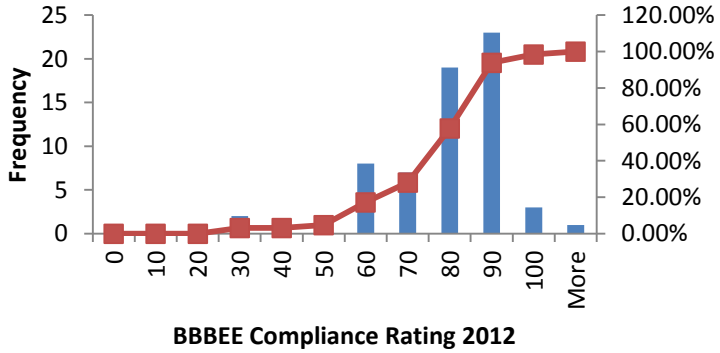

Figure 4 Distribution of BBBEE compliance ratings on the sample of 64 companies in 2012; cumulative plot of BBBEE compliance ratings

By calculating the 2009 and 2012 mean BBBEE indicator compliance rating across all seven categories, it was evident that there was an improvement in each category in Table 4. The largest improvement of 71% was in the preferential procurement category. The smallest improvement of 27% was in the ownership category. In 2009 the highest indicator rating was for the mean socio-economic development category and the increase received in 2012 could not have been higher than what it is as it was close to the maximum rating in that category. It's evident that the overall BBBEE compliance score increased by 57.47% from a mean of 47 points in 2009 to a mean of 74 in 2012. This confirms the increasing trend of the mean of 61% in 2009 to a mean of 75 % in 2011 in previous research and an improvement on the overall increase of 14% for that period (van Heerden, 2011). This means there was a greater improvement from 2009 to 2012 than from 2009 until 2011.

Table 4 Mean for each BBBEE performance total and indicator categories for 2009 and 2012 for the sample of 64 JSE listed companies

BEE Category	Max	2009 Mean	2009%	2012 Mean	2012%	% Change
Ownership score	20	12.75	64%	16.14	81%	26.65%
Management score	10	4.46	45%	6.21	62%	39.27%
Employment equity score	15	5.66	38%	8.67	58%	53.13%
Skills development score	15	5.47	36%	9.19	61%	68.03%
Preferential procurement score	20	9.36	47%	16.00	80%	70.88%
Enterprise development score	15	9.05	60%	13.18	88%	45.71%
Socio- economic development score	5	3.57	71%	5.17	103%	44.98%
Mean	100	49.25		74.56		51.42%

BBBEE scorecard indicators were correlated to each other in Table 5 and the highest indicator correlation value of 0.64 points was observed between enterprise development and preferential procurement. The next highest correlation of 0,58 points was observed between the employment equity and the management indicators. This suggests that the focus has changed slightly from enterprise development and socio economic development previously reported with the strongest correlation of 0.420 followed by 0.399 for employment equity and management (van Heerden, 2011). In terms of the total BBBEE compliance rating the highest correlation of 0,75 was towards ownership and the weakest correlation of

0.38 with socio-economic development.

Table 5 Correlation matrix for BBBEE scorecard 7 performance indicators and the mean BBBEE total rating for the period 2009 and 2012

	Ownership	Management	Employment equity	Skills development	Preferential procurement	Enterprise development	Socio- economic development	Mean Total BBBEE Rating score 2009 - 2012
Ownership	1.00							
Management	0.40	1.00						
Employment equity	0.25	0.58	1.00					
Skills development	0.27	0.16	0.16	1.00				
Preferential procurement	0.36	0.20	0.15	0.48	1.00			
Enterprise development	0.40	0.40	0.31	0.27	0.64	1.00		
Socio- economic development	0.14	0.32	0.43	0.30	0.15	0.36	1.00	
Mean Total BBBEE Rating 2009 - 2012	0.74	0.55	0.51	0.59	0.74	0.75	0.34	1.00

Correlating the average scores of the seven BBBEE scorecard indicators for the period 2009 and 2012 with the three financial metrics, CAGR, 2012 PTBV and 2012 P:E in

Table 6 shows that the strongest correlation is socio-economic development and CAGR. This does not support the findings that preferential procurement correlates with CAGR instead (van Heerden, 2011). The strongest inverse correlation is between ownership and CAGR. There is no correlation with BBBEE ratings and the financial metrics and this supports the findings of previous research (van Heerden, 2011). The strongest correlation with P:E ratio was observed as skills development. The strongest correlation with PTBV was preferential procurement. This contradicts literature that finds this to be employment equity instead (van Heerden, 2011).

Table 6 BBBEE 7 scorecard indicator categories co-efficient of correlation with CAGR, P:E, PTBV and for the period 2009 and 2012

	Average/Mean	Min	Max	Correlation with CAGR	Correlation with P/E Ratio	Correlation with PTBV
Ownership	14.44	0.00	24.20	-0.25	-0.08	0.07
Management	5.34	0.30	18.13	0.02	-0.04	-0.01
Employment equity	7.17	0.00	18.28	0.09	-0.01	-0.03
Skills development	7.33	0.00	13.97	0.02	0.20	0.05
Preferential procurement	12.68	0.00	19.88	-0.03	0.01	0.08
Enterprise development	11.12	0.00	15.39	-0.09	0.06	0.07
Socio- economic development	4.37	0.00	15.00	0.19	0.04	0.02
Mean Total BBBEE Rating 2009 - 2012	61.91	13.84	88.80	-0.10	0.03	0.07

In Figure 5 the scatter plot of annualised share price return with the mean BBBEE rating for the same period 2009 and 2012 for the 64 companies has a coefficient of determination R^2 of 0.0101 which means that 1% of the variation on CAGR points are explained by the corresponding BBBEE scores and thus there is no correlation as concluded above in Table 6. This supports the trend that there is negative but weak correlation between CAGR and BBBEE compliance rating (van Heerden, 2011).

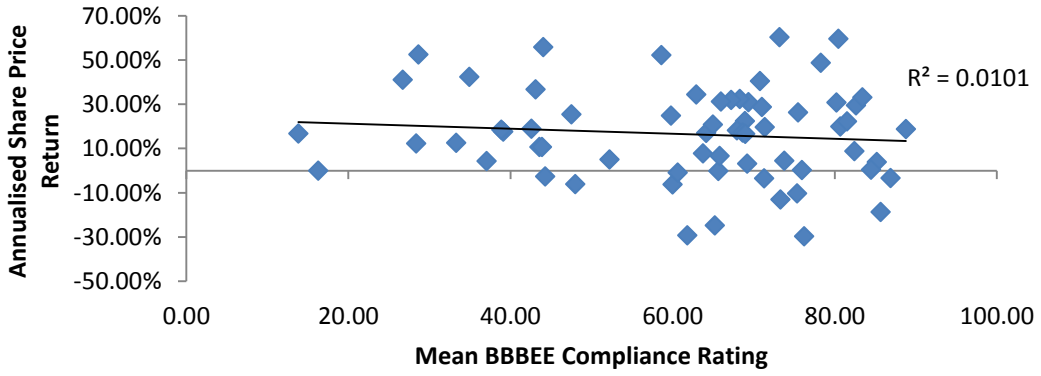

Figure 5 Scatter plot of BBBEE compliance and annualised share price return (CAGR) for the period 2009 and 2012; the coefficient of determination R^2=0.0101

In Figure 6**Error! Reference source not found.** the scatter plot of P:E with the

mean BBBEE rating for the same period 2012 for the 64 companies has a coefficient of determination R^2 of 0.0049 which means that 0.5% of the P:E points are explained by the corresponding BBBEE scores and thus there is no correlation as concluded above in Table 6. This supports the trend that there is positive but weak correlation between P:E and BBBEE compliance rating (van Heerden, 2011).

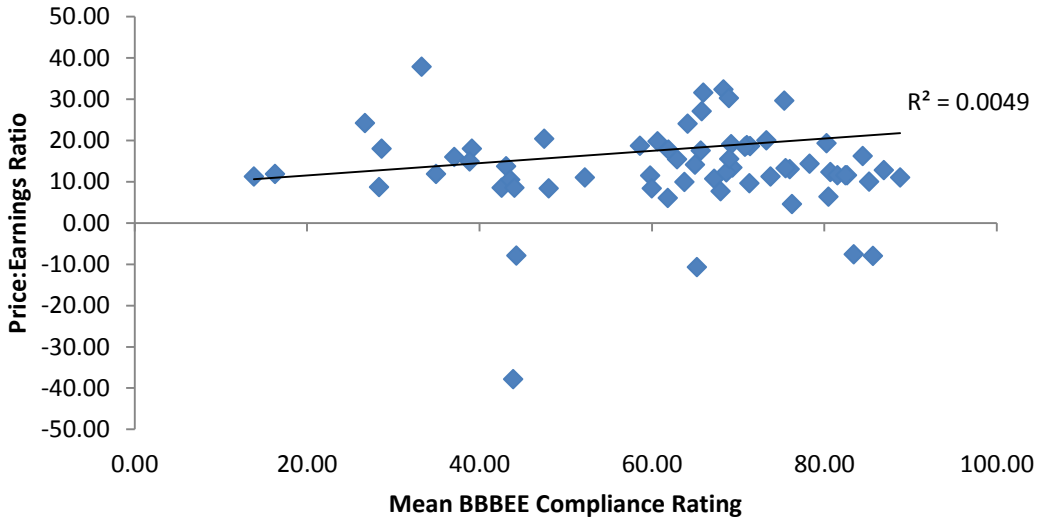

Figure 6 Scatter plot of BBBEE compliance and price-earnings ratio (P:E) for the period 2009 and 2012; the coefficient of determination R^2=0.0049

In Figure 7 the scatter plot of PTBV with the mean BBBEE rating for the period 2012 for the 64 companies has a coefficient of determination R^2 of 0.0011 which means that 0.1% of the variation in PTBV points are explained by the corresponding BBBEE scores and thus there is no correlation as concluded above in Table 6. This supports the trend that there is positive but weak correlation between PTBV and BBBEE compliance rating (van Heerden, 2011).

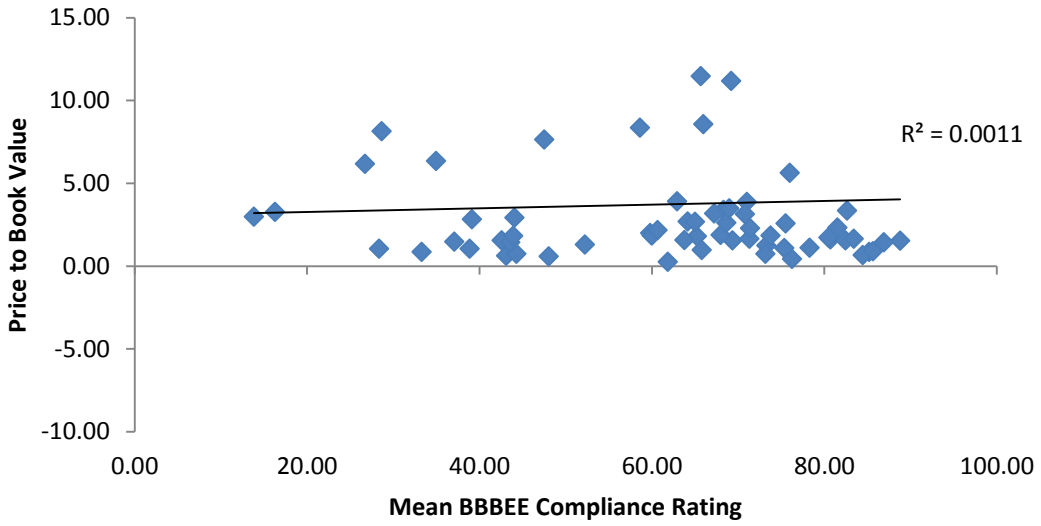

Figure 7 Scatter plot of BBBEE compliance and profit to book value (PTBV) for 2012; the coefficient of determination R^2=0.0011

5.2. Research findings by sector

All 64 companies are spread over 10 economic JSE sectors as in

Table 7. The sector with highest and lowest mean BBBEE ratings was financials at 89 and property unit trust companies at 14. This supports the conclusion that the financials is the sector with the highest mean BBBEE rating in previous literature and differs with oil and gas being the sector with the lowest mean of 58. The minimum mean BBBEE rating is 14 from property unit companies and the highest of 89 from financials.

Table 7 Mean BBBEE total and indicator rating per JSE economic sector for the period 2009-2012 for a total sample of 64 companies

		Mean										
No	Sector	Companies	Ownership	Management	Employment equity	Skills development	Preferential procurement	Enterprise development	Socio- economic development	BBBEE Rating 2009 - 2012	Min Score	Max Score
1	Basic Materials	5	15	8	7	8	12	9	7	59	43	69
2	Construction and Materials	7	18	5	5	8	14	13	5	68	44	76
3	Consumer Goods	7	13	5	7	7	14	12	4	62	37	83
4	Consumer Services	15	10	4	7	7	10	9	4	51	16	76
5	Financials	10	18	8	10	8	16	14	5	79	68	89
6	Health Care	3	20	6	7	11	14	12	4	74	71	80
7	Industrials	9	16	5	6	7	13	11	4	61	35	87
8	Property Unit Trust Companies	4	10	2	4	3	9	8	3	40	14	64
9	Technology	3	16	6	11	6	12	10	8	69	44	83
10	Telecommunications	1	16	8	11	9	12	11	3	69	69	69
	Sum	64										
	Mean		15	6	8	7	13	11	4	63	44	78

By classifying 64 companies into clusters of mutually exclusive groups of similar characteristics the underlying variable can be understood (Zikmund, et al., 2013). After a cluster analysis in SPSS, two portfolios per JSE sector comprising the high portfolio of companies with a mean BBBEE rating of 72 and low portfolio of companies with a mean BBBEE rating of 36 in Table 8. The annualised share price return was calculated for each respective portfolio and then compared to the sector index (Abdo & Fisher, 2007) as in Table 9. This opposes the 58.84% mean for the

low cluster and 74.06% for the high cluster (van Heerden, 2011). Cells without any value indicate that there were no qualifying sample units. With the exception of one sector there were positive returns with the portfolio of companies with high BBBEE ratings. With the exception of one sector there were positive returns with the portfolio of companies with low BBBEE ratings.

Table 8 SPSS Cluster BBBEE Mean Results

	BBBEE Rating Cluster	
Item	**1**	**2**
Mean Per Cluster	36.33	71.92
Number Per Cluster	18	46

Table 9 Tabulation of the portfolio returns (CAGR) by sector in comparison to the respective sectors JSE index for the period 2009 and 2012

				Portfolio with High BBBEE		Portfolio with Low BBBEE			
No	**Sector**	**Firms**	**Sector Index Return (A)**	**Firms (A)**	**CAGR (B)**	**Firms (C)**	**CAGR (C)**	**High (B)- Index (A)**	**Low (C)- Index (A)**
1	Basic Materials	5	-7%	4	5%	1	37%	12%	44%
2	Construction and Materials	7	-12%	6	-12%	1	-3%	0%	9%
3	Consumer Goods	7	19%	5	20%	2	11%	1%	-8%
4	Consumer Services	15	24%	8	21%	7	23%	-3%	-1%
5	Financials	10	6%	10	24%	0	N/A	18%	N/A
6	Health Care	3	27%	3	30%	0	N/A	3%	N/A
7	Industrials	9	5%	6	5%	3	16%	-1%	10%
8	Property Unit Trust Companies	4	6%	1	8%	3	15%	1%	9%
9	Technology	3	20%	2	46%	1	56%	27%	36%
10	Telecommunications	1	3%	1	17%	0	N/A	13%	N/A
	Total	64		46		18			

In Table 9 of the ten qualifying sectors in the category of returns of portfolio of companies with high BBBEE ratings, eight sectors exceeded or met the sector index whilst the other two sectors were below the sector index. The portfolio indices for basic materials, construction and materials, consumer goods, financials, health care, property unit trust companies, technology and telecommunications exceeded the JSE sector index. This supports the 50% of the findings that the sectors with portfolio with high BBBEE ratings, health care and financial sectors exceeded the respective JSE indices (van Heerden, 2011).

Of the seven qualifying sectors in the category of returns of portfolio of companies with low BBBEE ratings, two sectors were below the sector index whilst the other five sectors exceeded the sector index. The portfolio indices of consumer goods and consumer services performed below the JSE sector index. This partially supports the finding that the sectors with portfolio with low BBBEE ratings, basic materials and consumer service sectors exceeded the respective JSE indices (van Heerden, 2011).

With the same group cluster criteria as Table 9 the PTBV was evaluated for each portfolio and compared to the sector P:E in Table 10. The average P:E ratio was calculated for each respective portfolio and then compared to the sector index (Abdo & Fisher, 2007) as in Table 10. Cells without any value indicate that there were no qualifying sample units. In the portfolio of companies with high BBBEE ratings, all sectors concluded with greater than one P:E ratios. With the exception of two sectors there were below than one P:E ratios with the portfolio of companies with low BBBEE ratings.

In Table 10 of the ten qualifying sectors in the category of returns of portfolio of companies with high BBBEE ratings, five exceeded the sector index. This supports the 50% of the findings that the sectors with portfolio with high BBBEE ratings, health care and financial sectors exceeded the respective JSE indices (van Heerden,

2011).

Of the seven qualifying sectors in the category of returns of portfolio of companies with low BBBEE ratings, four sectors were below the sector index. This partially supports the finding that the sectors with portfolio with low BBBEE ratings, basic materials and consumer service sectors exceeded the respective JSE indices (van Heerden, 2011).

Table 10 Tabulation of the portfolio P:E by sector in comparison to the respective sectors JSE index for the period 2012

				Portfolio with High BBBEE		Portfolio with Low BBBEE			
No	**Sector**	**Firms**	**Sector Index (A)**	**Firms (A)**	**P:E (B)**	**Firms (C)**	**P:E (C)**	**High (B)- Index (A)**	**Low (C)- Index (A)**
1	Basic Materials	5	10.3	4	9.9	1	13.8	-0.4	3.5
2	Construction and Materials	7	11.3	6	12.1	1	-7.8	0.8	-19.1
3	Consumer Goods	7	12.3	5	20.1	2	17.1	7.8	4.8
4	Consumer Services	15	13.3	8	18.6	7	18.5	5.3	5.3
5	Financials	10	14.3	10	42.9	0	N/A	28.6	N/A
6	Health Care	3	15.3	3	18.8	0	N/A	3.6	N/A
7	Industrials	9	16.3	6	11.6	3	10.3	-4.7	-6.0
8	Property Unit Trust Companies	4	17.3	1	10.0	3	-3.9	-7.3	-21.1
9	Technology	3	18.3	2	-0.6	1	8.6	-18.9	-9.7
10	Telecommunications	1	19.3	1	15.5	0	N/A	-3.7	N/A
	Total	64		46		18			

With the same group cluster criteria as Table 9 the PTBV was evaluated for each

portfolio and compared to the sector PTBV in Table 11. The average PTBV ratio was calculated for each respective portfolio and then compared to the sector index (Abdo & Fisher, 2007) as in Table 11. Cells without any value indicate that there were no qualifying sample units. In the portfolio of companies with high BBBEE ratings, all sectors concluded with greater than one PTBV ratios. For both the high and low BBBEE rating portfolios, the PTBV did not exceed the sector indices.

Table 11 Tabulation of the PTBV by sector in comparison to the respective sectors JSE index for the period 2012

				Portfolio with High BBBEE		Portfolio with Low BBBEE			
No	**Sector**	**Firms**	**Sector Index (A)**	**Firms (A)**	**PTBV (B)**	**Firms (C)**	**PTBV (C)**	**High (B)- Index (A)**	**Low (C)- Index (A)**
1	Basic Materials	5	54.7	4	1.4	1	0.6	-53.3	-54.1
2	Construction and Materials	7	55.7	6	3.0	1	0.8	-52.7	-54.9
3	Consumer Goods	7	56.7	5	2.7	2	2.2	-54.0	-54.5
4	Consumer Services	15	57.7	8	10.7	7	4.1	-47.0	-53.6
5	Financials	10	58.7	10	1.7	0	N/A	-57.0	N/A
6	Health Care	3	59.7	3	9.9	0	N/A	-49.8	N/A
7	Industrials	9	60.7	6	1.7	3	2.8	-59.0	-57.9
8	Property Unit Trust Companies	4	61.7	1	1.6	3	2.0	-60.1	-59.7
9	Technology	3	62.7	2	1.7	1	2.9	-61.0	-59.8
10	Telecommunications	1	63.7	1	3.5	0	N/A	-60.2	N/A
	Total	64		46		18			

5.2.1. Analysis of variance of measured metrics by sector

As part of testing whether there is a difference of the mean BBBEE ratings, CAGR, P:E ratios and PTBV between each of the 10 sectors and within each sector, an analysis of variance is done (Keller, 2009). Each set of data is tested formal distribution to continue with an ANOVA. If the data is not normally distributed non-parametric analysis such as Kruskal-Wallis test could be used to identify if there is a difference between groups (Keller, 2009).

The histogram of the 2009 – 2012 BBBEE ratings is in Figure 8 Appendix B. The data is normally distributed. In Table 12 because the F statistic is much greater than the P value, the amount of variation between the means of each sector group is much larger than the means within each sector group. A box plot of the distribution across sectors is in Figure 19 in Appendix C.

Table 12 Tabulation of the analysis if variance of BBBEE ratings for 2009-2012 within the 10 JSE economic sectors

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	34908.91	9.00	3878.77	4.35	0.00	1.94
Within Groups	133760.16	150.00	891.73			
Total	168669.07	159.00				

The histogram of CAGR for 2009-2012 is in Figure 9 in Appendix B. The data is normally distributed. In Table 13 Tabulation of the analysis if variance of CAGR for 2009-2012 within the 10 JSE economic sectors because the F statistic is much greater than the P value, the amount of variation between the means of each sector group is much larger than the means within each sector group. A box plot of the distribution across sectors is in Figure 20 in Appendix C.

Table 13 Tabulation of the analysis if variance of CAGR for 2009-2012 within the 10 JSE economic sectors

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.74	9.00	0.08	4.12	0.00	1.94
Within Groups	3.00	150.00	0.02			
Total	3.75	159.00				

The histogram for P:E is in Figure 10 in Appendix B. The data is not normally distributed. Since the sample size is larger than 30 parametric analyses can still be done (Mathura, 2009). In Table 1 because the F statistic is much greater than the P value, the amount of variation between the means of each sector group is much larger than the means within each sector group. A box plot of the distribution across sectors is in Figure 21 in Appendix C.

Table 14 Tabulation of the analysis if variance of P:E in 2012 within the 10 JSE economic sectors

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	10661.03	9.00	1184.56	1.81	0.07	1.94
Within Groups	98096.37	150.00	653.98			
Total	108757.40	159.00				

The histogram for PTBV is in Figure 11 is in Appendix B. The data is not normally distributed. Since the sample size is larger than 30 parametric analyses can still be done (Mathura, 2009). In Table 15 because the F statistic is much greater than the P value, the amount of variation between the means of each sector group is much larger than the means within each sector group. A box plot of the distribution across sectors is in Figure 22 in Appendix C.

Table 15 Tabulation of the analysis if variance of PTBV in 2012 within the 10 JSE economic sectors

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	600.78	9.00	66.75	4.28	0.00	1.94
Within Groups	2337.30	150.00	15.58			
Total	2938.08	159.00				

Each of the seven BBBEE indicators is provided with a histogram in Appendix B.

5.2.2. Linear regression and correlation for BBBEE rating and CAGR, P:E and PTBV

Apart from predicting the value of a dependant variable as a function of an independent variable, regression provides the relationship between two variables. In this instance a simple linear regression is done for CAGR and BBBEE rating, P:E and BBBEE rating and PTBV and BBBEE rating where the BBBEE rating is the independent variable. The error variable conditions to apply regression are a normal distribution of the residuals with a mean of zero (Keller, 2009).

The normal distribution of the residuals of CAGR plotted against BBBEE ratings is in Figure 23 Appendix D. In

Table 16 the standard error 0.2078 is small in relation to the CAGR mean of 16%. The co-efficient of determination R^2 is 0.0101 which means that 1% of the total variation in CAGR is explained by the BBBEE rating and the balance is unexplained. Thus the model has a poor fit and is invalid. To test whether there is a linear relationship between CAGR and BBBEE rating the Pearson coefficient of correlation is determined (Keller, 2009). A small F suggests that most of the variation in CAGR is unexplained. With a large P value there is insufficient evidence to infer that the model is valid. Lastly for every unit of coefficient increase in BBBEE rating, the CAGR shall decrease by 0.00011%.

Table 16 Regression analysis: CAGR versus BBBEE rating

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.1004
R Square	0.0101
Adjusted R Square	-0.0059
Standard Error	0.2078
Observations	64

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.0273	0.0273	0.6311	0.4300
Residual	62	2.6777	0.0432		
Total	63	2.7049			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.2345	0.0915	2.5631	0.0128	0.0516	0.4173	0.0516	0.4173
BBBEE Rating	-0.0011	0.0014	-0.7944	0.4300	-0.0040	0.0017	-0.0040	0.0017

The normal distribution of the residuals of P:E plotted against BBBEE ratings is in Figure 24 Appendix D. In

Table 17 the standard error 39 is large in relation to the P:E mean of 17. The co-efficient of determination R^2 is 0.049 which means that 0.5% of the total variation in CAGR is explained by the BBBEE rating and the balance is unexplained. Thus the model has a poor fit and is invalid. To test whether there is a linear relationship between CAGR and BBBEE rating the Pearson coefficient of correlation is determined (Keller, 2009). A small F suggests that most of the variation in CAGR is unexplained. With a large P value there is insufficient evidence to infer that the model is valid. Lastly for every unit of coefficient increase in BBBEE rating, the CAGR shall decrease by 0.15%.

Table 17 Regression analysis: P:E versus BBBEE rating

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.0702
R Square	0.0049
Adjusted R Square	-0.0111
Standard Error	39.3777
Observations	64

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	476.5796	476.5796	0.3074	0.5813
Residual	62	96137.6370	1550.6070		
Total	63	96614.2166			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	8.5685	17.3341	0.4943	0.6228	-26.0818	43.2189	-26.0818	43.2189
BBBEE Rating	0.1488	0.2685	0.5544	0.5813	-0.3878	0.6855	-0.3878	0.6855

In Figure 25 in Appendix D the distribution of the PTBV data appears as normal. In Table 18 the standard error 6.225 is very large in relation to the PTBV mean of 3.74. The co-efficient of determination R^2 is 0.0011 which means that 0.1% of the total variation in PTBV is explained by the BBBEE rating and the balance is unexplained. Thus the model has a poor fit and is invalid. To test whether there is a linear relationship between PTBV and BBBEE rating. A small F suggests that most of the variation in PTBV is unexplained. With a large P value there is insufficient evidence to infer that the model is valid. Lastly for every unit of coefficient increase in BBBEE rating, the PTBV shall increase by 0.0112%.

Table 18 Regression analysis: PTBV versus BBBEE rating

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.0336
R Square	0.0011
Adjusted R Square	-0.0150
Standard Error	6.2224
Observations	64

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.7081	2.7081	0.0699	0.7923
Residual	62	2400.5653	38.7188		
Total	63	2403.2735			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.0427	2.7391	1.1108	0.2709	-2.4327	8.5181	-2.4327	8.5181
BBBEE Rating	0.0112	0.0424	0.2645	0.7923	-0.0736	0.0960	-0.0736	0.0960

5.3. Chapter summary

The findings relate to the correlation of BBBEE ratings and the CAGR, P:E and PTBV. There is an insignificant correlation although negative for the first parameter and positive for the latter two. The correlation extends further to each of the BBBEE indicators to CAGR, P:E and PTBV. Furthermore each of the ten sectors is then analysed according to the k-mean clustered BBBEE high and low portfolios. There is an analysis of variance of the BBBEE data as well the CAGR, P:E and the PTBV. The regression results suggest the model is invalid. This is partly due to the distribution of the data.

CHAPTER 6 DISCUSSION OF RESULTS

The discussion entails three parts, firstly the result of the proposition, followed by the statistical analysis by sector and lastly the result of the linear regression.

6.1. Research questions

The current research indicates that in the case of companies clustered according to BBBEE ratings and there was an increase in BBBEE ratings, then the mean measurements of average share return, P:E and PTBV increase in the direction of higher profitability (Mathura, 2009). This however is contradicted by another study where there is positive but insignificant correlation between BBBEE ratings and financial performance of listed companies. Furthermore companies with higher BBBE ratings didn't exceed companies with low BBBEE ratings in terms of financial performance (van Heerden, 2011).

From Figure 3 it is clear that there was a marked increase in BBBEE compliance ratings as in 2012 80% of the samples of empowered companies were rated above 50 points as opposed to 60% in 2009. This is indicative of the increase in compliance willingness by listed companies. In terms of the seven indicators, the most pronounced of the increase in compliance levels from 2009 until 2012 was preferential procurement by 70% in Table 4. One reason for this could be that was a differential from the 2009 rating and an opportunity to improve. It could also be a reflection that listed companies are instituting the preference procurement policy as part of the procurement process. A point to note is that skills development ratings increased by 68% which is in the direction of sustainable development and capital.

In terms of BBBEE ratings correlating with the seven indicators with the same in Table 4 resulted with the highest correlation between BBBEE ratings and preferential procurement, ownership and enterprise development. When correlated to CAGR, P:E and PTBV, BBBEE ratings in Table 6, yields negative and positive but weak correlations as reflected in Figure 5, Figure 7 and **Error! Reference source not**

found. respectively. Of the seven BBBEE indicators in Table 6, five of are positively correlated to CAGR and the strongest being socio-economic development. Five indicators are positively correlated to P:E with the strongest skills development. There four factors that are positively correlated to PTBV and the strongest is preference procurement.

Thus there is a correlation between BBBEE ratings and financial performance of companies i.e. CAGR (negative), P:E (positive) and PTBV (positive) however it is insignificant.

In terms of the main problem, companies in sectors with high BBBEE compliance did achieve higher than average CAGR however there also sectors that achieved below than average CAGR. Companies in sectors with low BBBEE compliance did achieve lower than average CAGR however there were also that achieved higher than average CAGR. The same trend applies with P:E ratios. Although with PTBV, companies with high and low BBBEE compliance achieved below than average ratios.

In terms of sub-problem, according to Table 5, four of the seven BBBEE compliance indicators all positively correlated with CAGR, P:E and PTBV. There are skills development, preferential procurement, enterprise development, socio-economic development and employment equity.

6.2. Statistical analysis by sector

The sample of 64 companies were spread over 10 economic sectors in the JSE. In

Table 7 the highest mean BBBEE rating was for financials at 79, followed by health care at 74. It is interesting to observe that these two sectors also have the smallest range of spread. Of the 10 sectors, the sample mean was above 50 except for property unit trust companies suggesting that most of the JSE sectors are BBBEE compliant.

In **Error! Reference source not found.**Table 9 the performance of share price return for high portfolio firms exceeded the respective JSE sector index in eight out of the qualifying ten sectors and underperformed in three sectors. The share price returns for low portfolio firms exceeded the respective JSE sector index in five out of seven qualifying categories and underperformed in three sectors. In the only categories, technology and property unit trust sectors did both high portfolio and low portfolio forms outperform the sector index.

In Table 10 all of the ten qualifying sectors for high portfolio firms was the P:E higher than average in five sectors. In the low portfolio four were below than average.

In all of the seven qualify sectors for high portfolio firms was the PTBV positive as in Table 11**Error! Reference source not found.**. In all of the qualifying high and low portfolio of firms the performance was below the average for the respective sector index.

The data for BBBEE, CAGR and P:E was normally distributed whereas the data for PTBV was skewed towards one side of the range as in Figure 10 and Figure 11 in Appendix B. Even though data for PTBV was not normally distributed, parametric analyses were still applied since the sample was greater than 30 (Mathura, 2009). In all ANOVA analyses was there much more variation between the means across the 10 JSE sectors than within each sector in Table 12 until Table 15.

Table 12

Following a normal distribution of residuals as in Figure 23 and Figure 25, the linear

regression was done on CAGR, PTBV respectively. The residual distribution was not normal Figure 24. According to the linear regression for CAGR and BBBEE ratings in

Table 16, the model is poor and invalid. The linear regression for P:E and BBBEE ratings in Table 18 deems the model poor and invalid.

6.3. Chapter summary

The results entail answering the three propositions. There is an insignificant correlation between BBBE ratings and the CAGR, P:E and PTBV. Although there is a slight negative correlation between BBBEE and CAGR the other two metrics are positive. It is inconclusive that companies with high BBBEE compliance exceed CAGR and P:E ratios. It is inconclusive whether low BBBEE compliance do not CAGR and P:E ratios. This is so because there were instances of exceeding and not exceeding the sector average in both cases. Even though in both clusters the performance was below the sector it is not conclusive as a larger sample would be required to validate it. In terms of the BBBEE compliance factors that positively correlate with the financial performance the common factors are skills development and socio economic development. The analysis of variance suggested that the data varies more within each sector than between sectors for all parameters. The regression model is invalid for all three parameters CAGR, P:E and PTBV against BBBEE compliance rating.

CHAPTER 7 CONCLUSION

The implementation of the principles of broad based black economic empowerment towards the socio-economic transformation landscape is being facilitated by the BBBEE Codes of Good Practice issued in 2008. The catalysts of this vehicle are as a minimum public entities and businesses that are suppliers to these entities. The government achieves its objectives through the BBBEE legislation however the benefit to businesses are notably being evaluated on the BBBEE compliance as part of procurement processes. Even though there are BBBEE compliant companies it does not suggest improved financial performance for those businesses.

In this study, there is a negative correlation between BBBEE compliance ratings and CAGR and positive with P:E and PTBV however the relationship is weak. Some sectors with high BBBEE compliance did achieve higher than average returns as did some sectors with below than average returns. Some sectors with low BBBEE compliance did achieve lower than average CAGR as did some sectors with higher than average CAGR. Two of the seven BBBEE compliance indicators all positively correlated with CAGR, P:E and PTBV i.e. skills development and socio-economic development. The variance of BBBEE compliance ratings, CAGR, P:E and PTBV was much larger across sectors than within each JSE sector. The linear regression model for CAGR against BBBEE compliance ratings and PTBV against BBBEE compliance ratings was found to be poor and invalid.

This thus dispels the notion that there are financial benefits to BBBEE compliance however there may be a relationship between BBBEE compliance and corporate social investment.

7.1. Recommendations

Since the new five indicators BBBEE compliance scorecard is set to be affected in 2014, the impact BBBEE on financial performance could be compared before 2014 and after 2014 with the aim to evaluate the impact of the scorecard changes.

A study could be completed on the impact of BBBEE on the financial performance of public entities since it is directly impacting such companies.

Lastly a study on the effectiveness of the BBBEE scorecard and Codes of Good Practice towards implementation of the BBBEE policy in SA could be investigated.

7.2. Chapter summary

This concludes the study of BBBEE compliance and financial performance of 64 empowered companies listed on the JSE. There is a correlation between BBBEE compliance and financial performance although insignificant. High and low BBBEE compliant companies both exceed and not exceed the sector indices in terms of CAGR, P:E and PTBV. Only two of the seven BBBEE indicators positively correlate to CAGR: P:E and PTBV. The regression model is poor and invalid and likely due to the variance of the data.

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Appendix A Data of 64 JSE listed companies

No	Top FM TEC companies	I-Net Bridge Codes	Cluster	Mean Total BBBEE Rating 2009 - 2012	CAGR 2009-2012	Price / Book Value	Price / Earnings
1	MRF - Merafe Resources Limited	Basic Materials	1	43.07	36.71%	0.63	13.80
2	MND - Mondi Limited	Basic Materials	2	69.34	30.91%	1.56	13.47
3	EXX - Exxaro Resources Limited	Basic Materials	2	59.78	24.81%	2.00	11.50
4	SOL - Sasol Limited	Basic Materials	2	59.99	-6.24%	1.84	8.47
5	HLM - Hulamin Limited	Basic Materials	2	61.82	-29.31%	0.26	6.11
6	BSR - Basil Read Holdings Limited	Construction and Materials	1	44.26	-2.74%	0.75	-7.84
7	AEG - Aveng Limited	Construction and Materials	2	75.35	-10.35%	1.11	29.67
8	GRF - Group Five Limited	Construction and Materials	2	73.28	-13.06%	1.24	20.09
9	WBO - Wilson Bayly Holmes-Ovcon Limited	Construction and Materials	2	73.76	4.42%	1.85	11.29
10	MUR - Murray & Roberts Holdings Limited	Construction and Materials	2	65.21	-24.77%	1.80	-10.61
11	PPC - Ppc Limited	Construction and Materials	2	65.64	-0.28%	11.48	17.54
12	SER - Seardel Investment Corporation Ltd	Construction and Materials	2	76.22	-29.83%	0.44	4.64
13	DST - Distell Group Limited	Consumer Goods	1	39.11	17.64%	2.83	18.08
14	TON - Tongaat Hulett Limited	Consumer Goods	2	80.68	19.92%	1.63	12.37
15	OCE - Oceana Group Limited	Consumer Goods	2	82.64	29.44%	3.36	11.64
16	ILV - Illovo Sugar Limited	Consumer Goods	2	60.63	-0.90%	2.17	19.81
17	SAB - Sabmiller Plc	Consumer Goods	2	64.13	17.03%	2.70	24.11
18	RCL - Rcl Foods Limited	Consumer Goods	1	37.06	4.35%	1.48	16.03
19	NPN - Naspers Limited	Consumer Goods	2	68.29	32.36%	3.40	32.36
20	AME - African Media Entertainment Limited	Consumer Services	1	16.29	0.00%	3.29	11.91
21	GRT - Growthpoint Properties Limited	Consumer Services	2	68.93	22.34%	42.96	30.28

No	Top FM TEC companies	I-Net Bridge Codes	Cluster	Mean Total BBBEE Rating 2009 - 2012	CAGR 2009-2012	Price / Book Value	Price / Earnings
22	CSB - Cashbuild Limited	Consumer Services	2	67.21	32.00%	3.18	10.73
23	TFG - The Foschini Group Limited	Consumer Services	2	62.91	34.36%	3.91	15.45
24	MSM - Massmart Holdings Limited	Consumer Services	2	65.95	31.16%	8.57	31.65
25	WHL - Woolworths Holdings Limited	Consumer Services	2	58.60	52.22%	8.36	18.74
26	SPP - The Spar Group Limited	Consumer Services	1	47.51	25.35%	7.65	20.45
27	LEW - Lewis Group Limited	Consumer Services	1	42.58	18.95%	1.56	8.55
28	MPC - Mr Price Group Limited	Consumer Services	1	28.65	52.48%	8.15	18.04
30	JDG - Jd Group Limited	Consumer Services	1	28.35	12.29%	1.05	8.76
31	SUI - Sun International Limited	Consumer Services	2	75.96	0.19%	5.63	13.11
32	PHM - Phumelela Gaming & Leisure Limited	Consumer Services	2	71.28	-3.53%	1.65	9.70
33	CLH - City Lodge Hotels Limited	Consumer Services	2	69.20	3.18%	11.18	19.10
35	HCI - Hosken Consolidated Investments Ltd	Financials	2	85.19	3.79%	0.87	10.08
36	NED - Nedbank Group Limited	Financials	2	88.80	18.75%	1.54	11.04
38	SBK - Standard Bank Group Limited	Financials	2	82.44	8.82%	1.56	11.65
39	DSY - Discovery Limited	Financials	2	75.49	26.32%	2.59	13.34
40	OML - Old Mutual Plc	Financials	2	78.29	48.78%	1.11	14.37
41	SNT - Santam Limited	Financials	2	70.99	28.75%	3.88	18.90
43	LBH - Liberty Holdings Limited	Financials	2	67.95	18.17%	1.88	7.75
44	SKJ - Sekunjalo Investments Limited	Financials	2	84.46	0.41%	0.68	16.27
45	NTC - Netcare Limited	Health Care	2	80.23	30.77%	24.21	19.33
46	MDC - Mediclinic International Limited	Health Care	2	71.38	19.60%	2.29	18.66
47	APN - Aspen Pharmacare Holdings Limited	Health Care	2	70.78	40.41%	3.14	18.51
48	APK - Astrapak Limited	Industrials	2	65.78	6.55%	0.99	27.15
49	NPK - Nampak Limited	Industrials	2	64.97	20.77%	2.69	14.18
50	JSC - Jasco Electronics Holdings Limited	Industrials	1	48.00	-6.22%	0.58	8.39
51	ARH - Arb Holdings Limited	Industrials	1	43.55	10.68%	1.45	10.53

No	Top FM TEC companies	I-Net Bridge Codes	Cluster	Mean Total BBBEE Rating 2009 - 2012	CAGR 2009-2012	Price / Book Value	Price / Earnings
52	BAW - Barloworld Limited	Industrials	2	52.20	5.05%	1.31	11.05
55	KEL - Kelly Group Limited	Industrials	2	85.64	-18.69%	0.91	-7.95
56	BVT - The Bidvest Group Limited	Industrials	2	68.63	17.20%	2.61	12.30
57	ACP - Acucap Properties Limited	Property Unit Trust Companies	1	43.89	10.71%	1.84	-37.81
58	VKE - Vukile Property Fund Limited	Property Unit Trust Companies	1	13.84	16.70%	2.99	11.27
59	EMI - Emira Property Fund	Property Unit Trust Companies	1	38.84	18.49%	1.06	14.93
60	OMN - Omnia Holdings Limited	Property Unit Trust Companies	2	63.74	7.73%	1.58	9.97
61	GIJ - Gijima Group Limited	Technology	2	83.40	33.03%	1.66	-7.55
62	ADI - Adapt It Holdings Limited	Technology	2	80.46	59.61%	1.73	6.40
63	PNC - Pinnacle Technology Holdings Ltd	Technology	1	44.03	55.87%	2.93	8.56
64	MTN - Mtn Group Limited	Telecommunications	2	68.96	16.53%	3.48	15.53
	Mean			61.91	16.48%	3.74	17.78

Appendix B Test for normal distribution

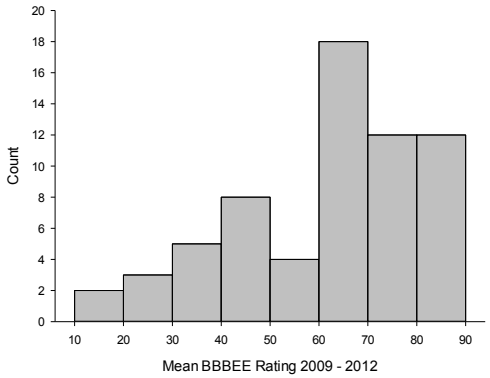

Figure 8 Histogram test for normal distribution of BBBEE compliance ratings for the period 2009:2012

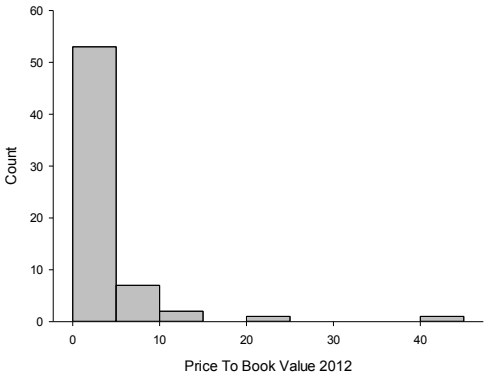

Figure 11 Histogram test for normal distribution of price to book value for the period 2012

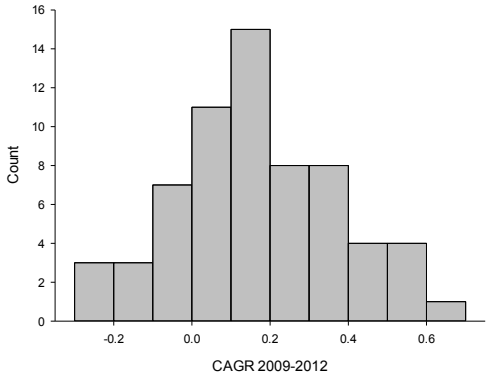

Figure 9 Histogram test for normal distribution of annualised share price return for 2009 – 2012 period

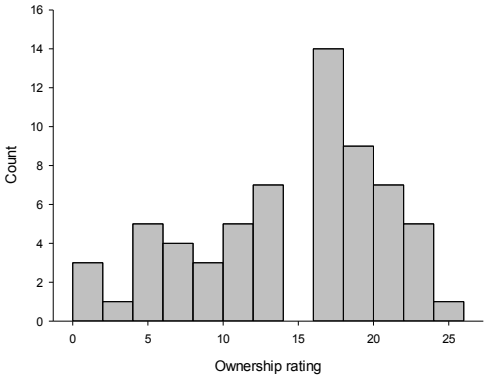

Figure 12 Histogram test for normal distribution of BBBEE compliance indicator

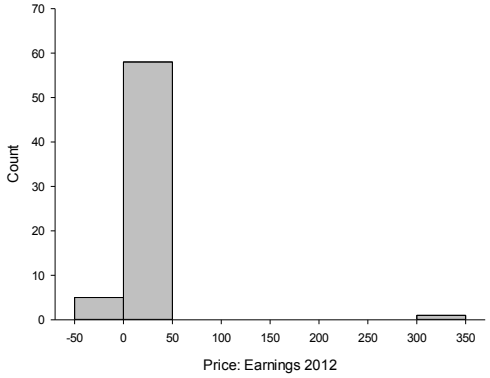

Figure 10 Histogram test for normal distribution price-earnings for the period 2012

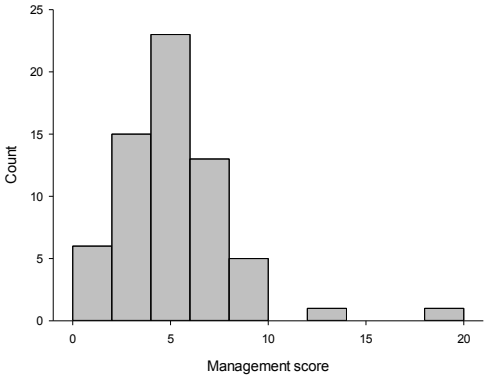

Figure 13 Histogram test for normal distribution of BBBEE compliance indicator

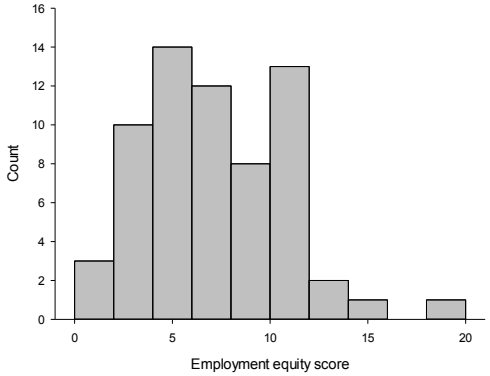

Figure 14 Histogram test for normal distribution of BBBEE compliance indicator

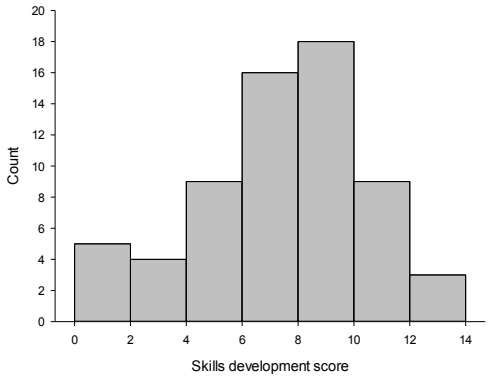

Figure 15 Histogram test for normal distribution of BBBEE compliance indicator

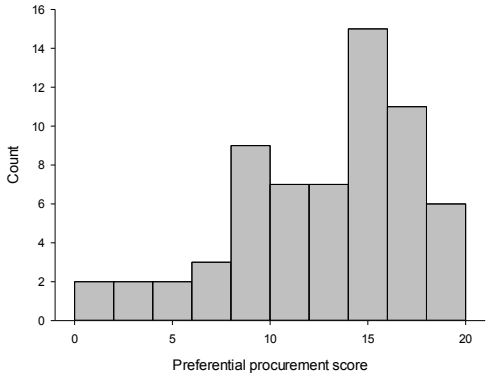

Figure 16 Histogram test for normal distribution of BBBEE compliance indicator

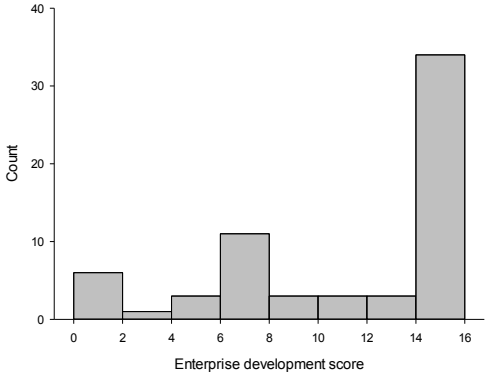

Figure 17 Histogram test for normal distribution of BBBEE compliance indicator

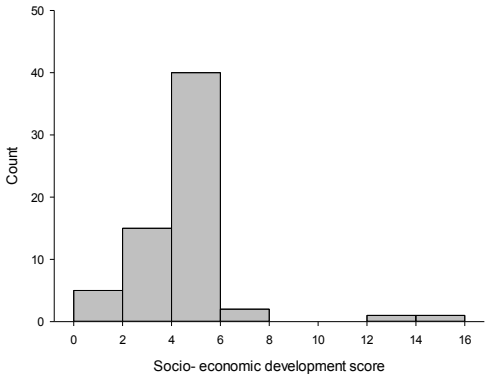

Figure 18 Histogram test for normal distribution of BBBEE compliance indicator

Appendix C Distribution box plots of BBBEE compliance ratings and financial metrics for each JSE sector

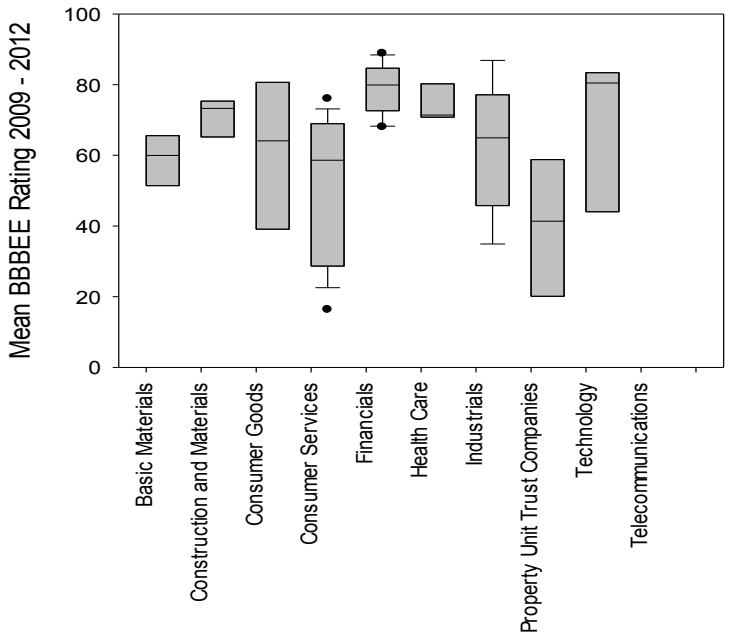

Figure 19 Box plot of BBBEE compliance ratings for 2009 – 2012 period for each of the 10 JSE economic sectors

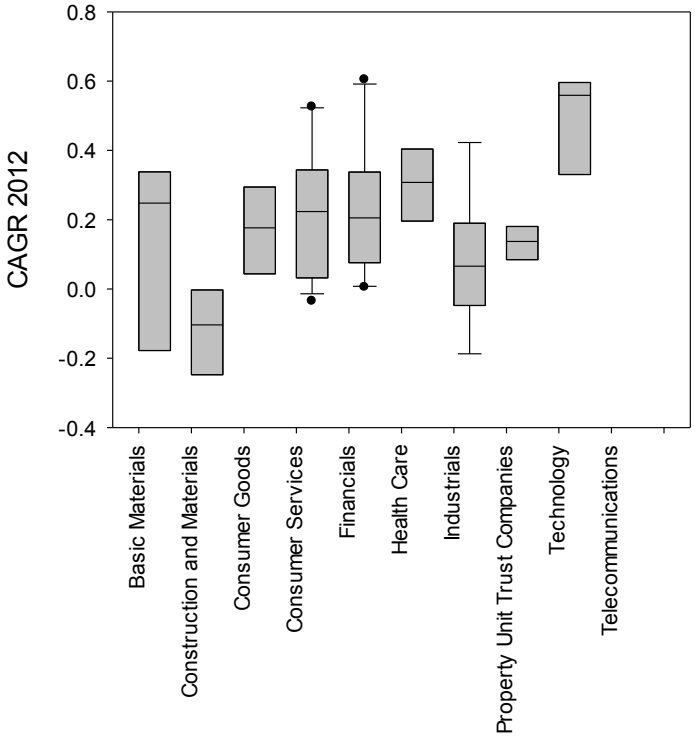

Figure 20 Box plot of annualised share price return for 2009 – 2012 period for each of the 10 JSE economic sectors

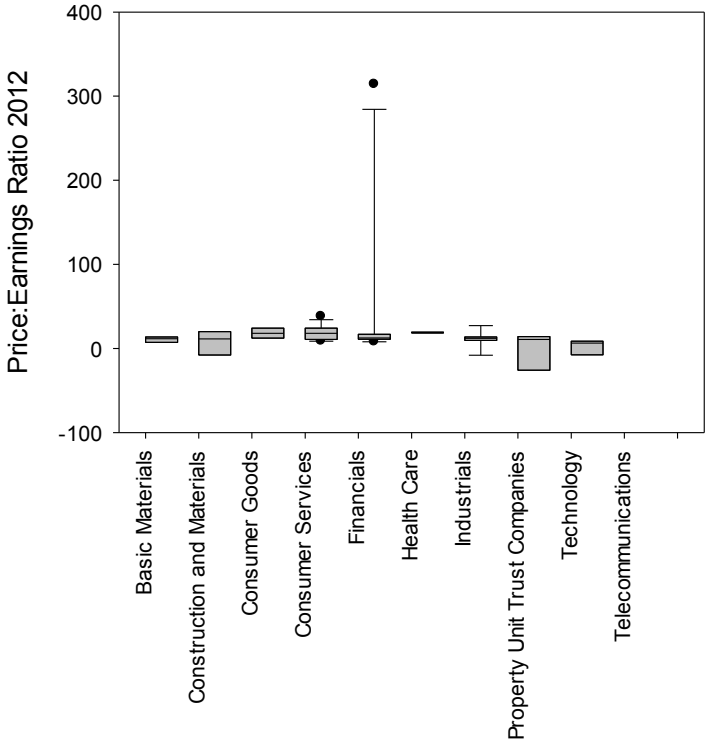

Figure 21 Box plot of price to earnings for 2012 period for each of the 10 JSE economic sectors

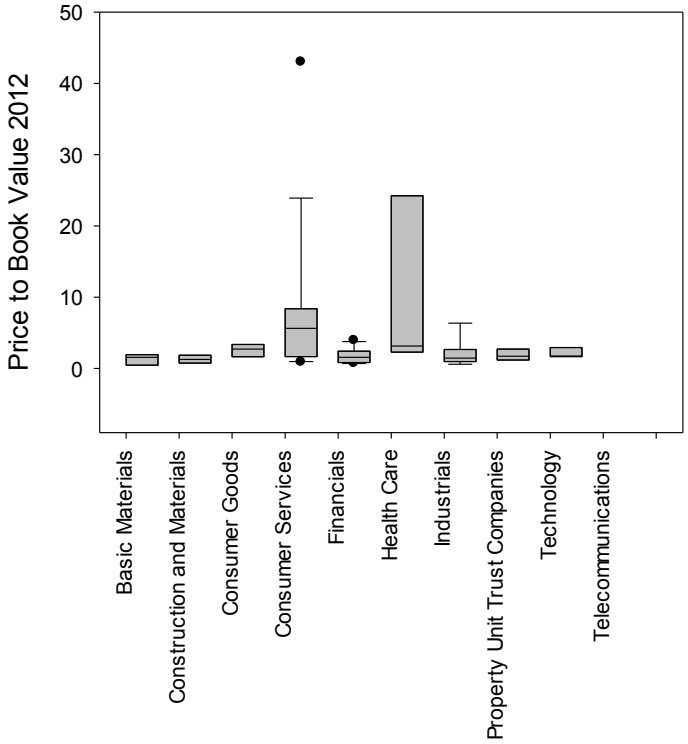

Figure 22 **Box plot of price to book value for 2012 period for each of the 10 JSE economic sectors**

Appendix D Regression diagnostics

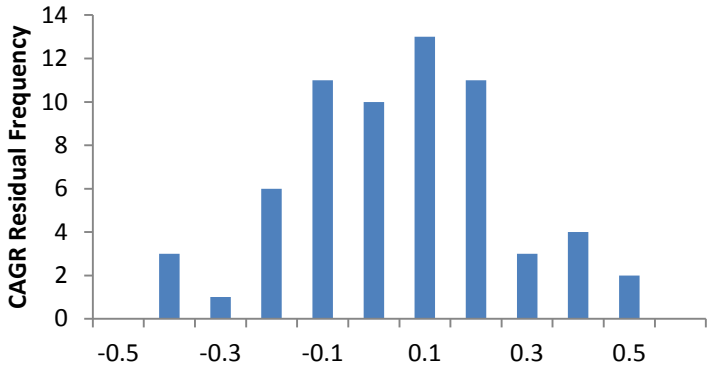

Figure 23 Histogram of residuals for annualised share price dependence on BBBEE compliance

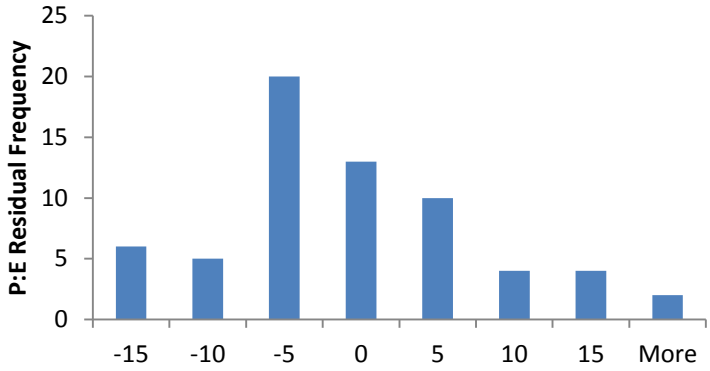

Figure 24 Histogram of residuals for price to earnings on BBBEE compliance

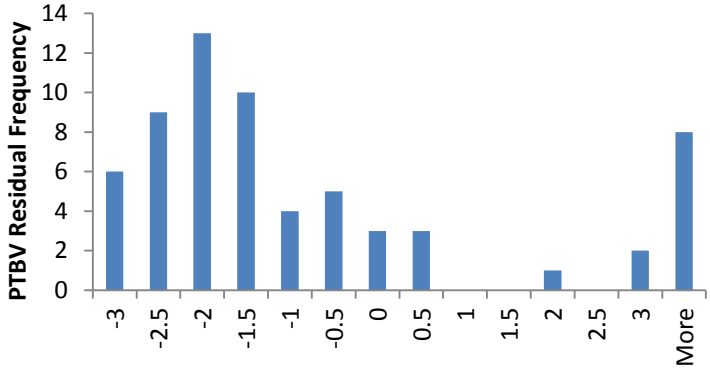

Figure 25 Histogram of residuals for price to book value dependence on BBBEE compliance