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MASTER OF MANAGEMENT IN FINANCE AND INVESTMENT

WITS BUSINESS SCHOOL

UNIVERSITY OF WITWATERSRAND

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STUDENT NUMBER: 1276989

**TITLE: CHARACTERISTICS AND PERFORMANCE OF SA MOST
EMPOWERED COMPANIES**

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Year: 2017

DECLARATION:

I **Phiwokwakhe Kenneth Ndlangamandla** hereby declare that this research is my work unless otherwise stated by reference and acknowledged. This research is presented in partial fulfilment of the requirement for the degree of Master of Management in Finance and Investment at Wits Business School, the University of Witwatersrand in Johannesburg, South Africa. It has not been previously submitted for any degree at any other university.

Signed _____ at **Johannesburg, South Africa**, on **August 2017**

ACKNOWLEDGEMENTS:

I wish to acknowledge my family for supporting me through this journey, which has been difficult and demanding, but very much worth it. I thank my father-Bemthanda, mother-Maria, siblings (Sifiso, Lindiwe, & Thandazile), son-Kevin, and his mother-Temphilo for their patience and understanding through the road. Special thanks to the Wits Business School team (Professor Kalu Ojah, Ms Meisie Moya, and the whole team) for being granted the opportunity to study at this prestigious school, and their endless support throughout the programme. Petronella Chinzvende from the Empowerdex research team, Johannesburg Stock Exchange team for the readily available support, my friends and classmates (Nkosinathi Sithole, Dr Jones Mensah, Kudzai, Mabalemi and others) for their support. My employer and Finance department for allowing me time off and support to further this dream. Finally, I would also like to pass special thanks to my Supervisor Dr Thabang Mokoaleli-Mokoteli for readily available support and guidance with the research. In conclusion, special appreciation is reserved for the Almighty GOD, for with him nothing shall be impossible.

ABSTRACT

The purpose of the study was to understand the characteristics of SA highly empowered companies and investigate the main factors influencing performance and survival of those BEE companies. The present study mainly based on secondary data. This study uses data supplied by Empowerdex financial consultants firm, for the SA BEE most empowered companies from 2004 (during the inception of the codes of goods practise) through to 2016. The performance was measured by return on total assets as a dependent financial performance variable. The return on equity, profit margin, earnings per share, price earnings, share price, and BEE score are used as independent variables, which are proxies for profitability, market, and BEE score.

Descriptive and inferential analysis has been performed using the Statistical Package for the Social Sciences (SPSS) version 24 tool for Quantitative analysis. Pearson correlation and Regression test are employed to determine the kind of relationship between dependent and independent variables, hypotheses test and evaluating normality of data respectively. In order to test multiple linear regression models, the researcher assessed the study data collected through four assumption tests; these tests include normality test, multicollinearity test, autocorrelation test and heteroscedasticity.

Based on findings of the study, regarding financial ratio analysis approach, the study concluded that there is a high share price. This pattern reveals that BEE empowered companies in South Africa rank SP higher than other performance measurement indicators. While regarding the statistical analysis it can be concluded that there is a strong and significant relationship between return on assets (ROA) with (profitability measures) ROE, PM and EPS. Results further show that there is a significant strong positive correlation between ROE and ROA with a significant value of 0.000, while there is a positive and significant relationship between PM and ROA. Results show that there is a significant strong positive correlation between EPS and ROA. The correlation coefficient for EPS and ROA is 0.157 with a statistically significant

correlation value of 0.003. That means, increases or decreases in one variable do significantly relate to increases or decreases in your second variable. There is a negative correlation between ROA and market value. There is an insignificant and negative correlation between P/E and ROA. Data also shows that there is an insignificant and negative correlation between SP and ROA

Data further indicate that there is a significant strong negative correlation between ROA and BEE score with a significant value of 0.001. There is a statistically significant correlation between BEE score and ROA. That means, increases or decreases in one variable do significantly relate to increases or decreases in your second variable. SPSS generated a negative Pearson's r value, meaning that when the amount of BEE score increases (our first variable), and the ROA (our second variable) decreases. The p-value for this correlation coefficient is 0.001. In conclusion, BEE score has a negative relationship with the return on assets.

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ACRONYMS AND ABBREVIATIONS

ANC	African National Congress
ANOVA	Analysis of Variance
BEE	Black Economic Empowerment
B-BBEE	Broad-Based Black Economic Empowerment
DTI	Department of Trade and Industry
DV	Dependent Variable
IRBA	Independent Regulatory Board for Auditors
JSE	Johannesburg Stock Exchange
PE	Price ÷ earnings ratio
RDP	Reconstruction and Development Programme
ROA	Return on Assets
ROE	Return on Equity
PM	Profit Margin
EPS	Earnings per Share
SA	South Africa
SANAS	South African National Accreditation System
SPSS	Statistical Package for Social Science
V	Independent Variable
VIF	Variance Inflation Factor

CHAPTER 1

INTRODUCTION

1.1 Background to the study

In 1994, the ANC was the majority party in the national elections and became the first democratically elected party in South Africa, ending the apartheid reign. At the time of the transition, the majority of South African (predominantly Black) citizens supported the ruling government but had no the economic power (Strydom, Christison, and Matias, 2009). After the transition, from Apartheid in 1994, the ANC government decided to intervene through the redistribution of assets, as there was a need to resolve the economic disparities created by Apartheid policies, which had favoured white business owners.

One of the important tools that the government uses to resolve the disparities is Black Economic Empowerment (BEE) policy. The BEE is a racially selective programme launched meant to redress the inequalities of Apartheid by giving certain previously disadvantaged citizens (Blacks, Coloureds, Indians, and Chinese who arrived before 1994) (DTI, 2003; Strydom, Christison, and Matias, 2009).

In the earlier years, the BEE policy was criticized for benefiting only a narrow stratum of previously disadvantaged groups, and this led in 2007 to the introduction of a modified programme called Broad-Based Black Economic Empowerment (B-BBEE) (DTI, 2007). B-BBEE ñis technically defined as a specific government policy to advance economic transformation and enhance the economic participation of black people in the South African economyò (DTI, 2007). In order to guide and measure the progress of transformation in the economy, the Government also introduced the BEE Codes of Good Practice in February 2007 (DTI, 2007). These codes serve as a framework with which to measure the level of compliance per entity, using seven

pillars, each with a relative weighting. The pillars were ownership at 20%, management control at 10%, employment equity at 15%, skills development at 15%, preferential procurement at 20%, enterprise and supplier development at 15%, and socio-economic development at 5%.

In October 2013, the Government revised the BEE Codes again and introduced new codes in an effort to make BEE effective. The new codes signal a fundamental shift in government's approach to implementing the modified programme, i.e. B-BBEE of 2007. The change was an effort by the DTI to achieve meaningful transformation, as the DTI felt that even though companies were obtaining relatively high BEE scores, the transformation was not reflective of the BEE levels (BEE Institute, 2015). These Revised Codes were applicable from October 2014 and were reduced from 7 to 5 pillars by combining Management control and Employment equity into one element and combining Preferential procurement and Enterprise development into another. The new codes have increased the effort for compliance, by introducing priority elements. The new scorecard is made up as follows: ownership at 25%, management and control at 15%, skills and development at 25%, enterprise & supplier development at 30%, and socio-economic development at 5%.

JSE listed companies that have highest BEE scores normally appear on annual rankings of BEE highly empowered companies. The rankings are done by rating agencies such as Empowerdex, Intellidex, financial media such as Financial Mail and others using the seven codes outlined above. In 2013 Intellidex and Empowerdex launched a new definitive ranking of the empowerment status of South Africa's listed companies. This ranking set the bar for the rest of the economy by showcasing the companies that have gone furthest in transforming South Africa's business environment. To be named the most empowered company in an industry and the country is a major accolade for the companies concerned (Intellidex, 2015).

Investors all over the world put their money into a business so as to get some returns on their investment in any form of business (sole proprietorship, partnership or

corporations) (Enekwe (2015). Financial measures have long been the foundation for business performance measurement (Adam, 2014). The word “Performance” means “the performing of an activity, keeping, in view the achievement made by it” (Ally, 2013). The ratios are used to determine the financial performance of an organization (Ally, 2013). However, profitability ratios have proved to be some of the most dependable tools to ensure a company’s overall efficiency and performance (Enekwe (2015).

According to Pandey (2010), financial ratio analysis is a process of identifying the financial strength and weakness of the firm by properly establishing relationships in the firm through properly establishing relationships between the items of the balance sheet and the profit and loss account. There are mathematical equations derived from information presenting on a company’s financial statement. All financial ratios are used as indicators to reveal the financial health of the company, but some key ratios reveal a company’s strength more than others (Enekwe (2015). Financial ratio analysis relationship has been discovered as having immense potentials to help an organization in improving their revenue generation ability as well as minimization of costs according to Enekwe, 2015. The purpose of the study is to understand the characteristics of SA highly empowered companies and investigate the main factors influencing performance and survival of those BEE companies.

1.2 Problem statement

The rating agencies and the media companies put a lot of effort in ensuring that company stakeholders and investors are aware of the company’s BEE rankings. Similarly, companies spent a lot of money to make sure that each year their BEE scores are calculated and duly ranked. There is currently no legal obligation for the companies to have BEE rankings. The problem is that it is not clear what the financial or performance benefits of these rankings are. Understanding the financial benefit is important, as it will make us understand better the contribution of corporate South Africa in the social and economic development of this country but most importantly

why BEE is important to companies too. Some studies highlighted in our literature have studied the correlation between BEE scores and companies performance, but have not looked at the correlation between BEE companies performance with their market value and profitability.

1.3 Objectives of the study

- To examine the relationship between BEE companies performance and BEE companies profitability.
- To examine the relationship between BEE companies performance and BEE companies market value.
- To examine the relationship between BEE companies performance and BEE score.

1.4 Statement of hypotheses

Based on the research objectives, the following hypotheses were formulated:

- H1: There is a significant and positive relationship between BEE companies performance (ROA) and BEE companies profitability (ROE, PM, & EPS).

H1a: There is no significant relationship between BEE companies performance (ROA) and BEE companies profitability (ROE, PM, & EPS).

- H2: There is a significant and positive relationship between BEE companies performance (ROA) and BEE companies market value (P/E and SP).

H2a: There is no significant relationship between BEE companies performance (ROA) and BEE companies market value (P/E and SP).

- H3: There is a significant and positive relationship between BEE companies performance (ROA) and BEE companies Score.

H3a: There is no significant relationship between BEE companies performance (ROA) and BEE companies Score.

1.5 Significance of study

The study will fill the information gap on BEE companies' performance by giving BEE companies, investors, government, research companies, verification agencies, and other stakeholders a new information perspective on the companies which have constantly been on the list of SA most empowered companies over the years, and establish if there are performance benefits for those companies. The study will complement the information from other studies by Mzilikazi (2015), Ferreira (2011), Mathura (2009), Omokolade (2016), and Kleynhans (2014) among others, who have assessed BEE performance in relation to BEE scores, and are highlighted in the literature review of the study. This study will add new insight from the correlation of BEE scores with company performance, by also looking at the correlation between company performance with market value and profitability. This information should be able to add to the body of knowledge for the different stakeholders stated above and assist towards an informed decision making process. The performance of the BEE companies for this study will be analysed over the 10 year period, which should be enough to produce conclusive results for BEE companies.

The study aims to benefit BEE and non-BEE companies with information on the performance of the ever present top empowered BEE companies hence highlight the benefits or none of the empowerment process. The Government will gain additional information on the BEE company performance which can be used for policy decision making or to improve knowledge. Investors will gain information which can assist them with share trading, as they may/may not want to trade in companies with superior results. And other stakeholders will gain information e.g. suppliers and manufactures (information on BEE companies being supplied to ascertain sustainability of their businesses), unions (information on performance of companies for which there are representative of their workforce), customers (information which can influence decision to purchase a product or service) and the general public (interested as companies can be operating communities they live in, or they may merely have an interest in company performance and continuity). It will also add to

the ongoing country debate on the effectiveness and relevance of the BEE programme, whilst also contributing to opportunities for further research on the BEE programme over the years

1.6 Organization

The final report is organised as follows: Chapter 2 presents the literature review which is the review of all the literature on BEE and company performance. Chapter 3 discusses the research methodology and data collection to answer the research hypothesis. Chapter 4 presents the results and analysis. Chapter 5 discusses and concludes the research.

CHAPTER 2

LITERATURE REVIEW

2.1 Chapter overview

The purpose of Chapter 2 is to build a theoretical basis upon which the research is formed. Using a funnel approach, this chapter will concentrate on the broad óparent theoriesôapplicable to this research, illuminating significant research findings during the process. The chapter will culminate with the identification and discussion of the research issues for this thesis

2.2 Introduction

According to Ongore and Kusa (2013), good financial performance rewards the shareholders for their investment. This, in turn, encourages additional investment and brings about economic growth. Investment in Fixed Assets is considered a real investment in economic literature. In their investment and lending policies, financial

institutions are careful to utilize their funds only for approved objectives (Salehi, 2012). The purpose of the study is to understand the characteristics of SA highly empowered companies and investigate the main factors influencing profitability and survival of those BEE companies.

2.3 History of BEE

The South Africans first democratic government was elected in 1994, with a clear mandate to redress the inequalities of the past in every sphere (political, social and economic). Since then, the government engaged on various programmes to grow and transform the economy while also ensuring the inclusion of previously disadvantaged groups in economic activities. The BEE programmes became the flagship programme for the SA government for transformation and include those previously excluded by apartheid in economic activities. As suggested by (SouthAfrica.info, website, 2016), black economic empowerment does not aim to take wealth from one group and give it to another. It is essentially a growth strategy, targeting the South African economy's weakest point inequality. No economy can grow by excluding any part of its people, and an economy that is not growing cannot integrate all of its citizens in a meaningful way. As such, this strategy stresses a BEE process that is associated with growth, development and enterprise development, and not merely the redistribution of existing wealth. Black economic empowerment is an important policy instrument aimed at broadening the economic base of the country and through this, at stimulating further economic growth and creating employment. It focused on historically disadvantaged people particularly black people, women, youth, the disabled and rural communities, (SouthAfrica.info, website, 2016).

The BEE was heavily criticised in the earlier years on the basis that it benefits only a few elites and is not having a meaningful impact on the socio economy of the country, in a bid to the respond to critics; the government established the Broad-Based Black Economic Empowerment Act, No. 53 of 2003, as stated by DTI (2016). The change was meant to establish a legislative framework; that empowers the

Minister to issue codes of good practice and to publish transformation charters; to establish Black Economic Empowerment Advisory Council; and to provide for matters connected therewith. The B-BBEE Advisory Council aims to provide guidance and overall monitoring of the state of B-BBEE performance in the economy, with a view to making policy recommendations to address challenges in the implementation of this transformation policy.

The specific objectives of the B-BBEE Act as stated by the DTI (2003) are as follows: One, to promote economic transformation in order to enable meaningful participation of black people in the economy; two, is to achieve a substantial change in the racial composition of ownership and management structures and in the skilled occupations of existing and new enterprises; three, is increasing the extent to which communities, workers, cooperatives and other collective enterprises own and manage existing and new enterprises and increasing their access to economic activities, infrastructure and skills training. This would be achieved through, increasing the extent to which black women own and manage existing and new enterprises, and increasing their access to economic activities, infrastructure and skills training; promoting investment programmes that lead to broad-based and meaningful participation in the economy by black people in order to achieve sustainable development and general prosperity; empowering rural and local communities by enabling access to economic activities, land, infrastructure, ownership and skills; and promoting access to finance for black economic empowerment.

The government introduced the Broad-Based BEE Act No. 53 of 2003 (Strategic Framework) to assist in the implementation of the B-BBEE programme. The strategy's mission was to provide for an integrated co-ordinated and uniform approach to broad-based black economic empowerment by all organs of state, public entities, private sector, non-governmental organisations, local communities and other stakeholders; develop a plan for financing broad-based black economic empowerment; provide a system for organs of state, public entities and other

enterprises to prepare broad-based black economic empowerment plans and to report on compliance with those plans; and be consistent with the Act (DTI, 2003).

The Broad Based BEE Act No. 46 of 2013 was implemented in 2014, to amend the Broad-Based Black Economic Empowerment Act, 2003, so as to insert certain definitions and to amend others; to clarify interpretation; to provide for the remuneration of Council members; to promote compliance by organs of state and public entities and to strengthen the evaluation and monitoring of compliance; to include the creation of incentive schemes to support black owned and managed enterprises in the strategy for broad-based black economic empowerment; to provide for the cancellation of a contract or authorisation; to establish the Broad-Based Black Economic Empowerment Commission to deal with compliance of broad-based black economic empowerment; to provide for offences and penalties; and to provide for matters connected therewith (DTI, 2014).

The Government introduced the B-BBEE Codes of Good practise (the Code) in February 2007, to guide and to measure the progress of transformation in the economy as stated by Ernst and Young Global ltd (2013). The codes were introduced to provide a standard framework for the measurement of BEE across all sectors of the economy and require that all entities operating in the South African economy make a contribution towards the objectives of BEE. According to the B-BBEE Act (2003) every organ of the state and public entity must take into account and as far as reasonably possible, apply any relevant code of good practice issued in terms of the Act.

Scorecard varies by entity size, with the Generic enterprises (originally more than R35 million turnover per annum and now more than R50 million) being weighted on all 7 elements currently 5 amended elements; Qualifying Small Enterprises (QSE) (previously from R5 million to R35 million per annum and now R10 million to R50 million) weighted on 4 out of 7 elements and currently on the 5 amended elements, and Exempted Micro Enterprises (EME) (previously less than R5 million and now

less than 10 million) no scorecard is exempted. The codes serve as a framework with which to measure the level of compliance per entity, under seven pillars.

Following a review, the South African government revised the BEE Codes in October 2013. These revised codes were applicable from October 2016. The amended codes of good practice were gazetted to address some shortfalls identified over the years since the introduction of the 2007 codes of good practice on BBEE. The revised codes reduced the scorecard elements from 7 to 5, by combining Management Control and Employment Equity into one element and combining Preferential Procurement and Enterprise Development into one element. Using the BEE codes stated above the BEE Verification scores will be determined as stated in the table below:

Table 2.1: BEE company verification scores

Level	2007 codes	Amended Codes	Recognition level
1	100% or higher	100% or higher	135 %
2	85% to 100%	95% to 100%	125 %
3	75% to 85%	90% to 95%	110 %
4	65% to 75%	80% to 90%	100 %
5	55% to 65%	75% to 80%	80 %
6	45% to 55%	70% to 75%	60 %
7	40% to 45%	55% to 70%	50 %
8	30% to 40%	40% to 55%	10 %
Non-compliant	Less than 30%	Less than 40%	0 %

According to Southall (2007), BEE has become one of the most high profile strategies of the ANC government. He stated that BEE has also become highly controversial, with critics arguing variously that it serves as a block to foreign investment, encourages a re-racialisation of the political economy, and promotes the growth of small but remarkably wealthy politically-connected 'empowerment' elite.

There is considerable substance to such analyses, however as stated by Southall (2007); they miss the point that BEE policies constitute a logical unfolding of strategy which is dictated by the ANC's own history, the nature of the democratic settlement of 1994 and the structure of the white-dominated economy. In his paper, he seeks to unravel that logic through the pursuit of ten propositions. He came up with an overall conclusion that while there is a strong case for arguing that BEE (or some similar programme to correct racial imbalances) is a political necessity, the ANC needs to do more to combine its empowerment strategies with the delivery of a better life for all.

The challenges faced by the programme have been highlighted by among others, Ntingi (Fin, 2016) who stated that one of the challenges faced by BEE is fronting which is a deliberate attempt to exclude black people from participating in shareholdings, management structures and supply chain of industries. Ngwenya (2006) stated that fronting had generally been understood to be the practice whereby companies falsify their BEE credentials in order to win tenders, contracts and licences or to benefit economically from purporting to be a BEE entity or BEE compliant. Black involvement in the main economy is still woefully low, even after the country had celebrated 20 years since apartheid ended. According to Engdahl and Hauki (2001), Window-dressing, fronting and rent-a-black, are all definitions of the same kind of conduct, namely when black business-people are lending their faces and fronting for white businesses. They are invited at equity level to give the company an artificial black empowerment profile. The business is still run by white managers, which means that there is no managerial skills transfer to blacks. The DTI describes fronting as a deliberate circumvention or attempted circumvention of the BBBEE Act and BEE codes of practise. Fronting B-BBEE transactions tops the list of the number of reported cases and complaints received by B-BBEE commission according to Ntuli (Fin24, 2016). The government has since criminalized the malpractice as it undermines broad-based economic empowerment.

Another problem faced by BEE is fraudulent verification of certificates. According to Ntuli (Fin24, 2016), the verification process must assist with achieving compliance

and proper implementation. It must provide the necessary assurance that what the company states about its B-BBEE status are indeed correct and can be relied upon. Without proper verified B-BBEE processes, the country will depend on reports that are not correct and doctored to make everyone believe that transformation is happening when it is not the case.

According to Engdahl and Hauki (2001), as a result of the apartheid educational system, the market of well-educated black South Africans is not only small but also skewed. For example, there is a significant lack of black people with technical degrees. Due to the demand for black professionals, fully trained black people are much more expensive than their white counterparts. This will pose a challenge for BEE policy as there is a need to employ black people in senior, middle and junior management, in compliance with the policy, which will be a challenge if there are a few qualified black people in the market.

According to Makomva (Destiny man, 2010), in order for BEE to achieve its objectives of economically empowering black people, it has to be instituted in a sustainable manner. This has not always been the case with ownership-based transactions that have been implemented in the past, largely because the funding structures were not sustainable. Sustainability will defeat the objectives of government with the BEE policy if it was not achieved with the programme.

From the onset of the first wave of BEE, the question of enrichment versus empowerment quickly entered the mainstream BEE debate as the political elite were among the main major beneficiaries of the BEE deals struck as at that date, furthermore Ernst & Young revealed that 60% of the value of the total BEE deals struck in 2003 valued at R42.2 billion accrued to just two companies controlled by Patrice Motsepe, brother-in-law of another ex-politician become BEE entrepreneur, Cyril Ramaphosa, and yet another ex-politician, former Gauteng Premiere, Tokyo Sexwale, according to Jammie (Irin Plusnews, 2004, as stated by Ngwenya 2007).

As suggested by Makomva (Destiny man, 2010), BEE may be perceived as resulting in enrichment, opportunism, and cronyism. This view has arisen because of the prevalence of politically connected individuals as major benefactors of BEE. Mbeki (2009) stated that BEE strikes a fatal blow against black entrepreneurship by creating a small class of unproductive but wealthy black crony capitalists made up of ANC politicians. It, thus, robbed South Africa of the key to economic and industrial development: an entrepreneurial bourgeoisie. Mavundla (2010) said BEE and preferential procurement had marginalised small businesses instead of helping them. It had also promoted tenderpreneurs who were tender thieves because they got their tenders through [political] connections. The Enrichment, opportunism, and cronyism is against the objectives of BEE, which is equal distribution of wealth to black people of the country, as few people end up benefiting from the programme.

2.4 BEE Companies performance

A vast amount of literature on BEE has looked at the performance of BEE companies's shares upon the announcement. Wolmarans (2011) investigated the medium term financial performance of companies who had previously shown their corporate social responsibility by engaging in black economic empowerment transactions. Specifically, the companies's performance before, during and after the 2008 financial crisis was studied, JSE all shares index was used as a benchmark. Although the average performance of the BEE companies (-7.1%) was significantly less than that of the market (32.1%) before the financial crisis, the average decrease in value (-27.3%) was also significantly less than that of the market (-46.4%). After the financial crisis, the average performance of BEE companies (33.5%) was not significantly different from that of the market (39.8%). The year of BEE transaction and the size of the companies did not have a significant impact on performance before, during or after the financial crisis, as stated by Wolmarans (2011).

Acemoglu, Gelbz, James and Robinson (2007) found that there are no significant effects of BEE on firm investment, labor productivity or profitability. If anything,

they found some weak evidence that BEE has a negative effect on investment and labor productivity. According to Acemoglu, Gelbz, James and Robinson (2007), there may be several reasons for this lack of impact; most plausibly the impact of BEE will take a long time to show.

Contrary to the above researchers, Mzilikazi (2015) stated that there is a positive relationship between BEE compliance and operating financial performance of JSE listed companies. In her findings, the BEE firms achieved an excess return of 2.31% over the 10 years (2004 to 2013) period of the study. The results of the study also indicate, however that BEE compliance is not beneficial in all industries. BEE compliance was found to be mostly beneficial in industries like Oil & Gas, Consumer Services and Basic Materials and Financials. The Telecoms and Technology did not benefit from BEE compliance. Further results show that BEE compliance is beneficial in economy booms (pre-crisis period). While the terms of 2008-2009 financial crises were positive, they were not significant. Finally, Mzilikazi (2015) also investigated whether BEE higher compliance could be associated with higher operating financial performance. The results indicated that BEE higher compliance is beneficial to an extent but is not the requirement for the highest level of financial performance. The highest BEE scores were not found in the highest region (fourth quartile) of excess returns but were found rather in the second and third quartile of excess returns.

A BEE transaction is an important vehicle whereby South African companies can give expression to their Corporate Social Responsibility objectives (Wolmarans and Sartorius 2009). They studied the short-term financial impact of 125 BEE transactions involving 95 companies. The conclusion found was a significant positive average return of 1.15 percent for the three-day event window surrounding a BEE announcement. Therefore, according to the Wolmarans and Sartorius (2009) study, BEE announcements seem to have a positive impact on shareholder wealth. The results also indicate that there are no significant positive differences on the effect on shareholder wealth creation between different types of BEE transactions. There were,

however, differences in the impact on value creation when the different years of announcements were considered. The announcement of BEE transactions between 2002 and 2005 had no significantly positive impact on shareholder value creation, but for 2006 it had a significantly positive impact over both the three-day and the five-day windows. Therefore, in this study of Wolmarans and Sartorius, a positive relationship between corporate social responsibility and share value creation was found.

Strydom, Christison, and Matias (2009) examined the market reaction to 254 BEE transactions between 1996 and 2006. While a positive reaction to BEE transactions over the event window was observed, it was not statistically significant and therefore it was not possible to reach a general conclusion about market response to BEE transactions. It is important to note, however, that there was no evidence of a negative market reaction to BEE transactions indicating at the very least that they are not perceived as being wealth reducing. A statistically significant positive AAR on the announcement date was observed, however. In addition, it was observed for individual firms that only a relatively small number of firms in the overall sample exhibit positive responses to BEE transactions. The positive reaction to announcements of BEE transactions, however, is not universal and appears to be restricted to a relatively small portion of the overall sample. In addition, some of the individual firms exhibited negative reactions to BEE transactions. As suggested by Strydom, Christison, and Matias (2009), it appears that the nature of the market reaction to BEE transactions may be related to firm specific and/or transaction specific characteristics and therefore, further study is necessary in order to examine the link between these and the market response.

Ward and Muller (2015) examined the long-term impact on the share prices of listed companies after announcements are made relating to black empowerment deals which impact equity ownership. The research examined 118 announcements and found a positive cumulative abnormal return of around 10% after the first year. The study also found the JSE to be reasonably inefficient, in that the impact of BEE deals only

appears to be incorporated into share prices several days after the initial public announcement. The positive result was confined to smaller companies, whilst large companies experience a marginally negative cumulative abnormal return. One explanation for this according to the study was that smaller companies benefit from being BEE compliant as they are able to increase their turnover and margins on account of their BEE ratings and improved access to State and other contracts. The impact on large companies appears to be marginally negative. This may be because the relative benefits of BEE compliance are small, given that these companies are likely to be already well entrenched. Furthermore, many of the large-cap companies are resource companies, which export commodities in international markets and for whom BEE compliance is a necessary cost of business with little or no benefit. The main finding of the research was that the long-term market response to BEE deals is strongly positive for companies with a market capitalisation of less than R3,5bn and marginally negative for large companies.

Jackson III, Alessandri, and Black (2005) found that on average, the announcement of a BEE transaction is associated with a significant positive increase of almost two percent in the market value of equity of the announcing firm. They also found that the positive abnormal returns associate with BEE transactions are significantly positively correlated with the proportion of the firm's equity acquired by the BEE group, and the average BEE transaction was completed at a significant discount (of almost ten percent) from the market price of equity for the participating firm. Their overall findings were that BEE transactions are associated with significant positive abnormal returns for the shareholders of the announcing firms. Thus, they stated that in the case, of a typical BEE transaction the price of corporate social responsibility is smaller than the benefit. That is, over their sample period, the equity market rewarded South African companies for entering into Black Economic Empowerment transactions.

Kleynhans and Kruger (2014) indicated that a positive relationship exists between the different BEE scores and the variables of operating profit, turnover and investment.

They stated that by taking both the elements of the enablers and shortcomings of BEE into account, a so-called push-pull effect can occur when the positive and negative effects of BEE work against each other, ultimately ensuring that economic growth remains stagnant. They concluded that the effect of BEE in companies thus far has been positive and it is recommended that BEE measures be applied in the future. They also suggested that the years since the implementation of the BEE Act can be regarded as an adjustment phase, where companies had the opportunity to apply the BEE frameworks steadily within their company's policies. Their empirical investigation was based on data between January 2009 and December 2011 and the BEE scorecard was used to obtain BEE scores of the top 50 BEE companies.

Mathura (2009) stated that high BEE scores of South African companies have a positive impact on their profitability and their firm's value over time (2004-2009 study). The results also confirmed that the sub-prime crisis and subsequent global recession hampered BEE progress. His study also concluded that low BEE scores have a negative impact on their profitability and their firm's value over time. Lastly, the evidence suggested that the implementation of BEE initiatives although discussed and debated since 2000, still had a long way to go in order to be considered a successful macroeconomic initiative by the government.

However, van der Merwe and Ferreira (2014), suggest that there is a significant negative relationship between the ownership element as well as the preferential procurement element and share returns, van der Merwe and Ferreira (2014) further states that the costs relating to BEE compliance for these two elements exceed the benefits of being BEE compliant in the short term. It is important to note that their study relates to the period 2005 to 2011 and furthermore, tests the association between the BEE elements and share returns in the short term.

Ferreira and de Villiers (2011) investigated the relationship between a company's BEE score and future returns, and their results suggest that there is a significant negative relationship between the BEE score and market returns. The negative

relationship was even more noticeable between the BEE level (determined by using the BEE score) and the future returns. However, it is important to note that the study investigated the share returns over a one-year period as opposed to the effect over a longer period. Furthermore, there could be an optimum level of investment which would result in optimal share returns for the shareholders. Ferreira and de Villiers (2011) suggest that companies may be over-investing in the short term, in attempting to obtain a higher BEE score and that although a higher BEE score could result in higher sales, certain costs may outweigh the benefit of higher sales.

Kruger (2011) investigated the impact of BEE on three different sizes of businesses and on the ten dimensions of business performance including overall domestic and global competitiveness, service excellence and client satisfaction, productivity (e.g. increased output and less waste), entrepreneurial spirit with innovative new products, financial performance, sales and access to markets, human development and staff morale, business ethics, production performance, and quality and acceptance of products. The results indicated that large multinational companies (those with a turnover of more than R35 million per annum where full BEE compliance is mandatory) significantly disagreed more with the notion that BEE would have a positive impact on and improve their business performance in most of the dimensions. Generally, medium-size businesses (with turnover of between R5 and R35 million per year) that need to comply with at least four of the seven elements in terms of the BEE scorecard, disagreed less than the large multinational companies, but more than the small enterprises and micro-enterprises, that the impact of BEE would improve their performance in the ten dimensions of business performance. Finally, Kruger (2011) found out that although small enterprises and micro-enterprises do not have to demonstrate BEE compliance they nevertheless generally disagreed that the impact of BEE would improve business performance in the ten dimensions.

Akinsomi, Kola, Ndlovu, and Motloun (2016) investigated the effects of BEE on returns of property firms on the JSE using annualized returns, Sharpe ratio and alpha

coefficients. The results were that BEE firms perform better (have superior returns) than non-BEE firms. The BEE rated property firms during the period 2006-2012 exhibited higher and more favourable estimates in relation to non-BEE rated property firms. The results from their tests which investigated during and after the financial crisis also highlight that BEE rated firms have more superior returns in general. They indicated that the BEE rated firms have lower risks and higher returns than the non-BEE rated firms. The return measurements were all consistent that the BEE firms provide a higher return than the non-BEE firms.

van Heerden (2011) analysed 49 top BEE companies for three consecutive years. The companies were assessed during two periods (first period, 30 June 2007 to 30 June 2010, was the main period for the review, and the second period was from 30 June 2005 to 30 June 2010). The second period was split into two periods from 30 June 2005 to 30 June 2008 and 30 June 2008 to 30 June 2010. This was done to isolate the date the global economic recession was triggered (August 2008). The relationship between the companies' BBBEE scores and financial performance measures was assessed over the two review periods. Companies were clustered into high BEE scoring portfolios and low BEE scoring portfolios. Furthermore, the companies were grouped into JSE sectors and by size, value and resources market effects. The results show that, against all expectations, there were no significant correlations between either individual BEE category ratings or overall BEE ratings and the financial performance measures of the companies. Even when the tests were done on the clusters and groups the results shown no significant correlations. van Heerden (2011) repeated the tests for the period before the economic recession and the period during the economic recession and again no significant correlations between BEE rating level and financial performance measures were encountered. The results also revealed that on average the sector indices outperformed the companies in the high BEE scoring cluster with regards to the financial performance measures. Therefore van Heerden suggests that the analysis nor confirms or denies that BBBEE score is an indicator or predictor of company performance. However, he identified the sample size as a limitation to reach statistically significant results.

Sanchez (2006) stated that, although it was too early to evaluate the success of the newly adapted BEE framework, it seems that the direction being taken will strengthen the positive synergies between the SMME and BEE frameworks and encourage the possibilities of socio-economic change. Small enterprises provide the majority of jobs within the South African economy; therefore, if BEE fosters their growth, the result will be more jobs for a majority of black South Africans. But despite the positive dynamics fostered by the new BEE strategy, it is still difficult to measure its real impact and the extent to which these efforts are benefiting a broader number of disadvantaged individuals. More research and analysis is needed on the limitations of this approach and on the interaction between the so called first and second economies.

Some of the literature done on our chosen variables and ratio analysis include, Yung-Jang (2012) who studied the relationship between cash management with performance results and company value on the example of Japanese and Taiwanese companies. They used a performance result variable as Return of Efficiency (ROA) and a company value variable as Return on Equity (ROE) of shareholders. The result of this research about Japanese and Taiwanese companies indicated that there is a negative relationship between ROA and cash management as well between ROE and cash management.

Salehi (2012) investigated the relationship between working capital changes and fixed assets with asset return of 120 manufacturing listed companies in Tehran Stock Exchange during 2006 to 2010. The outcomes of the study suggest that there is a significant relationship between working capital changes and fixed assets with assets return in the research community (Salehi, 2012). Enekwe (2015) investigated the relationship between financial ratio analysis and corporate profitability: a study of selected quoted oil and gas companies in Nigeria. The results of the analysis shows that total assets turnover ratio (TATR), debtor's turnover ratio (DTR) and interest coverage (IC) have positive relationship and statistically significant with corporate

profitability while debt equity ratio (DER) and creditor's turnover ratio (CTR) have negative relationship and statistically insignificant with corporate profitability in the Nigeria oil and gas industry. However, it is commonly observed that an investment in fixed assets is not independent of the liquidity position and funds flow patterns (Salehi, 2012).

CHAPTER 3

3.1. Introduction

The Previous chapter covered the theoretical framework and literature review that guided this study. This chapter discusses the methodological choice used during the data collection and analysis stage of this study. Specifically, it provides an explanation for the research methodology and design undertaken during the course of this project. The chapter is organised as follows. Section 3.2 presents the data and data sources; 3.3. Discusses the research methodology; 3.4. States the data collection methods used; 3.5. Indicates the data analysis methods; and 3.6. Describes the variables used in the research

3.2. Data and Data Sources

The word 'research' and the work that goes into research have different meanings for different disciplines (Martin & Guerin, 2006). Leedy and Ormrod, (2010:2) defined research as a 'systematic process of collecting, analysing and interpreting information (data) in order to increase our understanding of a phenomenon about which we are interested or concerned' (In most cases, research incorporates a combination of perceptions of reality based on real world data, attitudes, received theory and persona (Gummesson, 2006).

This study uses data supplied by Empowerdex financial consultants firm, for the SA BEE most empowered companies from 2004 during the inception of the codes of good practise through to 2016 (Empowerdex, 2016). The data was used to establish the annual list of companies which are consistently on the top empowered list over the period and their different industries. Bloomberg database was used to get the financial and market information (share price, ROE, ROA, EPS, P/E, and PM information) of the sample to be used in the study. The research period is Jan 2006 to December 2016. The Bloomberg terminal used is a computer software system provided by the financial data vendor Bloomberg L.P, it enables professional in the financial service sector and other industries to access the Bloomberg professional service through which users can monitor and analyse real-time financial market data (Wikipedia.com). Only companies that appear on the SA highly empowered list consistently since 2006 are included in the analysis. There are 35 companies that have been on the SA empowered list consistently over the 10 year period spanning different industries. We reduced our period from 2004 to 2006 through 2016, in order to get a significant number of companies which will form a representative number of the empowered companies for analysis, enough to form a conclusion on their performance.

For this study secondary data from the Bloomberg terminal will be used for our analysis. Secondary data refers to data that was collected by someone other than the user (as our ratios were computed by the different BEE companies). According to Lopez (2013) secondary data offers the advantages of time saving, accessibility, money saving, feasibility of both longitudinal and international comparative studies, and generating new insights; whilst it also has disadvantages of inappropriateness of data, lack of control over data, inaccuracy of data, not timely. Data reliability is the degree to which an instrument measures the same way each time it is used under the same conditions with the same subjects (Adam et al, 2007:135), and data validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration (Babbie & Mouton, 2010:153). We believe the data used from Bloomberg is reliable and valid as it is also coming from

audited financial statements of the relevant companies, and Bloomberg is widely used in the financial services for information.

3.3 Research Methodology

The study sample consisted of 35 BEE empowered companies. Table 3.1 shows the sample of the study

Table 3.1: BEE empowered companies

Year	Short Name	Industry
2006 – 2016	BARCLAYS AFRICA i ABSA	Financials
2006 – 2016	ADCORP HOLDINGS	Industrials
2006 – 2016	AFRICAN OXYGEN	Basic Materials
2006 – 2016	ASPEN PHARMACARE	Health Care
2006 – 2016	AVENG LTD	Industrials
2006 – 2016	BIDVEST GROUP	Industrials
2006 – 2016	BUSINESS CONNEX	Technology
2006 – 2016	CITY LODGE HOTEL	Consumer Services
2006 – 2016	CORONATION FUND	Financials
2006 – 2016	DATACENTRIX HOLD	Technology
2006 – 2016	DISCOVERY LTD	Financials
2006 – 2016	FIRSTRAND LTD	Financials
2006 – 2016	GIJIMA	Technology
2006 – 2016	GROUP FIVE LTD	Industrials
2006 – 2016	GROWTHPOINT PROP	Financials
2006 – 2016	HOSKEN CONS INV	Financials
2006 – 2016	INVESTEC LTD	Financials
2006 – 2016	LIBERTY HLDGS	Financials
2006 – 2016	MASSMART HLDGS	Consumer Services
2006 – 2016	MTN GROUP LTD	Telecommunication
2006 – 2016	MURRAY & ROBERTS	Industrials
2006 – 2016	NAMPAK LTD	Industrials
2006 – 2016	NEDBANK GROUP	Financials
2006 – 2016	NETCARE LTD	Health Care
2006 – 2016	OCEANA GROUP LTD	Consumer Goods
2006 – 2016	OMNIA HOLDINGS	Basic Materials
2006 – 2016	PHUMELELA GAMING	Consumer Services
2006 – 2016	SANTAM LTD	Financials
2006 – 2016	SAPPI LTD	Basic Materials
2006 – 2016	SASOL LTD	Basic Materials
2006 – 2016	STANDARD BANK GR	Financials
2006 – 2016	SUN INTERNATIONAL	Consumer Services
2006 – 2016	TELKOM SA SOC LT	Telecommunication
2006 – 2016	THE FOSCHINI GROUP	Consumer Services
2006 – 2016	TONGAAT HULETT	Consumer Goods

3.4 Data collection methods

The present study mainly based on secondary data. This study uses data supplied by Empoweredex financial consultant firm. Bloomberg website was used to get the financial and market information. Quantitative data was analysed using financial ratio analysis method and statistical methods, and results can be displayed using tables, histograms and figures. The research followed quantitative method because the collected data is in the form of numerical digits, and financial ratio analysis and statistical tools for data analysis is therefore used in the study. In this study, SPSS software version 24.0 is used to explain the relationship between BEE Score, SP, ROE, PM, EPS, PE (independent variables) and ROA (dependent variable).

Quantitative research methodology seeks to quantify the data and, typically, applies some form of statistical analysis (Malhotra, Hall, Shaw & Oppenheim 2002). Quantitative research is more standardised and quantitative researchers use numbers that represent empirical facts in order to test an abstract hypothesis with variable constructs (Neuman, 2006). The benefits of this approach are that it can accommodate large samples sizes (therefore increasing the generalisability of results), allows capabilities to use advanced statistical analysis and enables a detailed examination of the data (Lukas et al, 2004).

3.5 Data analysis methods

As in the study of Nor Edi Azhar Binti Mohamad (2010), ratio analysis was chosen as a performance measurement and indicators since this analysis provides methods for assessing the financial strengths and weaknesses of the firm's performance using information found in its financial statements. In this study two methods of data analysis were used, first the method of financial ratio analysis in order to determine the level of financial performance in the study sample, the study utilise secondary data and secondly the methods of the statistical analysis, in order to determine the factors affecting the financial performance in the study sample. Pearson correlation

and Regression test are employed to determine the kind of relationship between dependent and independent variables, hypotheses test and evaluating normality of data respectively.

3.6 Description of variables

3.6.1 Dependent variable

BEE Companies performance – (Return on Asset – ROA)

The company's performance is the dependent variable and will be measured by the return on assets (ROA), as previous studies have also used ROA as a proxy for company performance as stated below. ROA is a measure of the profit generated by assets in the firm's possession. It is calculated from elements of both the balance sheet and profit and loss statement. ROA can be said to illustrate the efficiency of a firm's utilisation of its assets. It provides information about management's performance in using the assets of the business to generate income (Adam, 2014). It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution (Khrawish, 2011). Wen (2010), state that a higher ROA shows that the company is more efficient in using its resources. ROA is an effective measure of performance because it eliminates the problem of the size which makes it easier for comparisons to be drawn across firms (Lev and Sunder, 1979:187). Santos and Brito (2012) quoted (Chakaravarthy; 1986) in stating that superior performance is a way to satisfy investors, and can be represented by profitability growth and market value, further quoting (Cho & Pucik, 2005; Ventatraman & Ramanujan, 1986).

The reason for choosing this variable is that the return on assets (ROA) measures the effectiveness of the economic unit in using its assets to generate profit especially manufacturing, the higher this ratio, the better the economic unity of the company, as it indicates the management's efficiency in using its assets to generate profit (Mahdi

Salehi and Kumars Biglar, p. 98, 2009). Demsetz and Lehn (1985: 1160) suggest that as accounting profit, ROA may reflect year-to-year fluctuations in underlying business conditions better than stock market rates of return. Ibrahim, Kamaruddin, and Daud (2006) employed ROA as the dependent variable to determine the profitability performance of Islamic Microcredit in Malaysia whereby it focuses on the pioneer of Islamic Microcredit in commercial bank sector in Malaysia (EONCap Islamic Bank) that was already launched since at the end of the year 2006. In another study, Manyo (2013) used return on assets as a dependent variable to measure profitability while cash conversion cycle was used as an independent variable.

The ROA was also used as a dependent variable by Rouf (2015), to measure company performance of listed non-financial companies in Bangladesh; Siminica, Circiumaru, and Simonv (2013) in testing correlation between the return and indicators of financial balance; Ping-fu Lai and Yeun-man (2014), as a profitability indicator in the analysis of bank specific variables determinants of the operating financial performance for licenced banks; Socol and Danuletiu (2013), in analysis of Romanian banks performance through ROA, ROE and non-performing loan models; Zawaira & Mutenheri (2014) in association between working capital management & profitability of nonfinancial companies; Burja (2011) in factors influencing the companies profitability; Mohamad (2010) in the working capital management: the effect of market evaluation and profitability in Malaysia. Arafat, Buchdadi, and Suherman (2011), also used ROA as a proxy in performance measurement in the analysis of banks performance and efficiency in Indonesia.

ROA= Net income/ Total Assets

3.6.2 Independent variables

3.6.2.1 Profitability Measure

Profitability ratios measure the ability of a business to earn profit for its owners. For this study the ratios to be used as proxies for profitability measure will be Return on Equity, Profit Margin, and Earnings per Share

Return on Equity

ROE is used as a proxy for firm profitability, as previously used by several authors in financial literature including Gatsi and Akoto (2010), Akoto, Awunyo-Vito, and Angmor (2013). ROE is the measure of income as a fraction of shareholders equity. It measures if shareholders were able to generate a return during the year. It can be used to measure profit enjoyed by shareholders, the reason being that ROE ratio is comparable between one companies to the other and can indicate the profitability of one industry with the other (Helfert, 2001). The ROE is said to measure the rate of return on the bank's shareholders equity and it is calculated by dividing banks net income after taxes by total equity capital which includes common and preferred stock, surplus, undivided profits, and capital reserves (Molyneux and Thomton, 1992). ROE is the most comprehensive measure of profitability of a firm; it considers the operating and investing decision made as well as the financing and tax-related decisions (Duca, 2012).

$$\text{ROE} = \text{Net Profit/Equity}$$

Profit Margin - PM

To further control for profitability in the research, the PM is used as in the study of Santos (2012), in which it was used as a proxy for profitability. Profit margin is the percentage of selling price that is turned into profit. While selling something one should know what percentage of profit one will get on a particular investment, so companies calculate profit percentage to find the ratio of profit to cost.

$$\text{PM} = \text{Net Income} / \text{Revenue}$$

Earnings per Share

Earnings per share are company's profit allocated to each outstanding share of common stock. Earnings per share serves as an indicator of a company's profitability, as stated by Investopedia (2017). As in the research of Santos (2012), EPS ratio is also used as a proxy for the profitability measure. Nirmal (2011) and Santos (2012) found the association between P/E ratio and EPS with company performance. According to Unsal, Ugurlu and Sakinc 2009, Earnings per share (EPS) which shows profit per owned share(s) within net profit is calculated as follows;

$$\text{EPS} = \text{Net profit (or loss)} / \text{Number of shares outstanding}$$

3.6.2.2 Market value

These measure the investors' response to owning a company stock and cost of issuing stock. They are concerned with return on investment for shareholders. The proxies used for market value measure will be Share price and Price Earnings ratio.

Share Price

A share price is the price of a single share of a number of saleable stocks of a company, derivative or other financial asset. It is the highest amount someone is willing to pay for the stock, or the lowest amount that it can be bought for. It takes into consideration the forces of supply and demand. Stock prices change every day as a result of market forces. When shareholders invest their money by buying shares on the Johannesburg stock exchange (JSE) their motive is to make money through capital gains and dividends. In the study of Arshaad, Yousaf and Jamil (2015), EPS has a positive and significant relationship with share prices. The previous literature support this finding like the studies of Almunani (2014) and Malhotra & Tandon (2013), both findings showed that EPS has a positive and significant relationship with the stock prices.

The share price - is the price as quoted on the Johannesburg stock exchange on a given time.

3.6.2.5 Price Earnings ratio

Price earnings ratio measures company current share price relative to its earnings per share. Price earnings ratio measures company current share price relative to its earnings per share. It indicates the price that investors are willing to pay for the net profit per share earned by the company. It reflects market expectations about the firm's future performance; a high PE ratio suggests that investors are expecting the firm to have higher earnings in the future and are willing to pay more for the shares of such firms (Nirmala et al. 2011).

P/E ratio = Price per share / Earnings per share

3.6.2.3 BEE score measure

The Broad-Based Black Economic Empowerment Act 53 of 2003 (hereafter referred to as the 'BEE Act') was assented to on 07 January 2004 (Burger & Jafta 2010:8). The purpose of this BEE Act is to focus on the promotion of black economic empowerment and to confer certain rights and obligations onto the Minister of Trade and Industry in order to establish organs to assist in the aforementioned promotion (South Africa 2003, Preamble to Act). BEE score used is the overall BEE score as stated in the annual Empowerdex top 100 most empowered companies ranking. The total BEE score is the measure of how the company performed when measured against the 7 and now 5 BEE measurement elements. Van der Merwe and Ferreira (2014) highlighted a relationship between BEE scores and share returns

CHAPTER 4

ANALYSIS AND RESULTS

4.1 Introduction

This chapter presents the analysis of data, interpretation and discussion of results. Quantitative techniques were used for this study. Descriptive and inferential analysis has been performed using the Statistical Package for the Social Sciences (SPSS) tool for Quantitative analysis

4.2 Descriptive statistics

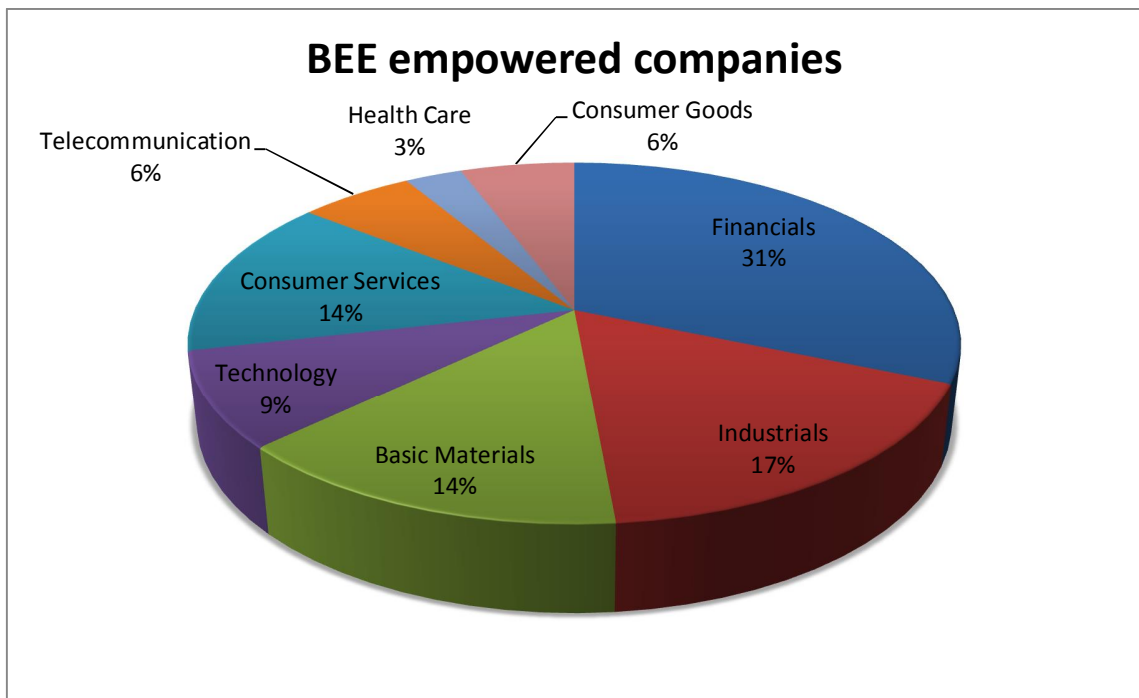


Figure 4.0: Sampled BEE empowered companies industry distribution

Descriptive statistics are conducted to state the mean differences among the variables within the observed period, and the descriptive results of these measures are reported in Table 4.1. The researcher conducted descriptive statistic using SPSS software

version 24.0, in order to give the audience more understanding about the study variables that are being analysed.

Table 4.1: Descriptive statistics

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BEE	376	21.59	98.39	70.1508	16.80809	-.860	.126	.204	.251
ROA	364	-24.68	120.81	7.3914	9.96931	4.780	.128	48.225	.255
ROE	364	-137.57	297.28	22.2666	27.51430	2.359	.128	34.147	.255
PM	362	-35.76	119.43	11.6240	14.47756	3.161	.128	17.898	.256
EPS	358	-17.40	79.91	6.5956	8.57847	3.174	.129	18.385	.257
PE	339	.14	199.75	15.8545	13.66781	8.793	.132	106.074	.264
SP	371	10.00	51450.00	8377.0162	7853.26574	1.786	.127	4.522	.253
Valid N (listwise)	328								

Table 4.1 presents a descriptive statistics of the study for 35 firms (2006-2016) that are BEE empowered in South Africa. In seven above variables, the amount of mean is higher than standard deviation and consider the value of standard deviation, concluded that data scattering is not high. These descriptive statistics indicate that distribution curve have amplitude to right than normal distribution curve in some years and more data are accumulated on the left side of curve. The mean value of ROA is 7.3914 and the value of standard deviation is 9.96931. The mean value of BEE scores 70.1508 and the value of standard deviation is 16.80809. The mean value of ROE is 22.2666 the value of standard deviation is 27.51430. The mean value of PM is 11.6240 and the value of standard deviation 14.47756. The mean value of return on EPS is 6.5956 and the value of standard deviation is 8.57847. The mean value of return on PE is 15.8545 and the value of standard deviation is 13.66781. The mean value of SP 8377.0162 and the value of standard deviation are 7853.26574. Table 4.1 shows that the values of standard deviation range from 8.57847 to 7853.26574 revealing that there is too much of variation. The descriptive statistics results indicate that SP has the highest mean score. The results also show that EPS is the least ranked performance indicator because it achieved the lowest mean score.

4.3 Correlation test

According to Wajahat Ali (2010) before the start of regression analysis, it is important to check the correlation test between the dependent variable and independent variables. The Pearson correlation is one of the significant criterions which are used to examine linear the relationship of the quantities variable. Mahlangu (2014:198-199), points out that the correlations estimate the strength of the linear relationship between two (and only two) variables. The correlation coefficients range from -1.0 (a perfect negative correlation) to positive 1.0 (a perfect positive correlation). The closer correlation coefficients get to -1.0 or 1.0, the stronger the correlation. The closer a correlation coefficient gets to zero, the weaker the correlation is between the two variables.

In this study, Pearson's correlation coefficient matrix is used and will be generated through the SPSS software version 24.0, which will show the cross-relationship between all of the variables.

Table 4.2: Pearson's correlation coefficient

Correlations		BEE	ROA	ROE	PMY	EPS	PE	SP
BEE	Pearson Correlation	1	-.175**	-.107	-.030	.004	-.038	.081
	Sig. (2-tailed)		.001	.042	.578	.941	.491	.123
	N	376	360	360	357	353	334	365
ROA	Pearson Correlation	-.175**	1	.754	.586	.157	-.057	.076
	Sig. (2-tailed)	.001		.000	.000	.003	.297	.149
	N	360	364	364	358	355	337	364
ROE	Pearson Correlation	-.107*	.754**	1	.622	.16**	-.067	.109*
	Sig. (2-tailed)	.042	.000		.000	.002	.217	.037
	N	360	364	364	358	355	337	364
PMY	Pearson Correlation	-.030	.586**	.622*	1	.242**	-.111*	.128*
	Sig. (2-tailed)	.578	.000	.000		.000	.042	.015
	N	357	358	358	362	353	334	362
EPS	Pearson Correlation	.004	.157**	.161*	.242**	1	-.063	.663**
	Sig. (2-tailed)	.941	.003	.002	.000		.248	.000
	N	353	355	355	353	358	339	358
PE	Pearson Correlation	-.038	-.057	-.067	-.111*	-.063	1	-.006

	Sig. (2-tailed)	.491	.297	.217	.042	.248		.916
	N	334	337	337	334	339	339	339
SP	Pearson Correlation	.081	.076	.109*	.128*	.663**	-.006	1
	Sig. (2-tailed)	.123	.149	.037	.015	.000	.916	
	N	365	364	364	362	358	339	371
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

Pearson's correlation coefficients are tested in order to determine the strength of the relationship between independent and dependent variables. For the needs of this study, the error level is considered to be 0.05 i.e. the confidence level equals 0.95.

Correlation test shows that ROA is significant with BEE (H3), ROE (H1), PM (H1) and EPS (H1). Table 4.2 shows that there is a significant strong negative correlation between ROA and BEE is -0.175 with a significant value of 0.001. SPSS generated a negative Pearson's r value, we could conclude that when the amount of BEE score increases (our first variable), the ROA (our second variable) decreases. The p-value for this correlation coefficient is 0.001. There is a statistically significant correlation between BEE score and ROA. That means, increases or decreases in one variable do significantly relate to increases or decreases in your second variable. Hence, this study supports the null hypothesis H3a: There is no significant relationship between BEE Score and ROA.

Results show that there is a significant strong positive correlation between ROE and ROA with a significant value of 0.000, H1: There is a significant and a positive relationship between ROE and ROA. This makes sense, for example an increase in return on assets will automatically lead to an increase in return on equity of the shareholders. The more the company is able to effectively generate profits with its available assets the better return the owners will receive in return during that particular period.

There is a positive and significant relationship between PM and ROA. This study supports hypothesis H1: There is a significant and positive relationship between PM and ROA.

The correlation coefficient for EPS and ROA is 0.157 with a statistically significant correlation value of 0.003. That means, increases or decreases in one variable do significantly relate to increases or decreases in the second variable. This result indicates that the increase on the returned earned on behalf of each ordinary share that has been issued will lead to an increase in generating profits from its available assets. Hence, this study supports H1: There is a significant and positive relationship between EPS and ROA.

There is an insignificant and negative correlation between PE and ROA. When the PE increases this leads to a decrease in the amount of ROA. This means that as one variable increases in value, the second variable decreases in value. This study supports the null hypothesis H2a: There is no significant relationship between PE and ROA.

Data also shows that there is an insignificant and negative correlation between SP and ROA. When SP increases this will lead to a decrease in the amount of ROA. This study supports the null hypothesis H2a: There is no significant relationship between SP and ROA.

This study also found that there is a significant strong positive correlation between ROE, PM, EPS, and ROA. Data also shows a significant strong positive correlation between ROE and PM with a significant value of 0.000. The correlation coefficient for BEE and ROE is -0.107 with a significant value of 0.042. Results further indicate the significant strong positive correlation between PM and EPS with a significant value of 0.000. Results show that there is significant strong positive correlation between PM and SP with a significant value of 0.015. There is a significant and positive correlation between SP and ROE. There is a significant strong positive correlation between EPS and SP. In summary there is a significant positive correlation between BEE company performance and BEE company profitability; an insignificant negative correlation between BEE company performance and market

reaction; and a significant negative correlation between BEE company performance and the BEE score.

4.4 Regression

Before applying the regression model, the assumptions of Normality, Multicollinearity and Autocorrelation needs to be checked. (Arora & Chaudhary, 2016). In order to test multiple linear regression models, the researcher must assess the study data collected through four assumption tests; these tests include normality test, multicollinearity test, autocorrelation test and heteroscedasticity.

4.4.1 Normality test

The examination of the normal distribution of the data of the study is one of the fundamental requirements for linear regression analysis between the study variables. Normality tests are used to determine whether a data set is well-modelled by a normal distribution or not, or to compute how likely an underlying random variable is to be normally distributed (Gujarati, 2009). Before processing with the hypothesis testing, we should examine variables in order to run a normality test. In this regard, Kolmogorov-Smirnov formula has used the result of which is presented in Table 3.

Table 4.3: Data normality test

One-Sample Kolmogorov-Smirnov Test								
		BEE	ROA	ROE	PM	EPS	PE	SP
N		376	364	364	362	358	339	371
Normal Parameters ^{a,b}	Mean	70.1508	7.3914	22.2666	11.624	6.5956	15.8545	8377.016
	Std. Deviation	16.80809	9.96931	27.5143	14.47756	8.57847	13.66781	7853.266
Most Extreme Differences	Absolute	0.109	0.182	0.188	0.163	0.172	0.224	0.143
	Positive	0.058	0.144	0.188	0.116	0.15	0.224	0.132
	Negative	-0.109	-0.182	-0.188	-0.163	-0.172	-0.212	-0.143
Test Statistic		0.109	0.182	0.188	0.163	0.172	0.224	0.143
Asymp. Sig. (2-tailed)		.000 ^c	.000 ^c	.000 ^c	.000 ^c	.000 ^c	.000 ^c	.000 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

The above results indicate that all the variables are on a significant level that is higher than 0.05. So, the normality of all seven variables is confirmed. An assessment of the normality of data is a prerequisite for many statistical tests because normal data is an underlying assumption in parametric testing. There are two main methods of assessing normality: graphically and numerically

The result of the normality test can be seen from the Figures, 4.1, 4.2, respectively, show that the data are scattered around the diagonal line of the Normal Probability Plot; it seems that the normality assumption might be satisfied for these data.

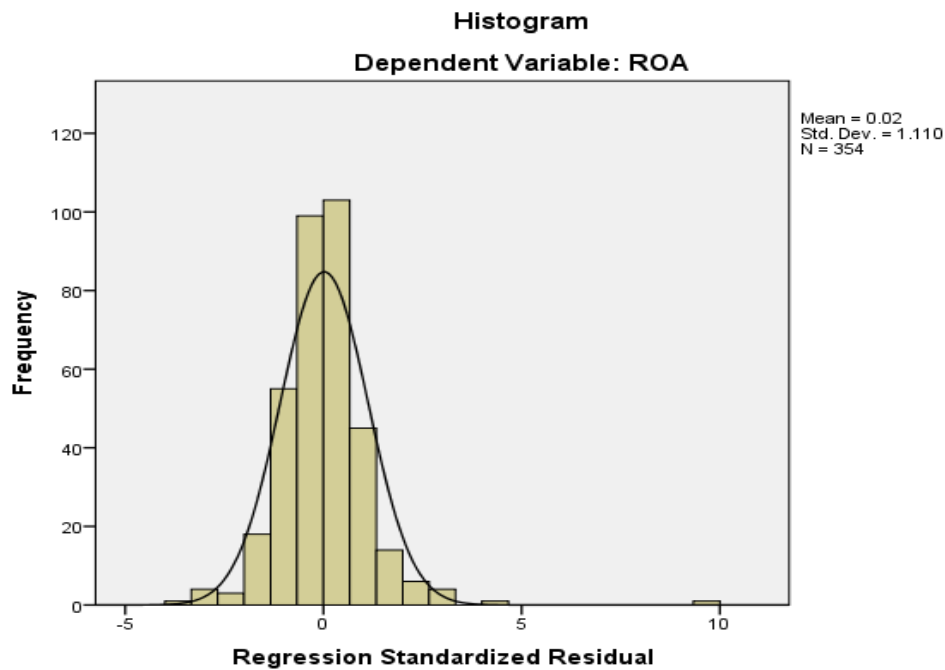


Figure 4.1: Histogram graph of this study

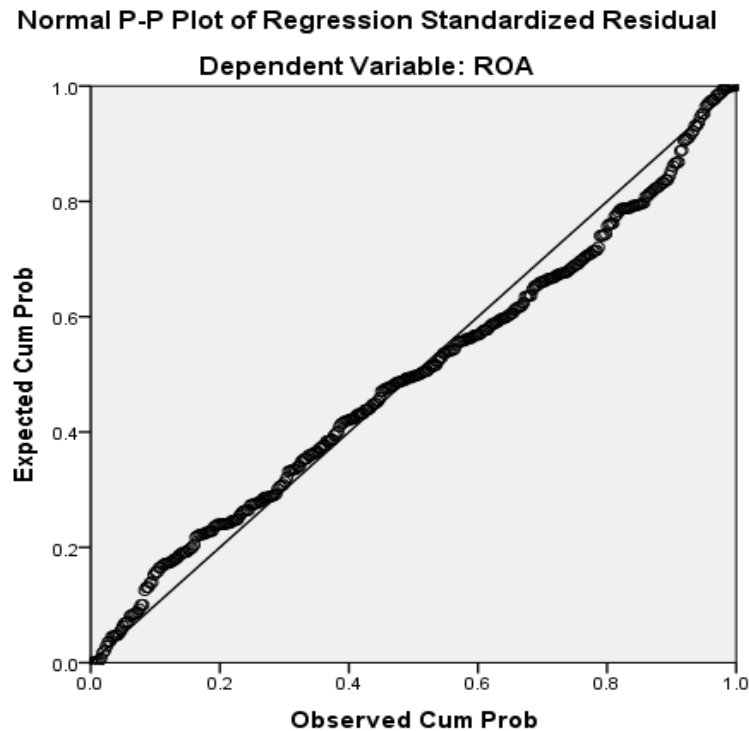


Figure 4.2: Normal Q-Q Plot of standardised residual

Table 4.4: Kolmogorov-Smirnova & Shapiro-Wilk tests

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Unstandardized Residual	.076	328	.000	.956	328	.000
Standardized Residual	.070	328	.001	.966	328	.000
a. Lilliefors Significance Correction						

4.3.2 Multicollinearity test

The assumption of the linear regression model is that there is no multicollinearity among the explanatory variables (Gujarati, 2003:374). Multicollinearity can be controlled by tolerance values and values of variance inflation factor (VIF), a high value of multicollinearity can result in both regression coefficients being inaccurately estimated, and difficulties in separating the influence of the individual variables on

the dependent variables. Any variables with a tolerance value below 0.10 or with a value above 10.0 of variance inflation factor (VIF) would have a correlation of more than 0.90 with other variables, indicative of the multicollinearity problem (Hair et al. 1998). According to Gujarati (2003, 351-353), tolerance statistic close to one means that there is little multicollinearity, whereas a value close to zero suggests that multicollinearity may be a threat. Also, a VIF statistic below the value of ten implies the non-existence of severe multicollinearity problems (Gujarati, 2003, 351-353).

The rule of thumb indicated that if VIF of a variable is less than 10, then there is no problem of Multicollinearity with that variable (Arora, & Chaudhary, 2016). Table 4.4 shows that multicollinearity does not exist among all independent variables because the tolerance values for all independent variables in this study is less than 0.10 it's ranging from 0.982 to 0.546, while values of Variance Inflation Factor- VIF for all the independent variables is less than the limited valued 10.0 it's ranging from 1.018 to 1.830. Hence, the data is free from Multicollinearity problem

Table 4.4: Results of multicollinearity test for dependent variables

Coefficients^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	BEE	.969	1.032
	ROE	.731	1.369
	PM	.709	1.410
	EPS	.546	1.830
	PE	.982	1.018
	SP	.568	1.762
a. Dependent Variable: ROA			

4.3.3 Autocorrelation test

Autocorrelation tests the linear regression model if there is a correlation between the error in period t with bullies error in period t-1 (previous period) (Rafika and Muhamad, 149: 2012). One of the known tests for specifying autocorrelation is Durbin- Watson Test. According to this test, if its value is close to 2, there is no autocorrelation. For result accuracy, the Durbin-Watson d value greater than 3 or less

than 1 is definitely a reason for concern. The assumption of autocorrelation has been checked through Durbin Watson (d) statistic value. As per decision rule, if d is 2 or close to 2, then there is no first order autocorrelation either positive or negative (Arora & Chaudhary, 2016). According to Brooks (2003:163) and Gujarati (2003, 467-469), Durbin-Watson value of two and above suggests that successive residual terms are, on average, much different in value to one another. Table 4.5 shows that the Durbin-Watson statistic in this data was 0.831 it means that there was no autocorrelation between independent variables and ROA, this result indicating a lack of autocorrelation error in the model of this study.

Table 4.5: Durbin-Watson

Model Summary^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.640 ^a	.410	.399	5.91494	.410	37.148	6	321	.000	.831
a. Predictors: (Constant), SP, PE, ROE, BEE, PM, EPS										
b. Dependent Variable: ROA										

The F value is 37.148*(p value < 0.05) is significant at 95% confidence level, showing the applicability of the overall model. The value of R square is .410 this implies that the independent variables in this model can explain 41.0% of the variance in the dependent variable return on assets (ROA) while the remaining 59% can be attributed to other factors which are not studied because they are outside the scope of the study.

4.3.4 Heteroscedasticity test

Heteroscedasticity test aims to test whether the regression has difference variance from the residue between observations (Djoko, et al, 240:2009). If this assumption is not satisfied, there is heteroscedasticity (Paskah, 39:2007). If the variance of the residuals of the observations to other observations fixed, then called homoscedasticity, If the variance of the residuals of the observations to other

observations different or changing, then called heteroscedasticity, a good regression model, is a model free of heteroscedasticity, to detect the presence or absence heteroscedasticity through looking at the scatter plot graph (Rafika and Muhamad, 149:2012). The result can show from the below Figure 4.3 there is heteroscedasticity, because there is a clear pattern of the spread in the below graph.

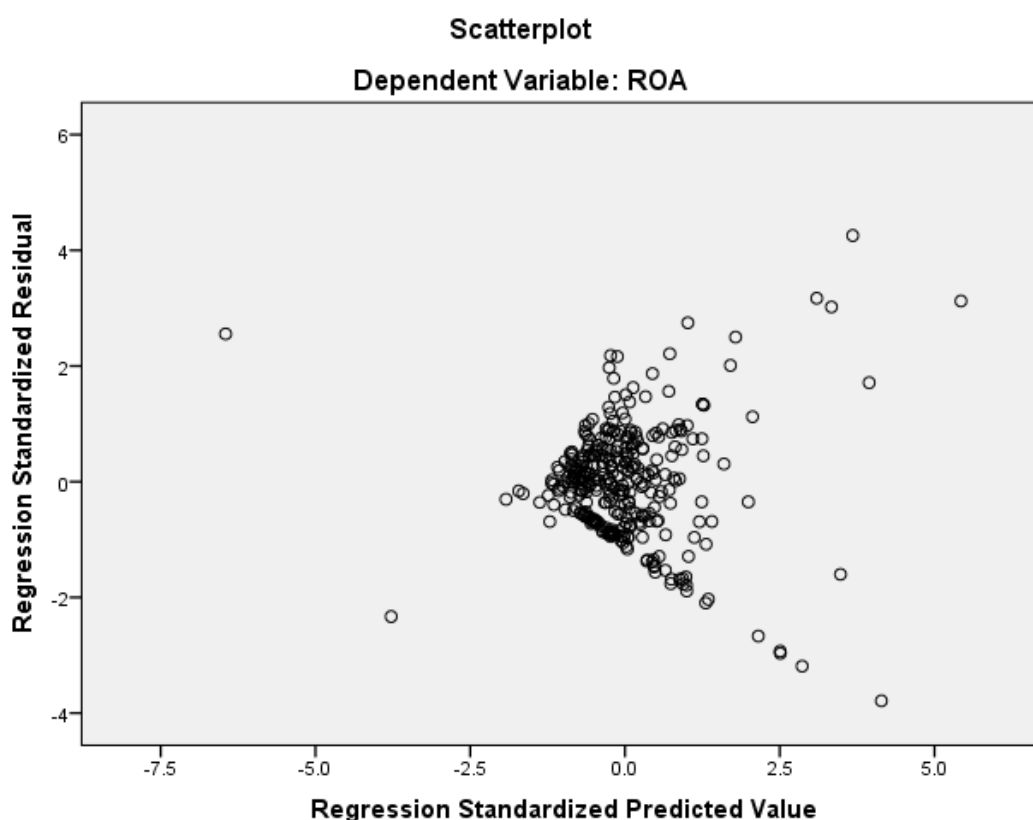


Figure 4.3: Scatter plot

4.3.5 Multiple regression analysis

In order to identify the level of impact of the independent variables on the dependent variable, and also to identify the type of relationship and correlation between variables and testing the hypotheses; to achieve these aims, this study used descriptive statistics, correlation test (person correlation) and regression test(multiple linear regression) (Khalifa Mohamed Khalifa and Zurina Shafii, 2013). According to

Maree (2007:229), linear regression analysis (ANOVA) involves the comparison of more than one independent variable, that best predict the value of the dependent variable. If the significance value of the F statistic is small (smaller than say 0.05) then the independent variables do a good job explaining the variation in the dependent variable. If the significance value of F is larger than say 0.05 then the independent variables do not explain the variation in the dependent variable.

4.3.5.1 Correlation coefficient between variables

The relationship was explained by the parameter coefficients between the explanatory and explained variables. The coefficients show the magnitude and direction of the relationships, whether it is strong, weak positive or negative. The higher the values the stronger the relationship and the smaller the coefficient is an indicator of a weak relationship. The sign also shows the direction of the relationship. The positive sign shows a positive relationship and the negative shows the opposite.

Table 4.6: Correlation coefficient between variables

Correlations								
		ROA	BEE	ROE	PM	EPS	PE	SP
Pearson Correlation	ROA	1.000	-.267	.589	.429	.108	-.061	-.007
	BEE	-.267	1.000	-.138	-.040	.002	-.041	.076
	ROE	.589	-.138	1.000	.505	.106	-.065	.026
	PM	.429	-.040	.505	1.000	.219	-.110	.081
	EPS	.108	.002	.106	.219	1.000	-.064	.650
	PE	-.061	-.041	-.065	-.110	-.064	1.000	-.008
	SP	-.007	.076	.026	.081	.650	-.008	1.000
Sig. (1-tailed)	ROA	.	.000	.000	.000	.026	.137	.453
	BEE	.000	.	.006	.236	.484	.229	.085
	ROE	.000	.006	.	.000	.027	.122	.322
	PM	.000	.236	.000	.	.000	.023	.073
	EPS	.026	.484	.027	.000	.	.122	.000
	PE	.137	.229	.122	.023	.122	.	.441
	SP	.453	.085	.322	.073	.000	.441	.
N	ROA	328	328	328	328	328	328	328
	BEE	328	328	328	328	328	328	328
	ROE	328	328	328	328	328	328	328
	PM	328	328	328	328	328	328	328
	EPS	328	328	328	328	328	328	328

	PE	328	328	328	328	328	328	328
	SP	328	328	328	328	328	328	328

Table 4.6 shows that there is a positive relationship between ROA with ROE, PM, EPS. The negative correlation coefficient between ROA and BEE is very strong. As can be seen from table 4.6, ROA has negative relationship with PE and SP,

From the table 4.7 and 4.8 below there is no multicollinearity problem as all the VIF values are less than 10 which is acceptable by many researchers as a rule of thumb. Also, there is no auto-correlation problem in the regression model used as the Durbin Watson rule of value 1.033 is less than 3 which is thumb for many researchers if autocorrelation problem exists. The F value is 173.510* (p value < 0.05) is significant at 95% confidence level, showing the applicability of the model 1. The value of R square is .347 this implies that the independent variables in this model can explain 34.7% of variance in the dependent variable return on assets while the remaining 65.3% can be attributed to other factors which are not studied because they are outside the scope of the study

Table 4.7: ANOVA

ANOVA^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6609.852	1	6609.852	173.510	.000 ^b
	Residual	12418.970	326	38.095		
	Total	19028.823	327			
2	Regression	7278.159	2	3639.080	100.650	.000 ^c
	Residual	11750.663	325	36.156		
	Total	19028.823	327			
3	Regression	7756.155	3	2585.385	74.309	.000 ^d
	Residual	11272.667	324	34.792		
	Total	19028.823	327			
a. Dependent Variable: ROA						
b. Predictors: (Constant), ROE						
c. Predictors: (Constant), ROE, BEE						
d. Predictors: (Constant), ROE, BEE, PM						

Table 4.8: Model summary

Model Summary^d					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.589 ^a	.347	.345	6.17211	
2	.618 ^b	.382	.379	6.01298	
3	.638 ^c	.408	.402	5.89849	1.033
a. Predictors: (Constant), ROE					
b. Predictors: (Constant), ROE, BEE					
c. Predictors: (Constant), ROE, BEE, PM					
d. Dependent Variable: ROA					

R-square shows that only 40.8% of variations in dependant variable ROA are explained by the variations in the six independent variables. The adjusted R square is slightly below the R-square with the value 40.2%. F-statistics shows the validity of model as its value 74.309 is well above its sig value of 0.000

Table 4.9: Coefficients

Coefficients^a													
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.623	.507		5.176	.000	1.626	3.620					
	ROE	.213	.016	.589	13.172	.000	.181	.245	.589	.589	.589	1.000	1.000
2	(Constant)	8.961	1.555		5.764	.000	5.903	12.020					
	ROE	.203	.016	.563	12.801	.000	.172	.235	.589	.579	.558	.981	1.019
	BEE	-.087	.020	-.189	-4.299	.000	-.126	-.047	-.267	-.232	-.187	.981	1.019
3	(Constant)	8.674	1.527		5.680	.000	5.670	11.678					
	ROE	.170	.018	.470	9.392	.000	.134	.205	.589	.463	.402	.731	1.368
	BEE	-.089	.020	-.195	-4.508	.000	-.128	-.050	-.267	-.243	-.193	.980	1.021
	PM	.104	.028	.184	3.707	.000	.049	.160	.429	.202	.158	.744	1.344
a. Dependent Variable: ROA													

From the Table 4.9 above there is no multicollinearity problem as all the VIF values are less than 10 which is acceptable as a rule of rule of the thumb. The Coefficients table contains the coefficients for the model (regression equation) and p-values for each independent variable. The output shows that the interaction is significant so the main effects cannot be interpreted. In the regression coefficients and significant tests, the lowest T statistics is -4.299, passing the significant test at 0.1 levels. This means that all the coefficients of variables and constant are significantly different from 0

According to the discussions above, the multi regression equation (3) of factors influencing on ROA ratios is expressed as follows:

$$ROA = 8.674 + ROE \ 0.170 + BEE \ -0.089 + PM \ 0.104.$$

The constant is 8.674 in the equation, the coefficient of ROE is 0.170, indicating that when the industrial average ROE ratio change one unit, the corresponding companies' ROA ratios will change 0.170 unit. The coefficient of BEE score is -0.089, which means that when the companies' BEE score changes one unit, then their ROA ratios will change inversely 0.089 units. The regression coefficient of PM at 0.104 indicates that when BEE companies increase by 1 per cent with the assumption that other variables remain constant then the ROA will increase by 10.4%.

Before the regression process, it must be examined that whether there exists the collinearity problem between the independent variables. Here we adopt a stepwise method in regression analysis and use Eigenvalue and Variance Proportions to examine the Collinearity. The collinearity diagnostics are listed as follows:

Table 4.10: Collinearity diagnostics

Collinearity Diagnostics ^a							
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	ROE	BEE	PM
1	1	1.740	1.000	.13	.13		
	2	.260	2.588	.87	.87		
2	1	2.615	1.000	.01	.05	.01	
	2	.360	2.694	.01	.88	.03	
	3	.025	10.282	.98	.08	.97	
3	1	3.239	1.000	.00	.02	.00	.03
	2	.491	2.569	.02	.10	.03	.35
	3	.245	3.636	.00	.82	.00	.63
	4	.025	11.444	.98	.06	.97	.00
a. Dependent Variable: ROA							

As shown above, the minimum eigenvalue is 0.25, whose corresponding maximum condition index is 3.239. According to the standard, if the condition index is higher than 15, then there is possible to have the collinearity problem. If the index is more than 30, then there will be a serious collinearity problem. However, we should take a further check on Variance Proportions. For the large condition index, if there are two proportion values more than 50%, it will judge the collinearity between variables. In table 4.10., the condition index in dimension 4/model 3 is 11.44, in corresponding variance proportions there is no factor higher than 50%. As a result, there is no collinearity between variables, not to mention serious collinearity.

CHAPTER 5

CONCLUSION AND IMPLICATIONS

5.0 Chapter overview

The previous chapter outlined the findings for this research. This chapter presents a discussion of the research findings discussed in the previous chapter, as well as the implications for the BEE empowered companies. The chapter begins with the

conclusions drawn as regards the research issues and the research problem, taking into consideration findings of earlier research. The theoretical and practical implications are then discussed, and the limitations of the research are detailed. The chapter concludes by focusing on the implications for methodology and future directions. The overriding propositions, as reiterated throughout this chapter, form the basis of the chapter

5.1 Introduction

Company success can be measured in various ways. A business unit must obtain a reasonable return of invested funds to realize its long-term goals (Salehi, 2012). Performance measures can play the key role in initiating or implementing technological innovations and organizational change through incentives for improving performance and measurements to evaluate progress toward this goal (Adam, 2014).

Based on the findings of this study, the following conclusions are derived regarding the financial performance of BEE companies in South Africa. The main objective of this study to understand the characteristics of SA highly empowered companies and investigate the main factors influencing performance and survival of those BEE companies using secondary data from 2006-2016.

- To establish if there is any significant relationship between profitability of BEE companies (ROE, PM, and EPS), and performance (ROA) of BEE companies in South Africa from 2006-2016
- To determine whether Market value (P/E and SP) has any significant relationship with return on assets performance (ROA) of BEE companies in South Africa from 2006-2016
- To examine the relationship between BEE score and performance (ROA) of BEE companies in South Africa from 2006-2016

5.2. Conclusion on Research Objectives and Hypothesis Testing

- ***Companies performance ROA and Profitability (ROE, PM, EPS) relationship of BEE companies in South Africa from 2006-2016***

Results show that there is significant strong positive correlation between ROE and ROA with a significant value of 0.000. Study supports: ***H1: There is a significant and a positive relationship between ROE and ROA.***

Results show that there is significant strong positive correlation between PM and ROA. The study supports: ***H1: There is a significant and positive relationship between PM and ROA.***

Results show that there is significant strong positive correlation between EPS and ROA with a statistically significant correlation value of 0.003 and correlation coefficient of 0.157. That means, increases or decreases in one variable do significantly relate to increases or decreases in your second variable. The study supports: ***H1: There is a significant and positive relationship between EPS and ROA.***

In summary the above therefore states that BEE company profitability is a significant determinant of performance of the BEE companies over the research period covered.

- ***The relationship of market value (P/E and SP) on companies performance (ROA) of BEE companies in South Africa from 2006-2016***

D'Amato (2010) found that the P/E ratio is widely used by most investors to assess a company's value. The higher the value the more likely the share price will go up because the investors will be seeing value in the company. The study found that there is an insignificant and negative correlation between P/E and ROA. Study supports: ***H2a: There is no significant relationship between P/E and ROA.***

There is a positive weak and significant relationship between SP and ROA and positive sig. Data shows that there is an insignificant and negative correlation

between SP and ROA. This study supports: ***H2a: There is no significant relationship between SP and ROA.***

In summary this means that BEE companies' market value is not a significant determinant of the performance of the BEE companies over the research period covered.

- ***The relationship between BEE score and companies performance (ROA) of BEE companies in South Africa from 2006-2016***

There is significant strong negative correlation between ROA and BEE score which is -0.175 with a significant value of 0.001. SPSS generated a negative Pearson's r value, we could conclude that when the amount of BEE score increases (our first variable), the ROA (our second variable) decreases. The p-value for this correlation coefficient is 0.001. There is a statistically significant correlation between BEE score and ROA. That means, increases or decreases in one variable do significantly relate to increases or decreases in your second variable. In conclusion, BEE score has a negative relationship with return of assets. Hence the study supports, ***H3a: There is no significant relationship between BEE Score and BEE companies' performance (ROA).***

The above therefore means that BEE companies score is not a significant determinant of the performance of the BEE companies over the research period.

This study was consistent with the van Heerden (2011); Ferreira and de Villiers (2011); Acemoglu, Gelbz, James and Robinson (2007); and partially consistent with the van der Merwe and Ferreira (2014) studies on BEE scores and performance. It also had different conclusion to Mzilikazi (2015); Mathura (2009); and Kleynhans and Kruger (2014) studies stated in our literature review.

5.3 Implications and future research

Other proxies other than ROA can be used as a measure of performance to determine the influence of BEE Score. Since the measure of company's profitability is faceted, it will be very interesting to undertake a research that examines the effect of BEE score on other measures of profitability. Such measures of profitability can include among others Return on Capital Employed, Return on Investment, and etc. There are also other variables we could have used to control for company performance such as industry classification, firm age, firm size and others, which presents an opportunity for further research. There is also an opportunity for further research in which the performance of the BEE companies can be ranked against the performance of the non-bee companies to evaluate the companies with superior returns.

5.4 Limitations

Like any other study, our thesis also suffers from several limitations. First, we used data which are limited to the time period 2006 to 2016. Using data over a longer time period would have led to more accurate results of the study. This study used different industries and the financial services sector dominating the study which could have led to influence the results. There are also other limitations for the thesis, like using the main methods of ratio analysis for performance evaluation of pharmaceutical companies. It can lead to different kinds of problem. In order to achieve the good of performance evaluation we need to choose a ratio that is suitable. This means that data must be correct, otherwise, calculation of ratio may be erroneous

5.5 Conclusion

Based on findings of the study, regarding financial ratio analysis approach, the study concluded that there is a high share price, compared to ROA, ROE and EPS. While

regarding the statistical analysis it can be conclude that there is a strong and significant relationship between BEE companies performance (ROA) with profitability. The Correlation test results shows that return on assets (ROA) has a significant and a positive relationship with ROE, PM and EPS. Data further indicates that there is significant strong negative correlation between companies performance (ROA) and BEE score. There is an insignificant and negative correlation between market value (PE and SP) and BEE companies performance (ROA). Furthermore, the data indicates that significant strong positive correlation between ROE and PM, a significant strong positive correlation between PM and SP, a significant and positive correlation between SP and ROE, and a significant strong positive correlation between EPS and SP.

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Appendixes

Table 3.2: BEE score

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ABSA	36.47	52.20	63.35	62.20	71.36	76.07	75.38	72.78	75.16	79.44	81.19
ADCORP HOLDINGS	66.49	73.22	81.69	88.71	88.05	87.06	85.03	82.11	92.00	91.15	90.91
AFRICAN OXYGEN	39.75	40.46	30.86		72.78	80.22	80.22	81.13	72.61	75.44	75.44
ASPEN PHARMACARE	31.74	51.12	59.55	65.79	69.20	69.25	75.77	79.69	79.18	83.58	82.33
AVENG LTD	21.59	53.11	65.59	64.14	65.08	84.41	86.56	86.16	82.35	87.99	91.49
BIDVEST GROUP	62.63	65.01	55.17	56.04	68.52	81.21	81.21	81.97	75.54	79.42	83.56
BUSINESS CONNEX	50.02	55.71	66.15	66.78	76.32	75.10	75.10	76.03	85.16	85.23	
CITY LODGE HOTEL	31.11	24.25	31.63	50.46	73.14	77.58	88.93	78.98	78.98	81.28	81.67
CORONAT	25.94	43.81	69.51		73.23	70.74	70.74	78.07	81.73	80.59	79.96
DATACENTRIX HOLD	60.29	33.38	56.53	69.80	75.68	66.05	70.43	85.42	88.54	86.72	85.14
DISCOVERY LTD	50.48	33.95	63.89	70.41	69.96	71.14	80.56	78.94	63.40	71.47	78.67
FIRSTRAND LTD	57.19	50.38	69.90	75.57	79.55	78.62	87.47	85.58	89.02	93.24	95.17
GLJIMA GROUP LTD	65.79	56.29	68.84	80.92	78.21	78.49	85.88	86.63	86.31	88.49	
GROUP FIVE LTD	63.68	53.13	55.27	60.79	78.77	58.78	85.77	89.40	89.14	87.22	88.12
GROWTHPOINT PROP		41.44	52.75	60.74	64.45	77.12	77.12	76.47	60.83	75.05	72.12
HOSKEN CONS INV	25.85	70.12	76.80	84.63	82.12	87.78	85.74	85.35	89.44	94.58	92.82
INVESTEC LTD	45.79	39.17	72.32	69.46	63.66	65.79	75.03	71.58	62.33	79.16	88.22
LIBERTY HLDGS	70.49	31.55	43.18	50.19	69.19	75.03	85.70	89.32	89.07	92.40	91.08
MASSMART HLDGS	41.51	36.68	49.44	56.05	66.14	75.85	75.85	66.33	66.33	68.27	58.30
MTN GROUP LTD	61.75	61.95	62.85	51.01	61.37	77.07	86.90	85.40	75.58	85.72	76.60
MURRAY & ROBERTS	33.28	23.94		56.06	65.30	71.80	74.35	78.99	86.88	86.16	85.37
NAMPAK LTD	31.07	24.15	29.02	56.33	50.82	65.48	73.60	77.42	71.81	75.80	77.08
NEDBANK GROUP	48.10	55.81	67.81	82.45	86.40	89.50	95.14	94.87	91.21	95.65	97.34
NETCARE LTD	29.29	39.88	58.20	75.42	77.98	82.65	85.03	82.11	87.82	90.85	63.28
OCEANA GROUP LTD	40.76	70.29	70.93	71.31	71.76	83.31	93.96	93.98	95.17	98.39	97.82
OMNIA HOLDINGS	52.94	42.83	51.91	55.53	63.73	70.63	71.95	69.64	75.01	81.24	70.73
PHUMELELA GAMING	63.42	63.51	65.34	66.17	73.68	73.68	76.39	81.50	86.12	91.99	

SANTAM LTD		48.06	65.11	65.30	70.47	77.28	76.68	84.12	81.55	80.75	84.43
SAPPILT	23.08	35.91	37.55	53.97	53.29	75.19	74.53	73.20	72.79	83.61	80.24
SASOL LTD	43.98	35.16	39.49	47.12	56.51	69.50	72.85	71.68	75.42	72.86	60.69
STANDARD BANK GR	34.47	50.72	70.08	72.40	75.77	92.83	92.47	89.01	84.52	94.25	93.42
SUN INTERNATIONAL	70.04	52.31	67.54	69.14	71.95	84.04	82.78	90.07	88.82	91.02	
TELKOM SA SOC LT	67.16	58.08	62.38	51.01	46.46	73.20	74.78	79.25	76.99	79.72	80.54
THE FOSCHINI GROUP	42.67	45.98	45.77	57.82	61.87	63.67	68.00	69.61	70.86	68.74	74.36
TONGAAT HULETT	34.36	40.36	75.64	76.17	78.23	86.49	85.18	81.46	81.31	81.09	81.09

```

REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT ROA
  /METHOD=STEPWISE SHARE PRICE PE EPS PMY ROE
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID) .

```

Regression

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA COLLIN TOL /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT ROA /METHOD=STEPWISE SHARE_PRICE PE EPS PMY ROE /SCATTERPLOT=(*ZRESID ,*ZPRED) /RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID).
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	Elapsed Time	00:00:06.64
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	Additional Memory Required for Residual Plots	880 bytes

Descriptive Statistics

	Mean	Std. Deviation	N
ROA	7.5873	7.60628	332
SHARE_PRICE	8727.4548	8001.82425	332
PE	15.9071	13.77405	332

EPS	6.9626	8.64634	332
PMY	12.0254	13.37129	332
ROE	23.2818	21.01706	332

		Correlations				
		ROA	SHARE_PRICE	PE	EPS	PMY
Pearson Correlation	ROA	1.000	-.007	-.062	.109	.425
	SHARE_PRICE	-.007	1.000	-.007	.650	.078
	PE	-.062	-.007	1.000	-.065	-.111
	EPS	.109	.650	-.065	1.000	.217
	PMY	.425	.078	-.111	.217	1.000
	ROE	.589	.024	-.067	.107	.503
Sig. (1-tailed)	ROA	.	.453	.130	.024	.000
	SHARE_PRICE	.453	.	.452	.000	.078
	PE	.130	.452	.	.117	.022
	EPS	.024	.000	.117	.	.000
	PMY	.000	.078	.022	.000	.
	ROE	.000	.329	.113	.026	.000
N	ROA	332	332	332	332	332
	SHARE_PRICE	332	332	332	332	332
	PE	332	332	332	332	332
	EPS	332	332	332	332	332
	PMY	332	332	332	332	332
	ROE	332	332	332	332	332

		Correlations	
		ROE	
Pearson Correlation	ROA		.589
	SHARE_PRICE		.024
	PE		-.067
	EPS		.107
	PMY		.503
	ROE		1.000
Sig. (1-tailed)	ROA		.000
	SHARE_PRICE		.329
	PE		.113
	EPS		.026

N	PMY	.000
	ROE	.
	ROA	332
	SHARE_PRICE	332
	PE	332
	EPS	332
	PMY	332
	ROE	332

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ROE	.	Stepwise (Criteria: Probability-of-F- to-enter <= .050, Probability-of-F- to-remove >= .100).
2	PMY	.	Stepwise (Criteria: Probability-of-F- to-enter <= .050, Probability-of-F- to-remove >= .100).

a. Dependent Variable: ROA

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.589 ^a	.347	.345	6.15605	
2	.608 ^b	.369	.365	6.05962	.957

a. Predictors: (Constant), ROE

b. Predictors: (Constant), ROE, PMY

c. Dependent Variable: ROA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6644.202	1	6644.202	175.323	.000 ^b
	Residual	12505.989	330	37.897		
	Total	19150.191	331			
2	Regression	7069.653	2	3534.826	96.267	.000 ^c
	Residual	12080.538	329	36.719		
	Total	19150.191	331			

a. Dependent Variable: ROA

b. Predictors: (Constant), ROE

c. Predictors: (Constant), ROE, PMY

Coefficients ^a							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	2.624	.505		5.200	.000	
	ROE	.213	.016	.589	13.241	.000	1.000
2	(Constant)	2.175	.514		4.232	.000	
	ROE	.182	.018	.502	9.917	.000	.747
	PMY	.098	.029	.172	3.404	.001	.747

Coefficients ^a			Collinearity Statistics
Model			VIF
1	(Constant)		
	ROE		1.000
2	(Constant)		
	ROE		1.338
	PMY		1.338

a. Dependent Variable: ROA

Excluded Variables ^a							
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance	VIF
1	SHARE_PRICE	-.021 ^b	-.470	.639	-.026	.999	1.001
	PE	-.023 ^b	-.513	.609	-.028	.996	1.004
	EPS	.046 ^b	1.039	.299	.057	.989	1.012
	PMY	.172 ^b	3.404	.001	.184	.747	1.338
2	SHARE_PRICE	-.032 ^c	-.738	.461	-.041	.994	1.006
	PE	-.010 ^c	-.217	.828	-.012	.988	1.013
	EPS	.019 ^c	.415	.678	.023	.953	1.049

Excluded Variables ^a				Collinearity Statistics Minimum Tolerance
Model				
1	SHARE_PRICE			.999
	PE			.996
	EPS			.989
	PMY			.747
2	SHARE_PRICE			.743
	PE			.741
	EPS			.720

a. Dependent Variable: ROA

b. Predictors in the Model: (Constant), ROE

c. Predictors in the Model: (Constant), ROE, PMY

Collinearity Diagnostics ^a						
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	ROE	PMY
1	1	1.743	1.000	.13	.13	
	2	.257	2.603	.87	.87	
2	1	2.440	1.000	.06	.05	.06
	2	.331	2.716	.65	.00	.60
	3	.229	3.263	.29	.95	.34

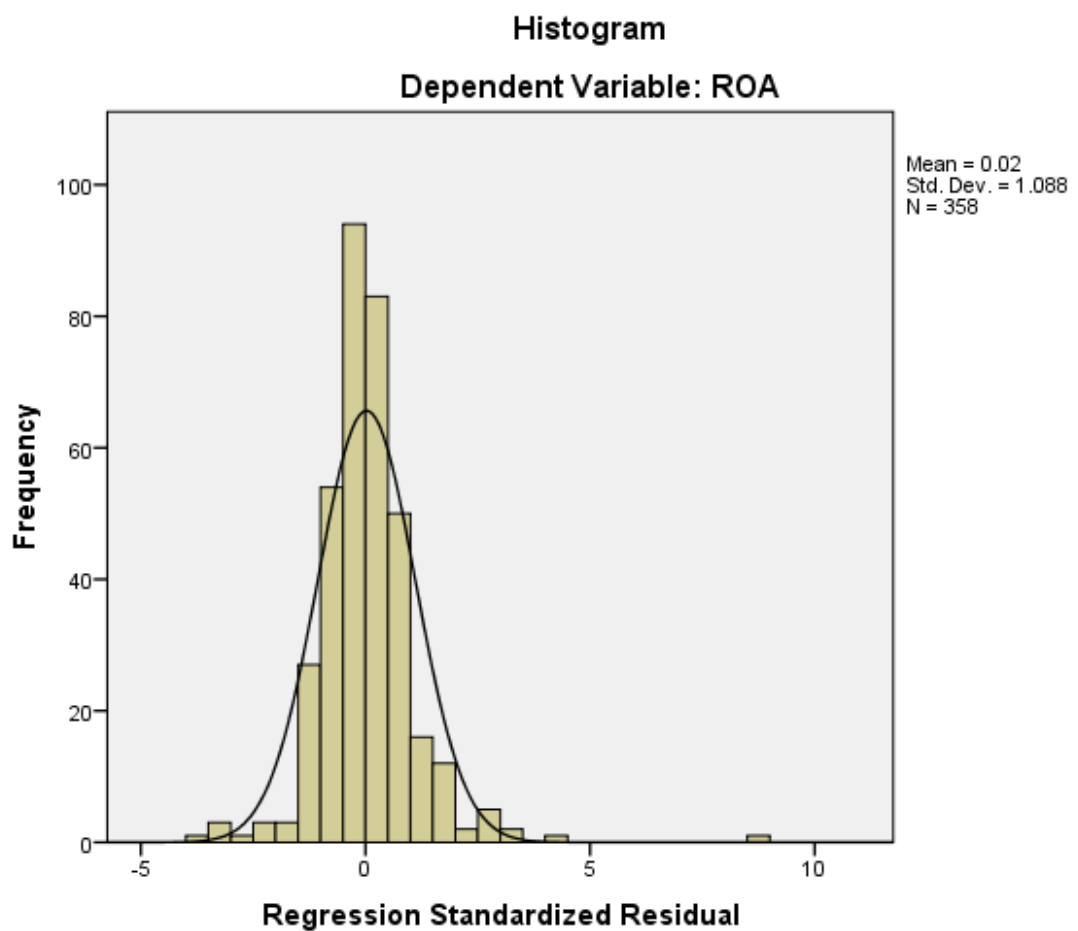
a. Dependent Variable: ROA

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-24.4674	67.9360	7.3514	6.03170	358
Residual	-23.88250	52.87642	.13780	6.59091	358
Std. Predicted Value	-6.936	13.058	-.051	1.305	358
Std. Residual	-3.941	8.726	.023	1.088	358

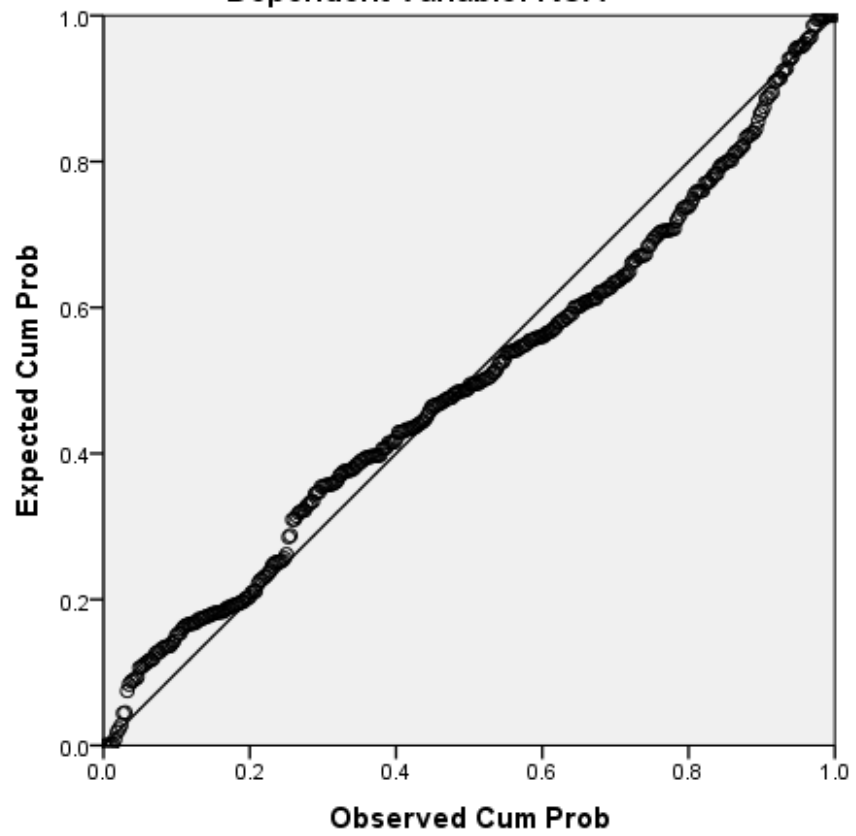
a. Dependent Variable: ROA

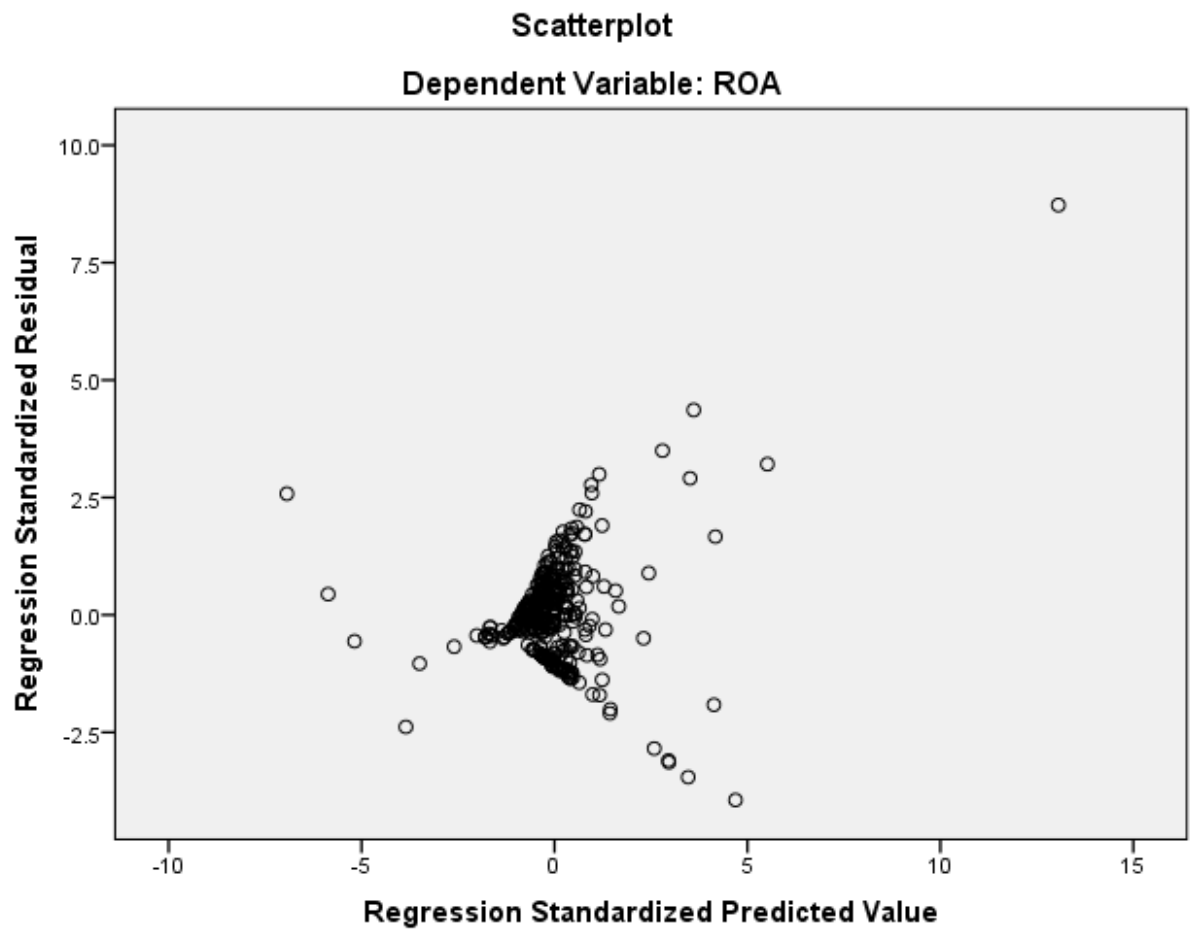
Charts



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: ROA





```

REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT ROA
  /METHOD=STEPWISE SHARE_PRICE PE EPS PMY ROE
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID) .

```

Regression

Notes

Output Created		21-MAR-2017 14:23:12
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	385
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA COLLIN TOL /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT ROA /METHOD=STEPWISE SHARE_PRICE PE EPS PMY ROE /SCATTERPLOT=(*ZRESID ,*ZPRED) /RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID).
Resources	Processor Time	00:00:12.20
	Elapsed Time	00:00:24.56
	Memory Required	3404 bytes
	Additional Memory Required for Residual Plots	880 bytes

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ROE		Stepwise (Criteria: Probability-of-F- to-enter <= .050, Probability-of-F- to-remove >= .100).
2	PMY		Stepwise (Criteria: Probability-of-F- to-enter <= .050, Probability-of-F- to-remove >= .100).

a. Dependent Variable: ROA

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.589 ^a	.347	.345	6.15605
2	.608 ^b	.369	.365	6.05962

a. Predictors: (Constant), ROE

b. Predictors: (Constant), ROE, PMY

c. Dependent Variable: ROA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6644.202	1	6644.202	175.323	.000 ^b
	Residual	12505.989	330	37.897		
	Total	19150.191	331			
2	Regression	7069.653	2	3534.826	96.267	.000 ^c
	Residual	12080.538	329	36.719		
	Total	19150.191	331			

- a. Dependent Variable: ROA
b. Predictors: (Constant), ROE
c. Predictors: (Constant), ROE, PMY

Coefficients ^a							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
		B	Std. Error	Beta			Tolerance
1	(Constant)	2.624	.505		5.200	.000	
	ROE	.213	.016	.589	13.241	.000	1.000
2	(Constant)	2.175	.514		4.232	.000	
	ROE	.182	.018	.502	9.917	.000	.747
	PMY	.098	.029	.172	3.404	.001	.747

Coefficients ^a							
Model		Collinearity Statistics					
		VIF					
1	(Constant)						
	ROE						1.000
2	(Constant)						
	ROE						1.338
	PMY						1.338

- a. Dependent Variable: ROA

Excluded Variables ^a							
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics	
						Tolerance	VIF
1	SHARE_PRICE	-.021 ^b	-.470	.639	-.026	.999	1.001
	PE	-.023 ^b	-.513	.609	-.028	.996	1.004
	EPS	.046 ^b	1.039	.299	.057	.989	1.012
	PMY	.172 ^b	3.404	.001	.184	.747	1.338
2	SHARE_PRICE	-.032 ^c	-.738	.461	-.041	.994	1.006
	PE	-.010 ^c	-.217	.828	-.012	.988	1.013
	EPS	.019 ^c	.415	.678	.023	.953	1.049

Excluded Variables^a

Model	Collinearity Statistics	
	Minimum Tolerance	
1	SHARE_PRICE	.999
	PE	.996
	EPS	.989
	PMY	.747
2	SHARE_PRICE	.743
	PE	.741
	EPS	.720

a. Dependent Variable: ROA

b. Predictors in the Model: (Constant), ROE

c. Predictors in the Model: (Constant), ROE, PMY

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	ROE	PMY
1	1	1.743	1.000	.13	.13	
	2	.257	2.603	.87	.87	
2	1	2.440	1.000	.06	.05	.06
	2	.331	2.716	.65	.00	.60
	3	.229	3.263	.29	.95	.34

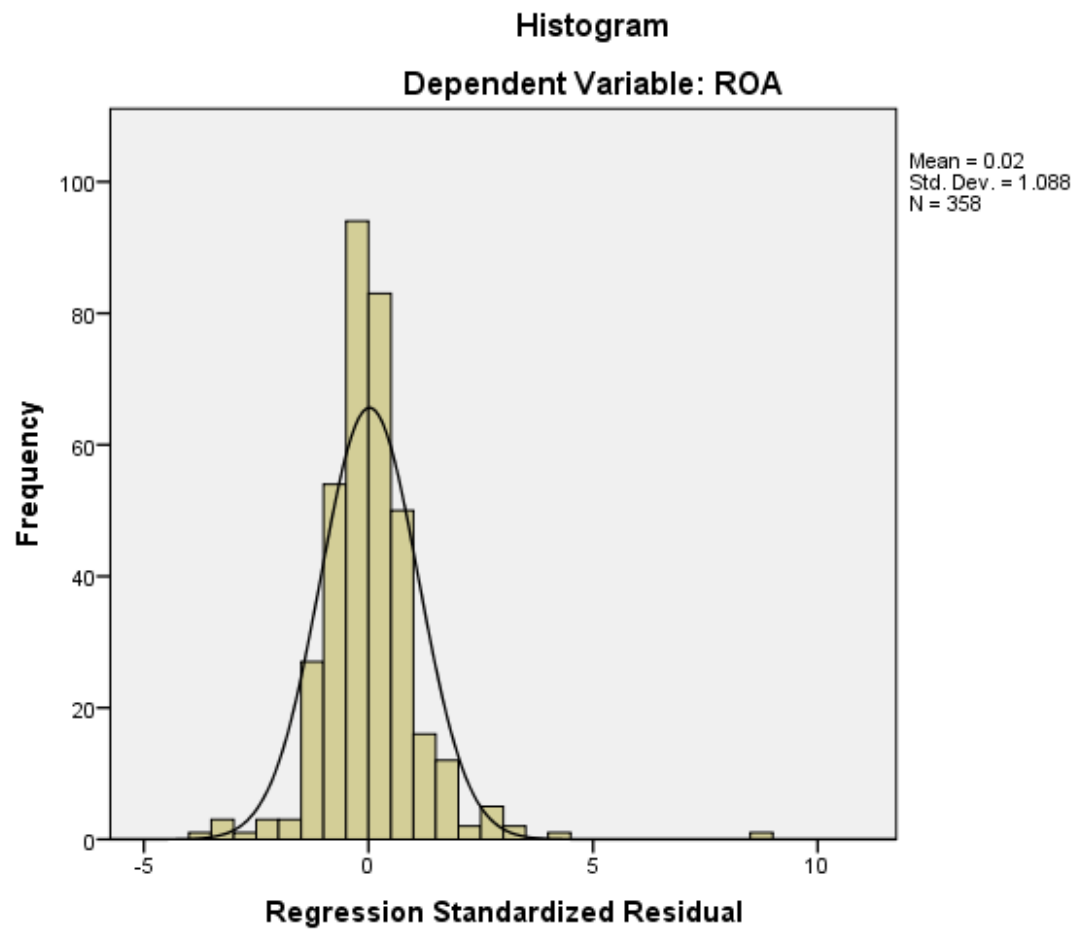
a. Dependent Variable: ROA

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-24.4674	67.9360	7.3514	6.03170	358
Residual	-23.88250	52.87642	.13780	6.59091	358
Std. Predicted Value	-6.936	13.058	-.051	1.305	358
Std. Residual	-3.941	8.726	.023	1.088	358

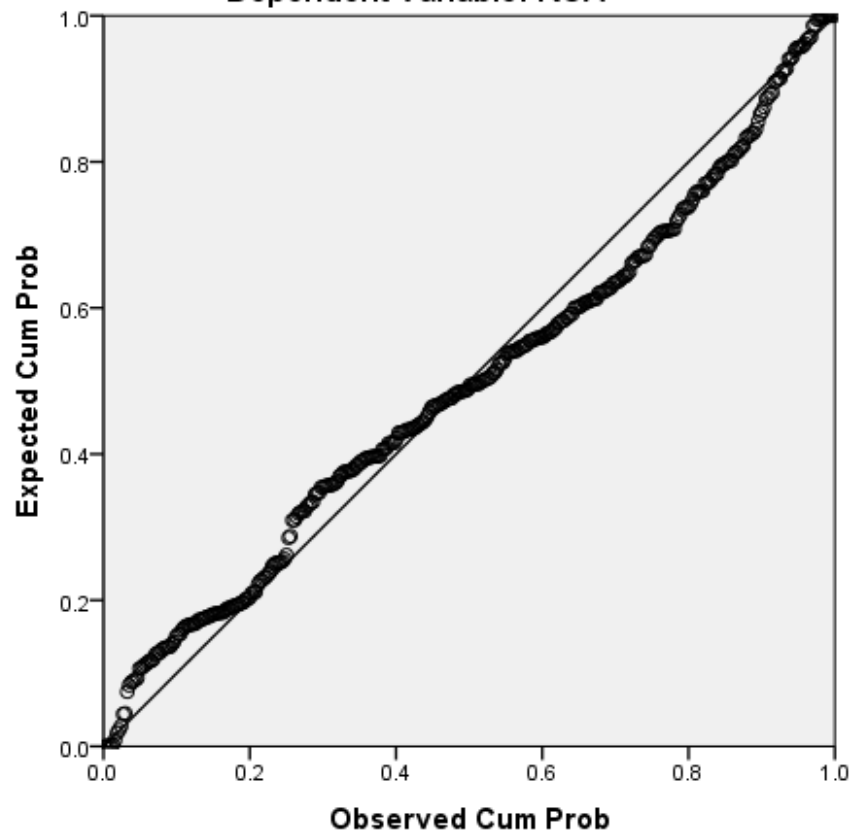
a. Dependent Variable: ROA

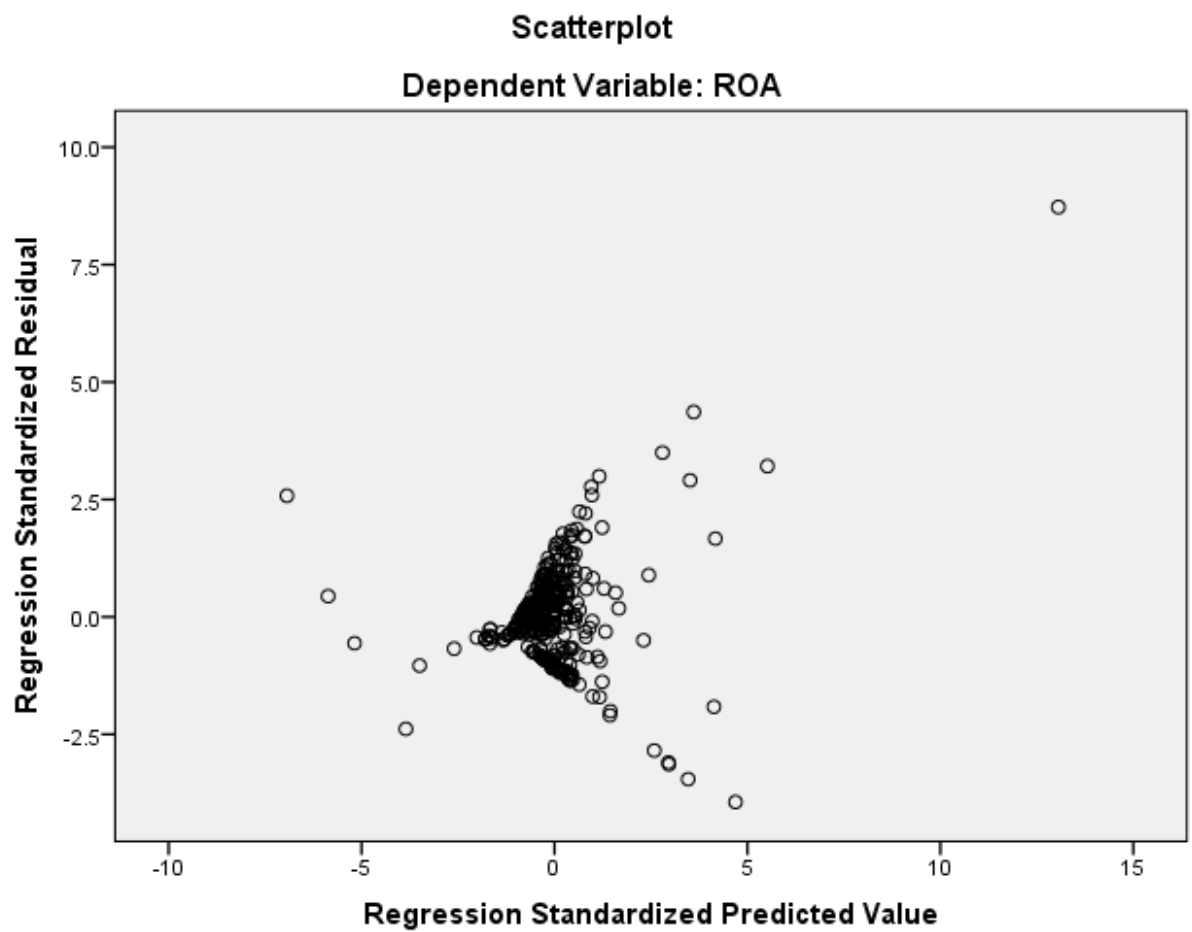
Charts



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: ROA





```

REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT ROA
  /METHOD=STEPWISE SHARE_PRICE PE EPS PMY ROE
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID) .

```

Regression

Notes

Output Created	21-MAR-2017 14:34:24
Comments	

Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	385
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA COLLIN TOL /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT ROA /METHOD=STEPWISE SHARE_PRICE PE EPS PMY ROE /SCATTERPLOT=(*ZRESID ,*ZPRED) /RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID).
Resources	Processor Time	00:00:01.50
	Elapsed Time	00:00:24.13
	Memory Required	3404 bytes
	Additional Memory Required for Residual Plots	880 bytes

Variables Entered/Removed^a

	Variables Entered	Variables Removed	Method
Model			

1	ROE	Stepwise (Criteria: Probability-of-F- to-enter <= .050, Probability-of-F- to-remove >= .100).
2	PMY	Stepwise (Criteria: Probability-of-F- to-enter <= .050, Probability-of-F- to-remove >= .100).

a. Dependent Variable: ROA

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.589 ^a	.347	.345	6.15605
2	.608 ^b	.369	.365	6.05962

a. Predictors: (Constant), ROE

b. Predictors: (Constant), ROE, PMY

c. Dependent Variable: ROA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6644.202	1	6644.202	175.323	.000 ^b
	Residual	12505.989	330	37.897		
	Total	19150.191	331			
2	Regression	7069.653	2	3534.826	96.267	.000 ^c
	Residual	12080.538	329	36.719		
	Total	19150.191	331			

a. Dependent Variable: ROA

b. Predictors: (Constant), ROE

c. Predictors: (Constant), ROE, PMY

Coefficients ^a							
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics
Model		B	Std. Error	Beta	t	Sig.	Tolerance
1	(Constant)	2.624	.505		5.200	.000	
	ROE	.213	.016	.589	13.241	.000	1.000
2	(Constant)	2.175	.514		4.232	.000	
	ROE	.182	.018	.502	9.917	.000	.747
	PMY	.098	.029	.172	3.404	.001	.747

Coefficients ^a			Collinearity Statistics
Model			VIF
1	(Constant)		
	ROE		1.000
2	(Constant)		
	ROE		1.338
	PMY		1.338

a. Dependent Variable: ROA

Excluded Variables ^a							
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics	
						Tolerance	VIF
1	SHARE_PRICE	-.021 ^b	-.470	.639	-.026	.999	1.001
	PE	-.023 ^b	-.513	.609	-.028	.996	1.004
	EPS	.046 ^b	1.039	.299	.057	.989	1.012
	PMY	.172 ^b	3.404	.001	.184	.747	1.338
2	SHARE_PRICE	-.032 ^c	-.738	.461	-.041	.994	1.006
	PE	-.010 ^c	-.217	.828	-.012	.988	1.013
	EPS	.019 ^c	.415	.678	.023	.953	1.049

Excluded Variables ^a			Collinearity Statistics
Model			Minimum Tolerance
1	SHARE_PRICE		.999
	PE		.996

2	EPS	.989
	PMY	.747
	SHARE_PRICE	.743
	PE	.741
	EPS	.720

a. Dependent Variable: ROA

b. Predictors in the Model: (Constant), ROE

c. Predictors in the Model: (Constant), ROE, PMY

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	ROE	PMY
1	1	1.743	1.000	.13	.13	
	2	.257	2.603	.87	.87	
2	1	2.440	1.000	.06	.05	.06
	2	.331	2.716	.65	.00	.60
	3	.229	3.263	.29	.95	.34

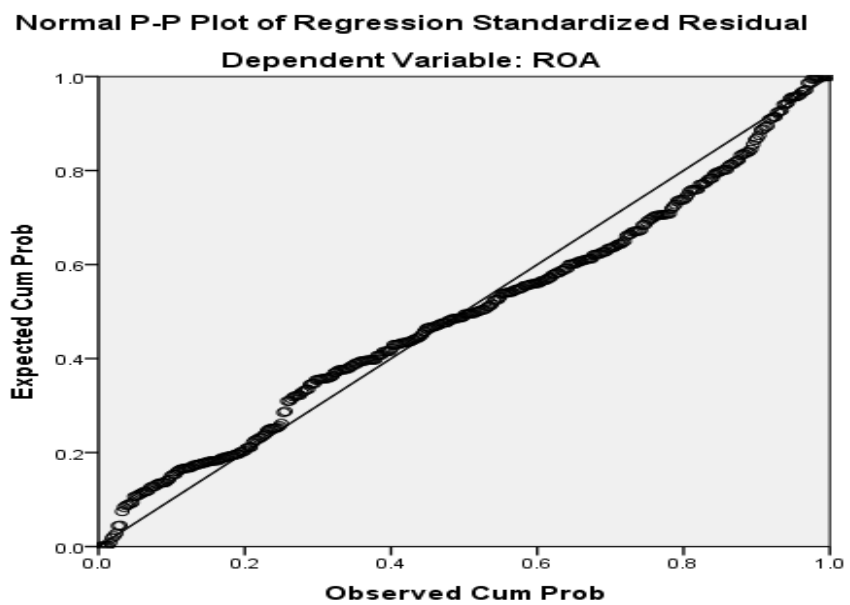
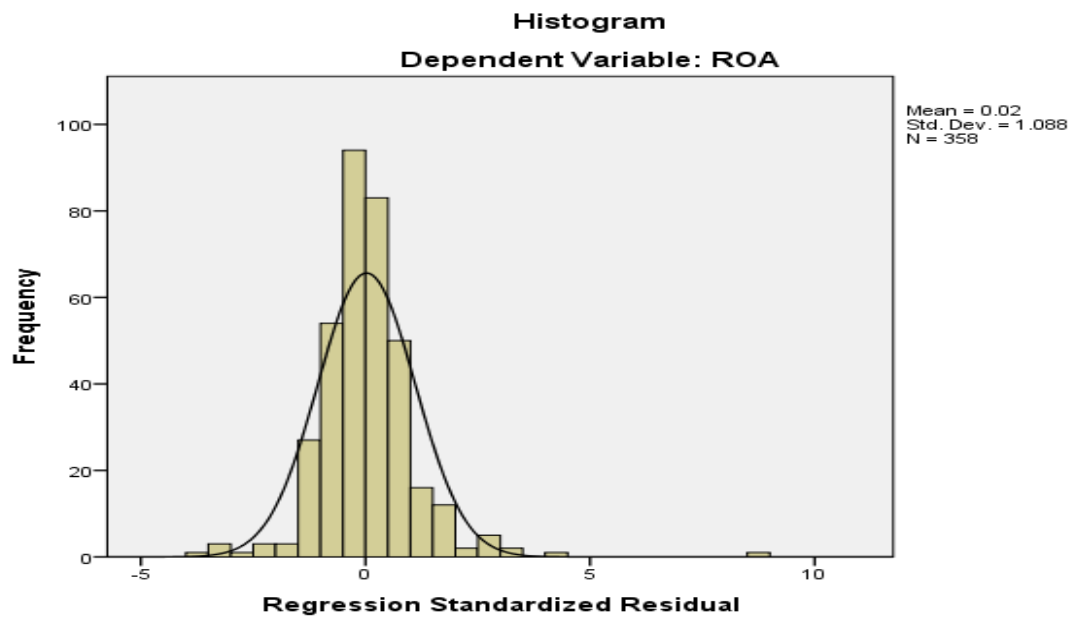
a. Dependent Variable: ROA

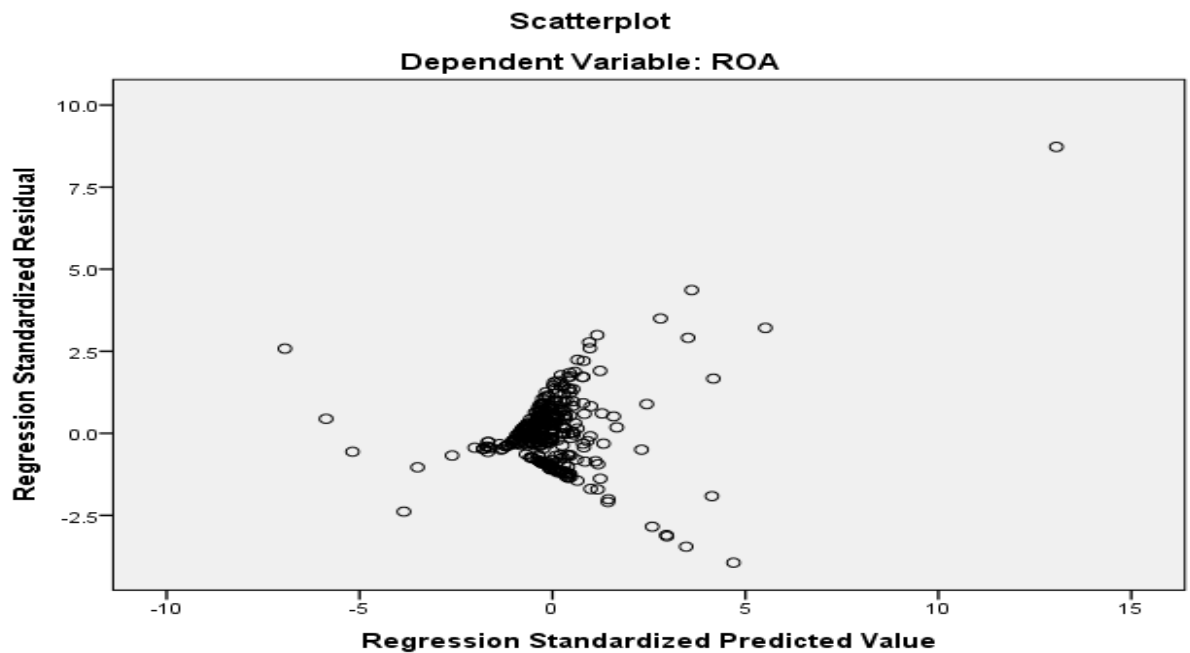
Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-24.4674	67.9360	7.3514	6.03170	358
Residual	-23.88250	52.87642	.13780	6.59091	358
Std. Predicted Value	-6.936	13.058	-.051	1.305	358
Std. Residual	-3.941	8.726	.023	1.088	358

a. Dependent Variable: ROA

Charts





NPAR TESTS

```
/K-S(NORMAL)=BEE ROA ROE PMY EPS PE SHARE_PRICE
/MISSING ANALYSIS.
```

NPar Tests

Notes

Output Created		21-MAR-2017 14:38:27
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	385
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each test are based on all cases with valid data for the variable(s) used in that test.

Syntax		NPAR TESTS /K-S(NORMAL)=BEE ROA ROE PMY EPS PE SHARE_PRICE /MISSING ANALYSIS.
Resources	Processor Time	00:00:00.05
	Elapsed Time	00:00:00.57
	Number of Cases Allowed ^a	157286

a. Based on availability of workspace memory.

One-Sample Kolmogorov-Smirnov Test

		BEE	ROA	ROE	PMY	EPS
N		376	364	364	362	358
Normal Parameters ^{a,b}	Mean	70.1508	7.3914	22.2666	11.6240	6.5956
	Std. Deviation	16.80809	9.96931	27.51430	14.47756	8.57847
Most Extreme Differences	Absolute	.109	.182	.188	.163	.172
	Positive	.058	.144	.188	.116	.150
	Negative	-.109	-.182	-.188	-.163	-.172
Test Statistic		.109	.182	.188	.163	.172
Asymp. Sig. (2-tailed)		.000 ^c	.000 ^c	.000 ^c	.000 ^c	.000 ^c

One-Sample Kolmogorov-Smirnov Test

		PE	SHARE_PRICE
N		339	371
Normal Parameters ^{a,b}	Mean	15.8545	8377.0162
	Std. Deviation	13.66781	7853.26574
Most Extreme Differences	Absolute	.224	.143
	Positive	.224	.132
	Negative	-.212	-.143
Test Statistic		.224	.143
Asymp. Sig. (2-tailed)		.000 ^c	.000 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

```

REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA

```

```

/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT ROA
/METHOD=STEPWISE SHARE_PRICE PE EPS PMY ROE
/SCATTERPLOT=(*ZRESID ,*ZPRED)
/RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID) .

```

Regression

Notes		
Output Created		21-MAR-2017 14:43:08
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	385
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT ROA /METHOD=STEPWISE SHARE_PRICE PE EPS PMY ROE /SCATTERPLOT=(*ZRESID ,*ZPRED) /RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID).
Resources	Processor Time	00:00:01.81
	Elapsed Time	00:00:14.85

Memory Required	3404 bytes
Additional Memory Required for Residual Plots	880 bytes

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ROE		Stepwise (Criteria: Probability-of-F- to-enter <= .050, Probability-of-F- to-remove >= .100).
2	PMY		Stepwise (Criteria: Probability-of-F- to-enter <= .050, Probability-of-F- to-remove >= .100).

a. Dependent Variable: ROA

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.589 ^a	.347	.345	6.15605	
2	.608 ^b	.369	.365	6.05962	.957

a. Predictors: (Constant), ROE

b. Predictors: (Constant), ROE, PMY

c. Dependent Variable: ROA

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
-------	----------------	----	-------------	---	------

1	Regression	6644.202	1	6644.202	175.323	.000 ^b
	Residual	12505.989	330	37.897		
	Total	19150.191	331			
2	Regression	7069.653	2	3534.826	96.267	.000 ^c
	Residual	12080.538	329	36.719		
	Total	19150.191	331			

a. Dependent Variable: ROA

b. Predictors: (Constant), ROE

c. Predictors: (Constant), ROE, PMY

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.624	.505		5.200	.000
	ROE	.213	.016	.589	13.241	.000
2	(Constant)	2.175	.514		4.232	.000
	ROE	.182	.018	.502	9.917	.000
	PMY	.098	.029	.172	3.404	.001

a. Dependent Variable: ROA

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
					Correlation	Tolerance
1	SHARE_PRICE	-.021 ^b	-.470	.639	-.026	.999
	PE	-.023 ^b	-.513	.609	-.028	.996
	EPS	.046 ^b	1.039	.299	.057	.989
	PMY	.172 ^b	3.404	.001	.184	.747
2	SHARE_PRICE	-.032 ^c	-.738	.461	-.041	.994
	PE	-.010 ^c	-.217	.828	-.012	.988
	EPS	.019 ^c	.415	.678	.023	.953

a. Dependent Variable: ROA

b. Predictors in the Model: (Constant), ROE

c. Predictors in the Model: (Constant), ROE, PMY

Residuals Statistics^a					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-24.4674	67.9360	7.3514	6.03170	358
Residual	-23.88250	52.87642	.13780	6.59091	358
Std. Predicted Value	-6.936	13.058	-.051	1.305	358
Std. Residual	-3.941	8.726	.023	1.088	358

a. Dependent Variable: ROA