Is the level of sustainability reporting an indicator of future value of a company?

A research report submitted by

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Declaration:

I declare that this research report is my own original work and that all sources have been accurately reported and acknowledged. It is submitted for the degree of Masters of Commerce to the University of Witwatersrand, Johannesburg. This research has not been submitted for any degree or examination at this or any other university.

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Michelle Crowley   Date

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Abstract

The mode of reporting performance by firms has shifted radically in recent years from a set of audited annual financial statements, to the inclusion of integrated and sustainability reports. This move has been particularly important for South African listed firms, which are required to prepare integrated reports (and therefore sustainability reports) due to the revision of the Johannesburg Stock Exchange (JSE) listing requirements. Although there are no specific accounting standards at present particularly for sustainability reports, certain reporting frameworks, such as the Global Reporting Initiative (GRI) guidelines, have influenced and become leaders in such reporting. The value relevance of the quality of sustainability reports is the focus of this study.

This research report tests whether report quality as measured by the GRI reporting categories is value relevant for JSE listed companies, whether better reporting companies achieve better long term performance over the period 2007 to 2015. Value relevance is measured using a 4 tiered portfolio construction technique, which uses the GRI reporting categories to define comparative investment portfolios.

The results indicate that GRI firms with the highest report qualities underperformed significantly when compared to the market, with the exception of the C report firms, which showed some level of outperformance in the later portfolio years. Interestingly, the portfolio of firms using frameworks other than the GRI outperformed all of the categories of GRI framework firms, as well as the market. The results for the GRI category firms therefore contradict some of the previous research on the value relevance of sustainability reporting which used different measurement proxies for quality, while the non GRI reporting firm results find similar conclusions. This research report therefore concludes that the GRI framework implementation is relatively low in a South African context, and that the GRI report categories do not provide a measure of report quality for the purpose of measuring value relevance, and

rather measure the breadth of reporting. This is partly due to the early stage of development of sustainability reporting within South Africa, as well as the lack of a mandatory assured reporting framework such as the GRI, resulting in many firms preferring not to use the globally favoured GRI framework. It appears that most firms are tailoring the various frameworks available to their needs rather than using a consistent framework, which results in reports not being based on the same framework, and therefore not being comparable, even on a high level indicator basis. This highlights the need for revisions to be introduced in the King IV report which will hopefully assist in formalising the leading sustainability framework, and therefore standardising sustainability reporting, together with providing a linkage to the Code for Responsible Investing in South Africa, which requires investors to integrate their investment decisions with sustainability considerations.

CHAPTER 1 – Introduction

1.1 Introductory paragraphs

Expanding the measurement of company performance using tools such as the triple bottom line has become increasingly important. The importance of social, ethical and environmental performance is gaining prominence. The notion is that firms cannot be successful in the long run if they consistently disregard the interests of key stakeholders.

The triple bottom line measures the economic, social and environmental aspects that affect a company. Increased value is being placed on the triple bottom line resulting in companies that follow a triple bottom line approach having more holistic and long term goals. The result is that companies report and focus on an expanded list of stakeholders which their operations affect, and not just the company shareholders (Menz, 2010).

Traditional rationality suggests that managers should purely aim to maximize profits as this provides wealth maximisation for shareholders, whereas investing in social and economic endeavours results in increased costs and therefore a decreased share price. Conversely, the non-traditional behavioural model states that social and environmental concerns are also important. A company acting in a manner that is not socially acceptable or environmentally responsible can damage the reputation of the company, which can negatively impact the company in the form of fines or legal proceedings, and affecting the morale of the workforce. There are also long term benefits for a company operating in a more socially responsible manner such as increased customer loyalty, a better public reputation, good morale amongst employees meaning better staff retention and attracting talented employees and the avoidance of environmental fines and penalties (Menz, 2010).

Sceptics of the non-traditional behavioural model believe that companies that focus on the short term economic impact may perform better than more socially responsible companies,

as there are external costs, often referred to as externalities, which are not borne directly by the company. This results in these companies gaining an economic advantage over more socially responsible companies by not having to incur the costs of acting in an environmentally responsible manner. In addition, they suggest that many consumers are not willing, or able, to pay more for a product that is from a more socially responsible company as opposed to a company that has a comparable product but is less socially responsible (Menz, 2010).

In contrast to this, (Menz, 2010) suggests that shareholders are better able to influence companies, and that by investing in socially responsible companies, it is possible for investors to manipulate the behaviour of companies by creating a demand for a socially responsible company's shares, and therefore increasing the share price of the socially responsible company shares, recognising the benefits of social responsibility (Menz, 2010).

A number of reasons have been posited as to why there may be a positive association between social responsibility of companies and financial performance. Firstly, firms performing better financially may merely have more available funds to fund and report socially responsible activities. Secondly, companies performing well financially are generally well managed and therefore sustainability reporting would be well managed, resulting in the company's sustainability reporting being better managed. And lastly, companies that face larger risks in terms of the regulatory environment in which they operate may feel that they need to disclose sustainability information, especially when earning higher returns (Jones, Frost, Loftus, & van der Laan, 2007).

An alternative explanation is provided by El Ghoul, Guedhami Kwok and Mishra (2011) who suggest that the more socially responsible a company is, the lower their risk, resulting in a lower weighted average cost of capital. A suggested reason for lower risk is the decrease in information asymmetry as more socially responsible firms are likely to provide more information about their company to the market, as well as the perceived decrease in risk due

to increased uncertainty for companies that are less socially responsible, resulting in lawsuits, labour strikes, lost customers, lost suppliers etc., that a more socially responsible firm may be able to avoid (El Ghoul, Guedhami, Kwok, & Mishra, 2011).

In South Africa, the King Code of governance (King III) (King, 2009) is a driver of sustainability disclosure through requiring integrated reports (and therefore sustainability reports) to be produced. Although King III is not legislated, it is required to be followed by all companies that are listed on the JSE. King III requires that a company prepare an integrated report each year that conveys adequate information about the company's financial and sustainability position as well as a focus on substance over form. The integrated report should include information about how the company has made its money, and the positive and negative impacts that the company has had on its stakeholders, not just the shareholders of the company. The integrated report should cover the economic, social and environmental issues (Institute of directors Southern Africa, 2013). King IV is expected to become effective in 2017. The changes that King IV will bring include integrated reporting, responsible investing and linkage with the Code for Responsible Investing in South Africa (CRISA) (Institute of directors in Southern Africa, 2015). The introduction of CRISA makes South Africa only the second country, the other being the United Kingdom, to formally encourage institutional investors to integrate into their investment decisions sustainability issues such as environmental, social and governance (ESG) aspects (Institute of directors Southern Africa, 2011).

Global reporting initiative (GRI)

King III acknowledges that the Global Reporting Initiative (GRI) provides formalised guidelines for sustainability disclosure. The GRI provides a consistent methodology for disclosure for a company and defines application levels which quantify the level of sustainability disclosure in a company. Companies applying the GRI framework declare an application level which indicates to the user the degree to which information has been disclosed.

The application levels including required levels of disclosure are documented by the GRI, and are provided in Table 1 below. The application levels range from A, which is the highest Application level for disclosure, to B which is a medium level of disclosure, and C which is the lowest level of disclosure (Global Reporting Initiative, 2011). The level definitions are provided in the table below. King III has also acknowledged that a number of listed companies may use the Social Responsible Investment (SRI) index guidelines. The meeting of criteria of disclosure of standards that cover environmental and social issues can result in the classification of the company on the SRI (Johannesburg Stock Exchange, 2013).

The below table is an illustration of the disclosure requirements for each of the application levels (GRI, 2011a).

Table 1: GRI disclosure requirements

This research report combines the measure of value used by shareholders, and the level of disclosure in a sustainability report using application levels, to determine whether the application level affects shareholder return, or stated differently, whether a shareholder can outperform the market using the application levels of a sustainability report, measured using a portfolio construction technique.

1.2 Statement of the problem

Driven by new interest in socially responsible investing, and the legal requirement for JSE listed companies to produce an integrated report, this research report uses the GRI application levels as a tool for investors to assess report quality. Determining whether excess long term share price returns are achievable using the GRI application levels as an investment tool is untested in a South African context.

This research report intends to assess the value relevance of integrated and sustainability reporting using the GRI application levels as a proxy.

1.3 Purpose

The purpose of the study is to investigate the effects of different quality levels of sustainability reporting on share price return in the long term, and thereby determine whether the quality of sustainability reporting holds any value relevance for shareholders. Sustainability is by nature a long term phenomena, and therefore short term performance (immediate price reactions) was considered not to be relevant.

1.4 Significance of the study

The significance of this study can be found in its contribution to existing research. This research report fills the gap in the current body of knowledge by investigating the long term effects that the quality of sustainability reporting, measured using GRI application levels, has on share price returns, which is as yet untested in a South African context. Long term is defined in this context as a multi-year return, as opposed to a short term price reaction, which would be described in days.

Increased pressure on natural resources, climate change and heightened social tensions has resulted in companies, including highly profit driven companies, considering their social and environmental impacts as opposed to being exclusively profit orientated. The question is

whether a company operating in a sustainable manner and disclosing this to the users of the financial statements adds value to the company (Menz, 2010).

King III requires the preparation of an annual integrated report, and although it recommends use of the GRI framework, it does not prescribe the standards a company should follow in the preparation of the integrated report. This research report seeks to determine whether the application level of GRI framework sustainability and integrated reports is an indicator of value relevance.

Companies may be more willing to invest in a high quality integrated report if it is proved to be useful for investors, and value relevant. This research may be relevant to managers in decisions regarding the preparation and disclosure of company activities in sustainability or integrated reports, as well as regulators, due to the fact that the disclosure is at present voluntary (de Klerk & de Villiers, 2012).

1.5 Research questions and/or hypotheses

1.5.1 Main research problem

The problem expressed above will be addressed in this research report by investigating the following null-hypothesis:

H1 = Investing in companies demonstrating better levels of disclosure will not generate abnormal returns for investors in the long term.

CHAPTER 2 – Literature review

The literature review begins with a definition of sustainability and sustainability reporting, followed by an investigation of sustainability reporting in a South African context, and a review of the methods and results of previous studies investigating value relevance of sustainability information. The global reporting initiative and background to the GRI reporting guidelines are also discussed, as well as an overview of the methodology used.

2.1 Background: Sustainability and sustainability reporting

King III defines sustainability as the manner in which a firm operates to meet existing needs without conceding the ability of forthcoming generations to meet their needs. It means having regard to the impact that the business operations have on economic life of the community in which it operates. Sustainability includes environmental, social and governance issues.

Sustainability reporting is the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development. Both the negative and positive aspects should be disclosed in order to provide a balanced representation of the firm. The terms triple bottom line reporting, and corporate social responsible reporting are considered to be equivalent to sustainability reporting. It forms part of integrated reporting that combines reporting of both financial and non-financial information (GRI, 2011b).

Stakeholders are demanding information that was previously not provided by firms. Incidences of global warming, biodiversity decreases and globalisation are events that have resulted in the need for increased information. Firms began to voluntarily disclose additional information in a separate report or on websites. Larger firms tend to disclose this information

more frequently than smaller firms (Berthelot, Coulmont, & Serret, 2012). This size bias may reflect in the results of this study, as larger firms will tend to adhere to sustainability reporting and smaller firms will not. This may also result in a difference in risk in the different portfolios. The purpose of this study was however to determine whether the selection of investments using the given report rating criteria would result in outperformance, which is still achieved. The size and risk components are perhaps therefore an explanation as to why there is or is not outperformance. No attempt was therefore made to use comparable firms or to evaluate relative risk in the portfolios, as this was not the purpose of the study.

2.2 Sustainability reporting in a South African context

South Africa has shown a commitment to sustainability reporting through the King III report which requires the preparation of an integrated report. King III does not prescribe a specific framework to be complied with when compiling an integrated report. The recommended practice is that commentary should be included on the financial results of the firm, the going concern ability of the entity, how the company makes its money and any positive or negative impacts that the actions of the company has had during the past year. King III has acknowledged that the GRI provides a formalised guide on sustainability reporting that has become accepted internationally.

Dawkins & Ngunjiri (2008) examined the annual reports of the top 100 companies listed on the JSE and compared them to the top 100 Fortune Global companies. The outcome of the study was that the South Africa entities had a greater frequency and level of corporate social responsibility reporting than the Fortune 100 Global entities. The conclusion drawn was that this indicates a greater level of willingness of emerging market entities to provide the additional information required by stakeholders when compared to developed countries (Dawkins & Ngunjiri, 2008). Developing countries focus on increasing profits and increasing investor trust. There is also a trend for non-OECD countries to prepare sustainability reports.

South Africa was also found to be leading CSR reporting of emerging markets (Programme., Initiative., KPMG., & Unit for Corporate Governance in Africa, 2010).

The value relevance study in this research report is therefore ideally placed in South Africa, being one of the leading implementers in terms of sustainability reporting.

2.3 Empirical evidence

Menz (2010) hypothesised that more socially responsible companies (ceteris paribus) have better credit quality than companies that operate in a less socially responsible manner due to their reduced perceived risk. The methodology followed was a quantitative study that compared European companies that were ranked according to their corporate social responsibility using the Corporate Sustainability Assessment of Sustainable Asset Management Research organisation based in Zurich, and then compared to the credit rating provided by external organisations. After performing an ordinary least squares test, a weak negative correlation was found between the social responsibility score of the company and their credit spread. The possible explanation for this relationship is that the bond market values the credit rating more than the sustainability report of a company when making decisions.

A firm's social capital which is defined as the trust the investors have in the firm is thought to provide a firm with returns such as increased trust during a period where investor confidence is low such as the 2008-2009 recession. Investors were thought to place a shareholder premium on the value of a firm if they were thought to be trustworthy. A firm's CSR was used as a proxy for its social capital, and it was found that firms with higher CSR values performed better than firms with lower CSR values in terms of having higher stock returns. Additional tests were performed and it was found that during the early 2000s during the Enron and WorldCom crisis (a period when investor confidence decreased) firms with higher CSR values out performed entities with lower CSR values (Lins, Servaes, & Tamayo, 2016). Decisions made are rarely made based solely on historical financial information but rather on a variety of information that can assist a user in understanding the risks and opportunities associated with a firm (GRI, 2015).

De Klerk & de Villiers (2012) investigated companies in South Africa to determine whether the level of the corporate responsibility reporting affects the share price positively due to reducing the information asymmetry. The theory behind the hypothesis is the agency theory in which information asymmetry is caused by the separation between the owners of the company and the agents or the management. The belief is that if the shareholder does not have all the information they require to make a decision they will assume the worst-case scenario which is increased risk and that will lead to the decrease of the value of the company as the shareholders are willing to pay less for a share in that company. Information asymmetry can therefore be reduced by the disclosure of more information. The study used data from a KPMG International survey of Corporate Responsibility Reporting (CRR) and preformed various regression analysis techniques to determine the existence of a correlation between the level of disclosure of a company's corporate responsibility reporting and the value of the company. The conclusion of this study was that there is a correlation between the level of corporate responsibility reporting and the information that the shareholders use to value the company (de Klerk & de Villiers, 2012).

A study performed by Jones et al. (2007) in Australia tested whether there was a positive correlation, ceteris paribus, between the financial performance of a company and the sustainability disclosure of companies in Australia. The sustainability disclosures were determined by extracting what was available about the companies listed on the Australian Stock Exchange (ASX) and scoring them according to the GRI. Once the sustainability disclosures had been determined they were compared to indicators of financial success, such as turnover, working capital and price earnings ratios. Tests to determine the strength of the correlation between the financial success and the sustainability score were performed and included t-tests and R squared tests. The conclusion of this study was that there was a strong positive association between the sustainability disclosure of a company and the company's financial performance in a number indicators of financial performance (Jones et al., 2007).

A study performed in 2007 illustrated that a negative impact on performance was produced when firms that had adopted corporate social responsibility were compared to firms that did not. This study used the Dow Jones Sustainability Index as a proxy for corporate social responsibility and used accounting indicators as indicators of performance. Two groups of 55 companies each were compared. The one group being listed on the Dow Jones Sustainability Index and the other not. The cost of capital was not found to differ significantly between the two groups. The study covered a period of 6 years. The reasons provided for the result is that there are additional costs that need to be incurred in order for a company to be more sustainable and provide higher quality reports, management may not have appropriately budgeted for the additional costs that were going to be incurred. There is also a possibility that the benefit received from producing higher quality reports and increasing the sustainability of the firm cannot be measured through the methods of testing used. The benefits received from increased quality reports and decision making that results in the long term sustainability of the entity may only translate into value over time. The study also suggested that during the first few years of implementation, the negative correlation was observed, while later on the correlation decreased. This may be because management is in a better position in understanding the entity and the costs involved in an entity focusing more on the triple bottom line (Lopez, Garcia, & Rodriguez, 2007).

Hawn, Chatterji, and Michell (2016) investigated how corporate social responsibility activities affected financial market evaluations of firm value on the Dow Jones sustainability Index, finding that firms with strong financial performance gained little benefits from CSR recognition, and fewer penalties for losing such recognition. The benefit of CSR performance was therefore severely muted for such firms, indicating that CSR performance is unimportant in the context of strong financial performance.

In a study performed on the FTSE4GOOD IBEX index, Charlo, Moya, and Munoz (2013) investigated the importance of social and environmental aspects of business investment, finding that socially responsible firms obtained higher profits for the same level of systematic risk. The study also commented that previous results have not been conclusive, and therefore caution should be excercised in drawing conclusions.

Two studies have been performed in South Africa similar to this study. The first one was performed by (Buys, Bosman, & van Rooyen, 2009) is related to this research report. Buys et al. (2009) tested whether companies that adopted the GRI to produce an integrated report performed better than those that did not use the GRI guidelines. This study found that companies that did use the GRI did perform better financially, measured using share price, compared to those that did not. A limitation of this study is that 10 companies who had adopted the GRI were compared to 10 companies that had not adopted the GRI (de Klerk & de Villiers, 2012). This study will further test whether the level of the disclosure produced by companies who have adopted the GRI will influence the value in the entity as well as use more companies.

The study performed by de Klerk & de Villiers in 2012 where it was concluded that the level of sustainability disclosure closed the information gap between stakeholders and management. Companies that had a higher CRR are likely to have an increased higher share returns compared to companies with lower levels of CRR disclosure (de Klerk & de Villiers, 2012).

In conclusion the empirical research previously performed has resulted in conflicting conclusions on the value of sustainability information. This therefore adds to the debate by further assessing the value relevance of GRI categories as a measure of reporting quality.

2.4 Global reporting initiative (GRI)

The GRI is an international independent organization that assists businesses (both for profit and non-profit entities), governments and other organizations understand and communicate their effects on issues such as climate change, human rights and exploitation. The GRI encourages organisations to operate in a sustainable manner by promoting sustainable reporting (GRI, 2011b).

The GRI framework was launched to develop guidance when preparing a sustainability report focusing on the triple bottom line in order for the level of sustainability reporting to be elevated to the level of financial reporting. The GRI guidelines are continuously being revised and improved. The GRI does not require the sustainability report to be independently verified, this is however suggested as a form of added assurance to the users of the sustainability report (GRI, 2011b).

Numerous stakeholders are interested in the sustainability of a company. These stakeholders include investors, regulators, employees, NGOs, the general public and the media. Companies for whom the need to differentiate their performance from their competitors used the GRI framework as a tool in their differentiation strategy. There are also advantages in using the GRI framework that extend past the communication of information to stakeholders, such as allowing management to consider the goals of entities holistically as opposed to purely evaluating based on financial goals; it assists in the understanding of the entity as a whole, as well as understanding and using the demands of all to make decisions. By complying with the GRI, companies may be ready to comply with current or future regulations. Investors are influenced by the publically available information that speaks to the company's reputation when making decisions. Even reporting on negative events in the sustainability report creates trust between the entity and investor (GRI, 2015).

It should be noted that the G4 report guidance was released in May 2015. The G4 report no longer requires firms to choose an application level, but rather to disclose whether they are

'in accordance' with the G4 report. A firm that is in accordance with the G4 report can either be 'core' or 'comprehensive'. Firms that use the GRI should have implemented the G4 report by December 2015 (KPMG., 2013).

The GRI reports disclose management's approach, strategy and commitment during a reporting period. The aim is to produce reports that can be used as a benchmark to compare different entities, to compare to legislation norms, voluntary commitments and even the same entity over time. Reporting principles are used as a guide in preparing a sustainability report. These are materiality, stakeholder inclusiveness, sustainability context and completeness. There are also reporting principles for quality such as balance, comparability, accuracy, timeliness, clarity and reliability. When using the GRI reporting framework a firm is expected to disclose the company's strategy and profile, management approach and performance indicators. External assurance can be provided over the report but it is not a requirement (GRI, 2011b).

GRI Application level (Application level) for G3 or G3.1 reports are used to indicate the level of disclosure of compliance with the GRI disclosure requirements. The level A, B or C indicating the extent to which the company has applied the GRI disclosure guidelines. The Application level A has the highest level of disclosure while Application level C has the lowest level of disclosure(GRI, 2011a).

As the GRI is an established reporting framework that is used by firms in all sectors, and allows for comparability between different firms in different sectors, and aims to improve the disclosure of information around social and environmental factors, it can be concluded that this is an appropriate framework to use for the purpose of the study. The different application levels will allow for a comparison between different level of disclosure which can be compared to companies who do not use the GRI. Portfolio performance is also compared to the market performance to measure abnormal returns.

2.5 Methodology overview

A method of portfolio construction and comparison was used by Ward & Muller (2012) to determine the relationship between beta and the financial returns of South African companies listed on the JSE. Portfolios were created and companies were ranked according to their betas and allocated to portfolios. The value of the portfolios were determined on a daily basis and plotted on a line graph to illustrate the results visually. The portfolios were reset quarterly to ensure that the companies were classified in the correct portfolios. This methodology aims to reduce the volatility of the data that is traditionally used by researchers when comparing average portfolios and using the t-tests to determine the significance of the relationships between beta and the average portfolio returns.

Labuschagne (2014) used a methodology based on the study performed by Ward & Muller (2012) to determine whether the quality of integrated and sustainability reporting had an effect on the long term market value of a company in South Africa. The Social Responsible Investing Index (SRI) was used as an indicator of the quality of the integrated and sustainability reporting of a company. The four portfolios were created, companies listed on the SRI, the SRI's list of best performers, the persistent best performers and lastly companies that were listed on the All-share index on the JSE but not on the SRI. The findings indicated that the SRI portfolio and the SRI best performer category outperformed companies that were not listed on the SRI but were listed on the All-share index. The persistent best performer category, however, underperformed (Labuschagne, 2014).

This research report uses a similar portfolio construction method to assess the value relevance of integrated and sustainability reporting using the GRI application levels as a proxy for report quality.

CHAPTER 3 – Methodology

In order to investigate the long term effect of integrated and sustainability reporting on market value, a portfolio construction method has been utilized using the GRI application levels as a proxy for the quality of integrated and sustainability reporting. The performance of four different sustainability portfolios was tracked to determine whether holding a higher quality sustainability reporting portfolio outperforms a lower quality sustainability portfolio in the long term.

3.1 Testing Hypothesis 1 – Long term effect of integrated and sustainability reporting quality

The long term price effect of integrated and sustainability reporting is measured through the construction of portfolios in line with Ward and Muller (2012). Due to the construction of portfolios the volatility of the data is reduced as any abnormal effects of a single share are eliminated. The cumulative nature of the results, allows for a visual comparison of the different portfolio returns.

3.2 Overview of method

Four equal weighted portfolios of shares were constructed to compare the returns generated by shares with different quality integrated and sustainability reports, using application levels of reports as a proxy for report quality: Application level A (Portfolio A), Application level B (Portfolio B), Application level C (Portfolio C), as well a final category for companies that do not use the GRI framework (Portfolio non-GRI).

The daily value changes are tracked from 2007 to 2015 with annual performance rebalancing. The cumulative value of the shares are calculated and the cumulative value over time is plotted on a cumulative index graph. The x-axis represents the time while the y-axis represents the value of the portfolio. The results are then compared visually.

The Portfolios A, B, C and non-GRI portfolios are compared from 2007 to December 2015. Each portfolio is weighted equally by investing R 1 million.

To assist in data interpretation, a value relative line is incorporated to aid the interpretation of the graph. This relative line graph illustrates the excess value of the highest ranked portfolio over the lowest ranked portfolio. The value of the highest ranked portfolio over the lowest ranked portfolio is determined by dividing the value of the highest ranked portfolio by the value of the lowest ranked portfolio. The results are then compared visually. If the highest ranked portfolio has performed better than the lowest ranked portfolio, the slope of the line will be upward sloping, if the lowest ranked portfolio is outperforming the highest ranked portfolio then there will be a downward sloping line, and if the slope of the line is flat then neither portfolio is outperforming the other (Ward & Muller, 2012). The highest and lowest ranked portfolios will be determined in terms of the application level of the portfolio.

Due to the nature of the analysis, i.e. the calculation of cumulative returns, the results can be compared visually. If the visual comparison is considered to be inconclusive, a robustness test will be performed using either a t-test statistic, or a non-parametric Mann-Whitney U-test.

3.3 Population and study sample

The population of this study consists of companies that are registered on the Sustainability Disclosure Database and listed on the JSE. The Sustainability Disclosure Database was created by the GRI. The Sustainability Disclosure Database includes companies that do not disclose a GRI sustainability report.

The entire population of information of large companies in South Africa that are listed on the JSE that have a determined application level for a G3 or G3.1 report available on the Sustainability Disclosure Database have been tested.

The G3.1 report guidelines were released in 2011 while the G3 report guidelines were released in 2006. The latest report guideline, the G4, was released in 2013 (GRI, 2011a). For the purpose of this study, the G4 reports will be ignored as they are only expected to be fully implemented in December 2015. The new reports that only use 'in accordance' and either 'core' or 'comprehensive' are not considered to be comparable to the previous application levels used by the G3.1 and G3 reports.

The expected outcome of the graph is as follows, where firms with higher rated reports would be anticipated to outperform those with lower rated reports:
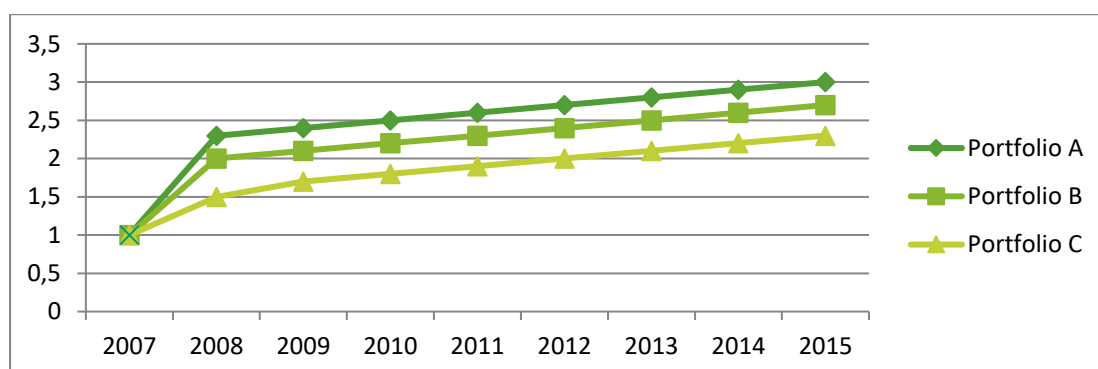
3.4 Sources of data

Data regarding the Application level of the company's GRI disclosure were extracted from the Sustainability Disclosure Database, while the share price information of companies were extracted from McGregor BFA Research Domain.

The data on the classification of the companies into application levels was extracted from the Sustainability Disclosure Database available from:

http://database.globalreporting.org/search

This dataset was tested for completeness and accuracy by inspection of a sample of integrated/sustainability reports to verify the integrity of the data.

3.5 Data management

Data was extracted from the McGregor BFA Research Domain into Microsoft Excel, after which portfolios were created for calculation of the cumulative returns, relative returns, and market returns, where after graphs illustrating the cumulative returns and the relative returns were created.

3.6 Data Analysis

The value of each portfolio is determined on a daily basis. Graphs were constructed to illustrate visually the value fluctuation of each portfolio of shares over the period to determine whether a specific portfolio performed better over time compared to another portfolio.

The relative value of each portfolio was then determined on a daily basis. Line graphs are constructed to illustrate visually the relative fluctuations of the portfolios over the period of time to determine the performance of the portfolios relative to each other.

3.7 Assumptions, limitations and delimitations

Transaction costs were ignored as they are considered immaterial as they will be approximately the same across all four portfolios (Ward & Muller, 2012).

Portfolio A consists of companies that achieved an A application level or an A+ application level, Portfolio B consists of companies that achieved a B application level or a B+ application level and Portfolio C consists of companies that achieved an application level of C or C+. No distinction has been made about whether the reports have been externally assured as not to distort the portfolios due to the small number of companies that would be contained in the portfolios.

The fact that the G4 reports were not included in the population for this study as the application levels were not applicable may result in the population of entities decreasing as firms begin to implement the G4 report. Although the G4 report is required to be used from 31 December 2015 it could be early adopted from May 2013. This effect will be monitored for when interpreting the results.

CHAPTER 4 - Results

The results of the study are presented in this chapter. It begins in 2007 as this is the first year that the G3 reports were used, and ends at December 2015. The graphs below include the long term value of each portfolio created relative to the market from the 2007 period to the 2015 period as one graph per portfolio.

4.1 Results of the completeness and accuracy test

A completeness and accuracy test was performed on the GRI disclosure database to test for integrity.

To test the completeness of the database, an expectation was created for 5 companies that were expected to be disclosed in the data base. The expectation was created by searching South African companies that use the GRI in their integrated reports. This expectation was then compared to the database.

The results of the completeness tests were that all 5 firms that were expected to be found in the database were found in the database. These firms included Woolworths, Goldfields, Holdsport, Bidvest and Liberty. It can therefore be concluded that the database appears to be complete.

To test the accuracy of the database a sample of 5 firms were selected from the database and the integrated reports located and the report rating on the integrated report was compared to the report rating in the database.

The 5 firms selected were Edcon for 2012 from the Non-GRI list, Sappi for 2010 from the application A list, Illovo for 2013 from the application B list, Blue Label Telecoms for 2011 from the application C list and Spar for 2007 from the non-GRI list. It can therefore be concluded that the database appears to be accurate.

In conclusion the GRI disclosure database appears to be complete and accurate and can be relied on for the purposes of this study.
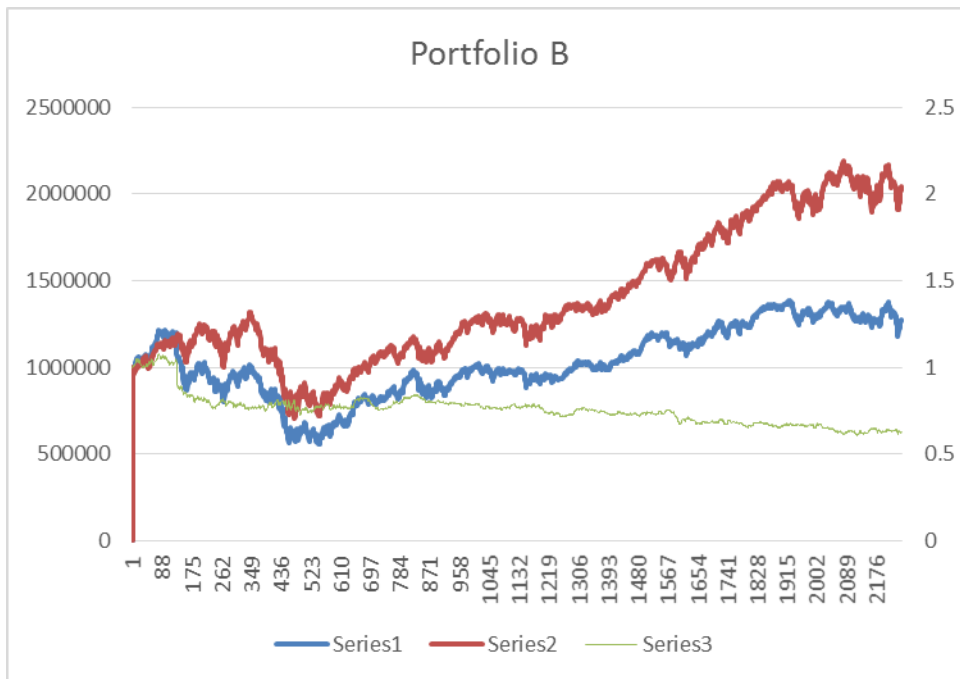
4.2 Results of the initial study

The performance of the portfolios can be compared and all the graphs intercept the y axis at R1 000 000 as the initial investment of R1 000 000 was made in each portfolio.

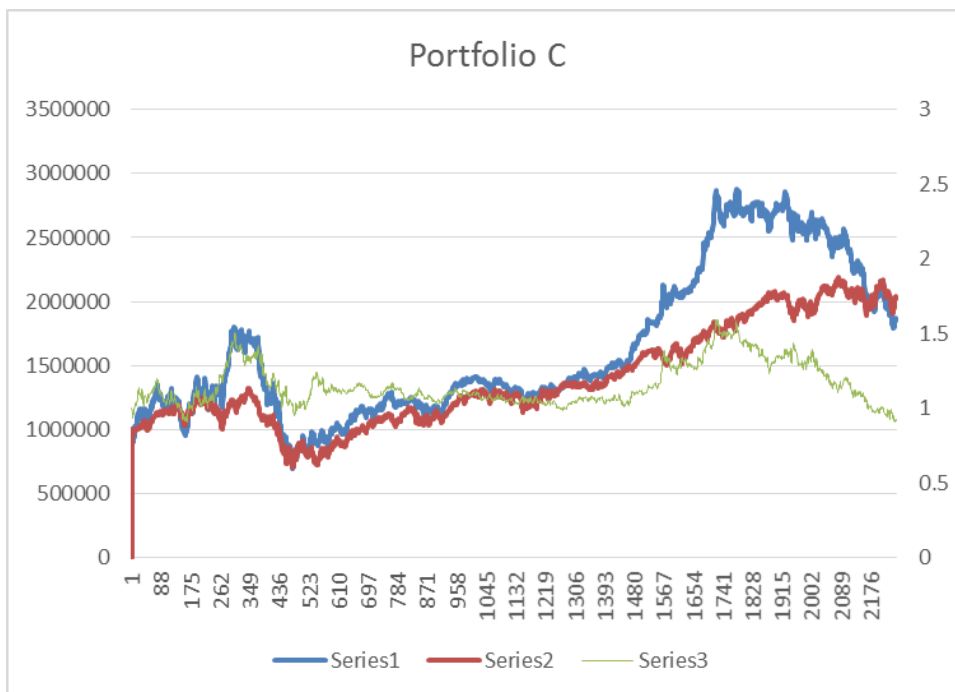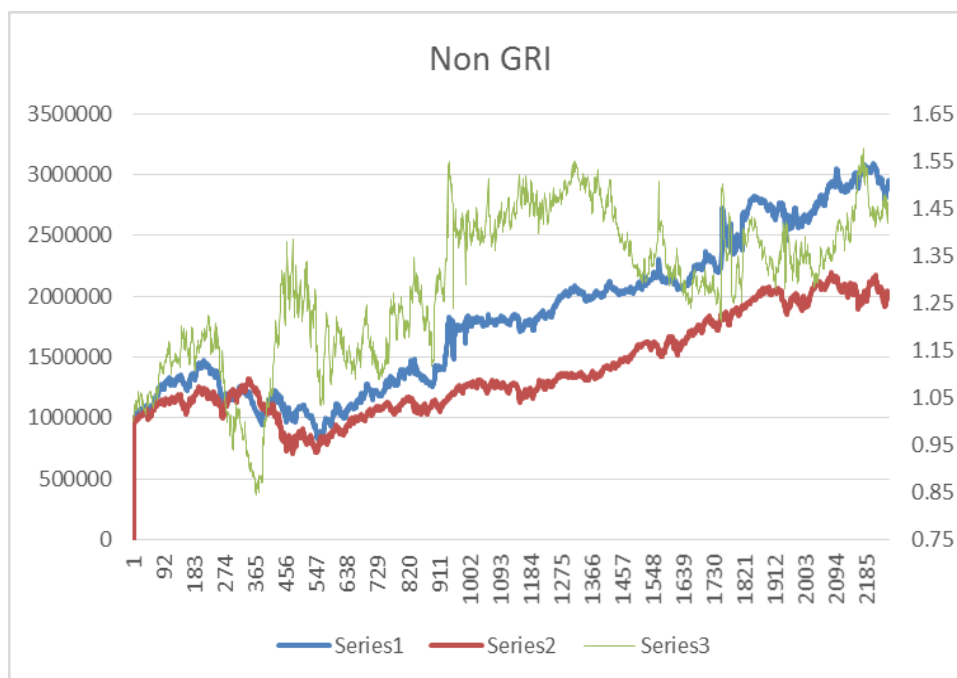The graphs illustrating the results are located below:

4.2.1 Graph 1: Portfolio A
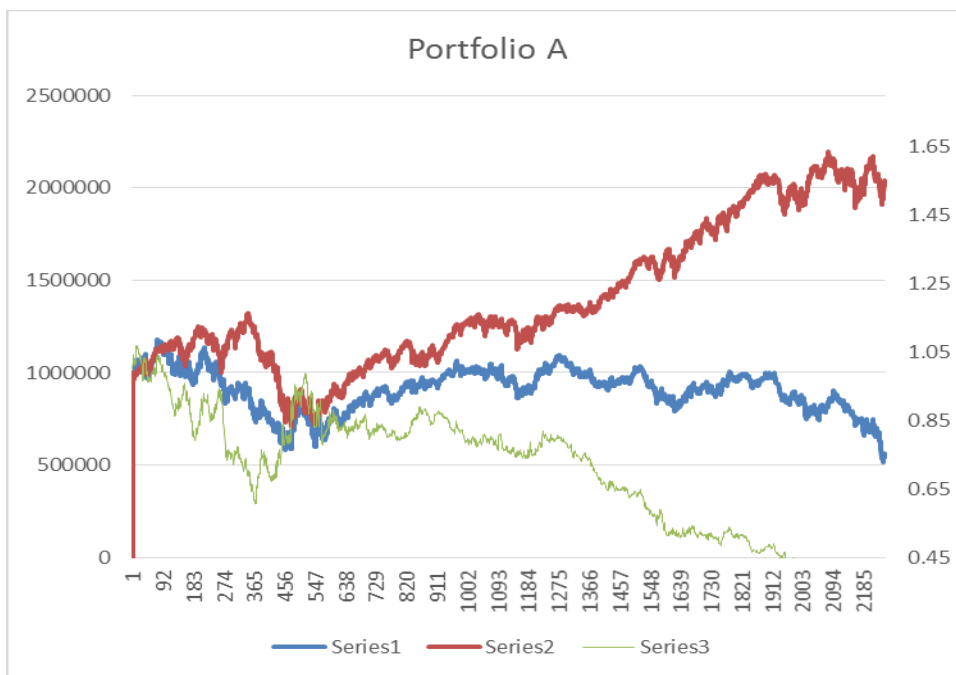
4.2.2 Graph 2: Portfolio B

4.2.3 Graph 3: Portfolio C

4.2.4 Graph 4: Portfolio Non-GRI

4.2.5 Analysis of results

In all the graphs the red line (series 2) symbolises the market, the blue line (series 1) is the

portfolio (either A, B, C or non-GRI) while the green line (series 3) is the outperformance

line. The expectation was that portfolios containing reports of a higher disclosure quality

would provide greater returns than that of the market. This would be illustrated by the blue

line above the red line and the green line sloping upward.

The graphs however have indicated that the investment in a portfolio with a higher quality

sustainability report underperforms when compared to the market.

Portfolio A and Portfolio B illustrate the outperformance of the market when compared to the

portfolios made up of the separate application levels throughout the period. The portfolio line

lies below the market line as well as the relative line being downward sloping. If the relative

line were to be upward sloping, the portfolio would be outperforming the market, while if the

relative line did not move, (i.e. it remained constant) the market and the portfolio lines would remain constant.

Portfolio A showed greater underperformance when compared to the market than portfolio B did. This is concluded after inspection of the green line or the outperformance line. Portfolio A's outperformance line is downward sloping for most of the period while Portfolio B's outperformance line is nearly parallel to the x-axis as time passes.

Portfolio C initially outperformed the market as the blue line is initially above the market red line and the green line is upward sloping. At the end of the period the portfolio C was underperforming, which may be partly due to the firms converting to the G4 reporting guidelines, which is evidenced by the decrease in the number of firms in this portfolio in the 2015 year.

Non-GRI entities consistently outperformed the market as evidenced by the blue line constantly being above the red line and the green line being upward sloping. Firms using non GRI frameworks are therefore performing significantly better than their GRI adopting counterparts. This is perhaps explained by the underperformance of the GRI entities, where better reporters (using the preferred GRI framework) are performing worse as explained previously.

4.2.6 Portfolio summary
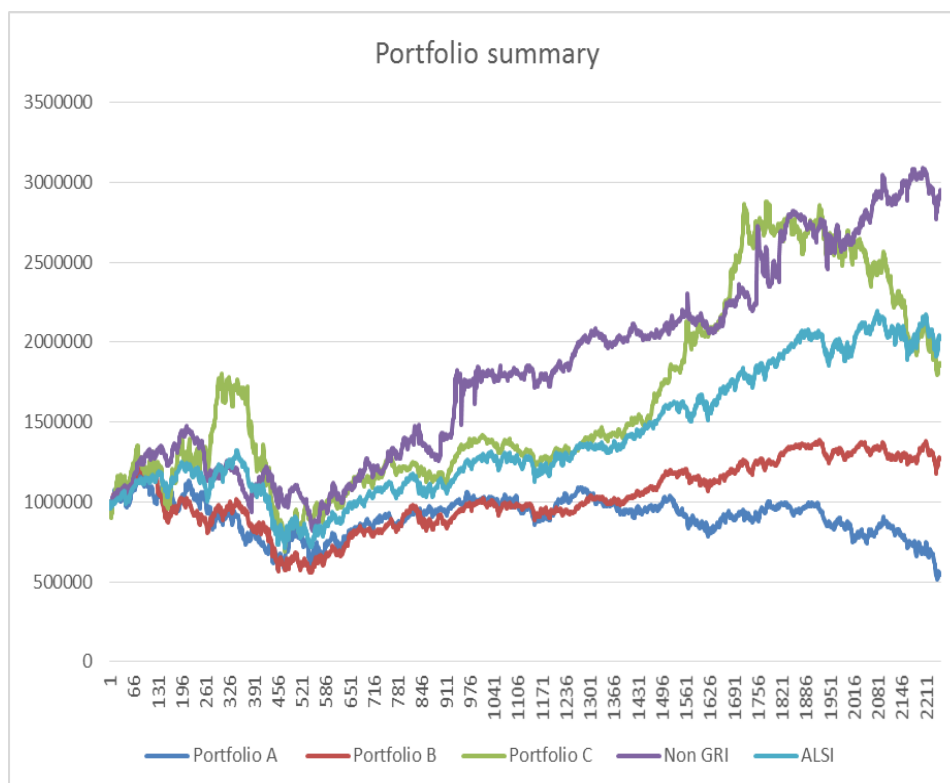
The relative performance of each portfolio is compared next. The value of Portfolio A at the end of 2015 is 65% of the original value in 2007, portfolio B is approximately 125% of the original value while Portfolio C is 150% of the original value and lastly the non-GRI portfolio is 160% of the original value. This indicates that the portfolio with the highest GRI application level which was used as a proxy for report quality is the worst performing portfolio while the non-GRI portfolio which represented the lowest report quality performed the best. There appears to be an inverse relationship between GRI indicator level and portfolio performance.

The empirical evidence presented above illustrates that investors cannot generate excess returns when investing in higher quality GRI sustainability reports as opposed to lower quality GRI portfolios. This is consistent with the findings of (Lopez et al., 2007) as a negative relationship was found between the level of corporate social responsibility and corporate financial performance.

In the study performed by (Lopez et al., 2007) a suggestion was made that over a longer period firms with better CSR may perform better than firms with a lower CSR as the study covered a period of 6 years. The study performed above only covers a period of 9 years.

The rewards of increasing the CSR may only be felt in later years as there is a demand for increased socially responsible behaviour. Firms that are currently implementing more socially responsible behaviour and reporting using a sustainability report may perform better in future as the firm has had time to incur the costs of compliance, or management has a better understanding of these costs. In summary, the value of the increased quality of reporting may only be felt in the future (Lopez et al., 2007).

(Menz, 2010) quoted research by (Tirole, 2001) in which it was believed that a firm that focused on aspects other than purely financial such as social and environmental, additional costs would be incurred that would affect the way that management is rewarded given the effect that this has on management's performance and incentives. This could mean that management of firms that are providing reports of a higher quality and can be seen as more sustainable are not incentivising management correctly and the result could be just the underperformance of the firm. It was also posited that the increasing costs related to the focus on non-traditional aspects of a firm such as the environmental and social could conflict with the aim of a firm to increase share price.

Possible reasons for the results above include the fact that Portfolio A, B and C contain fewer companies, and therefore the portfolios are less diversified than the market or the non-GRI portfolio. The fact that there are fewer entities in the portfolios A, B and C when compared to the non-GRI portfolio could also distort the results marginally. The entities that use the GRI also include resource companies that did not perform well during the period which could have the effect of decreasing the value of the portfolio A, B and C. To consider this impact, the next section strips resource companies from the portfolios.

Another possible reason for the result may be the different risk profiles of the portfolios, which may be subject to a size selection bias for the top reporters, who tend to be larger companies. The standard deviation of the various portfolios was calculated as reflected below. The results indicate that the standard deviation for Portfolio A and B are significantly lower than the other portfolios, perhaps reflecting this size bias. The conclusion that a portfolio constructed using the quality of a report will underperform however still holds.

| Standard deviations	
Portfolio A	114,949
Portfolio B	203,730
Portfolio C	585,525
Non GRI	632,560
ALSI	392,035

4.3: Results of the second study (excluding resource companies)

To test whether the adverse performance of resource companies over the study period influenced the test results, the tests were re-performed in the exact same manner but excluding resource companies. The results are as follows:
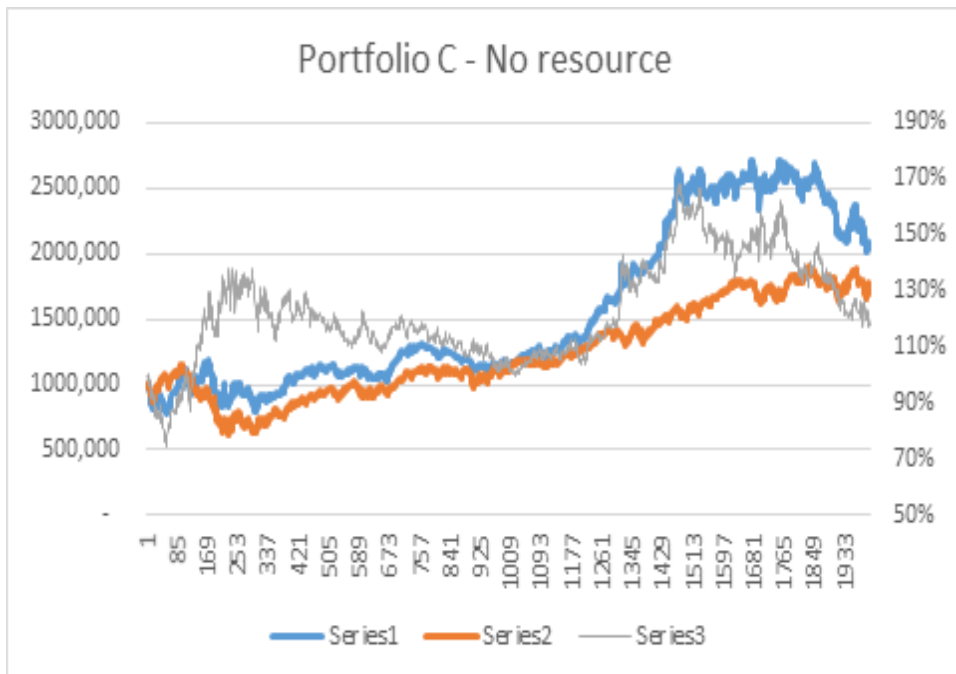
4.3.1 Graph 5: Portfolio A (excluding resource companies)
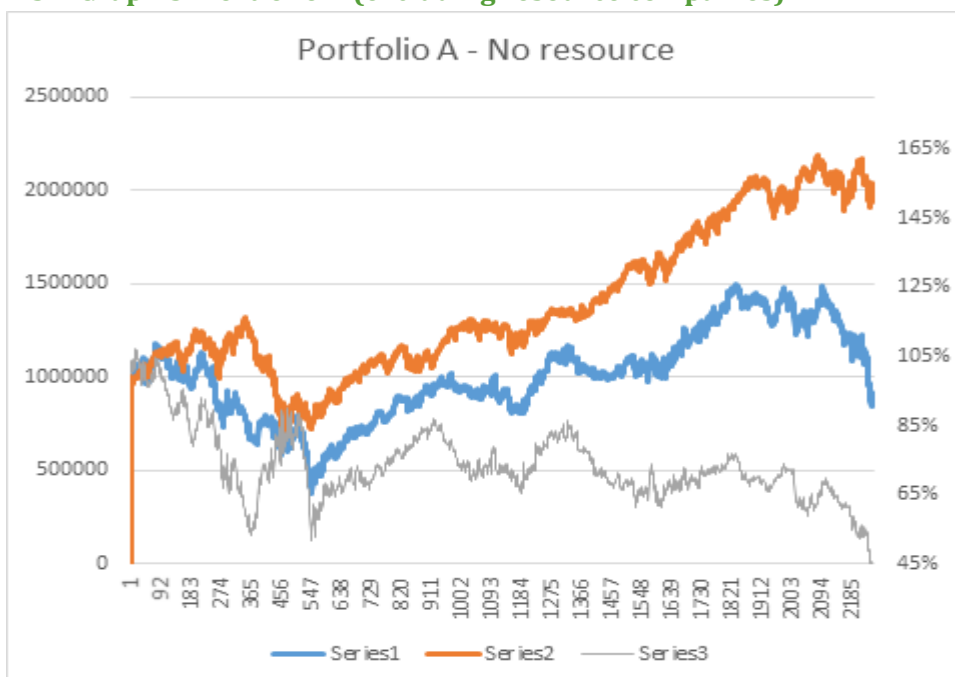
4.3.2 Graph 6: Portfolio B (excluding resource companies)
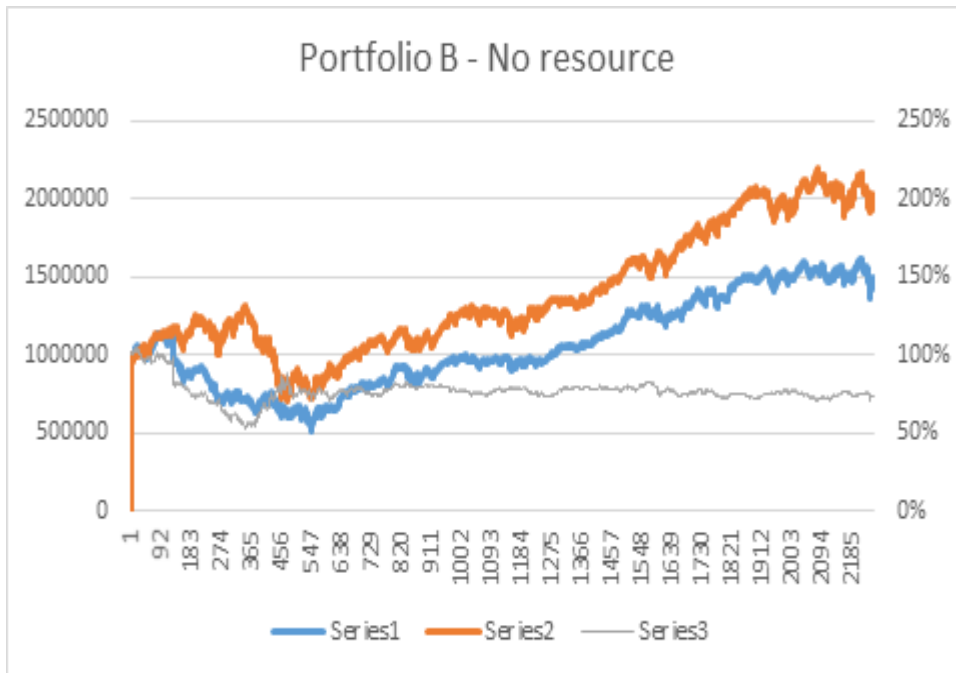
4.3.3 Graph 7: Portfolio C (excluding resource companies)

4.3.4 Analysis of results

The series 1 line (blue line) above shows the movement of the value of the portfolio (i.e. portfolio A, B or C), the series 2 line (orange line) illustrates the movement of the value of the portfolio made up of the market while the series 3 (grey line) represents the outperformance of the portfolio A, B or C over the market.

On examination of the first graph the grey line is downward sloping which indicates that the market has outperformed portfolio A. It should be noted that if resource firms are excluded from the portfolio the number of companies that are included in portfolio A decreases significantly to a point that conclusions cannot be accurately drawn due to distortions caused by one share making up the entire portfolio in some years.

The second graph which includes the portfolio B compared to the market shows that the market still outperforms the portfolio B. As time progresses the initially downward sloping grey line is more parallel to the x-axis which indicates that the rate at which the market outperforms portfolio B remains constant.

The third graph which includes portfolio C compared to the market does outperform the market as the blue line is above the orange line. The grey line or the outperformance line does show that portfolio C is more volatile. It is again noted that the decline in performance of portfolio C in the 2014 and 2015 years may be due to firms shifting to the G4 reporting guidelines.

4.3.4 Portfolio summary (excluding resource companies)

Portfolio summary
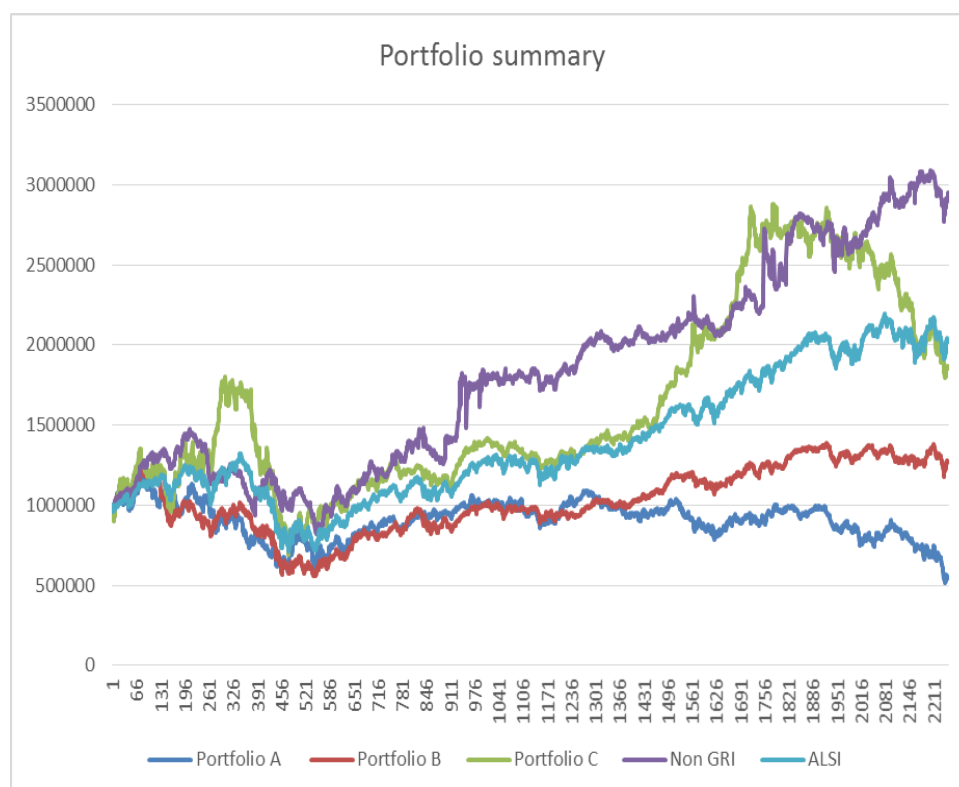
The results indicate that portfolio A in 2015 was approximately 90% of the value of the original portfolio value in 2007, portfolio B was approximately 145% of the value of the original portfolio while lastly the portfolio C was approximately 150% of the value of the original portfolio. The trend is again observed that the portfolios with the highest application level and by proxy the highest report quality resulted in the lowest value portfolio.

The results of the original portfolios constructed are now compared to the results of the portfolios that were constructed excluding resourcing entities. The value at the end of 2015 of portfolio A excluding the resourcing entities is approximately 35% higher than the portfolio A including the resourcing entities. However, as discussed previously, in some years the portfolio contained one company which will lead to these results being distorted. The value at the end of 2015 of portfolio B excluding the resourcing entities is approximately 20% higher than the portfolio B including the resourcing entities. This indicates that the fact that

resourcing entities were originally included in the portfolio may have distorted the results. The value at the end of 2015 of portfolio C excluding the resourcing entities is approximately 10% higher than the portfolio C including the resourcing entities. This result too indicates that the inclusion of the resourcing entities may have distorted the results. The trend observed still remains constant in both sets of trends.

It is therefore concluded that although the performance of resource companies did influence the performance of the portfolios, the original conclusions reached still hold. The problem of sector bias does however remain, as the resource sector is not the only influencing sector that may have more/less sustainability reporting. The study did not however intend to address the sector effect, and instead attempted to determine whether report ratings could be used as a measure of value relevance, which has been achieved. The bias of the resource sector is noted as a limitation of the study.

CHAPTER 5 - Conclusions and recommendations

This research report filled a gap in the current empirical research in South Africa by investigating the relationship between different quality levels of GRI reports and the market value of these firms over the long term. It was expected the sustainability reports would provide the stakeholder with more forward looking information that would assist in making long term economic decisions. The expectation was that the firms with higher quality reports would outperform the market. The results of this study contradict certain aspects of the results of previous research preformed on the value relevance of sustainability reporting that used different proxies for report quality. This is possibly specific to the report characteristics of GRI implementations, as the results from non-GRI implementers does reconcile with the previous conclusions, outperforming the market.

The conclusion of this study is that in South Africa the GRI framework has not been broadly used as well as that the GRI report categories do not provide a measure of report quality for the purpose of measuring value relevance. Sustainability reporting is in an early stage of development and there is currently a lack of a framework that is compulsory for firms to use as a basis for reporting. Due to the fact that it is a requirement that companies listed on the JSE are required to prepare an integrated report and that most companies are not using the GRI, companies appear to be using various frameworks available and tailoring them to their needs. The result of this is that the reports are not comparable. The results of this study highlight a need for modifications in the King IV report to be made.

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Annexure 1 – List of companies

Portfolio A

Portfolio A was rebalanced annually. Companies included during the period included the following:

- Anglo America Platinum
- Anglo Gold Ashanti
- Africa Rainbow minerals
- Barloworld
- Goldfields
- Impala Platinum Holdings
- Kumba Iron Ore
- Nedbank group
- Sappi
- Sasol
- Wilderness Holdings
- Xstrata Coal South Africa
- Dawn
- Mondi
- Nedbank group
- Sappi
- BHP Billiton
- Exxaro
- Woolworths
- ArcelorMittal South Africa
- Value Group Ltd (Close)

Portfolio B

Portfolio B was rebalanced annually. Companies included during the period included the following:

- ABSA
- AFGRI
- African bank
- Discovery
- Exxaro Resources

Grinrod
Illovo
Liberty Group
Merafe Resources
Mondi Group
MTN Group
Murry & Roberts
Netcare
Northam Platinum
Royal Bafokeng Platinum
Sanlam
Santam
Standard bank
Sun International Limited
Tongaat Hulett
Vodacom
Woolworths
Barloworld
DRD Gold
Wilderness Holdings
Investec
Metair
Pan African Resources
Reunert
Anglo America Platinum
Bidvest
Impala platinum
Sasol
Goldfields
Africa Rainbow Mines
Adcorp
Adcock
Delta EMD
Eastern Platinum

Portfolio C

Portfolio C was rebalanced annually. Companies included during the period included the following:

Impala Platinum Hlgs Ltd
Drd Gold Ltd (Close)
Kumba Iron Ore Ltd (Close)
Merafe Resources Ltd (Close)
Naspers Ltd -N- (Close)
Northam Platinum Ltd (Close)
Imperial Holdings Ltd (Close)

Discovery Ltd (Close)
Blue Label Telecoms Ltd (Close)
African Rainbow Min Ltd (Close)
Barloworld Ltd (Close)
Keaton Energy Hldgs Ltd (Close)
Old Mutual Plc (Close)
Phumelela Game Leisure (Close)
Sun International Ltd (Close)
Workforce Holdings Ltd (Close)
Wilson Bayly Hlm-Ovc Ltd (Close)
Wesizwe Platinum Ltd (Close)
Stefanuti Stck Hldgs Ltd (Close)
Silverbridge Holdings (Close)
Reunert Ltd (Close)
Nedbank Group Ltd (Close)
Mmi Holdings Limited (Close)
Kaydav Group Ltd (Close)
Firstrand Ltd (Close)
Evraz Highveld Steel & V (Close)
Efficient Group Ltd (Close)
Distell Group Ltd (Close)
Cargo Carriers Ltd (Close)
Buildmax Ltd (Close)
Basil Read Holdings Ltd (Close)
Cons Infrastructure Grp (Close)
Ellies Holdings Ltd (Close)
Finbond Group Ltd (Close)
Hyprop Inv Ltd (Close)
Metair Investments Ltd (Close)
Mr Price Group Ltd (Close)
Mustek Ltd (Close)
Onelogix Group Ltd (Close)
Sephaku Holdings Ltd (Close)
Telkom Sa Soc Ltd (Close)
Value Group Ltd (Close)
Spur Corporation Ltd (Close)
Redefine Properties Ltd (Close)
Ppc Limited (Close)
Mtn Group Ltd (Close)
Illovo Sugar Ltd (Close)
Hudaco Industries Ltd (Close)
Arcelormittal Sa Limited (Close)
Stefanuti Stck Hldgs Ltd (Close)