

ACC014

GRI and SRI: Acronyms for investor success?

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Abstract

The global move towards sustainability and sustainability reporting, the rise and influence of the Global Reporting Initiative (GRI) and triple bottom line reporting, together with the launch of the King III Report, and revision of the Johannesburg Stock Exchange (JSE) listing requirements in South Africa, both requiring the preparation of an integrated report, have resulted in a uniquely altered information environment, in which investors are required to make investment decisions. The value-relevance of this new sustainability information is however to date untested in a South African context.

The introduction of the Social Responsible Investment (SRI) Index in South Africa provides a unique opportunity to evaluate the value-relevance of such new reporting. This research report tests the GRI, using the SRI Index as a proxy, to determine whether this accepted reporting standard is recognized as being value-relevant, from both a short term and long term perspective, on the JSE over the period

2004 to 2012. The short term value-relevance is tested using cumulative average abnormal returns in an event study methodology, while the long term effect was investigated using a 4-tiered portfolio construction technique, which uses the SRI Index category rankings to define the portfolios.

The results indicate that true to the long term nature of sustainability information, in the short term the quality of sustainability and sustainability reporting has no effect on the market value of a company. However, in the long term, a positive effect was found where the SRI listed portfolio, and the SRI best performer portfolio, significantly outperformed the non-listed portfolio on a consistent basis as measured using relative performance. The SRI persistent best performer portfolio however underperformed all other portfolios. This is however due to an overwhelming lack of diversification due to a low number of shares in the portfolio, as well as the portfolio being severely overweight in resource shares, which tend to be the best reporters, due to their large environmental impact. The research report therefore concludes that investing in a higher quality SRI/GRI sustainability portfolio, as opposed to a lower quality portfolio, resulted in excess returns to the investors over the period 2004-2012.

Introduction

The importance of being seen to be ethical (adhering to good corporate governance practices) or green (adhering to good sustainability practices) has gained significant momentum in the past few years for corporates. Pressures are increasing to change focus from short term profitability, to demonstrating long term sustainable earnings growth, and adherence to good corporate governance practices (King, 2009). Companies are therefore moving towards a triple bottom line approach, considering not only economic performance, but also the sustainability of social and environmental impacts of their operations.

On a global basis, voluntary disclosures in the form of integrated and sustainability reports based on triple bottom line principles have resulted, as companies seek to lure investors and secure low-priced

capital. However, unlike the preparation of financial statements, there is no international standard prescribing the format or content of an integrated or sustainability report. Hence such reports are not considered reliable, cannot be compared and investors cannot assess their quality (Lo and Sheu, 2007).

In response to the lack of established standards, a number of guidelines have been developed to support companies and investors in the preparation and evaluation of integrated and sustainability reports, the most prominent of which is the Global Reporting Initiative (GRI) (GRI, 2006), which has become an accepted standard for sustainability reporting (King, 2009), it has however not yet gained any form of regulatory backing.

It is important to recognize that the publishing of an integrated report does not make a company a sustainable investment; it is merely a reporting exercise. However it offers the investor an opportunity to evaluate and compare companies based on their sustainability practices, in order to make a better informed investment decision.

South Africa pioneered the development of sustainability indices in developing countries through the introduction of the JSE Social Responsible Index (SRI) in May 2004. South Africa was also the first country to legislate the preparation of integrated reports (and therefore indirectly, sustainability reports) through the launch of the King III Report in September 2009, which required the preparation of an integrated report (King, 2009), and the JSE aligning its listing requirements with this report.

The goal of the SRI is to identify South African listed companies that integrate the principles of triple bottom line and good corporate governance practices into their activities, to provide a tool for investors in order to assist them in assessing these policies, serve as a vehicle to facilitate investors integrating non-financial risk variables into their investment decisions, and contributing to responsible business practice in South Africa (JSE, 2011b).

Driven by the new interest in socially responsible investing, the legal requirement in South Africa to produce an integrated report, and the introduction of the SRI as a tool for investors to assess report

quality; determining whether excess short term and long term share price returns are achievable using the SRI Index as an investment tool is untested in a South African context. This paper assesses the value relevance of integrated and sustainability reporting using the SRI Index as a proxy for report quality. This paper contributes to existing research by investigating the long and short term effects that the quality of sustainability reporting has on share price returns, as yet untested in South Africa.

Literature review

This paper investigates whether different quality levels of sustainability reporting can induce excess short term and long term share price returns through using the SRI as an investment tool. The literature review has been divided into three sections. Sustainability and sustainability reporting are defined first, followed by a discussion on why excess returns can be expected in companies demonstrating good sustainability practices. The value-relevance of good sustainability practices to shareholders and companies follows, and empirical evidence is then provided to substantiate the aforementioned notions. The final section discusses methodology used.

Sustainability

One of the most common references in prior research to sustainability is that of Corporate Social Responsibility (CSR). CSR is defined by Doane (2005) as the efforts of companies to balance the needs of stakeholders against the need for profit, in other words, it focuses on the interaction with stakeholders through the inclusion of social and environmental concerns into business activities (Lo and Sheu, 2007).

Corporate Sustainability (CS), less frequently used, has been defined by the Dow Jones Sustainability Index (**DJSI**) as cited in Lo and Sheu (2007), as a business approach that creates shareholder value by embracing opportunities and managing risk from economic, environmental and social dimensions. Thus it can be seen that there is a very fine line between CSR and CS. Clarity on this relationship is given by (Wempe and Kaptein, 2002) as cited in Lo and Sheu (2007), who states that CSR is an

intermediate stage where companies try to balance the triple bottom line (economic, social and environmental) in order to achieve the ultimate goal of CS.

Sustainability, as defined by the King III Report (King, 2009), is the conducting of operations in such a way as to meet existing needs while not compromising the ability of future generations to meet their needs. It includes environmental, social and governance issues. Gray and Milne (2002) expands on this definition by stating that sustainability emphasizes an efficient allocation of resources over time, fair distribution of resources and opportunities not only between the current generation but also the current and future generations, and an appropriate level of economic activity relative to ecological life support systems.

It is clear from the above that there are great similarities between the definitions of CSR, CS and sustainability. Therefore for consistency purposes this study will make reference to the term 'sustainability' to encompass CSR, CS and sustainability practices.

Sustainability reporting

Sustainability reporting was developed by companies to address the information demands of shareholders. In an environment of global warming, biodiversity erosion and market globalisation, companies were the first to be indicted for their sustainability practices and performance (Berthelot, Coulmont and Serret, 2012). Companies realised that in order to remain competitive they have to take externalities, such as the environment and their social standing within the community, into consideration when making decisions (Lo and Sheu, 2007). Due to the importance of sustainability, shareholders are placing increasing pressure on companies to improve their sustainability performance, and to be sustainable. Shareholders are therefore demanding increasing amounts (Berthelot et al., 2012) and better access to sustainability information (Westerfors and Vesterberg, 2011). These shareholder demands are addressed by companies through the publication of a sustainability reports.

Sustainability reporting is defined by the GRI as the measurement, disclosure and accountability to external as well as internal stakeholders for the organisation's performance in the area of sustainable development. The sustainability report should be a balanced representation of the sustainability performance of a company, i.e. both negative and positive aspects should be reported. The sustainability report can therefore be used as a benchmarking, demonstrating and comparative tool (GRI, 2006).

The ultimate goal of sustainability reporting as envisaged by the GRI (GRI, 2006), as well as shareholders, can be found in the old adage: 'what gets measured, gets managed', i.e. through shareholders demanding companies to publish sustainability reports, companies are forced to better manage their sustainability practices. It is the ideal that sustainability be integrated into daily business activities and therefore sustainability reporting should naturally form part of mainstream reporting. Hence the better the sustainability practices of the company, the better the quality of the sustainability report could be. It would therefore seem as if the sustainability report of a company could be used as a proxy for the sustainability performance of a company.

According to , in order to hold companies fully accountable for their sustainability performance a full set of social and environmental statements must be produced alongside the financial statements that are as important, rigorous and detailed as the financial statements. Hence true sustainability reporting is more complex than originally anticipated by shareholders. True sustainability reporting requires a collective and cumulative assessment of a company's economic activity relative to a resource base, i.e. it requires a thorough analysis of the present and past interactions between the company and its ecological systems, habitats, resources and societies, with respect to other companies. Therefore true sustainability reporting is clearly exceptionally difficult, and probably impossible for companies to accomplish .

Due to the complexity in preparing true sustainability reports and the increased pressure from stakeholders for sustainability information, companies responded by publishing reports based on a more manageable approach to sustainability reporting; reporting on their economic, social and environmental activities. This approach was named the 'triple bottom line' by John Elkington in 1997 (Norman and MacDonald, 2004; Gray, 2006). The triple bottom line responds to all stakeholder demands and thus defines the ultimate value of a company in financial, social and environmental terms (Norman and MacDonald, 2004). The publication of triple bottom line reports increased significantly over the past two decades (Dhaliwal, Li, Tsang and Yang, 2009; Berthelot et al., 2012), to such an extent that 95% of the G250, the 250 largest companies in the world, are reporting on their sustainability issues (KPMG, 2011).

In summary it can be said that that investors are demanding sustainability information from companies to hold them accountable for their sustainability performance and to motivate companies to act more sustainably. Companies have answered the demands of stakeholders through the publication of triple bottom line reports.

Value-relevance of sustainability and sustainability reporting

The reason for the increased popularity of sustainability reporting or triple bottom line reporting, as discussed above, can be found in the value-relevance sustainability reporting holds for investors as well as companies. The value-relevance of sustainability reporting is the foundation for the relationship investigated in this study: the relationship between the quality of sustainability reporting and the market value of a company.

It can be said that sustainability reports are value-relevant to stakeholders if the information gained from the sustainability report, or the company's sustainability performance, will influence stakeholder decisions. The ideal shareholder as envisaged by Gray (2006), in the current environmental, social and economic environment, is one that embraces compassion, trust, respect, life, safety, beauty, nature, water, air, sunshine, etc. Thus the shareholder should search for long term sustainability, not short term volatility in their investment choices. It follows that an ideal socially responsible investor should consider both social and financial criteria when making investment decisions (Sauer, 1997). Hence in order to satisfy such a shareholder, through creating long-term shareholder value all types of capital (not just economic capital) need to be enhanced and preserved ((ICAEW, (2004)) as cited in Gray (2006)).

Lo and Sheu (2007) found that ethical investment is gaining momentum world-wide. A survey performed by Epstein, McEwen and Spindle (1994) found that so much as 72% of shareholders are interested in disclosure of ethical issues and that 58% of shareholders would go so far as to sacrifice profits for ethical behaviour. Thus it can be said that there are shareholders that believe that a company's value is affected by its sustainability performance.

However, according to Westerfors and Vesterberg (2011), shareholders have been late in integrating economic, social and governance (ESG) issues into their decision-making activities, and make limited use of sustainability reports (Jones, Frost, Loftus and Laan, 2007). Reasons offered for this behaviour are: that shareholders are still seeking short-term profits as there is a lack of long-term empirical evidence linking financial performance to ESG issues (Westerfors and Vesterberg, 2011), therefore only a minority of shareholders actually believe that sustainability effects company actions and market value (Starks, 2009) and; reports are inadequate (Jones et al., 2007), hence investors are finding it difficult to access comparable and reliable ESG information and only a few professionals are capable of assessing this kind of information (Westerfors and Vesterberg, 2011). It has also been found that social screening increases volatility, lowers returns and reduces diversification, through the exclusion of certain industries from sustainability indices (Sauer, 1997), thus including social screening into investment decisions increases portfolio management costs.

The value-relevance to companies

Westerfors and Vesterberg (2011) and Dhaliwal et al. (2009) found that companies publish sustainability reports as the reports are complimentary to the financial statements; therefore they provide stakeholders with necessary information not contained in the financial statements. The financial statements can only inform users about the past performance of the company, it cannot reveal the full extent of the company's environmental and social intangible assets and liabilities, such as a company's ethical reputation ((Chami, Cosimano and Fullenkamp, 2002) as cited in Lo and Sheu (2007)) or the risks the company faces in the market (Lo and Sheu, 2007). The disclosure of non-financial information in the sustainability report, compliments financial disclosure by mitigating the negative effect of financial opacity on analyst forecast accuracy. Thus this better information environment leads to less error in earnings forecasts by analysts (Dhaliwal et al., 2009).

Further motivations found by Reverte (2009) as cited in Berthelot et al. (2012), for companies reporting on sustainability matters are that companies have a moral and ethical obligation to act in a sustainable way; companies can gain competitive advantage through sustainability reporting and; companies are facing the pressure from competitors that are reporting on their sustainability practices. Dawkins and Ngunjiri (2008) also found that companies engage in sustainability reporting to enhance and maintain perceptions of legitimacy and to manage key stakeholder perceptions.

However (Brown, Guidry and Patten, 2010) as cited in (Berthelot et al., 2012) found that only reports with the highest quality appear to enhance corporate reputations. (Schadewitz and Niskala, 2010) as cited in (Berthelot et al., 2012) found that higher quality reports elicited a more positive market reaction (as cited in (Berthelot et al., 2012)). (Jones et al., 2007) find that companies with poor environmental performance, can mitigate the effect of negative market perceptions through extensive sustainability reporting.

According to KPMG (2011), companies are realising that the benefits of sustainability reporting extends beyond being a good corporate citizen, it also drives innovation and furthers learning, which

promotes growth and increases company value. Sustainability reporting is no longer seen as just fulfilling an obligation to society, but increasingly recognised as a tool that is imperative to business. This is evidenced through 47% of the Global 250 companies stating that sustainability reporting can increase the company's financial value ((KPMG, 2011) as cited in Berthelot et al. (2012)), and Berthelot et al. (2012) stating that companies that are publishing sustainability reports are traded at a premium.

The notion that sustainability can increase the market value of a company is the foundation of this research report. Hence it is important to describe how sustainability reporting can increase the market value. The following literature touches on the reasoning for the increase in market value.

KPMG (2011) stated that companies are using their sustainability reporting data to find new opportunities for improvement. Companies are attempting to manage their sustainability performance so as not to report negative outcomes in their sustainability report (Ioannou and Serafeim, 2011). Sauer (1997) found that companies with good sustainability performance are partial to greater customer loyalty and enjoy good employee benefits, they are less subjected to fines and lawsuits, and less likely to be partial to product liability suits. Lo and Sheu (2007), through citing Brickley, Smith and Zimmerman (2002); (Chami et al., 2002) linked sustainability to market value by stating that a company can gain a competitive advantage and differentiate its product through promising to act ethically, thus increasing demand, illustrating that a company's ethical reputation is a valuable intangible asset that will affect the share price. El Ghouli, Guedhami, Kwok and Mishra (2011) found that companies with better sustainability performance have higher valuations and lower risk as these companies tend to have a lower cost of equity. This relationship is particularly strong in companies exhibiting better employee relations, environmental policies and product strategies. Finally Berthelot et al. (2012) stated that the increase in market value of companies with

good sustainability practices can be attributable to lower expected production costs, increased sales or sophisticated communication strategies that can generate political benefits.

In summary there are many reasons why companies publish sustainability reports. The most important of which is the potential increase in market value. This increase in market value can occur as companies that act in a sustainable manner may gain competitive advantage and enjoy greater customer loyalty which could lead to greater revenue, these companies tend to have a lower costs of equity and experience lower production costs.

Previous empirical studies

Prior empirical works that studied the effect of sustainability performance on market value have been reviewed, not only to establish what results have been found in the past, but also to identify the sustainability measures used as well as the different methodologies used, in order to identify the weaknesses in these methodologies and to attempt to improve these weaknesses in this study. A summary of the empirical works reviewed can be found in Table 1.

From Table 1 it is clear that a wide variety of results have been obtained in prior studies on the relationship between sustainability performance and market value, ranging from negative to positive relationships. This can be attributed to the variety of methodologies used, the different measures of sustainability used and the different circumstances in which these studies were performed.

Through an inspection of Table 1 certain trends in the methodologies used in prior empirical studies can be identified. The creation of portfolios in order to compare the performance of companies considered to be sustainable to non-sustainable companies across a range of different metrics. These portfolios are created through the use of the sustainability indices, i.e. companies listed on the sustainability indices are considered to be sustainable.

Table 1 also shows the popularity of using an event study methodology (i.e. a regression analysis around an event date). According to Jones et al. (2007) most previous studies that investigate the relationship between share prices and sustainability disclosures use event study methodologies. However, according to the authors, this methodology suffers from certain drawbacks. Firstly,

sustainability disclosures are voluntary in the countries these studies are set, limiting these studies in their investigation to only determining the effect of issuing sustainability reports versus not issuing reports. The comparability of these voluntary reports are limited, hence a study that includes the quality of the disclosures is not possible, this is illustrated by most of the studies incorporating sustainability into their regression models through the use of dummy variables only, thus a company is either considered to be sustainable or not, no degree of quality is investigated. In addition, only the value-relevance of specific information has been tested in the past, thus the studies do not have external validity.

Based on the trends in the methodologies identified above, and the shortcomings of these methodologies, the next section will discuss how the methodology used in this study was developed.

Table 1 - Summary of Empirical Works Examined

Author	Results	Methodology	Sustainability Measure
Lopez, Garcia and Rodriguez (2007)	<p>The results of this study showed a negative relationship between sustainability and financial figures in the short term. However this negative impact was shown to diminish over time.</p> <p>Lopez explained the results as follows: in the short term only existing resources can be applied to sustainability practices as additional financing cannot be obtained in this timeframe. Whereas in the long term sufficient financing can be obtained to acquire the resources needed to carry out sustainability strategies.</p> <p>In conclusion this study hypothesised that a long term positive correlation could exist between good sustainability practices and share prices as sustainability practices would be integrated into corporate management which could create competitive advantage.</p>	<p>A regression analysis was performed between sustainability and financial measures through treating sustainability reporting as a dummy variable, in order to establish whether there is a relationship between these variables.</p> <p>The evolution of these variables over time was considered through a comparison of the performance of firms considered to be sustainable and those considered not.</p> <p>This was achieved through the creation of two portfolios. The first only including companies listed on the Dow Jones Sustainability Index (DJSI), thus</p>	<p>Companies listed on the Dow Jones Sustainability Index.</p>

		<p>representing firms considered to be sustainable, the second portfolio included companies listed on the Dow Jones Global Index but not the DJSI, thus representing companies considered not to be sustainable.</p>	
<p>Sauer (1 9 9 7)</p>	<p>This study found that socially screened portfolios do not necessarily have a negative impact on the portfolio performance.</p>	<p>This study also followed the portfolio construction method utilised by Lopes (above). The average monthly raw returns and variability, Jensen’s Alpha and the Sharpe ratio of a well-diversified, socially screened portfolio was compared to that of two unrestricted portfolios.</p> <p>This study considered companies listed on the Domini 400 Social Index (DSI), to be an ideal proxy for socially screened companies.</p> <p>This study followed a passive portfolio management strategy as investors can invest directly in the social index. Thus the study ignored transaction costs, management fees and manager specific investment policies.</p>	<p>Companies listed on the Domini 400 Social Index.</p>

Author	Results	Methodology	Sustainability Measure
Jones et al. (2007)	<p>This study investigated the relationship between the quantity (not quality) of sustainability disclosures in sustainability reports, and market returns. The hypothesis investigated was that companies with more sustainability disclosures should have higher abnormal returns.</p> <p>The results showed a systematic negative relationship between sustainability rankings and share returns, although only a few of the t-values were statistically significant, hence no definitive conclusion could be reached.</p>	<p>Companies were ranked based on the amount of sustainability disclosures in their sustainability reports. The scale of sustainability disclosures were based on the GRI Reporting Guidelines.</p> <p>The sustainability ranking was then regressed against the abnormal share returns of the companies investigated, where the abnormal returns were calculated by taking the raw monthly share price growth less the growth in the market index.</p>	<p>A sustainability ranking based on the quantity of sustainability disclosures in sustainability reports in line with the GRI Reporting Guidelines.</p>
Londsheu (2007)	<p>A significantly positive relationship between corporate sustainability, market value and sales growth was found by this study. These findings support the argument that being sustainable can increase company value.</p>	<p>A regression analysis was performed using panel data. A range of financial measures was regressed against sustainability performance, where sustainability performance was represented by a dummy variable. Tobin's Q was used as a proxy for firm value.</p>	<p>Companies listed on the Dow Jones Sustainability Group Indices (DJSGI).</p>
Pavand Krausz (1996)	<p>This study found that companies that are perceived to be sustainable show higher market returns than companies perceived not to be sustainable.</p> <p>It was also found that over time the sustainable companies outperformed the non-sustainable companies showing nearly double the market returns.</p> <p>Though an examination of 21 other empirical works, (Pava and Krausz, 1996) also found that on average, companies perceived to be socially responsible outperformed or performed as well as other companies.</p>	<p>A comparison was done between companies considered to be sustainable and other non-sustainable companies with respect to financial indicators, market indicators and other accounting factors.</p>	<p>The study used the services of the Council on Economic Priorities (CEP) to identify sustainable companies. The companies identified</p>

were similar to the constituents of the Domini 400 Social Index.

Methodology

South Africa is the ideal locale to perform a study investigating the relationship between sustainability reporting and market value. Dawkins and Ngunjiri (2008) state that emerging markets could be more receptive to social responsibility and stakeholder responsibility, and South Africa being the wealthiest emerging market in Africa, creates the perfect environment for such a study. According to Westerfors and Vesterberg (2011), South Africa is on the frontier of integrated, and therefore sustainability reporting. The reasons given by Westerfors and Vesterberg (2011) for this statement is that South Africa requires all listed companies to issue integrated reports, as well as the South African Integrated Reporting Committee ((IRC), 2011) releasing a discussion paper on the 'Framework for Integrated Reporting and the Integrated Report' ((IRC), 2011) on 25 January 2011, which illustrated South Africa's commitment to sustainability reporting.

To expand on the comment made by Westerfors and Vesterberg (2011): South Africa was the first country to legislate the preparation of integrated reports (and therefore indirectly, sustainability reports). This was accomplished through the launch of the King III Report in September 2009, which required the preparation of an integrated report (King, 2009), and the JSE aligning its listing requirements with this report, resulting in all listed companies publishing integrated reports for all financial years starting after 1 March 2010 (Westerfors and Vesterberg, 2011) or explaining why they are not doing so. South Africa also pioneered the development of sustainability indices in developing countries (Heese, 2005; Sonnenberg and Hamann, 2006) through the introduction of the JSE Social Responsible Index (SRI Index) in May 2004.

Another advantage of performing this study in South Africa is that Dawkins and Ngunjiri (2008) found that due to institutional pressure, South African companies report on a much higher level and greater frequency than the Global 100 Companies. This is consistent with the findings of Dincer (2011) in their study of the Istanbul stock exchange, which shows that certain stakeholders have more influence when it comes to the publication of the sustainability reports, the most prominent of which is government. Ioannou and Serafeim (2011) found that mandatory reporting increases the social responsibility of leading companies as sustainable development, employee training and better corporate governance practices become higher priorities for companies, companies act more ethically and managerial credibility increases. In conclusion Ioannou and Serafeim (2011) states that mandatory sustainability reporting increases transparency and can change corporate behaviour. Thus mandatory disclosure of economic, social and governance information forces companies to manage these areas effectively so as not to report negative performance.

In summary, through the regulation of sustainability reporting in South Africa, it is the ideal context for this study as the quality of the mandatory sustainability reports can now be compared, this study is not limited to the investigation of issuing versus not issuing a sustainability report as many prior studies are.

Short term methodology

The investigation of the short-term effect of report quality on market value utilises an event study method consistent with prior studies. The shortcomings of this methodology, identified by Jones et al. (2007), have been addressed as follows: the voluntary disclosure problem is automatically addressed in the South African context as the publication of an integrated report (financial and sustainability reports) is a JSE listing requirement (as

discussed above), and the external validity problem has been addressed in the same way Jones et al. (2007) did in their study; through investigating a broad range of company-specific sustainability disclosures, i.e. this study will investigate the disclosures in the entire sustainability report, not just a single type of disclosure.

Long term methodology

The investigation of the long term effect of report quality on market value utilises a portfolio construction method, consistent with prior studies. However, unlike prior studies that created one sustainability portfolio and a non-sustainability portfolio, this study will create three portfolios based on different quality levels of sustainability reports (sustainability portfolios) and one non-sustainable portfolio (the construction of the portfolios will be discussed in more detail in a later section). Consistent with the study performed by Sauer (1997), a passive investment strategy will be followed; thus transaction costs will be ignored.

In order to create the portfolios mentioned above, the sustainability performance (i.e. the sustainability reports) of companies were ranked. As prior studies did not investigate the effect of quality of sustainability disclosures, no guidance on the matter could be found in the literature reviewed. The lack of guidance in the literature reviewed can be attributed to the lack of legislation for sustainability reporting, as well as no prescribed reporting framework for the preparation of sustainability reports, which led to certain negative trends in sustainability reporting, as identified by Gray and Milne (2002) and Sonnenberg and Hamann (2006), and therefore limited prior studies from ranking sustainability reports based on quality.

The negative trends in sustainability reporting identified by Gray (2006); (Sonnenberg and Hamann, 2006) include: assertiveness, i.e. companies are disclosing information in an

anecdotal and aspirational manner without providing context for the significance of the items disclosed; partiality to good news, reports tend to be unbalanced, focusing on disclosure of the achievements and not the failures of companies; reports are not comparable over time or to other companies; disclosures seem to be limited to using sustainability rhetoric instead of focussing on comprehensive sustainability management; companies are not committing to stakeholder involvement, hence companies are following a stakeholder management approach, rather than a stakeholder engagement approach to sustainability reporting (Manetti, 2011) and; companies are focusing more on mandatory or recommended disclosures (such as corporate governance and BEE disclosures in South Africa) and not a full range of sustainability matters.

However not all sustainability trends are negative. (Sonnenberg and Hamann, 2006) found that leaders in sustainability reporting (companies with high environmental impact and companies with substantial international exposure) are moving towards reporting on a more systematic basis and providing more comparable and quantitative data, and where quantitative data is not appropriate companies are starting to explain their strategies and programmes for addressing the key issues faced by the company. Sustainability reports are also being combined with financial statements to form integrated reports where economic, social and governance issues are being integrated throughout the report (27% of the G250 – KPMG). Leaders are also reporting in a more balanced fashion on the full triple bottom line (Sonnenberg and Hamann, 2006). Most importantly, companies are increasingly making use of the GRI Reporting Framework when preparing their sustainability reports in order to report on the full triple bottom line.

From the above identified trends, the rationale for Jones to use the GRI Reporting Guidelines to rank the sustainability disclosures of companies is made clear (Table 1) albeit on quantity not on quality. As more companies are using this framework, reports are becoming more comparable. The GRI Reporting Guidelines will now be investigated in more detail in order to determine whether this framework can be used as a measure of sustainability report quality as is required by this study.

Global reporting initiative (GRI)

As mentioned above there are certain weaknesses when it comes to sustainability reporting, which has led to market participants seeing these reports as inadequate and making limited use of sustainability reports (Jones et al., 2007). However, according to Berthelot et al. (2012) there is still value in these reports for investors as these reports add information to the financial statements which is needed in the valuation of a company. Thus an increasing need for the standardisation of the information within sustainability reports has arisen.

In response to the need for standardisation a number of frameworks have been developed with the purpose of enhancing the comparability and the consistency of sustainability reports. These frameworks include the AccountAbility Standards, the A4S (His Royal Highness The Prince of Wales Initiative), the UN Global Compact and the GRI Reporting Guidelines. Of these frameworks, the GRI Reporting Guidelines has become generally accepted (Jones) and most popular, with 80% of the Global 250 companies reporting according to the GRI Reporting Guidelines (KPMG, 2011). Specifically in South Africa, most of the listed companies, as well as the parastatals and municipalities are using the GRI Reporting Guidelines to prepare their sustainability reports (Sonnenberg). This can be attributed to the King III Report recommending reporting according to the GRI Reporting Guidelines and compliance with King III being a JSE listing requirement, as well as the South African Integrated Reporting Committee's (IRC) discussion paper ((IRC), 2011) released on 25 January 2011, which also recommends using the GRI Reporting Guidelines to prepare sustainability reports (Westerfors and Vesterberg, 2011).

According to (Pounder, 2011) the wide spread credibility of the GRI is due to its utilisation of a multi-stakeholder approach, including business, labour, non-governmental organisations, civil society, accounting, academia, and investors to develop its framework criteria.

SRI Indices

Before this study explores the use of SRI indices, specifically the South African SRI Index, in more detail it is important to understand why SRI indices exist. (Lopez et al., 2007) states that the rationale for the existence of SRI indices is to identify companies that implement sustainability practices as they have the potential for long term value creation. It has been shown by (Sonnenberg and Hamann, 2006) that SRI Indices have the potential to be a vital market-based driver for corporate citizenship. Hence SRI Indices serve as the stock market connection between doing well and doing good (Adam and Shavit, 2008).

To illustrate the above, in the South African context, the launch of the SRI Index contributed to the sustainability development front in the following ways (Sonnenberg and Hamann, 2006): it increased awareness of corporate citizenship in South Africa, especially amongst smaller SA companies; it contributed to companies realising the importance of triple bottom line reporting and the reporting of non-financial information; it has provided the first set of South African criteria that is aligned with international standards (JSE, 2011b), that defines priorities for South African corporate citizenship (Sonnenberg and Hamann, 2006) and; it serves as a benchmark for corporate reporting (Sonnenberg and Hamann, 2006).

Therefore it would seem that sustainability indices, especially the SRI Index, can be used as a measure of sustainability performance as seen in prior studies (Table 1). However as this study investigates the effect of different quality levels on market value, the specific index inclusion criteria need to be considered in order to establish whether the inclusion criteria can be used to distinguish different levels of quality.

In South Africa, as the preparation of sustainability reports is a listing requirement, the criteria that have to be met in order to qualify as a constituent on the South African SRI Index is more stringent than merely preparing a sustainability report. Therefore the South African SRI index can potentially be used as a measure of quality. Through the section

discussed next it will be made clear how the South African SRI Index can be used as a measure of report quality through its rigorous inclusion criteria and the different quality levels it publishes.

The JSE pioneered the development of the first sustainability index in an emerging market (Sonnenberg and Hamann, 2006), the Socially Responsible Investment (SRI) Index, which was launched on 20 May 2004. The SRI Index is distinguished from other indices of its kind as it is sponsored by the JSE, and not a focussed organisation, as in the case of the Dow Jones Sustainability Indices (DJSI). The index was founded to respond to the developing interest in responsible investment in South Africa (JSE, 2011a).

Currently the SRI Index series consists of two indices: the JSE SRI Index and the JSE SRI Swix Index, which are published as total return indices every day by FTSE International Ltd (JSE, 2011a). The constituents of the SRI Swix Index is the same as that of the SRI Index, however the weightings of the constituents differ (JSE, 2011a).

Originally the SRI Index worked parallel with the King II report which required companies to report on the principles of the triple bottom line (Sonnenberg and Hamann, 2006), but in September 2009, South Africa was the first country to legislate the preparation of integrated reports through the JSE aligning its listing requirements with the King III Report, which requires the preparation of an integrated report (King, 2009) or an explanation why such a report is not prepared.

The SRI Index was launched with the following objectives: to identify South African listed companies that integrate good corporate governance practices as well as triple bottom line principles into their business activities; to provide a tool for assessing company practices and policies against globally aligned but locally relevant standards; to serve as a vehicle to facilitate investors integrating non-financial risk variables into their investment decisions;

and to contribute to the development of responsible business practices in South Africa (JSE, 2011a).

As can be seen from the first key objective, the SRI Index's philosophy is based on the three components of the triple bottom line: environment, social and economic sustainability, all underpinned by good corporate governance practices. The index criteria has therefore been developed around the categories of Environment, Society, Governance and related sustainability concerns (ESG), in addition the focus area of Response to Climate Change was added in 2010. The goal of the criteria themes is to measure the integration of the principles of triple bottom line and good corporate governance across the three business areas of policy and strategy, management and performance, and reporting (JSE, 2011b).

It is evident from the above that the SRI Index criteria and the GRI Reporting Guidelines both have the principles of triple bottom line as a foundation; hence it would appear reasonable to use the SRI Index as a reliable tool to measure GRI disclosures. Even more appropriate for this study is that in order to meet the SRI Index listing requirements it is imperative to show integration of the criteria themes into business areas, not merely meet a range of disclosure requirements, thus the SRI Index not only measures the quantity of the sustainability disclosures but also the quality of these disclosures. Therefore the shortcoming in the Jones study, to investigate quantity and not quality, is addressed through the use of the SRI Index in this research report. As the use of the SRI Index seems promising as a measure of report quality, the SRI Index assessment process and criteria will be investigated in order to determine whether the SRI Index can be used as a measure of sustainability report quality as needed by this report.

A company is accepted as one of the constituents of the SRI Index if it meets the listing requirements as set out by the Index. The listing requirements entail the company's

sustainability performance to meet a set of criteria across the measurement areas of Environment, Social and Governance (ESG).

If a company meets the minimum criteria it becomes a constituent of the Index, whereas if the company meets a further set of criteria (desirable or advanced), it gets published on a best performer list. The SRI also publishes a persistent best performer list that contains the companies that have qualified as best performers annually over a certain time frame as set by the SRI Index. Therefore from utilising the aforementioned quality distinctions this study created three quality differentiated portfolios: a persistent best performer portfolio, a best performer portfolio, and a portfolio that consists of all the other companies listed on the SRI Index but does not qualify as a persistent best, or a best performer, i.e. the listed portfolio.

Base universe

Companies contained in the FTSE/JSE Top 40 Index and the FTSE/JSE Mid Cap Index, following the quarterly review in March each year, as well as companies that were part of the SRI Index the preceding year are automatically subject to the annual assessment process. There are no exclusions from this base universe (JSE, 2011b). Constituents of the FTSE/JSE Small Cap Index are assessed on a voluntary basis (JSE, 2011a).

This is one of the features that make the SRI Index unique. Unlike the FTSE4Good and the Dow Jones Sustainability Indices (DJSI), the SRI Index avoids negative weighting of high-impact sectors, such as the extractive sector, as well as automatic exclusion of certain industries such as tobacco, alcohol, gambling, military weapons and nuclear power (Sauer).

As can be seen above; all companies listed on the JSE can participate in the SRI Index.

The reasoning for not excluding or negatively weighting such sectors is due to the large roles these sectors play in the South African economy as well as to encourage wide spread participation in the index, and thus enhancing the Index's impact. Therefore the goal of the

SRI Index through not excluding any companies is consistent with the findings of Adam which stated that when all companies are allowed to participate in a sustainability index, it creates a market incentive for all companies to improve their social responsibility performance.

Although small companies are only assessed on a voluntary basis (Sonnenberg and Hamann, 2006) found that these companies would still opt for voluntary assessment, as inclusion on the SRI Index has reputational value and it is believed that corporate citizenship may have commercial benefits as mentioned earlier.

Methodology

In order to investigate the short term effect of sustainability and sustainability reporting quality on market value (first hypothesis), an event study method was used to establish whether the announcement of being listed on the SRI Index, or a company's status change on the SRI Index, generates an abnormal share price return in the short term.

In order to investigate the long term effect of sustainability and sustainability report quality on market value (second hypothesis), a portfolio construction method was incorporated, using the SRI Index 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 will outperform a lower quality sustainability portfolio in the long term.

Short term

In order to investigate the effect that sustainability and sustainability report quality has on company value in the short term, the cumulative average abnormal return of a company that incurred a status change (change in quality level) on the SRI Index, was examined. This study followed an event study method, using the SRI Index announcement date as the event date.

The study investigated whether the share returns of these constituents of the SRI Index display abnormal returns (returns above the expected return) around the SRI Index announcement dates. This methodology, including the period of study is consistent with the methodology applied in Hope (2003).

As mentioned earlier, the event under investigation of this study is the SRI Index announcement date. The constituents of the SRI Index as well as the best performer list and the persistent best performer list were investigated at each announcement date in order to determine the population that had to be investigated by this study.

Estimation window

The estimation window can be defined as the period of time before the event window, which is used to calculate an unbiased estimate of a firm's expected return in the absence of the event being investigated. Expressed differently, the estimation period is important for establishing how the share returns behave without the effects of the event being present (Hirvonen, 2009). The estimation window used in this study consists of the 100 trading days before the start of the event window, thus -121 to -21 days before the SRI Index announcement date (day 0).

Event window

The event window defines the number of trading days investigated before and after the event (announcement date). In this study, the company's share returns 20 days before and after the event date will be investigated for abnormal share return behavior. The event window period is important as it shows how long the market takes to adjust to new information.

The period of study can be graphically illustrated as follows:

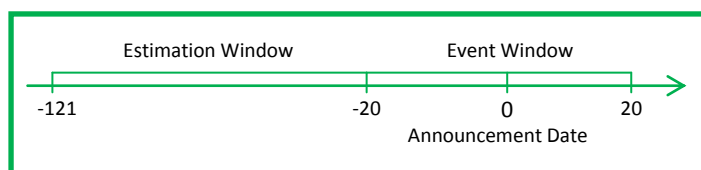


Figure 1: Period of Study

Population and sample

The population used in this study consisted of all the companies listed and delisted on the SRI Index since its inception on 20 May 2004. The sample investigated consisted of all the companies that had a status change on the SRI Index.

A status change, as defined by this study, could either be positive or negative in nature. A positive status change included companies being listed on the index for the first time, as well as being classified as a Best Performer or a Persistent Best Performer for the first time, thus companies that increased the quality of their sustainability performance and sustainability reporting. A negative status change included delisting from the index, as well as losing a Best Performer or Persistent Best Performer status, thus companies that decreased the quality of their sustainability performance and sustainability reporting. To assist in the interpretation of the results the status increases and decreases were analyzed separately.

The status changes were identified through a comparison of the index constituents from one announcement date to the next. Where a status change had been identified, but not enough information was available to complete the regression analysis in the estimation window (for instance when a company either listed or delisted during the estimation window), the company was removed from the sample.

Empirical analysis

This study, consistent with Hope (2003), calculated the cumulative average abnormal returns (CAARS) for all the status changes identified above. This was done by first calculating the

Abnormal Returns (AR) for the status changes for every day during the event window, through deducting the company's expected share return from the actual share return.

Expected share return

The expected share returns were calculated, during the estimation window, using the Blume (1971) market model, which states that the only factor influencing the return on a share (R_i) at time t , is the market return (R_m) at time t .

$$ER_{it} = \alpha_i + \beta_i (R_{mt}) + \varepsilon_{it}$$

ER_{it} = expected return on share i at time t

α_i = intercept of the linear relationship between the market return (ALSI) and share i

β_i = slope of the linear relationship between the market return (ALSI) and share i

R_{mt} = market return represented by the ALSI at time t

ε_{it} = error term with respect to share i at time t

The market model is similar to the capital asset pricing model (CAPM) except that it does not use the risk free rate as y -intercept, instead the constant in the linear relationship between the share return and the market return is used. The market model is used in this study as opposed to the CAPM as it has been illustrated by Ward and Muller (2012a) that the CAPM is not appropriate to estimate expected returns on the JSE.

The parameters of the market model (α_i and β_i) can be found by performing a least squares regression between share i and the market benchmark. The market benchmark used in this study is the JSE All Share Index (ALSI) and not the SATRIX 40, due to the SRI Index constituents not being limited to the top 40 shares; and per Ward and Muller (2012a), the 160 shares included in the ALSI accounts for 99% of the entire market capitalization, and furthermore, the remaining shares are considered to be too small and illiquid for most investors to include in their investment portfolios. The regression will be performed during the estimation window, i.e. for the period $T-121$ to $T-21$ (T being announcement date) as it is assumed that returns 21 days before the announcement date are free from the influence of the event, thus this period can be viewed as the normal period.

Abnormal returns

After estimating the parameters of the market model (α_i and β_i), this model was used during the event window (T-20 to T+20 days), to calculate the daily expected returns on the shares. The expected return was then compared to the actual return of each shares in order to calculate the daily abnormal return on share i.

$$AR_{it} = R_{it} - ER_{it}$$

AR_{it} = Abnormal Return of share i at time t
 R_{it} = Actual Return of share i at time t
 ER_{it} = Expected Return of share i at time t

The daily average abnormal return (AAR) was calculated by taking the daily abnormal returns (AR) of all the companies investigated and adding them together. The sum of all the AR's was then divided by the number of companies investigated in order to calculate the average. This assists in eliminating any peculiarities in the measurements due to any individual share movements.

$$AAR = 1/n \sum_{i=1}^n AR_{it}$$

AAR = Average Abnormal Returns
n = number of shares
 AR_{it} = Abnormal Return of share i at time t

The cumulative average abnormal return (CAAR) is calculated by adding all the daily AAR's over the event window together. The CAAR is calculated from day -1 in order to see the full effect of the event date (day 0) as a movement in the CAAR, therefore the CAAR on day -1 will be equal to zero. The CAAR is calculated as it illustrates the aggregate effect of the abnormal returns, which is useful when the effect of the event does not happen exclusively on the event date.

$$CAAR = \sum_{i=1}^n ARR$$

CAAR = Cumulative Average Abnormal Return
ARR = Average Abnormal Returns

Long term study

The long term effect of sustainability report quality on market value was investigated by this study through a portfolio construction method in line with that of (Ward and Muller, 2012b).

According to (Ward and Muller, 2012b) the advantage of the construction of the portfolios is that it allows for reduced volatility in the data being examined as any abnormal effects of a single share is eliminated. The performance of the portfolios created was investigated cumulatively which allowed for a visual comparison of the different portfolio results.

As mentioned in the literature review, four portfolios were created in order to compare the returns generated by companies with different quality integrated and sustainability reports. The literature review proved that the SRI Index can be used as a measure of report quality. Therefore the portfolios were created using the different rankings of the SRI Index as follows: The three portfolios consisted of the constituents of the SRI Index and were created based on the SRI Index rankings of reporting quality; i.e. a *persistent best performers* portfolio was created (since 2009), the *best performers* portfolio (since 2007), and a *listed* portfolio which consisted of all the other companies listed on the index, but didn't qualify as a *persistent best performer*, or a *best performer*. The fourth portfolio consisted of the balance of the companies listed on the JSE All Share Index (ALSI) but not listed on the SRI Index (*non-listed* portfolio).

To avoid investment overlap, each company was only included in its highest possible ranking portfolio; for instance a best performing company will be one of the listed companies on the index, but it was only included in the best performer portfolio.

As the SRI Index only started to release the best performer list in 2007 and the persistent best performer list in 2009, all the portfolios could not be created at the same time. Therefore in order to still compare the performance of all the portfolios, the results of the long term study has been broken down into three sections. The first starting in 2004, the second starting in 2007 and the last section starting in 2009.

All portfolios were created on an equally weighted basis through investing R 10,000 in each of the constituents in the portfolios when the portfolios were initially created. As mentioned

before all the portfolios did not come about on the same date as some of the portfolios were new initiatives developed by the SRI Index in later years. Therefore the portfolios were created as follows: on 20 May 2004 the listed and the non-listed portfolios were created, on 27 November 2007 the best performer portfolio was created and on 30 November 2009 the persistent best performer portfolio was created. The performance of all the portfolios was tracked until 28 November 2012. All portfolios were rebalanced at each announcement date, to ensure that each portfolio consists of shares with the appropriate status only. This process was achieved through taking the total value of the portfolio (including dividends) at announcement date and dividing it equally between the new constituents of the portfolio, ensuring that the portfolio stays equally weighted between all the constituents throughout the period covered by the study.

The cumulative returns of each of the shares in the portfolio, as well as the entire portfolio, were calculated on a monthly basis and unitized for comparison purposes, i.e. all the portfolios were tracked and compared from a base of R1.00, this is in line with Ward and Muller (2012a). Due to the different portfolios being created on different dates the portfolios were unitized each time a new section started, i.e. in 2004, 2007 and 2009.

As the portfolios were only rebalanced once a year, dividends received for shares held by the different portfolios were accumulated during the periods between announcement dates and included in the total portfolio value which was reinvested when the portfolios were rebalanced. This study followed a passive investment strategy, in accordance with (Sauer, 1997), through investment in the SRI Index, thus all transaction costs were ignored for the purposes of this study.

In order to interpret the data, the cumulative index (value) of each portfolio was plotted and compared visually from a base of R 1.00 for all the periods under investigation through the use of line graphs. Value relative graphs were also constructed in order to assist in the

interpretation of the data. Value relative graphs show the outperformance of one portfolio over the other. It is created through taking the performance of the highest ranking portfolio (within the period investigated) and dividing it by the performance of the lowest ranking portfolio. It represents the excess investor returns that could be earned by investing in the shares of the highest ranking sustainability portfolio as compared to the lowest ranking sustainability portfolio. The interpretation of this graph is as follows: if the highest ranked portfolio is outperforming the other portfolio the line would be upward sloping (Ward and Muller, 2012a).

Due to the nature of the analysis, i.e. the calculation of cumulative returns, the results could be compared visually.

Population and sample

The population examined in the long term study consists of all the companies listed on the JSE All Share Index (ALSI).

Thus the number of companies to be included in this study is as follows:

Table 2: Total Population

	2004	2005	2006	2007	2008	2009	2010	2011	2012
SRI Constituents (H₁)	51	49	58	58	61	68	74	74	78
Non-Constituents	109	111	102	102	99	92	86	86	82
Total (H₂)	160	160	160	160	160	160	160	160	160

The SRI Constituents can be broken down into the following three portfolios:

Table 3: Number of Companies per Portfolio Created

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Listed	51	49	58	44	38	38	51	52	68
Best Performers	N/A	N/A	N/A	14	23	20	15	16	10

Persistent Performers	Best	N/A	N/A	N/A	N/A	N/A	10	8	6	0
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The constituents of the SRI, the status of each constituent (listed, best performer and consistent best performer), as well as SRI announcement dates was obtained from the JSE website at: <http://www.jse.co.za/Products/SRI.aspx>.

The daily share price data of each of the constituents of the SRI Index, the constituents of the ALSI as well as the ALSI daily share price data was obtained from the BFA McGregor database.

The data analysis required for testing hypotheses one: regression analysis, calculation of expected, abnormal, average abnormal and cumulative average abnormal returns, as well as the data analysis required for hypotheses two: construction of portfolios, rebalancing of portfolios, calculation of the cumulative return, graphical presentation of cumulative and value relative returns will also be performed using Microsoft Excel (2010).

Results

Short term results

The results for all the sections are presented in graphical format. As mentioned earlier all the CAARs will be equal to zero on day -1 in order to see the cumulative effect of information obtained on announcement date in the CAAR. The CAAR was calculated by adding the AARs to zero from day -1 to day 20 as well as from day -1 to day -20. Hence the cumulative calculation starts at day -1, going forward and back in time.

Hypothesis one investigated, states that integrated and sustainability report quality does not have a short term effect on company value, thus in order to accept this hypotheses no reaction should be shown to the information released (increase or decrease in status) on announcement date; a relatively constant CAAR would then be expected.

However in order to reject the hypothesis report quality needs to have an effect on company value. Through the literature reviewed, especially through the findings of (Schadewitz and Niskala, 2010) as cited in (Berthelot et al., 2012) who stated that higher quality reports elicited a more positive market reaction , it can be expected that an increase in report quality (increase in status) will lead to an upward sloping CAAR, illustrating that the actual share price during the event window was higher than expected, thus positive abnormal returns are generated.

Concurrently, a decrease in sustainability and sustainability report quality (decrease in status) should be met with a downward sloping (decreasing) CAAR, as this would illustrate that the actual share price is below the expected share price during the event window, in which case negative abnormal returns are being generated.

Combined short term results

The following graph illustrates the overall results obtained (CAARs) for all the status increases since the inception of the SRI Index.

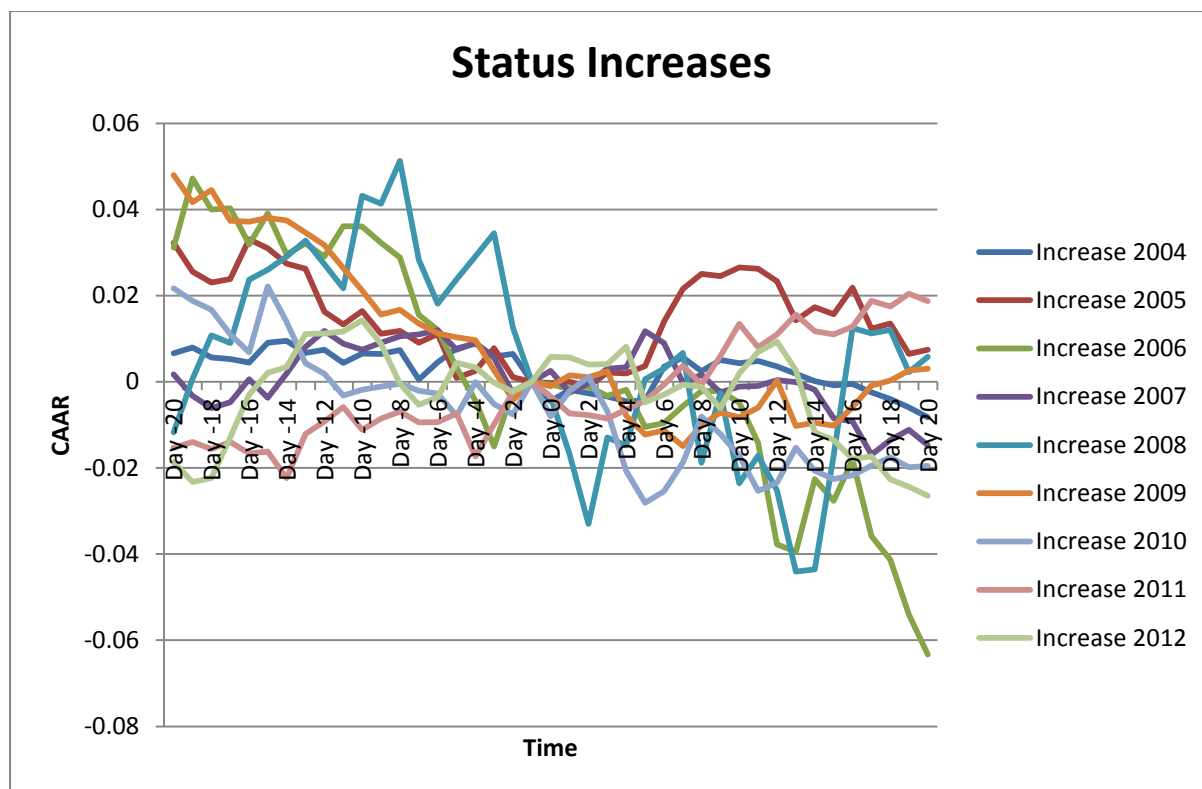


Figure 2: Status Increases

The results in Figure 2 does not show a definite reaction to the information released in announcement date. The CAARs tend to be volatile and unpredictable. When looking at the CAARs prior to announcement date (day zero) the majority of the CAARs are positive, illustrating that positive abnormal returns were generated during this period. However no clear trend or movement can be seen in these CAARs, hence no pre-reaction to the information seems to exist.

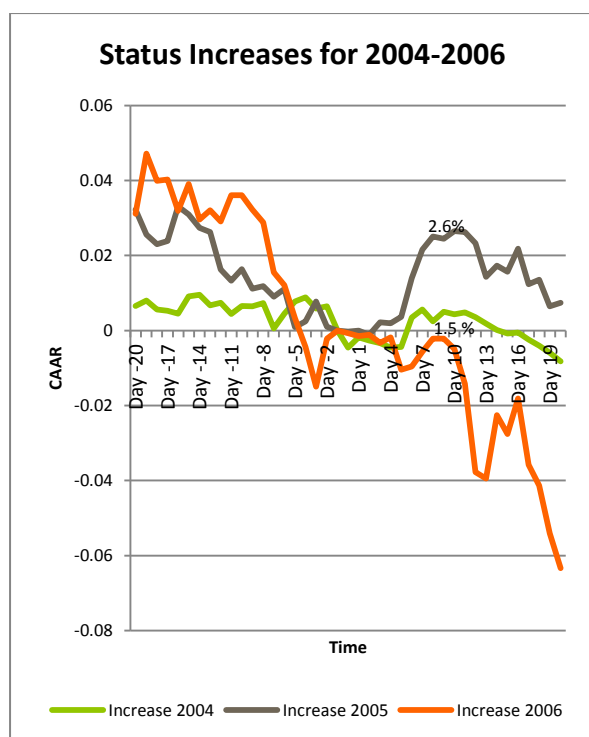


Figure 3: Status Increases for 2004-2006

From Figure 2 it can be seen that the 2004 CAAR is downward sloping indicating that the AAR are positive before announcement date and negative after announcement date. The market values of companies were therefore lower than anticipated. This is consistent with the findings of (Lopez et al., 2007) who found a negative relationship between market values and sustainability disclosures. However as this is the first year the SRI Index was launched, investors might not

have incorporated the information into their decision making activities yet.

However the 2005 and 2006 CAARs show more positive results. Both CAARs are increasing after announcement date, illustrating that positive AAR were generated during that period. Both CAARs reach a maximum after announcement date on day 9, i.e. 2.6% and 1.5% respectively. This illustrates that companies are rewarded when they experience an increase in sustainability performance/ reporting quality, as their market values are higher than expected.

It would seem that the 2006 reaction to the information released on announcement date was quicker than the 2005 reaction, as the 2006 CAAR started to increase immediately after announcement date, whereas the 2005 CAAR decreased initially. This could be attributed to investors becoming more sophisticated in incorporating the

information into their decision making activities

Decrease

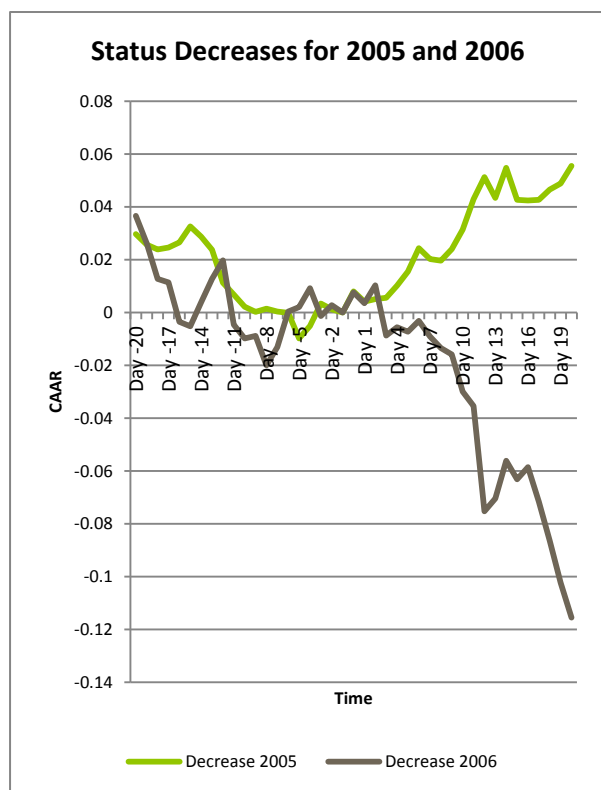


Figure 4: Status Decreases for 2005 and 2006

Only the CAARs for 2005 and 2006 are included in Figure 3, as no decreases in status would exist in the 2004 year since the SRI Index was launched for the first time in 2004.

The 2005 CAAR shows no significant movement from announcement date. Hence it would seem that the decrease in quality status did not affect investor behavior. There is a slight increase in the 2005 CAAR on announcement date, but this increase gradually decreases again towards the end of the event window.

The 2006 CAAR shows a definite negative trend throughout the event window, indicating that the actual market returns were lower than expected. Hence it would seem that the market value of companies that experienced a decrease in quality status also decreased, indicating that investors are becoming more sophisticated and took the SRI Information into account in their decision making activities. This is consistent with the findings in the 2006 Increase in status CAAR results.

The period in which Section 2 falls (2007-2008), is that of the start of the economic crisis. Hence the results during this period are expected to be volatile in nature.

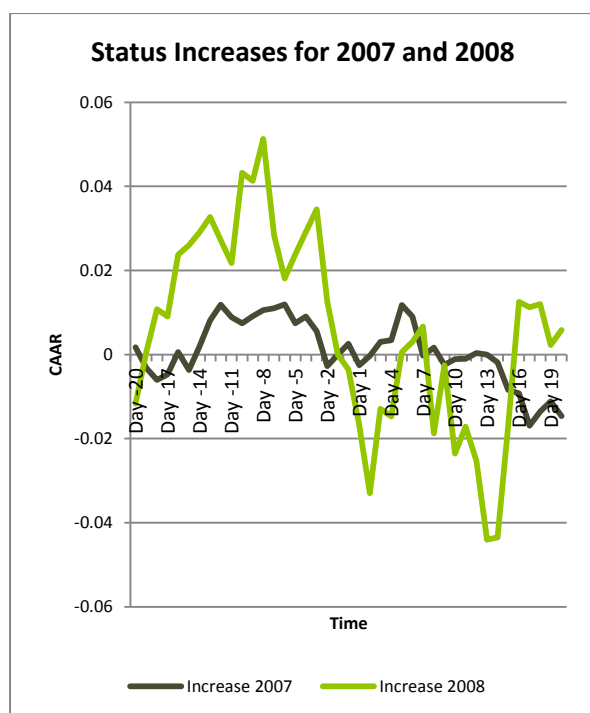


Figure 5: Status Increases for 2007 and 2008

From Figure 5, the volatility in the CAARs is evident. The 2007 CAAR is however consistent with the findings in Section 1 (the 2005 and 2006 CAARs) showing an

increase in the CAAR after the announcement date. There is an initial decrease (until day 3) as in the case of the 2005 Status Increase CAAR but that is followed by a constant upward trend. The 2008 CAAR also shows an initial decrease in the CAAR after announcement date (until day 3) but it increases thereafter reaching a peak on day 9 (consistent with the Section 1 results).

Thus it can be said that there seems to be a slight positive reaction to the release of the SRI Index information, even during the period of the economic recession.

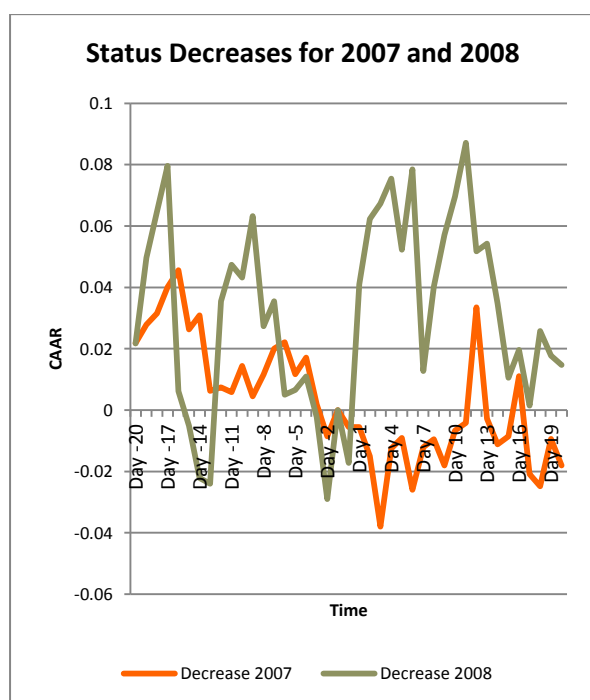


Figure 6: Status Decreases for 2007 and 2008

The volatility in the CAARs presented for 2007 and 2008 is evident again in Figure 6. The 2007 shows a clear negative reaction to the decrease in sustainability quality experienced by companies as the CAAR is decreasing from announcement date until day 17.

The 2008 CAAR shows an increase from announcement date until day 5, which is then followed by a decrease until day 10.

However the volatility of the data renders a conclusion difficult

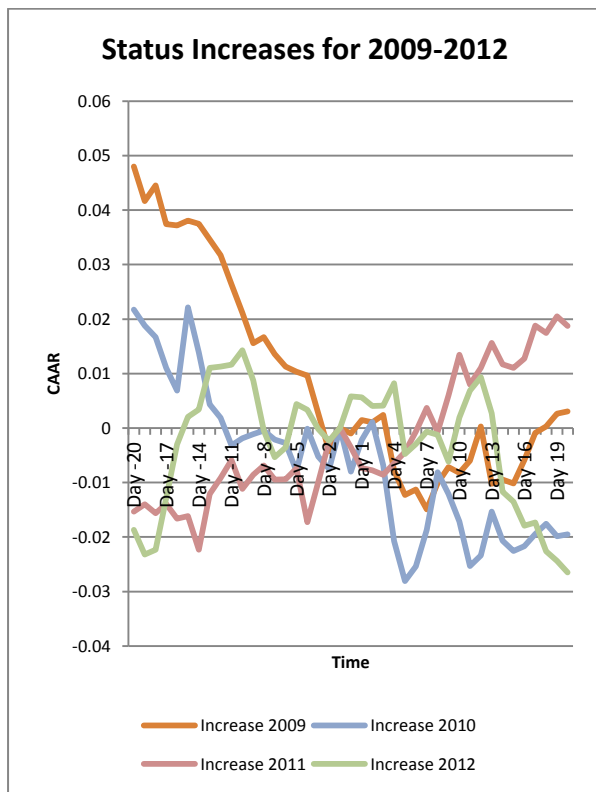


Figure 7: Status Increases for 2009-2012

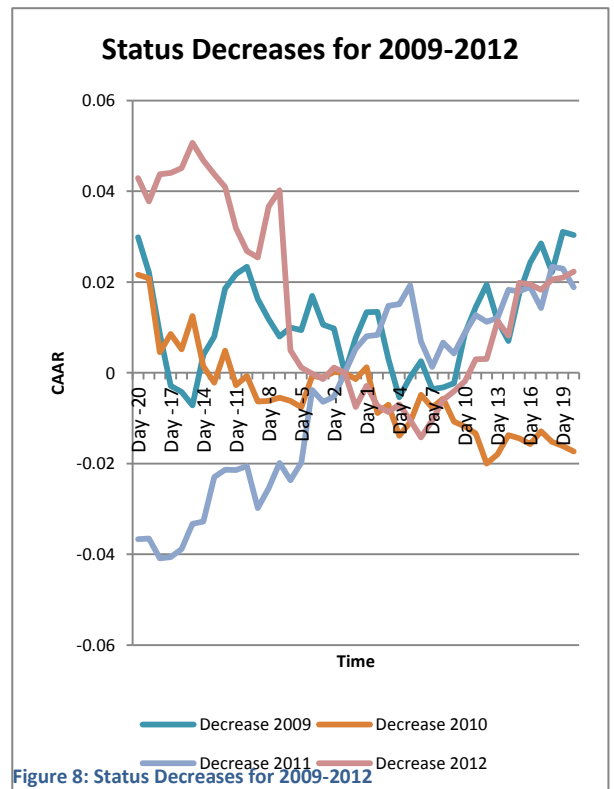


Figure 8: Status Decreases for 2009-2012

Long term study

As mentioned above, the long term study results have been broken down into three sections, one starting on 20 May 2004, the next on 27 November 2007 and the last on 27 November 2009. The cumulative returns of all the portfolios were calculated and presented on line graphs to assist in making a visual comparison of the different portfolio returns. To enhance the comparability of the data, all the portfolios were unitised, i.e. as can be seen in the graphs presented all portfolios start with a value of R 1.00. Value relative graphs were also included on the diagrams presented below to clearly illustrate whether the highest ranking portfolio presented outperforms the lowest ranking portfolio. These graphs should be interpreted in the following way: if value relative graph is upward sloping the highest ranking portfolio is outperforming the lowest ranking portfolio, and the distance between the portfolio performance lines will become greater.

Section 1: Start date 20 May 2004

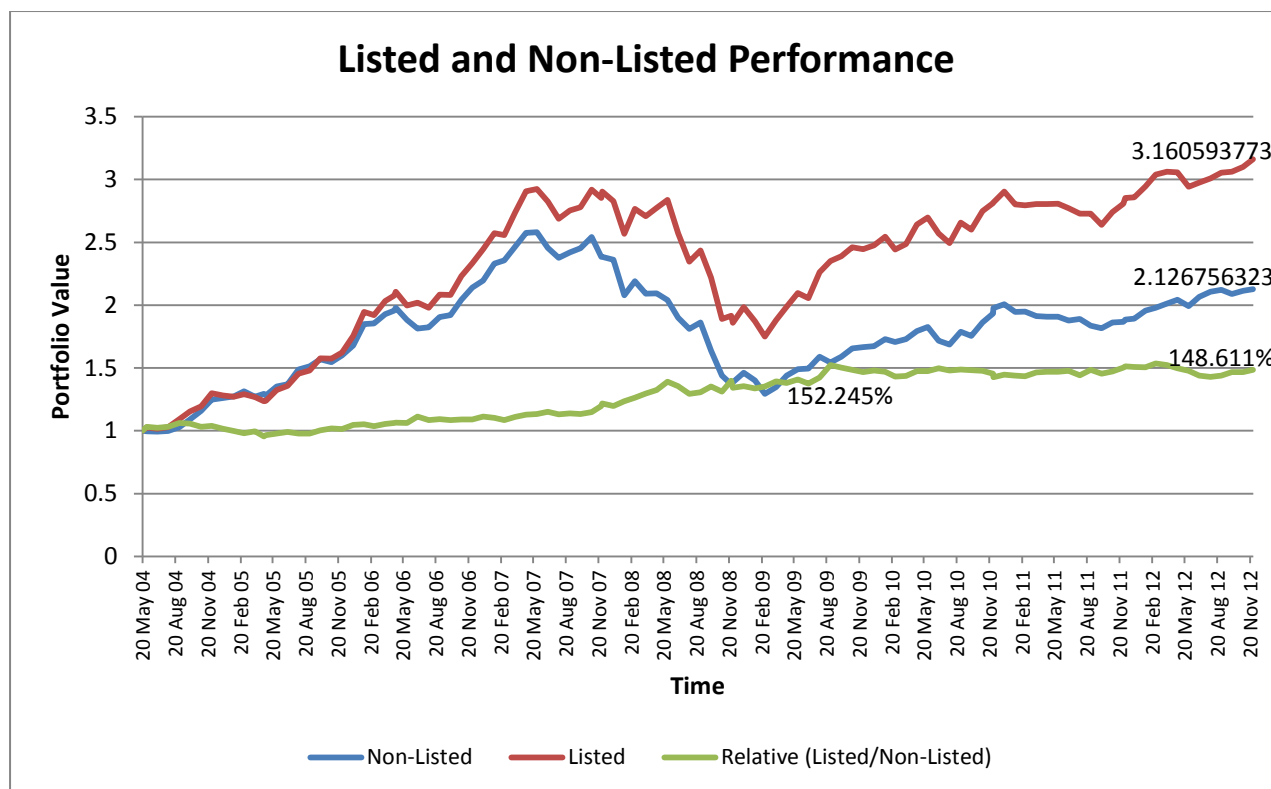


Figure 9: Listed and Non-Listed Performance

The results, as illustrated in Figure 9 show that the listed portfolio value increased from R 1.00 to R 3.16 for the period presented, thus illustrating a 316% growth. The non-listed portfolio value increased from R 1.00 to R 2.13, illustrating a 213% growth, which is significantly less than the growth of the listed portfolio. The value relative line shows that the value of the listed portfolio is 148.611% greater than the non-listed portfolio.

A closer look at the value relative line reveals that the listed portfolio slightly underperformed the non-listed portfolio during 2004 and 2005. This could be due to the SRI Index still being new to the market and not yet being incorporated into investor’s decision making activities. However from the end of 2005 an increase in the value relative graph can be seen indicating that the listed portfolio increasingly outperformed the non-listed portfolio. The biggest contributor to the outperformance of the listed over the non-listed portfolio is the large growth (upward sloping section) in the value relative line during the start of the recessionary period (2007). It can be seen that this growth reached a climax of 152.245% on

31 August 2009. Therefore it can be said that even though most share prices decreased during the recessionary period (evident from the decrease in both the portfolio values illustrate above during the 2007-2008 period), the share prices of companies that showed better sustainability practices, and issued higher quality sustainability reports (companies listed on the SRI Index), did not decrease to the same extent as those that did not show good sustainability practices or issued high quality sustainability reports (not listed on the SRI Index). Therefore, during the recessionary period, it is evident that investors were supporting companies illustrating better sustainability practices to a greater extent than other companies showing less favourable sustainability practices.

From the above it is clear that investors can gain long term excess share returns if they were to invest in companies showing better sustainability practices and companies that issue better quality sustainability reports.

Section 2: Start Date 27 November 2007

The following section goes further than the previous in that another level of report quality could be added. Due to the SRI Index releasing the first Best Performer list on 27 November 2007 another portfolio was created to incorporate the distinction between companies just listed on the SRI Index and other companies that go beyond the minimum listing criteria, illustrating better sustainability practices and disclosures (Best Performers). As can be seen below, the performance of all the portfolios were tracked from 27 November until 28 November 2012, starting from a base of R 1.00.

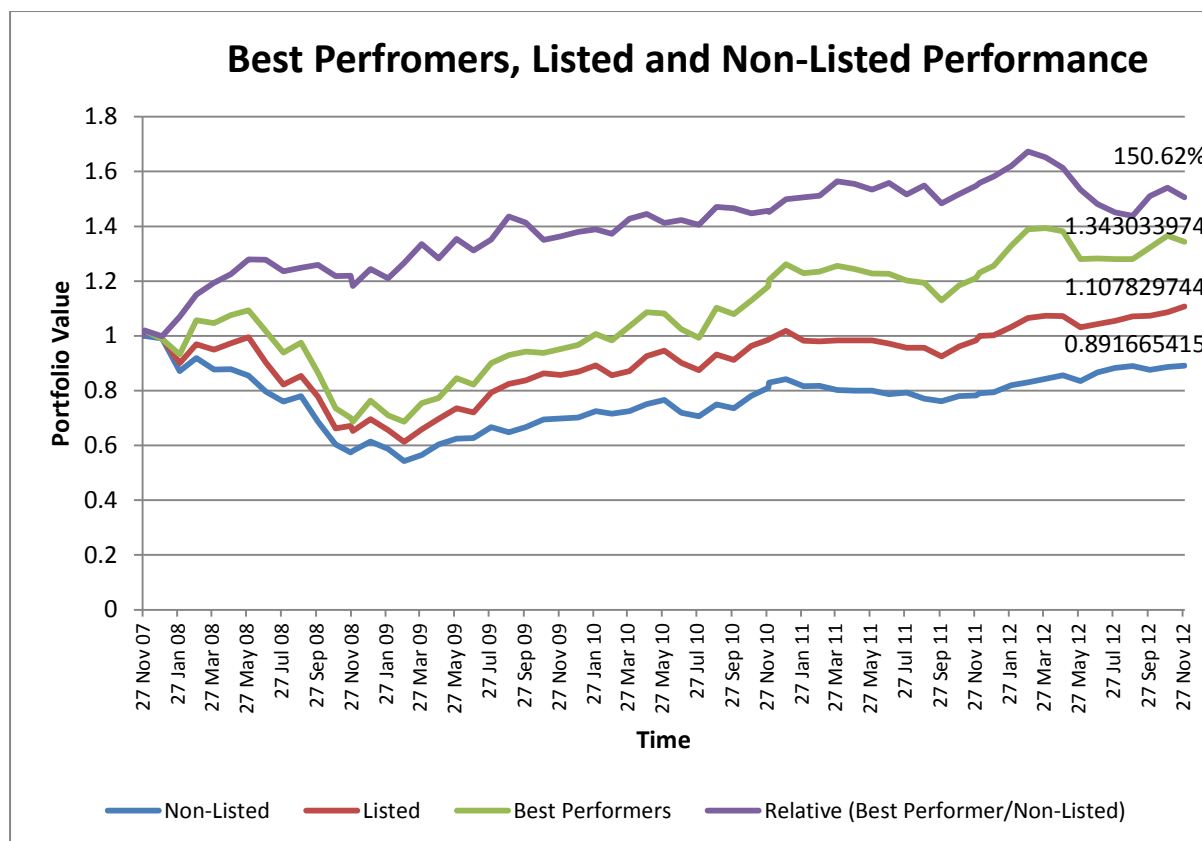


Figure 10: Best Performers, Listed and Non-Listed Performance

As can be seen from Figure 10, during the period from November 2007 to November 2012, the non-listed portfolio lost value, as its value decreased from R 1.00 to R 0.89, thus experiencing an 11% loss. The listed portfolio increased in value from R 1.00 to R 1.11, experiencing an 11% growth. The best performer portfolio increased in value from R 1.00 to R 1.34, experiencing a significant growth of 34% as compared to the other portfolios. Hence the listed portfolio is still outperforming the non-listed portfolio, consistent with the findings of Section 1. The value relative graph, showing the performance of the best performer portfolio in comparison to the non-listed portfolio, indicated that the best performer portfolio is worth 150.62% more than the non-listed portfolio at the end of the period examined.

The value relative graph is consistently upward sloping, illustrating that the best performer portfolio consistently outperformed the non-listed portfolio during the period examined. A significant portion of the growth in the value relative graph occurs during the recessionary period (2007-2008) reinforcing the discovery in Section 1, i.e. that the share prices of

companies with better sustainability practices and higher quality sustainability reports decreased less than other companies on the ASLI during the recessionary period.

From the above, it is again illustrated that investors can gain excess long term returns if they were to invest in companies showing better sustainability practices and therefore issue higher quality sustainability reports.

Section 3: Start Date 30 November 2009

In Section 3 the study of the effect of different quality levels of sustainability reports on share prices is taken further yet again. Through the SRI Index publishing a Persistent Best Performer List on the 30 November 2009 for the first time, a further opportunity was provided for this study to create another portfolio based on report quality, the persistent best performer portfolio. Figure 11 illustrates the performance of this portfolio as well as the other three portfolios already created for the period 30 November 2009 to 28 November 2012.

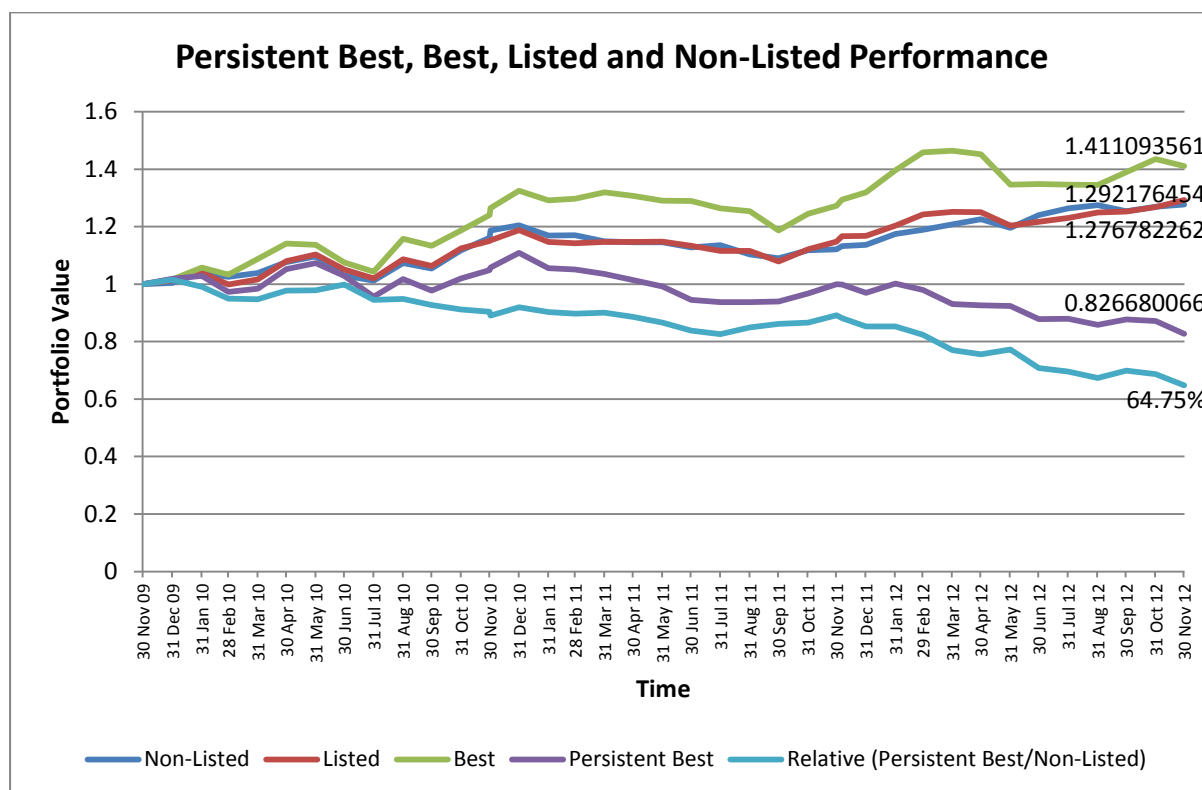


Figure 11: Persistent Best, Best, Listed and Non-Listed Performance

From Figure 11 it can be seen that the non-listed portfolio increased in value from R 1.00 to R 1.28, showing 28% growth for the period investigated; the listed portfolio's value increased

from R 1.00 to R 1.29 during the period, showing a 29% increase; the best performer portfolio increased in value from R 1.00 to R 1.41, showing growth of 41%; and the persistent best performer portfolio decreased in value from R 1.00 to R 0.83, and therefore showing a decay of 17%. The value relative graph shows that the persistent best performers portfolio is worth 64.75% of the non-listed portfolio value. Consistent with the findings of Section 1 and 2, the listed portfolio is outperforming the non-listed portfolio, and the best performer portfolio outperformed the listed and the non-listed.

The value relevant graph is downward sloping which illustrates that the persistent best performer portfolio is underperforming the non-listed portfolio. This could be attributed to the persistent best performer portfolio consisting of a small amount of companies that which falls mainly within the resource sector.

From the above it can be said that the persistent best performer portfolio did not generate long term excess share returns, it actually decreases share returns that can be earned by investors....

Conclusion

It is concluded that no significant short term effect of sustainability quality on market value exists, but that there is strong evidence suggesting that investing in higher quality sustainability portfolios will generate higher returns in the long term, hence high quality sustainability and sustainability reporting has a positive long term effect on market value.

This is explained through the long term nature of sustainability information. The purpose of sustainability performance is not to generate short term volatility, but rather long term sustainable growth. Sustainability reporting provides stakeholders with forward looking, more qualitative information, which requires a longer period to interpret and consider, in order to be taken into account in their long term decision making activities, hence a short term effect on market value is not expected.

It is also posited that as legislative requirements for institutional investors to disclose how they have taken sustainability practices into account in their investment decisions are introduced, investment tools such as the SRI Index, as well as the quality distinctions it provides, will become more prominent considerations, and that a short term quality effect on market value could develop in such circumstances. This therefore provides a possible avenue for future research.

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