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2011-12-12
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A Look at Corporate Social Responsibility and Firm Performance: Evidence from South Africa



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Declaration:

I, Kimon Andreas Demetriades, declare that this research report is my own, unaided work. It is submitted in fulfilment of the requirements for the degree of Master of Commerce in Finance at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Acknowledgements:

I would like to thank first and foremost my family for supporting me through this time as without them, this would not be possible. I would like to thank Professor Christo Auret who supervised this dissertation and offered guidance when it was required. I would also like to thank Professor Neil Rankin for his invaluable advice regarding the empirical methodologies of this study as well as Professor Robert Vivian for his input and suggestions. Thanks go to Makhiba Mollo and Corli le Roux from the SRI index at the JSE for their help in supplying information about the SRI index. A mention must also be made to Professor Jacqueline Arendse and Sello Modikoane from the Wits School of Accounting for granting access to the McGregor BFA database as well as giving of their time to assist with the data collection.

Definition of Terms:

3BL – Triple Bottom Line
BM – Book-to-market
CAAR – Cumulative Average Abnormal Returns
CEO – Chief Executive Officer
CEP - Council on Economic Priorities
CFP – Corporate Financial Performance
CRSP - The Center for Research in Security Prices
CSI – Corporate Social Investment
CSP – Corporate Social Performance
CSR - Corporate Social Responsibility:
DSI – Domini 400 Social Index
EIRIS – Ethical Investment Research Service
EMH – Efficient Market Hypothesis
ESG – Environmental, Social and Governance
ERISA - Employee Retirement Income Security Act
EV – Excess Market Valuation
FM – Financial Mail
GEPF – Government Employee Pension Fund
GMM – Generalised Method of Moments
IC - Information Coefficient
IO – Institutional Ownership
IOU – I Owe You
IRRC – Investor Responsibility Research Center
JSE – Johannesburg Stock Exchange
KLD – Kinder, Lydenberg, Domini and Co., Inc.
NI – Net Income
PR – Public Relations
R&D – Research and Development
RI - Responsible Investments
ROA – Return on Assets
ROE – Return on Equity
S&P – Standard and Poors (S&P 500)
SIC - Standard Industrial Classification
SIF – Social Investment Forum
SRI – Socially Responsible Investing
TIAA-CREF - Teachers Insurance and Annuity Association College Retirement Equities Fund
UN – United Nations

Abstract

Corporate Social Responsibility (CSR) is a new topic in finance which can be viewed from two different perspectives: that of the business (CSR), and that of the individual investor (Socially Responsible Investing, SRI). The evidence from this study suggested that in the short-term, there were no significant price effects on the SRI stocks around the announcement dates of the SRI constituent lists. In contrast, the returns of SRI portfolios over the sample period seemed to be superior to those of conventional firms. The regression analysis found that generally the SRI coefficients were insignificant; however using one of the models during the fifteen year period, it was found that SRI constituents attained a ROE that was 11.18% higher than conventional peers as well as a ROA that was 1.824% lower than conventional firms. When the period was restricted to 2004-2009 it was found that social performance was positively (and sometimes significantly) correlated with ROE.

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1. Introduction

Corporate Social Responsibility (CSR) is quickly becoming a fad in the global business place. The real questions are: is it a legitimate business concern and is it here to stay? This interesting area of finance gained academic momentum during the 1970s as more and more questions were being asked of it. One of the first people to suggest the benefits of Socially Responsible Investing (SRI) was Milton Moskowitz in 1972. Since then there have been numerous papers dedicated to looking at this anomalous effect in the financial markets and trying to explain how it has come about. In this topic, there are various questions that can be asked with some of the more popular questions being: 'Do socially responsible firms outperform conventional firms?'; 'Do socially responsible investments perform as well as conventional investments; and 'What is the causal direction for these effects?'. This last question asks whether good social performance leads to good financial performance, or if the relationship between these two variables is the other way around.

In terms of the existing academic literature, there have been various definitions and constructs used to explain this topic. This dissertation will attempt to use some of these ideas to test the existence of CSR in a South African context and add to the existing body of literature. Since the beginning, one of the major shortcomings of research in this area has been a distinct lack of a measure for Corporate Social Performance (CSP). This is essentially due to the inherent nature of this topic, in that it is difficult to measure performance in social arenas, as they are so diverse, encompass many different aspects, and sometimes have no tangible benefits to measure. Due to this problem, academics have used a range of methodologies to try and overcome this issue, from survey instruments, to corporate social disclosures and reputation indices. As shall be covered in the literature these measures have their benefits and their drawbacks, however since none are completely adequate, a combination of these measures may be needed to perform a reasonable analysis of CSR.

Kinder, Lydenberg, Domini and Co., Inc.[1] (KLD) is a firm in the United States that assesses the social performance of the Fortune 500 based on set social criteria, where these ratings have been consistently applied over many years, and over a reasonable period of time (this will be discussed in section 1.2 of this chapter). The problem is that in South Africa this relatively infant topic does not have such extensive experience in measuring and reporting social performance from the company perspective. Fortunately, in 2004 the Johannesburg Stock Exchange (JSE) launched their SRI index in response to the increasing debate around sustainability and particular in South Africa. An important step in this direction also resulted from the King reports on governance, in that as corporate governance is an integral aspect of social responsibility, the King reports have slowly brought more attention to the question of sustainability. This has developed to such a degree that the King committee now advocates many of the core CSR principles. Part of the JSE's listing requirements necessitates compliance with these reports, and thus some degree of social responsibility is required if a firm wants to list on the local bourse. This has also helped drive attention toward CSR and SRI, as all listed companies have now started paying attention to their social performance. One important aspect of the SRI index is its creation, since due to the lack of social performance information, the JSE used a research organisation that specialised in this area to examine companies on the exchange, and assess whether they passed certain CSR criteria.

The organisation used was the Ethical Investment Research Service (EIRIS) as it is a global provider of independent investment research into the environmental, social, governance and ethical performance of companies. Their analysis used methods common to many earlier academic papers, such as content analysis, where the research methodology was described in the 2009 background and criteria document as "scrutiny of the most recent publicly available material" and "feedback to preliminary profiles by the company and/or completion of surveys where necessary to clarify research and gather non-public information" (SRI Index, 2009b). The criteria document stated that for inclusion a company must meet the required number of indicators as set out in each individual area of measurement, where the indicators are divided into core and desirable. 'Core' indicators reflect elements that should be in place at a minimum

[1] The firm has since changed its name to KLD Research & Analytics, Inc.

whereas ‘desirable’ guide companies to identify all relevant issues. The main areas of measurement are aligned with the three pillars of sustainability; being Environmental, Society and Governance (ESG), where these issues and related sustainability concerns are the key themes analysed. A brief summary of important issues under each category follows (SRI Index, 2009b, p. 4):

> Environment: Companies should improve environmental performance by working to reduce and control its direct negative environmental impacts; promote awareness of its significant direct and indirect impacts; aim to use resources in a sustainable manner; commit to risk reduction, reporting and auditing.
>
> Society: Companies should demonstrate a commitment to social sustainability and good stakeholder relationships by treating all stakeholders with dignity, fairness and respect; actively promote the development of employees and the community; ensure core labour standards; promote health and safety of employees.
>
> Governance and Sustainability: Companies should uphold good corporate governance practices; work towards long-term growth and sustainability; identify and manage the broader impact of the company’s sphere of influence from social, environmental, ethical and economic perspectives.

The aggregation by an independent and respected organisation in conjunction with Africa’s largest exchange lends some credibility to the analysis of these companies. In light of the lack of research in the South African context of social responsibility, thoroughness of the SRI index motivates the use of the index as a proxy for CSP until something more comprehensive can be used.

To gauge the interest in socially responsible funds, an indication of the growth can be seen in the Social Investment Forum (SIF)’s 2007 Report showing trends in the United States where SRI assets rose over 324% from $639 billion in 1995 (the year of the SIF’s first report) to $2.71 trillion in 2007. Interestingly, during the same period the broader universe of assets only grew by 260% from $7 trillion to $25.1 trillion. The report also noted that around 11% of assets under professional management in the U.S. are now involved in SRI - that is, nearly one in nine dollars. Similar trends can be seen elsewhere, and some figures taken from the EIRIS website indicate that in the UK, the pooled SRI fund size increased from 199 million pounds in July 1989 to around 8 881 million pounds by December 2007 (EIRIS, 2009). However, the size of the pooled funds decreased in December 2008 to 6 794 million pounds, but it soon reclaimed ground and increased to 9 521 million pounds by December 2009. The sheer size of

these figures indicates how investors are paying more attention to SRI practices with their minds, as well as their wallets.

An important distinction in the area of SRI is the method one uses, and there exist numerous techniques as described in Viviers, Bosch, Smit and Buijs (2008):

Negative screening:	Investors refrain from investing in undesirable companies.
Positive screening:	Investors include securities which they perceive to be reputable as good corporate citizens.
Best-of-sector screening:	Investors combine positive and negative screens in that whole sectors are not excluded but businesses are included that try to improve their ESG performance.
Shareholder activism:	Shareholders actively engage with management boards on ESG considerations.
Cause-based investing:	Investors support particular causes by investing therein. These investments often deal with development of social infrastructure such as roads, school and health-care facilities.

For the purposes of this study, best-of sector and positive screening (social tilting) are essentially equivalent and are also the main method employed by the SRI index to evaluate potential constituents; thus social screening as well as social tilting shall be the chief focuses. In terms of the social screens, companies that do not meet predefined criteria, usually related to their social performance, are excluded from any investment opportunities. In this way the investor is incorporating his ethical beliefs into the investment decision-making process, resulting in socially responsible investments. Social tilting, or positive social tilting, is when investors do not explicitly exclude any companies from their investment choices; however they prefer to 'tilt' towards those firms with more impressive CSP. Thus, companies that improve their CSR position are favoured by these investors who wish to be socially responsible. This is important since (as shall be discussed in the literature review) each of these methods affects the socially responsible portfolio in a fundamental way. The characteristics of the firms being

included or excluded vary, and thus the method used will determine the portfolio characteristics. That being said, the SRI index's method of research for the constituents entails a list of criteria which if met results in the firm being included in the index. Generally these are positive statements, thus as opposed to screening out firms from the SRI index; it tilts towards the firms that are viewed as being more favourably disposed to CSR. The reasoning was that this method is preferred as it helps engage with the firms so that they may improve their position, as opposed to ignoring them due to their past performance. As stated by the acting head of the index in 2008 "we believe it makes sense to engage with companies on their impact on the environment and society, and to assess how they are dealing with those impacts, rather than to exclude them upfront" (Masie, 2008).

It is the aim of this study to use the SRI index as the main proxy for social performance in the South African context, and using regression analysis as well as other financial techniques to assess whether the experience of SRI in South Africa follows that of other countries. Although there are many limitations to the proposed method, particularly the use of the SRI index as a proxy for CSR, as it stands there are no better measures, especially in South Africa. McWilliams and Siegel (2000) performed a test on one of the proposed regression models and used a similar proxy for their CSP measure in that they used a dummy variable which represented whether the firm was in the Domini Social Index (which shall be examined later) in the given period. Therefore, it is not such a stretch to extend this analysis to a South African perspective.

In terms of the King reports, King I initially focused on corporate governance issues in South Africa, and King II added onto these ideas. More recently however, King III has moved from corporate governance towards a stronger position on sustainability in business which is one of the main tenets of the triple bottom line and CSR. This thinking has slowly become more conventional and is evident in the billions of rand invested around the world in social funds. A local example can be seen with the Government Employee Pension fund (GEPF) as it was a founding signatory of the United Nations Principles of Responsible Investment. These principles were set out with the belief that ESG issues can affect the performance of investments and thus to act in the best long-term interests of their fiduciaries, these institutional investors committed themselves to the following principles (United Nations, 2009):

1. *We will incorporate ESG issues into investment analysis and decision-making processes.*
2. *We will be active owners and incorporate ESG issues into our ownership policies and practices.*
3. *We will seek appropriate disclosure on ESG issues by the entities in which we invest.*
4. *We will promote acceptance and implementation of the Principles within the investment industry.*
5. *We will work together to enhance our effectiveness in implementing the Principles*
6. *We will each report on our activities and progress towards implementing the Principles*

As can be seen from the principles, the aim of the signatories is to improve on the situation regarding social responsibility by encouraging a movement towards improved disclosure, and increased efforts in the social arena. The sheer size of these funds automatically gives the movement to SRI greater pull, as an example the GEPF was ranked the 7th largest retirement fund in the world in 2006, and in efforts to attract mandates from the GEPF a host of asset managers became signatories of the principles shortly afterwards (Masie, 2008). The fund recognises its influence and power inherent in its size, and has undertaken to use its role as an active investor to hold the companies it invests in accountable for their ESG practices. Thus, through ownership rights and privileges, the GEPF can signal concerns and encourage change where necessary (Government Employees Pension Fund, 2009, p. 6); and use its leverage to influence the companies it interacts with. The GEPF has stated that its strategy is to integrate ESG issues into investment decisions and ownership practices, and one of its core objectives is to protect and enhance the long-term value of the GEPF's investments. A secondary objective is to fulfil the responsibilities to society by encouraging investment that addresses socioeconomic imbalances (Government Employees Pension Fund, 2009, p. 7). This movement away from the outskirts of the investment community is again evident when the head of investment and actuarial at the GEPF noted that SRI investing should become mainstream rather than a fringe investment (FANews, 2009).

In terms of the research methodology, there have been many varying approaches examined in the literature and a few of these shall be adapted for this study. Again, one of the major issues is the measurement of CSP, thus these methods will involve examining the selected proxy, the SRI index. It has been hypothesised that the

relationship between CSP and CFP (if it exists) may only persist in the long-term, and that generally accounting returns are best able to capture the firm's unique characteristics and internal efficiencies as opposed to the general performance measure of market return. On the other hand, market returns may encompass investors' perceptions about the future of companies, and in efficient markets this may be sufficient to indicate a relationship between social performance and financial performance. One caveat however, is that due to the nature of efficient markets firm prices are hypothesised to adjust instantaneously to any new information that was previously unknown, that was unexpected and which would have a material impact on the stock. Thus, by its very nature using the market returns (and stock prices) necessitates looking at this relationship in the short-run. It can be seen that there are two distinct methods of examining the CFP-CSP relationship: regression analysis using financial ratios (accounting returns) for the long-run; and an event study, focusing on stock price adjustments in the short-run. Both of these methods shall be thoroughly examined in the empirical section of this study. One thing to note, however, is that both of these methods examine the CFP-CSP relationship which can be thought of as social responsibility from the firm's perspective. In other words, through the firm's participation in social activities it involves bearing costs and the relationship looks at the benefits that may or may not accrue through these CSR initiatives. Therefore, if being socially responsible does produce tangible financial benefits for the firm, these could outweigh the costs and result in a positive relationship being found. Conversely, if there are no financial benefits (or not large enough benefits) the costs are likely to cause the firm to underperform and a negative relationship will be seen.

In addition to firm-side consequences, CSR can be examined from a different perspective in that SRI allows for common people to "make a difference" by choosing how they invest their funds. Thus, the focus of SRI is to see how these ethical choices affect investment decision-making, and ultimately investment performance. For this section there again exist varying methodologies to test for differences, but some of the most popular entail comparing socially responsible firms with conventional entities and assessing if there are any significant differences. Some academics have argued that SRI is the most widely accepted expression of support from the markets for good CSR practices, and that it is through accepting SRI that investors can encourage and promote growth in CSR. Firms that invest in socially responsible activities have the special class

of investor (the socially responsible or ethical investor) who rewards the firm by patronage in terms of buying the firm's stock or purchasing the firm's goods. Sometimes this can extend to other stakeholders, such as bankers viewing the firm on more favourable terms which results in improved access to capital. By lowering the cost of capital for a firm this improves the valuation of the firm; and this can be seen as another positive spin-off of CSR.

In terms of the previous literature, results have ranged from insignificant findings, to significant relationships between social and financial performance, in positive as well as negative directions. For the purposes of this research, only explicit negative findings are taken as evidence against the movement of SRI for the reason that it directly shows how being socially responsible results in excessive costs. The alternatives are significant positive relationships (furthering the cause of the SRI ideal) or insignificant relationships. In the case of no significance, this is seen as a positive in light of the externalities generated under CSR projects. From the firm's perspective, if being socially responsible does not affect performance, then the costs undertaken by the firm are offset by financial benefits that accrue. However, simultaneously the firm is generating benefits for society through its CSR initiative, and thus overall society may be deriving additional benefit. From the investor perspective, as Statman (2000) suggested, asset pricing models should include behavioural aspects too; and ultimately utilitarian and value-expressive characteristics be included in decision-making. Looking at a purely profit driven orientation, the majority of the literature on SRI has found no significant difference in performance between SRI and conventional funds; thus, as with the CSR perspective, socially responsible investors bear no additional costs. The key here is that investors are able to derive additional value-expressive benefit through their social participation that was previously lacking when their investment decisions were driven purely by profit. In this model, investors are able to attain competitive returns while simultaneously investing with their ethics and morals.

CSR refers to these perceived responsibilities the firm owes to society in terms of ensuring its activities do not have any detrimental effects to the environment or the surrounding community. This segment of the topic is generally related to the relationships between the firm's social performance and financial performance. SRI looks at the investment performance of responsible portfolios so that investors can

assess whether they can attain good returns while investing according to their beliefs, whereas the analysis of CSR is there to discern whether being a good corporate citizen has any affect (positive or negative) on the financial performance of these corporations. The literature shall be divided into papers that look at the general theory behind CSR, examine the relationships between firm-level social performance and financial performance, and the papers that examine the role of SRI on investors.

The rest of Chapter 1 will give some background to the ideas inherent in CSR while Chapters 2 and 3 will look at the literature and examine their results in depth, as well as look at CSR in everyday life and its impact on investors' decisions and opinions. Chapter 4 will thoroughly examine the research methodology and explain the various tools used to analyse CSR in this study. Chapters 5 and 6 follow on the discussion of the results, specifically in light of the previous studies and conclude the ideas of this study.

1.1 A Brief History of Corporate Social Responsibility and Socially Responsible Investing

The origins of SRI can be traced far back through human history where in early biblical times Jewish law laid down directives on how to invest ethically, while in the mid 1700s "the founder of Methodism, John Wesley, noted that the use of money was the second most important subject of New Testament teachings" (Schueth, 2003, p. 189). The 18th century religious institutions brought the concept of SRI to the new world with the Quakers avoiding companies related to war and slavery, while the Methodists managed their funds using social screens for over two centuries. The religious origins of SRI can be seen in the widespread avoidance of "sin stocks" – companies in the alcohol, tobacco and gaming industries - by socially conscious investors in the U.S. The modern foundations of social investing can be traced to the political climate of the 1960s where issues ranging from the Vietnam War, movements for civil rights, concerns about the cold war and equality for women escalated sensitivities to issues of social responsibility. These movements broadened to include management, labour issues and anti-nuclear sentiment during the 1970s. The 1980s once again saw a dramatic increase in the number of socially responsible investors as more investment strategies were focused on pressuring the minority government of South Africa to

dismantle the apartheid system. Finally, more recent issues such as the "Chernobyl and Exxon Valdez incidents, and vast amounts of new information about global warming and ozone depletion coming to the attention of the American public" (Schueth, 2003, p. 190) has brought environmental concerns to the attention of socially aware investors. Essentially these were the beginnings of what is seen to be CSR, as the public as well as investors started imposing responsibilities on corporations other than their central task of maximising profit.

In terms of the difference between CSR and SRI, these terms may be thought of as being from the different perspectives of the firm and the investor respectively. Socially responsible investors have expanded the traditional criteria used in their investment decision-making processes and included newer, and sometimes less tangible, factors when making these important decisions. These can include environmental aspects, ensuring the company has good corporate governance or only investing in companies with equitable hiring practices. One important theme to note here is that this extension of investment criteria can be associated with the idea of stakeholders becoming the focus of corporate behaviour, instead of only shareholders as it was in the past. Stakeholders were defined as any group or individual who can affect or is affected by the achievement of the organisation's objectives (Freeman, 1984, p. 46; cited in Lankoski, 2009). These stakeholders can potentially have claims against the corporation; therefore firms who anticipate these needs are able to behave accordingly, and it is this behaviour which society deems indicative of better CSP. For investors, being socially responsible would entail finding investments which comply with their expanded social criteria and generally these investments are found in firms with high CSP.

The actual mechanics of SRI can be introduced through a look at social screening as given by Kinder and Domini (1997). As mentioned, the movement started through investors using their religious and ethical beliefs as guides when investing their funds and the authors stated that the impulse behind screening is the same, however, in a different context. Simple desires to avoid what they do not like have evolved into complex assessments of the relationships between corporations and the societies in which they operate. A screen is defined as "a criterion applied to a universe of potential investments that helps winnow the candidates" (Kinder & Domini, 1997, p. 12) and a

social screen is "a non-financial criterion applied in the investment decision-making process" (Kinder & Domini, 1997, p. 12). Specifically, a social screen entails the expression of an investor's social, ethical or religious concerns such that an investment manager can apply it in the investment decision-making process. The types of screens that can be applied vary, but generally they can be separated into exclusionary screens and qualitative screens with the exclusionary ones being far easier to implement. Figure 1 lists the main exclusionary screens as given by Kinder and Domini (1997):

EXCLUSIONARY SCREENS

Alcohol	**Gambling**	**Tobacco**
Substantial Involvement Minor Involvement	Substantial Involvement Minor Involvement	Substantial Involvement Minor Involvement

Military Contracting	**Nuclear Power**
Substantial Involvement	Derives Electricity
Minor Involvement	Design
Major Supplies	Fuel Cycle / Key Parts

For many social investors, the exclusionary screens are absolute. For others, however, there may be gradations, which these bellwethers attempt to accommodate.

Figure 1 - Exclusionary Screens (Kinder & Domini, 1997, p. 13)

Qualitative screens are generally more complicated in that there is no clear-cut method for screening and they tend to look for a pattern in company actions that indicate an overall attitude (positive or negative) for example, towards the environment. The authors listed the principal qualitative screens at the time and these are given in Figure 2. Kinder and Domini (1997) examined the historic progression of exclusionary screening, and as social screens initially barred weapons, alcohol and tobacco products, the religious and secular beliefs evolved to include nuclear and gaming (gambling) exclusions. The benefit of these types of screens is their definiteness as they are easy to classify, and it is also easy to identify which companies fail the screens.

Kinder and Domini (1997) also examined how the South Africa screen emerged, with the idea that it would illuminate the process by which new exclusionary screens will emerge in the future. South Africa marked the movement from divesting sin to

investing for social change, and between 1969 and 1994 "South Africa catalyzed a change among social investors from an inward-focused desire for consistency between one's values and one's investments to an outward-oriented expression of how society should work" (Kinder & Domini, 1997, p. 16).

QUALITATIVE SCREENS

Screen	Strengths	Concerns
Community	Generous Giving Innovative Giving Support for Housing Support for Education	Negative Economic Impact Investment Controversies
Diversity	CEO Promotion Board of Directors Family Benefits Woman/Minority Contracting Employment of the Disabled Progressive Gay/Lesbian Policies	Controversies Non-Representation
Employee Relations	Strong Union Relations Cash Profit Sharing Employee Involvement Strong Retirement Benefits	Poor Union Relations Safety Controversies Workforce Reductions Pension/Benefits Concern
Environment	Beneficial Products and Services Pollution Prevention Recycling Alternative Fuels Communications	Hazardous Waste Regulatory Problems Ozone Depleting Chemicals Substantial Emissions Agricultural Chemicals
Non-U.S. Operations	General Non-U.S. Operations Community	Burma Mexico General Non-U.S. Operations
Product	Quality R&D/Innovation Benefits to Economically Disadvantaged	Major Product Safety Product Safety Marketing/Contracting Controversies Antitrust Disputes
Other	Limited Compensation Ownership	High Compensation Tax Disputes Ownership

Qualitative screens depend on bellwethers, since it would be impossible to analyze the social records of even a small NYSE company with some sense of completeness.

Figure 2 - Qualitative Screens (Kinder & Domini, 1997, p. 15)

The racist policies of apartheid in South Africa became a public issue in the U.S. and by 1974 Leon Sullivan helped articulate standards to which companies with operations in South Africa would be held (known as the Sullivan Principles and discussed in detail in the next section). Investors began setting minimum performance requirements in terms of the Sullivan ratings, and failure to subscribe to these principles became an exclusionary screen from the start. Due to the ineffectiveness of the principles, divestiture became the key mode of action, with it resulting in the divestiture of U.S. corporate holdings in South Africa, as well as the divestiture of investments in companies that declined to leave South Africa. The SRI perspective is that of the socially conscious investor not wanting to support the racist regime of South Africa, thus divesting from companies still involved in the country. At the same time, the social responsibility of the firm was to adhere to the public's call for divestiture, and make attempts to rectify the social imbalances – either through "constructive engagement", or through exiting the country. Constructive engagement referred to the act of companies trying to influence South Africa for the good of the community by staying behind and setting an example. By 1987, divestiture was the screen most commonly applied, and over a period of thirteen years the South African screen had evolved from a system of gradations to an absolute.

This qualitative evaluation of the signatories' performance illuminated the fact that it is much harder to determine if a company is making progress in areas such as "non-segregation of the races at the workplace" than to determine if the company is in the gaming business. The authors stated that a criticism of the Sullivan ratings was that "complex questions should produce nuanced answers" (Kinder & Domini, 1997, p. 17) unlike the simple answers giving by Sullivan raters, and this is a common criticism of qualitative screens. Another complaint was that screens of this kind rely on data that are not comparable, for example when analysing environmental impacts "good progress" for a mining company would be entirely different from "good progress" for a financial institution or soft drink manufacturer. Today's qualitative screens are descendants of the South Africa screening, and although they arise in part from a desire for consistency of purpose, they represent an assertion of what the proper role of corporations in society should be. The earliest non-South Africa qualitative screen in the view of Kinder and Domini (1997) was the environment, and it has evolved over time. Initially list-driven negative screens gave the starting point where in the 1970s and 1980s environmental

screening looked to lists like Environmental Action's "Filthy Five" or the National Clean Air Coalition's list of the fifty top emitters of toxic pollutants (Kinder & Domini, 1997, p. 17). These lists focused on negatives and could not account for nuances that would affect their relative and absolute performance, nor could they compensate for the comparison of different industries. More recent screens attempt to capture detailed views of corporate performance, negative and positive, and in doing so they express expectations inconceivable in social investing before South Africa.

An important aspect of qualitative screens is that they rely on 'bellwethers' which are "indicators from which broad conclusions about a company may be drawn" (Kinder & Domini, 1997, p. 17). They point to areas of strength or concern in companies; however, they lack the simplicity of list-driven screens in that someone needs to make a judgement about the company's history and its record. A list of bellwethers associated with the contemporary qualitative screens is also included in Figure 2, and it is noted that each reflects a particular characteristic of the company from which a broader conclusion can be drawn, and where verifiable information is readily available from public or company sources. Kinder and Domini (1997) stated that predicting the screens of tomorrow would be difficult; however a few main themes seemed imminent:

- The range of current qualitative screens will expand - the number of screens, as well as the number of bellwethers under each screen will increase
- Global issues will become standard screens – due to the globalisation of business, and the increasing popularity of mutual funds with global exposure
- Unpredictable events will shape SRI's future - since SRI is born of the confluence of movements of the 1960s, with no single parent or focus it is hard to predict which screens will emerge or come to dominate. Investment managers have learned to cope with social screening, and have become sensitive to the multiple bottom lines their clients consider. "They have learned to be flexible in the face of client concerns about social issues. The one safe prediction about the future of social screening is that investment managers will never be permitted to forget that lesson" (Kinder & Domini, 1997, p. 18)
- Conventional securities analysis will incorporate some of today's social screens.

This last point of social screens becoming mainstream is what the authors noted as the safest prediction, as with all these environmental and diversity issues coming to the fore

analysts are reminded that the criteria for fundamental analysis have to be expanded for the 21st century. Regarding this change in focus, the securities industry is behind the companies it analyzes as the authors stated: "where companies go, analysts will surely follow" (Kinder & Domini, 1997, p. 19), and all that is required is a cursory glance at any financial publication today to see that the authors were not far off in their prediction.

1.2 The Sullivan Principles

In 1977 the Sullivan code of conduct was developed to monitor progress made by U.S. companies with subsidiaries in South Africa. The code was drafted by Reverend Leon Sullivan, a Baptist minister and member of the board of directors of General Motors. The code initially had six principles which became known as the Sullivan Principles and called for the "desegregation of the workplace, fair employment practices for all employees, equal pay for equal work, job training and advancement of Blacks, increasing the number of Blacks in management, and the improvement of the quality of workers' lives outside of the workplace (Mangaliso, 1997, p. 228). In 1984 the code was amplified to include the use of influence to support the unrestricted rights of Black business to locate in the urban areas, influence other companies in SA to follow similar principles and support the ending of all apartheid laws.

These principles were controversial from the beginning, and later additions urged companies that had signed the principles to challenge the apartheid government. They called for signatory companies to practice corporate civil disobedience against all apartheid laws and to use the companies' financial and legal resources to assist Blacks in the equal use of public and private amenities. Critics charged that by putting a stamp of virtue on U.S. corporations doing business in South Africa, the principles stalled rather than accelerated progress to end apartheid and "that they were an IOU without a due date" (Mangaliso, 1997, p. 228). This was put to the test when Sullivan issued an ultimatum in 1985 that he would call for the withdrawal of U.S. corporations if apartheid was not abolished by 1987. When the two-year period elapsed, Sullivan called upon all U.S. companies to pull out of South Africa admitting that although the principles had made life better for some Blacks in South Africa, they had failed to

produce changes at a fast enough pace. In 1987 after Sullivan called for the withdrawal of U.S. multinationals as they had failed to bring down apartheid, the codes were renamed the Statement of Principles and continued to be used as guidelines for corporations in South Africa. As a result many corporations began to withdraw from South Africa heeding Sullivan's call, some citing the weakening economy of South Africa; while others remained and continued to use the Statement of Principles as their guideline (as mentioned in Kinder and Domini, 1997). As shall be covered in the literature review, the investor boycotts of South Africa sometimes included a complete divestment strategy where any corporation with ties to South Africa would be excluded from the investment universe; alternatively another strategy used for divestment was to exclude companies that did not comply with the Sullivan principles, thus these principles did have some influence. Whether or not these principles had the desired effect, the fact that more attention was brought to this cause led divestment from South Africa to be one of the most popular tools of SRI during the time, as well as the social screen that ultimately would help qualitative screens evolve into what we use today.

1.3 The Triple Bottom Line

Another integral part of SRI lies in what has come to be known as the Triple Bottom Line (3BL) which is essentially where managers and investors look beyond the original motivation of a firm: to make profit. This is also known as the bottom line as it is a reference to the bottom line of the income statement where the profitability of a firm can be seen once all income and expenses have been accounted for. By going beyond profit, managers look towards social, economic and environmental pillars to create the 3BL - a more encompassing set of criteria with which to run a company, as well as to use in investment decisions. Norman and MacDonald (2003) noted that the idea of 3BL accounting has become popular in management, consulting and investing circles over the past few years. As mentioned previously, the main idea behind this 3BL paradigm is that a corporation's ultimate success should be measured not just by the traditional financial bottom line, but also by its social/ethical and environmental performance. It has been accepted by many in the corporate world that firms have a variety of obligations to stakeholders, and firms cannot be successful in the long run if they consistently disregard the interests of key stakeholders. According to Norman and

MacDonald (2003) the novelty of the 3BL lies in the contention of its supporters that the overall fulfilment of obligations to communities, employees, customers etc. should be measured, calculated, audited and reported – treatment identical to that of the firm's financial performance. The authors found this an exciting promise as "one of the more enduring clichés of modern management is that 'if you can't measure it, you can't manage it'" (Norman & MacDonald, 2003, p. 243). If ethical business practices and social responsibility are believed to be important functions of corporate governance and management, then tools need to be developed that make transparent just how well firms are doing in this regard.

The authors assumed without argument the desirability of many socially responsible business practices and the potential usefulness of tools that allows performance along these dimensions to be measures and reported. They also noted that at the time these assumptions were not very controversial. The authors cited a poll conducted for Business Week in 2000 where 95% of the respondents agreed with the claim that U.S. corporations should have more than one purpose (they owe something to their workers and the communities they operate in) while only 4% agreed with Friedman (1970)'s assertion that U.S. corporations should only strive to make the most profit for their shareholders (Norman and MacDonald, 2003, p. 257-258). Most large corporations at least pay lip service to social responsibility, and Enron was cited as an example as they had an exhaustive code of ethics and principles and yet the corporate governance failure at the company was monumental and has become a lesson in how things can go very wrong. On top of this, a substantial proportion of the major firms are issuing annual reports on social and environmental performance, and Norman and MacDonald (2003) did not find controversy in the assumptions about the desirability and usefulness of these tools; but rather in the promises suggested by the 3BL idea.

The term "Triple Bottom Line" can be dated to the mid 1990s, and the authors noted that in recent history the term has grown in popularity, with an informal search in Google returning 25,200 web pages mentioning the term. A similar search for using Google resulted in over 1 420 000 web pages as of 10 March 2010, showing just how much this topic has grown. Regarding the use of the term; numerous articles have been devoted to this topic, significant companies are using the terminology in their annual reports, and auditors are offering services to assist in the measurement and reporting of

these two additional "bottom lines". Similarly, there exists a sizeable portion of the investment industry devoted to screening companies on the basis of their social and environmental performance. Due to the extensive interest of these multiple constituents and the lack of academic literature (specific to 3BL) the authors proposed to begin the task of filling this academic void and started by seeking answers to a number of questions, namely:

- Is the intent of the 3BL movement really to bring accounting paradigms to bear in the social and environmental domains?
- Is doing so a practical possibility?
- Will doing so achieve the goals intended by the promoters of the 3BL?
- Is the idea of a "bottom line" in these other domains a mere metaphor?
- If it is a metaphor, is it a useful one?
- Is this a form of jargon we should embrace and encourage?

The conclusions of the authors were largely critical of this paradigm and although they were supportive of some of the aspirations behind the 3BL movement, they argued on conceptual and practical grounds that the language of the 3BL promises more than it can ever deliver.

Norman and MacDonald (2003) noted that although most of the documents are written to introduce readers to the concept and sell it to them, it is difficult to find anything that looks like a careful definition of the concept - let alone a methodology or formula similar to the calculations on financial statements for working out one of these additional bottom lines. Instead of definitions one usually finds vague claims about the aims of the 3BL approach, where many quotations about the topic suggested little more than that the concept is "an important milestone in our journey toward sustainability" (Norman & MacDonald, 2003, p. 245) or that an approach that places emphasis on social and environmental aspects of the firm (along with economic aspects) should move to the top of executives' agendas.

Norman and MacDonald (2003) distilled two sets of more concrete propositions about the meaning of these additional bottom lines, and why it supposed to be important to measure and report on them. For brevity, the authors focused on the social/ethical

bottom line, however most of the conceptual issues they explored apply equally to the environmental bottom line:

What does it mean to say there are additional bottom lines? (Norman & MacDonald, 2003, p. 246)

> *Measurement Claim*: The components of social performance can be measured in relatively objective ways on the basis of standard indicators, and these data can then be audited and reported.
>
> *Aggregation claim*: A social bottom line – analogous to a net social "profit/loss" – can be calculated using the data from these indicators and a relatively uncontroversial formula that could be used for any firm.

Why should firms measure, calculate and possibly report their additional bottom lines? (Norman & MacDonald, 2003, p. 246)

> *Convergence Claim:* Measuring social performance helps improve social performance and firms with better social performance tend to be more profitable in the long run.
>
> *Strong Social-obligation Claim*: Firms have an obligation to improve (or maximise) their social bottom line and accurate measurement is necessary to judge how well they have fulfilled this obligation.
>
> *Transparency Claim*: The firms have obligations to stakeholders to disclose information about how well it performs with respect to all stakeholders.

3BL advocates believe that social (and environmental) performance can be measured in objective ways, and that firms should use these results to improve their performance. Additionally, these results should be reported as a matter of principle and by using and reporting these additional bottom lines, firms can expect to do better financially in the long run. Instead of examining each of these claims in isolation, the authors focused on the deeper criticisms of the 3BL movement and found that generally these claims need to be formulated vaguely, so that they are plausible, and that many of these claims are salvaged at the expense of their power. Regarding the Transparency Claim, it is accepted that there are obligations (or good reasons at least) to report some information to various stakeholders. The question becomes what information do stakeholders actually have a right to, and how does one justify such claims. Another question raised

was when is it legitimate to keep secrets from outsiders, including competitors, and the literature offered no answers. The authors also turned to the Aggregation Claim which is the most distinctive and novel aspect of the 3BL and they argued that this claim which is essential to the very concept of a bottom line is untenable. Their view is summed up with the slogan "what is sound about the 3BL project is not novel, and what is novel is not sound" (Norman & MacDonald, 2003, p. 247).

If there is something distinctive about the 3BL ideal, it cannot be primarily that it calls on firms to focus on things other than the traditional bottom line, as it has never been possible to do well without paying attention elsewhere - especially to groups like employees, customers, suppliers and governments. Johnson & Johnson was cited as a company that performs as well as any other profit maximizing company but who established a code six decades ago announcing that its primary stakeholders were its customers, employees and the communities it operated in. Norman and MacDonald (2003) did not claim that most corporations are already functioning in the way 3BL proposes, however their point was that once the 3BL principles are formulated in a way that makes them plausible, they become vague enough that many executives would not find them controversial - or very useful. Advocates of the 3BL approach want corporations to report more of the data they collect on stakeholder relations, but even here there is nothing distinctive to 3BL about the call to audit and report social performance. If there are good justifications for firms to report, these will be independent of the distinctive feature of the 3BL: namely the Aggregation Claim – which was the idea that it is possible to quantify a firm's social performance in a way that arrives at some kind of "bottom line".

Supporters of 3BL tend to insist that firms have social and environmental bottom lines *in just the same way* that they have economic bottom lines. Norman and MacDonald (2003) posited that the only way to make sense of this claim was by formulating it in the way that they had with the Aggregation Claim. In other words, the authors could not see how it made sense to "talk about a bottom line analogous to the bottom line of the income statement unless there is an agreed-upon methodology that allows us, at least in principle, to add and subtract various data until we arrive at a net sum" (Norman & MacDonald, 2003, p. 249). Interestingly, the authors noted that none of the advocates of 3BL accounting ever actually proposed a methodology of the sort implied by the

Aggregation Claim. For all the talk of taking the three "bottom lines" seriously (and the novelty of the idea) nobody had proposed a way to use the data on social performance to calculate some kind of a net social bottom line. Norman and MacDonald (2003) suggested that this may be because the advocates of the concept were hoping that progress on a methodology will come once the idea has gained acceptance, however they believe that this is a vain hope. If it makes sense to say that there is a bottom line for performance in some domain, that is directly analogous to the financial bottom line, then it makes sense to ask what a firm's bottom line in this domain is; and there should be a relatively simple answer. The problem is, since it is not known what the answer should look like, some type of answer expressed in monetary units does not seem right. If a firm was asked about its social or environmental bottom line and the reply were 42 or 42,000,000 this does not mean much as nobody knows how to calculate monetary equivalents of social and environmental benefits. The authors reflected on what would look like a plausible answer to the question of what some particular firm's social bottom line is; and there are good grounds for thinking that one firm's social performance is better than another's or that a given firm's social or ethical performance improved or declined over a certain period. The judgements in these cases would be based on the kind of indicators that proposed social standards highlight including charitable donations, measures of employee satisfaction, perceptions in the community etc. This is still, however, a far cry from saying that there exists a systematic way of adding up the social pros and cons, or of arriving at some universal figure for a firm's social performance.

The problem with this alleged analogy runs even further as with the traditional bottom line it is the last line of the income statement expressing net income after subtracting expenses occurred from the income earned. Norman and MacDonald (2003) were unsure of what the social equivalent should look like or even in what units it should be measured. Additionally, the conceptual analogies above the line are puzzling as what are the ethical/social analogues of revenue, expenses, assets, liabilities etc. The data that 3BL proposes to collect as indications of social performance do not fit into general categories that allow for a straightforward subtraction of the bad from the good to get some net social result. Some possibilities of social accounting may include:

- 20% of its directors were woman

- 7% of its senior management were members of "visible" minorities
- It donated 1.2% of its profits to charity

Without knowing the size of the firm, its location, and the industry averages it is hard to say how good or bad these figures are. With regard to each indicator, it is easy to have a sense of whether a higher or lower number is better from the ethical/social performance perspective but these are not the type of data that can be fed into calculations to produce a final net sum. Some figures are presented in percentages which cannot be added or subtracted if they refer to different figures. Although Norman and MacDonald (2003) did not dispute that these are relevant considerations in the evaluation of a firm's social responsibility "it does not seem at all helpful to think of this evaluation as in any way analogous to the methodology of adding and subtracting used in financial accounting" (Norman & MacDonald, 2003, p. 251). The authors argued that it is impossible to develop a sound methodology for arriving at a meaningful social bottom line for a firm since it is impossible to find a common scale to weigh all of the social "goods" and "bads" caused by the firm and from a practical perspective, there will never be consensus for any such proposed common scale - especially to the level of agreement about accounting standards. The authors expressed this "impossibility" argument in terms of accountancy definitions and one of the three basic assumptions underlying the methodologies of the standard financial statement is the "unit of measure" assumption which states that all measures for revenue, expenses, assets and so on are reducible to a common unit of currency. The other two assumptions are the "separate identity" assumption which is that the economic events measured can be identified as happening to the entity in question (separable from other individuals for accounting purposes) and the "time-period" assumption which assumes that the economic events measured occur within a well-defined period of time.

The social and environmental realms lack an obvious and measurable common "currency" (whether it is monetary or non-monetary) for expressing the magnitude of all good and bad produced by the firm and affecting individuals in the different stakeholder groups. Part of the problem is that it is difficult to make quantitative assessments of how good or bad some action is, and partly it is that there seems to be qualitative as well as quantitative distinctions when evaluating the social impact of corporate activities. The nature of these activities means that although there are many

relevant and objective facts that can be reported and audited any attempt to weigh them up will "necessarily involve subjective value judgments, about which reasonable people can and will legitimately disagree" (Norman & MacDonald, 2003, p.252). This argument does not rest on acceptance of any philosophical view about whether all value judgments are subjective or objective; it relies only on the fact that the various values involved in evaluations of corporate behaviour are not comparable; and reasonable and well informed people will weigh them and trade them off in different ways. This means that there is no formula that can be appealed to in order to justify all the trade-offs, e.g. to decide what the net social impact is for any pair of social indicators. In short, whatever is going on in this sort of evaluation "it would seem to be about as far as you could get from the paradigm of the accountant performing calculations on the basis of verifiable figures and widely accepted accounting principles" (Norman & MacDonald, 2003, p. 253).

Norman and MacDonald (2003) questioned whether the use and propagation of this 3BL jargon is concerning as it is inherently misleading. From an abstract point of view the answer is yes, as if the jargon of 3BL implies that there exists a sound methodology for calculating a meaningful and comparable social bottom line, as can be done with financial statements, then it is misleading. The authors had a problem with this because even if advocates issue disclaimers to this effect and admit it is just a slogan to get social and environmental concerns taken seriously "the concept of a Triple Bottom Line in fact turns out to be a 'Good old-fashioned Single Bottom Line plus Vague Commitments to Social and Environmental Concerns'" (Norman & MacDonald, 2003, p. 256). These ideals are easy for almost any firm to embrace and by committing themselves to the principles of 3BL it sounds like companies are making a more concrete commitment to CSR, but it allows them to make almost no commitment whatsoever. This lack of real social and environmental bottom lines means firms need not worry about comparing these bottom lines with other firms, nor do they need to worry about the firm being seen to have declining social and environmental bottom lines over the years. The authors stated that, at best, a commitment to the 3BL requires that the firm report a number of data points of its own choosing that are potentially relevant to different stakeholders, typically in the form of a glossy report full of photos of happy people and colourful flora. Over time some results will improve, and some will decline, comparability over time for one firm is likely to be difficult, and

comparability across firms and sectors will often be impossible. In short, the "inherent emptiness and vagueness, of the 3BL paradigm makes it as easy as possible for a cynical firm to appear to be committed to social responsibility and ecological sustainability" (Norman & MacDonald, 2003, p. 256-257). Being vague about this commitment is hardly risky when the main advocates of the idea are themselves just as vague.

It is believed that the future of firms deciding voluntarily to report on their social performance will look much like the history of firms deciding to bind themselves to a corporate code of ethics. On one side, the social report or code of ethics tells little about a firm's actual commitment to the principles, and it is relatively costless to produce these documents - with the added benefit that their vagueness results in firms not being opened up to any risks. The other side is that these types of documents play critical roles in a firm's strategy to improve its ethical and social performance, and to integrate this goal into its corporate culture. Norman and MacDonald (2003) believed that clear and meaningful principles are most likely to serve firms of the latter type, and that vague and meaningless principles (like those implied with the 3BL) are best only for facilitating hypocrisy. The previous section covered 3BL in some depth, mainly due to the fact that the idea of 3BL accounting and social accounting is one of the underlying principles of CSR. Although there are many flaws which exist and have been pointed out, it is important to understand that the idea of SRI does not need to be flawless for it to possess some credibility.

1.4 Corporate Governance

The final key area of discussion is corporate governance as it constitutes one of the pillars of the ESG movement. As the social and environmental pillars look after stakeholders related to the communities and the environment where companies work, respectively; the governance pillar can be seen to look after the shareholders of the company. Due to the prominence of the shareholders in companies, the fact that they have far more power and visibility than representatives of the community of the environment, means that when things go wrong for these stakeholders far more attention can be directed to the problem. Related to this is the fact that generally a firms

responsibilities to the shareholders are far more defined and legally enforced, thus if something does happen to go wrong there tends to be something illegal occurring as opposed to immoral. The reason for this is again the defined role of shareholders and the firm's responsibilities towards them. Their performance measures are relatively straight-forward and so if management is not meeting the targets they should be; there is recourse for the shareholders. In contrast, however, the other less influential stakeholders tend to have less defined responsibilities; for example the environment, and in this case how does one judge the firm's performance, and what action can be taken to remedy any issues. Recent times have seen a global push towards tighter regulation specifically in terms of governance, and the failure of big corporations (such as Enron, Adelphia, Worldcom etc.) have provided spectacular evidence of why these steps are necessary to protect the owners of these firms. This problem essentially arose out of agency theory, when there became a separation of the ownership of the firm from the control of the firm, and where the responsibility for control shifted away from owners towards directors. The issue here is that the managers (or directors) could abuse their functions for their own ends and to the detriment of the owners. As a result corporate governance was introduced to ensure that managers act in ways that serve the interests of the shareholders. In South Africa, the King Committee has been dedicated to corporate governance and produced reports to the effect of highlighting key issues and the appropriated measures firms need to put in place.

Rossouw, van der Watt and Malan (2001), henceforth Rossouw et al., noted that the King Committee was specifically requested to make recommendations on a code of practice regarding the financial aspects of corporate governance in South Africa. Some of the key principles regard the board composition and other traditionally sound governance practices such as separating the position of CEO from the chairman of the board, or the existence of audit committees in the board. In addition to the governance aspects, the King Committee was also required to lay down guidelines for ethical practices in business and from the reports it was evident that "ethics is regarded as essential for the operation of business, as business activity is premised upon 'enterprise and integrity'" (Rossouw et al., 2001, p. 297). It was also noted that the King Report was the first report on corporate governance that embraced the concepts of stakeholder engagement, ethics and environmental management and encouraged an inclusive approach to these issues (Rossouw et al., 2001, p. 300). The authors pointed out that the

original report was revised with attention paid to social and ethical reporting (social accounting) and thus the step towards a more 'sustainability focused' report was already evident. The King Committee also expressed a view that an inclusive approach is fundamental to long-term success; however the notion of being accountable to all was rejected because it would result in accountability to none. As already mentioned, this thinking has become so mainstream that for participation on the JSE, any firms attempting to list need to comply with the King II report which gives an indication of the importance of governance to the business industry today. With the publication of King III it seems likely that the JSE will require compliance with the latest report from the King Committee.

Gompers, Ishii and Metrick (2003)'s paper examined the relationship between the corporate governance ratings of firms and their equity prices. Their findings were interesting in that the firms with the best governance ratings attained 9.3% higher return as opposed to the firms with the worst ratings. This difference in returns was explained using Carhart's four-factor model which is an extension of the Three Factor Model, and includes an additional momentum factor. The authors found that by buying the Democracy portfolio (the best performers) and short selling the Dictatorship portfolio (the worst performers) an alpha of 71 basis points per month (8.5% per year) was attained. Thus, what was found was that firms with good governance practices in place tended to perform well, whereas firms with poor governance indicated a level of underperformance so much so that significant abnormal returns were possible. The authors also found that firms with the best governance ratings had higher firm value, higher profits, higher sales growth, lower capital expenditures and made fewer acquisitions. Extending these findings to this dissertation, as part of good CSR, having good governance practices in place may in fact help firms attain better financial performance. Thus, it is possible that one of the motivators for a positive correlation between good social performance and firm financial performance is the underlying driver of corporate governance which has already been demonstrated to be positively correlated with positive abnormal returns. It can be seen that what started as a push towards better corporate governance practices, has slowly led to increased attention to ethical behaviours, and an improved framework for social accounting. Ultimately, the improving environment is conducive to more responsible firms that make the changes voluntarily and occasionally (in the case of the JSE) with a little assistance.

2. Literature Review

The literature is presented in three categories: firstly the general theory around CSR; secondly a focus on the relationships between CSR and other firm aspects such as performance or social disclosures and the final category examined the literature surrounding SRI, and its impact on the investor. In each category a chronological overview of the surrounding literature was examined. This was done so that a thorough background was supplied and the logical evolution of ideas and theories could be understood and followed to their present-day conclusions; on which the empirical aspects of this study were based.

2.1 General Theory of Corporate Social Responsibility

Two of the earliest formalized articles concerning CSR and which had influence on later academics were Milton Friedman's 1970 article "The Social Responsibility of business is to Increase its Profits" and Milton Moskowitz' 1972 paper "Choosing Socially Responsible Stocks". Although earlier works may have hinted at this concept, these two articles were the beginning of a polarisation of views which established two opposing schools of thought. On one hand the belief that social responsibility is inevitable for a well-functioning community, and on the other the belief that imposing a social responsibility on a corporation is wrong in the sense that the only responsibility a business has is to make profits for its shareholders.

Friedman (1970) stated that businessmen who talk about "promoting desirable social ends" and that "business has a social conscience" were preaching unadulterated socialism[2] and undermining the basis of free society (Friedman, 1970, para. 1). He believed that discussions of social responsibility were notable for their analytical looseness and lack of rigour especially since only people can have responsibilities – a business cannot. In a free enterprise system corporate executives are the employees of the owners and their responsibility is to make as much money as possible while conforming to the law, as well as ethical customs. In this role as agent of the owner, the

[2] Socialism is defined as a political system which advocates the communal ownership, usually through the state, of production, distribution and exchange. (Taken from the Collins English Dictionary)

responsibility is to the principal and although the executive's performance may not be easily judged, the criterion of performance is straightforward. Friedman (1970) extends this to say that an executive in his own right may exercise social responsibilities but he does this as a person and a principal, as opposed to an agent; and it is his own time and money being spent to achieve these purposes.

In this framework social responsibility necessitates that the executive does not act in the interest of his employer as he would be spending someone else's money for the general social interest (Friedman, 1970, para. 9). Stockholders, customers and employees can spend their own money if they wish and therefore if the executive spends money differently, he is imposing a tax as well as deciding how to spend it. This raises political questions in terms of principle and consequences; as on principle this taxation without representation calls the selection of executives by shareholders into question. Additionally, how the taxes are spent raises even more issues. This difficulty of exercising social responsibility illustrates the virtue of private enterprise in that people are responsible for their own actions, and it is difficult to exploit other people for selfish or unselfish purposes - "they can do good - but only at their own expense" (Friedman, 1970, para. 19). It was noted that social responsibility is frequently a cloak for actions justified on other grounds and therefore companies generate goodwill as a by-product of justified expenditures which in his mind approaches fraud. Friedman (1970) argued that there are no social responsibilities in any sense other than the shared values and responsibilities of individuals; as society is a collection of individuals, and of the groups they form. In Friedman's book Capitalism and Freedom (1962; cited in Friedman, 1970, para.33) he called social responsibility in a free society a "fundamentally subversive doctrine" and that in such a free society, there is only one social responsibility of business: "to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game".

In 1986 Thomas Mulligan critiqued Friedman (1970)'s essay and called into question the main claims made against CSR. Mulligan (1986) asserted that the key arguments of Friedman (1970)'s essay were unsuccessful and he failed to prove that the exercise of social responsibility in business is by its nature unfair and socialist. The main issue Mulligan (1986) had with Friedman (1970)'s argument was that it was based on a faulty premise – that social responsibility is unfair because it constitutes taxation without

representation; due to executives behaving like lone rangers without the participation of stakeholders. He offered a different paradigm where executives do not have to behave in this way, and where CSR suffers no diminishment in meaning and merit if the executive and his employers understand their interest in a proactive social role. The path towards socially responsible action is the same for all other business decisions, and if CSR is on the company's agenda; the company's mission, objectives and goals gave the executives license to put it there.

Friedman (1970) argued that executives cannot know the future consequences of their actions, however since action in the absence of certainty is commonplace in the business world, business people have a bias towards action and therefore a businessperson has less cause than most moral agents to abstain from social responsibility - as they are more practiced in this regard. The final issue was Friedman (1970)'s conclusion that social responsibility is essentially socialism, and Mulligan (1986) argued that as this was based on a weak premise, there had been no definition of socialism and the imposition of taxes is not intrinsic to social responsibility; one cannot maintain this point of view. Friedman (1970)'s objections to CSR were based on an inaccurate paradigm and although he was right to point out these exercises cost money, these 'costs' are not necessarily imposed by one stakeholder on others. Socially responsible actions *can* be pursued without objectionable results, and the next step is to produce positive arguments as to why people *should* pursue such a course.

In response to this critique Bill Shaw (1988) suggested that although Mulligan (1986) misses the point of Friedman's essay, he does agree with the general idea that social responsibility is important, and that the correct question is why people *should* pursue such a course. Although it is the "role of our democratic institutions to deal with national agenda issues" (Shaw, 1988, p. 537), the author believed that corporations and individuals have a role to play in improving the quality of the human environment. Shaw (1988) argued that Mulligan (1986)'s counter paradigm of moving the executive into a consultative role with shareholders reduces but does not eliminate the arbitrariness of the imposition of taxes. Another issue was Mulligan (1986)'s idea that because executives are biased towards action they are able to handle social issues such as inflation and unemployment; as this implies they should do something, even if it is wrong. Shaw (1988) noted Friedman (1970)'s paper will survive until an alternative

argument is presented with equal clarity, thus he turned to the core issues of social responsibility where he concluded in favour of CSR. Shaw (1988) discussed the profit only motives of Friedman (1970)'s case and although it is unrealistic to expect executives to solve the social evils while making a profit, the claim that executives who talk up the social side of business endeavours (that include a profit motivation) are characterized by fraud is incorrect. Socially responsible activities may be reduced to economic terms and evaluated on the basis of returns to shareholders but however the calculations are done; it does not make the projects any less socially responsible. "Advocates of social responsibility are not supporters of corporate waste as Friedman would have one believe; neither are they so narrow as to deny legitimacy to the moral content of projects that have a multiple base that includes economic considerations" (Shaw, 1988, p. 540).

Shaw (1988) stated that where a social need is pronounced and the corporation is capable of responding in a manner commensurate with the task, there are some principles that can bring direction to corporate social policy: Need; Ability (*guided by experience and competence, corporations can participate without sacrificing their principal economic function*), Proximity, and Last Resort (*action may be more appropriate for some other social institution, and as the government cannot be expected to do everything this amounts to* "doing the right thing when the job needs to be done and nobody else is doing it" [Shaw, 1988, p. 541]). A single firm can attempt to solve problems like inflation and unemployment forever without making headway. Additionally, the existence of "free riders" (firms who are less socially responsible and cut into the responsible firms' profits) means either the government must uniformly compel specific behaviour, or induce this with incentives. Corporate programs that lose touch with their economic mission while trying to achieve social objectives may be counter-productive and are likely to harm the concept of CSR, as it is more a matter of "targeting 'do-able' projects and of bringing wisdom, coherence, and discipline to the sensitive proposition of redistributing corporate wealth toward the solution of problems that the corporation did not cause" (Shaw, 1988, p. 541). Shaw concluded that it is past time asking whether corporations have a responsibility, and it is now time to spell out what the responsibilities are.

As the arguments for CSR evolved from an opposing viewpoint, one of the initial papers supportive of this behaviour came when Moskowitz formalized the idea that socially responsible stocks may perform better in his 1972 article dedicated to highlighting social performers in the business place. Moskowitz stated that "socially sound investments need not, of course, be unsound financially" (Moskowitz, 1972, p. 71) and he noted that some argue the socially aware corporation possesses the special sensitivity that will enable it to surpass competitors. He noted that it is extremely difficult to construct standards by which a company's social performance can be accurately measured however after four years of observation he presented fourteen companies whose names kept coming up with regard to positive and constructive responses to social problems. Moskowitz added that the data in his paper was inadequate for an investment decision based on the usual financial considerations, and that while many of his choices probably make good sense considered from a profit-oriented standpoint, the securities were being suggested on the basis of corporate behaviour.

In addition to the relationships, the theory around CSR is important. Fitch (1976) looked at how CSR was defined, as well as how social problems were distinguished from non-social problems. The author used the definition of a problem as the difference between an existing situation and a desired situation; where one important criterion is that there must be a large group of people who are aware of this gap between the relevant reality and the desired condition. Fitch (1976) defined the desired state of affairs, with the focus on three principles:

- *Humanitarian / sentimental* - where pain and suffering are bad and therefore any situation causing them would constitute a social problem.
- *Utilitaria*n – this concerns the impact pain and suffering have on society as "individual human suffering is considered to be a social problem… because the sufferer inevitably imposes costs on non-sufferers" (Fitch, 1976, p. 40) and thus the reduction of "neighbourhood costs" is the desired state of affairs.
- *Dysfunctionality* – anything which threatens the survival or well-being of a society is dysfunctional to that society and constitutes a social problem (however, in the long-run it is hard to know whether a particular class of behaviours is going to be harmful or helpful to the well-being of a society).

A corporation desiring to achieve a minimal level of CSR will accept the utilitarian principle; to achieve more than a minimal level it may go well beyond the utilitarian principle and consider the humanitarian principle.

Fitch (1976) covered decision criteria which apply to the question of which social problems should be tackled and which should be ignored by the corporation, where two important motivations were: avoiding neighbourhood costs (e.g. polluted water) and enlightened self-interest (solving problems in which the corporation is a contributing factor). The enlightened self-interest criterion also suggested that the corporation looks for ways to increase profit by applying its expertise to the solution of social problems whether or not it is a contributing factor. After a company has decided that it wants to achieve CSR, has chosen a principle to guide its statements of what constitutes a desired state of affairs and has decided which problems are the most relevant; it can compare these desired states to existing realities and invoke the corporate problem-solving mechanisms to reduce or eliminate the gap between the desired state and the existing one.

Ultimately "corporations can achieve corporate social responsibility if they attempt to identify and solve those social problems in which they are intimately involved, and when the possibility of profit is available as an incentive" (Fitch, 1976, p. 45). Through goal setting in the areas of their broader responsibility to society and by careful analysis of the consequences of their social responsibility goals, companies may be able to prevent future social problems. Effective rationales for the achievement of CSR exist, as do theories and an emerging technology for application of the theories to the definition, identification and solution of social problems. "Corporations are perhaps the most effective problem-solving organisations in a capitalist society" (Fitch, 1976, p. 45) and it seems likely that they will have to take on the additional burden of applying their problem solving capabilities to the broader social problems of society. Fitch (1976) noted, however, that when this responsibility is not voluntarily accepted it is likely to be forced upon the corporation through the extra-organisational model of government regulation.

Another paper attempting to formally define CSR came when Carroll (1979) proposed a conceptual model that described the aspects of CSP. The three aspects of the model addressed questions such as:

- What is included in CSR?
- What are the social issues the organisation must address?
- What is the organisation's philosophy or mode of social responsiveness?

An important facet of analysing this topic is to define what is meant by "social responsibility". Carroll (1979) examined various definitions and found that they vary from Friedman (1970)'s "profit making only" definition to others where there is a need to go beyond economic and legal requirements. Carroll (1979) focused on a social performance model as shown in Figure 3 where he stated that "the social responsibility of business encompasses the economic, legal, ethical and discretionary expectations that society has of organisations at a given point in time" (Carroll, 1979, p. 500).

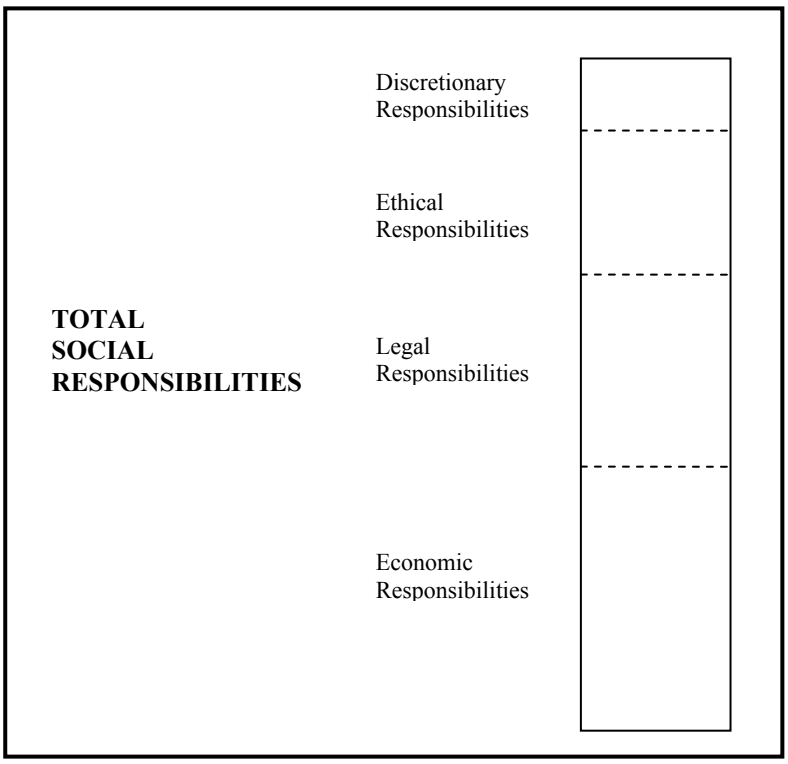


Figure 3 - Social Responsibility Categories (Carroll, 1979, p. 499)

The economic responsibilities came first and foremost due to the business institution being the basic economic unit in society. Legal responsibilities play a part insofar as while society permits businesses to assume the productive role, it has laid down the

laws and regulations under which business is expected to operate. Carroll (1979) noted that although there may be four kinds of responsibilities, these must be met simultaneously as is the case with economic and legal responsibilities. Although the economic and legal responsibilities embody ethical norms, there are additional behaviours that are not necessarily codified into law but expected of business nonetheless. These ethical responsibilities are ill-defined and are among the most difficult for businesses to deal with; thus, although the debate continues as to what is and is not ethical, ethical responsibilities have clearly been stressed. The final responsibility is discretionary and these are where society has no clear-cut message for business, and they are left up to individual judgement and choice. Although these are at the business's discretion and therefore might not be accurately called a responsibility, societal expectations do exist for businesses to assume social roles over and above those described. Although the definition does not specify the degree of responsibility in each category, it provides a classification scheme for the kinds of responsibilities a business has and "this definition is designed to bring into the fold those who have argued against social responsibility by presuming an economic emphasis to be separate and apart from a social emphasis" (Carroll, 1979, p. 500).

Carroll (1979) discussed the social issues related to CSR however the problem was that these issues change over time and differ between industries. For this reason the 'issues' approach to examining business and society relationships gave way to "managerial approaches that are concerned with developing or specifying generalized modes of response to all social issues that become significant to a firm" (Carroll, 1979, p. 501). According to survey results from Holmes (1976; cited in Carroll, 1979), when managers were asked what factors were prominent in selecting areas of social involvement by their firms the top five factors were:

- Matching a social need to corporate need or ability
- Seriousness of social need
- Interest of top executives
- PR value of social action
- Government pressure

Carroll (1979) concluded that although there is recognition that social issues must be identified as an important aspect of CSP, there is no agreement as to what these issues should be. The final aspect of the model addressed the strategy behind business responses to social issues and was described as 'social responsiveness'. This can range on a continuum from no response to a proactive response where the underlying assumption is that businesses have a social responsibility and that the focus is not on management accepting a moral obligation but on the degree of managerial action. Carroll (1979) looked at some authors who provided conceptual schemes that described the responsiveness continuum and these are summarised in Figure 4:

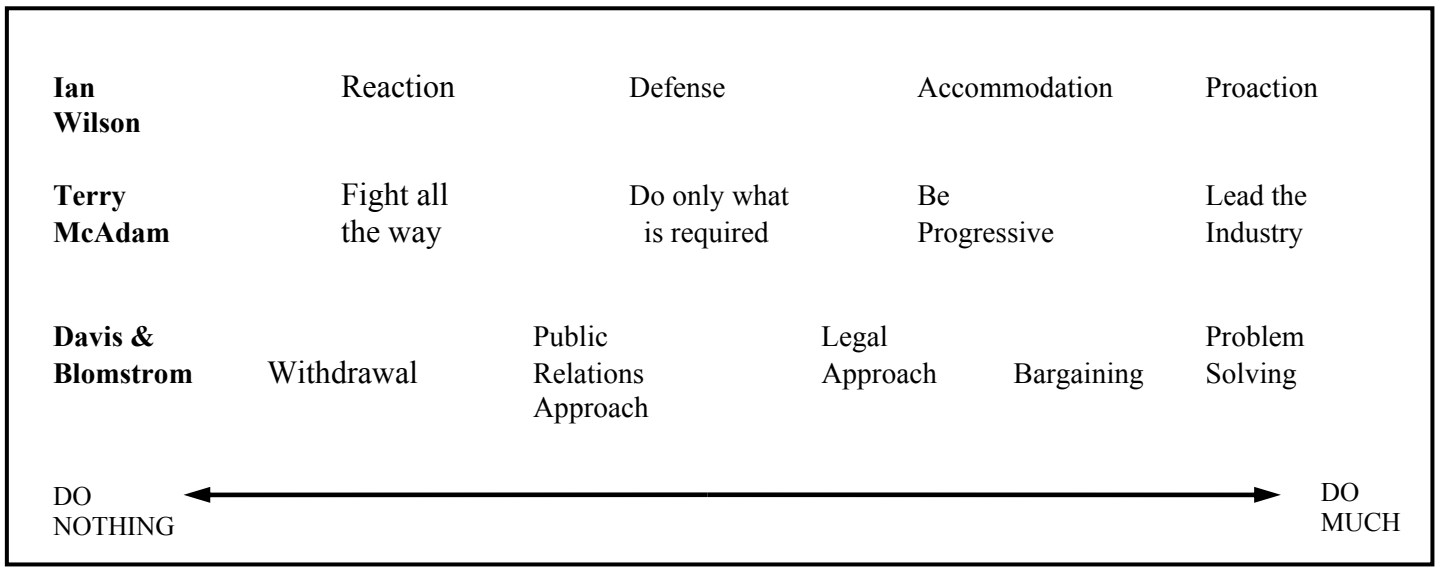


Figure 4 - Social Responsiveness Categories (Carroll, 1979, p. 502)

Corporate social responsiveness is the action phase of management's response to social issues where being responsive enables firms to act on their social responsibilities without getting stuck with the definitional problems that can occur if organisations try to get a precise fix on what their responsibilities are before acting. CSR has ethical and moral threads running through it and is therefore problematic; whereas corporate social responsiveness is concerned only with the managerial processes of response. These would include planning and social forecasting, organising for social response, controlling social activities, social decision-making, and corporate social policy. Figure 5 combines the three aspects into a conceptual social performance model. The issues identified are illustrative only and "each organisation should carefully assess which social issues it must address as it plans for corporate social performance" (Carroll, 1979, p. 502).

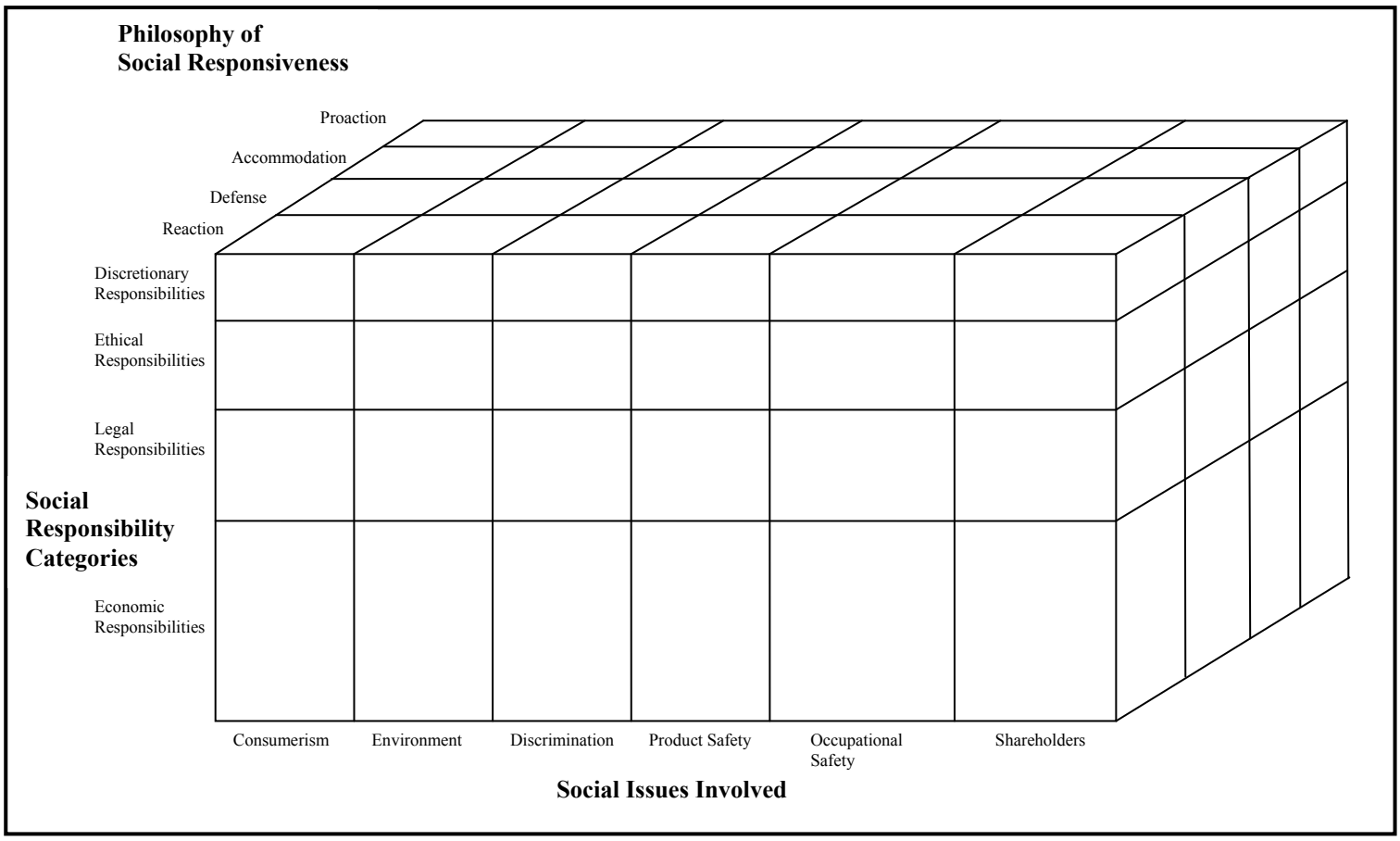


Figure 5 - The Corporate Social Performance Model (Carroll, 1979, p. 503)

What have previously been regarded as separate definitions of social responsibility are treated here as three separate issues pertaining to CSP. The first aspect pertains to the definition of social responsibility, the second aspect concerns the range of social issues (consumerism, environment etc.) and the final aspect is the social responsiveness continuum. Although some stress that social responsiveness is the preferable focus, Carroll (1979) believed it was but one facet to be addressed if CSP is to be accepted, and the three aspects together force people to think through the dominant questions that must be faced when analyzing social performance. This conceptual model can help managers understand that social responsibility is not separate and distinct from economic performance, but a part of the total social responsibility of business as "the model integrates economic concerns into a social performance framework. In addition, it places ethical and discretionary expectations into a rational economic and legal framework" (Carroll, 1979, p.503). The model does not provide an answer as to how far the firm should go; however, this conceptualisation may lead to a better managed social performance program. Carroll (1979) concluded that CSP requires that a firm's social responsibilities be assessed, the social issues identified and a response philosophy

chosen. Furthermore, the ethical and discretionary ideas are presented in a context that is more palatable to those who think economic considerations have disappeared in discussions of social responsibility.

Fry, Keim and Meiners (1982), henceforth Fry et al. (1982), focused on the motivation underlying corporate philanthropy and noted that the existing literature centred on three main rationales: through-the-firm giving, corporate statesmanship and profit-motivated giving. The profit motivation argument was examined by determining the relationship between giving and advertising expenditures and the results indicated that contributions were motivated by profit considerations that influence both advertising expenditures and corporate giving. As giving may be closely related to stockholders' interests, corporate giving could be a profit motivated activity, or it could be a way of satisfying non-profit interests of shareholders (through-the-firm giving). Alternatively corporate philanthropy could result from managerial decisions that are not necessarily in the interests of shareholders (an executive perquisite), or managers may have embraced a "modern managerial social responsibility ideology" (Fry et al., 1982, p. 95). Fry et al. (1982) detailed the different rationales for corporate giving:

- *Profit Motivated* – Oligopolistic industries are more likely to seek a competitive advantage over each other by means that competitive firms cannot, and monopolistic firms need not. Firms in very competitive and very noncompetitive industries should have low contribution ratios since in a competitive industry a firm would not survive if it was making contributions alone. Similarly, profit maximizing monopolistic firms would have little incentive to make contributions.
- *Through-the-Firm Giving* – If the firms tax rate was higher than the owner or manager's tax rate it might prompt efforts to pursue the lower cost alternative of giving through-the-firm. From the owner perspective it is easier to find a controlling interest in small firms, thus small firms should give more than large firms. From the manager's perspective, as the benefits are not aligned with owners' interests, the monitoring of the managers will influence the amount of giving. The larger a firm is the greater the costs associated with monitoring managers is, and thus the level of giving is higher than smaller firms.

- *Result of Corporate Statesmanship* – The separation of ownership and control in large firms empower managers with the opportunity and responsibility to serve the broad interests of the many publics of the corporation. Followers of Berle (1962; cited in Fry et al., 1982) contend that the doctrine of CSR has evolved from a changing managerial philosophy that explicitly recognises the obligations of the firm to society, and avoids the narrow goal of simply increasing profits. The authors argued that "business decision-making today is a mixture of altruism, self-interest, and good citizenship. Managers do take actions which are in the social interest even though there is a cost involved and the connection with long run profits is quite remote" (Fry et al., 1982, p. 99).
- *Advertising* – Firms may use philanthropy as a means to gain name recognition, therefore philanthropy may be a form of advertising and consequently profit motivated.

Fry et al. (1982) examined the relationship that giving is a function of advertising and the results indicated that advertising expenses were positively and significantly related to corporate giving. Marginal expenditures on advertising and contributions moved almost identically therefore executives tended to rate the relative values of these expenditures the same over time. The analysis also indicated that there were different relationships between advertising and income for industries with differing levels of public contact. Similarly, the results showed that firms with higher levels of public contact spend more on contributions than do firms with little public contact, which was consistent with the notion that contributions are profit motivated expenditures. Finally there were highly significant correlations between annual changes in contributions and annual changes in all of the business expenses usually accepted as being profit motivated, with the highest correlations between contributions and advertising, and between contributions and compensation to officers. The relationship with compensation would seem to support the idea that contributions may be in part a perquisite and thus a form of compensation for executives. The authors concluded that corporate philanthropy provides direct benefits for the contributor as well as for individuals, organisations, and communities in the external environment of business; and ultimately corporate giving seemed to be a profit motivated expense.

McWilliams and Siegel (2001) offered a framework to think about social responsibility by outlining a supply and demand model of CSR. The authors defined CSR as actions that appear to further some social good beyond the interests of the firm, while specifically going beyond obeying the law. Their analysis was limited to satisfying the demand for CSR through the creation of product attributes that support social responsibility directly or that signal a firm's commitment to CSR. While some managers recognise multiple stakeholder interests, others avoid CSR as it is viewed as at odds with profit maximisation, and this discrepancy in views has stimulated debate and raised two important questions: Firstly, do socially responsible firms outperform or underperform other companies that do not meet the same social criteria? Secondly, precisely how much should a firm spend on CSR? While much research devoted to the first question has resulted in mixed findings, the second question had not been directly examined in the previous literature, and based on a theory of the firm perspective, McWilliams and Siegel (2001) proposed a methodology for firms to determine their optimal level of CSR investment. The perspective presumes that managers of publicly held firms attempt to maximise shareholder wealth, with the market for corporate control as the main control mechanism (from Jensen, 1988; cited in McWilliams & Siegel, 2001); thus, the framework applies to publicly held firms but not necessarily to private companies. Based on this framework, hypotheses regarding the supply and demand of CSR were derived and conclusions drawn. Freeman (1984; cited in McWilliams & Siegel, 2001) asserted that firms have relationships with many constituent groups and that these stakeholders affect and are affected by the actions of the firm – and this is the dominant paradigm in CSR.

McWilliams and Siegel (2001) related CSR to a theory of the firm where managers are assumed to maximise profits and based on this, CSR is viewed as an investment. In this context there are CSR "resources" and "outputs", and a firm can create a certain level of CSR by imbuing its products with CSR attributes or using CSR-related resources in its production process. The authors hypothesised that there are two main sources of demand for CSR: consumer demand; and demand from other stakeholders (investors, employees, the community). Their analysis of the markets for CSR resulted in a variety of hypotheses (listed in Figure 6 along with their justifications) and some key findings

were that CSR allows managers to satisfy personal interests and to achieve product differentiation.

Supply and Demand Model Hypotheses

1: There is a positive correlation between the level of product differentiation (a proxy for which is the ratio of R&D expenditures to sales) and the provision of CSR attributes.

2: Because consumers rely more on firm reputation when pur-chasing experience goods than when purchasing search goods, CSR at-tributes are more likely to be associated with experience than with search goods.

3: Because consumers must be made aware of the existence of CSR attributes, there will be a positive correlation between the intensity of advertising in an industry (a proxy for which is the ratio of advertising to sales) and the provision of CSR.

4: Because CSR attributes are normal goods, there will be a positive correlation between consumer income and the provision of CSR attributes.

5: There is a positive correlation between the price of substitute goods and the demand for goods with CSR attributes.

6: There is a positive correlation between unionization of the workforce and the provision of CSR; that is, in industries that are highly unionized, there will be more CSR provided.

7: There is a positive relationship between the shortage of skilled workers in an industry and the provision of CSR; that is, in industries with shortages of skilled labor, more CSR will be provided.

8: There is a positive correlation between government contracts and the provision of CSR.

9: Firms that provide CSR attributes will have higher costs than firms in the same industry that do not provide CSR attributes.

10: The presence of scale economies in the provision of CSR at-tributes results in a positive correlation between firm size and the provision of CSR attributes.

11: The presence of scope economies in the provision of CSR at-tributes results in a positive correlation between the level of diversification of a firm and the provision of CSR attributes.

Figure 6 - Supply and Demand Model (McWilliams & Siegel, 2001, p. 120-124) [3]

Differentiation through CSR resources may include investment in Research and Development (R&D) which results in both CSR process and product innovations, each valued by some customers. For CSR differentiation to be successful, customers must be aware of the CSR characteristics. Advertising that gives information about CSR attributes can build reputation for quality, reliability or honesty and this advertising fosters product differentiation – allowing the firm to charge a premium price. In terms of consumer demand, income is a determinant as affluent customers can afford the

[3] For Hypothesis (9) the authors noted that a firm may fundamentally change its production process in response to a CSR concern. Thus it is possible that a CSR oriented process innovation results in the creation of a CSR characteristic at the same (or lower) level of cost.

higher price of goods with CSR attributes and other determinants include tastes, preferences, demographics and the price of substitutes.

Figure 7 shows what happens to demand for CSR when the determinants are increased. The demand from all stakeholders can be summed to arrive at the overall demand for products with CSR attributes, and recognising the demand for CSR allows managers to make decisions on the number and level of CSR attributes, as well as how to produce them.

Determinants of Consumer Demand for CSR Attributes

Determinant	Hypothesized Effect on Demand
Price of goods with CSR attributes	Negative
Advertising	Positive
Income	Positive
Tastes	Indeterminate
Demographics	Indeterminate
Price of substitute goods	Positive

Figure 7 - Determinants of Consumer Demand for CSR Attributes (McWilliams & Siegel, 2001, p. 121)

As the supply and demand framework implies some optimal level of CSR attributes for firms to provide, to determine the appropriate level of investment managers must consider the various firm characteristics and the effect on supply and demand, as well as the costs of generating the CSR attributes. Thus, through cost-benefit analysis the ideal level of CSR can be determined, and ultimately managers should treat CSR decisions in the same way they treat all investment decisions. This allows the firm to meet the demands of relevant stakeholders – those demanding CSR (consumers, employees etc.), and those that "own" the firm (shareholders). CSR attributes are like any other attribute a firm offers, and the firm chooses the level of the attribute that maximises firm performance, given the demand for the attribute and the cost of providing the attribute. As a result, McWilliams and Siegel (2001) predicted a neutral relationship between CSR activity and firm financial performance – which may also explain the inconsistent evidence regarding this relationship.

Friedman (1970) declared that the sole business of the managers of a public corporation was to maximise the value of outstanding shares, and any effort to use corporate resources for altruistic purposes was equated to socialism. Manne (2006) pointed out

that during a conference 34 years prior he argued that the vast part of apparently non-profit oriented behaviour by management was really (and necessarily) a profit maximising response to business, social and political pressures dressed up to look like something else. While Friedman agreed with Manne, he still equated CSR to socialism. Manne (2006) stated that he should have known Friedman was correct about the significance of proposals for socially responsible corporate behaviour - whether they emanated from within or outside the firm - as they reflect the inability of people to distinguish between private and public property, or between a free enterprise system and socialism.

Manne (2006) questioned how a large business success resulting in a publicly held company transformed the nature of numerous individuals' private investments into assets affected with a public interest. Once these corporations are affected with a public interest, they must either be regulated or act as though they are owned by the public. An important part of the idea of public utility regulation required that the corporation be (or act like) a monopoly in order to be affected with a public interest. Today however, there is no such requirement and "no arguments… about natural monopoly, market failure, government creation of corporations or the alleged governmental gifts of limited liability and perpetual existence, are required to justify the demands now regularly placed on business entities" (Manne, 2006, para. 6). Any large enterprise, regardless of industry competitiveness and how successfully it is fulfilling the public's desires has a social responsibility - a term which makes mockery of the idea of individual responsibility - to use some if its resources for public endeavours. At the time, Manne (2006) stated that the more common causes were environmental protection, employee health, sales of goods at below-market prices, weather modification, community development, private enforcement of government regulations and support of cultural, educational and medical facilities (Manne, 2006, para. 6).

Manne (2006) questioned how the transformation from private to public responsibility occurred. Even the largest corporation started out as an idea in somebody's head, where initially this person hires employees, borrows capital, produces goods and markets a product. All of these purely private and benign arrangements suggest nothing about a public interest in the outcome. However as the business grows, stock holdings become more diffused, additional capital is required and the result is another publicly held

corporation – another American success story. The question is what has happened to implicate public involvement in the management or governance of these enterprises as they grew from mere ideas. Manne (2006) argued nothing, and if that nothing is multiplied by tens or hundreds or thousands, the product is still nothing. Where along the line to massive size has the public-private nexus necessarily changed? "True, there are now a large number of complex and specialized private contracts, but every single one of these transactions is based on private property, freedom of contract, and individual risk and reward. If one apple is a fruit, even a billion apples do not become meat" (Manne, 2006, para. 8).

For proponents of CSR their arguments require that private corporations be viewed as public in nature which means that the public (termed stakeholders) has a pseudo-ownership interest in every large corporation, and without this dimension in their argument, free market logic would prevail (Manne, 2006, para. 9). Different factors such as the illusion of power or the superficial attractiveness of the notion have made this fallacy a part of the modern corporate culture. Manne (2006) discussed how no responsible business official would contradict the notion publicly for fear of financial ruin, even though the practice continues to cost shareholders and society enormous amounts, and this is especially true of corporations that are highly vulnerable to organised public criticism; such as Wal-Mart, Coca-Cola and BP. "Our laws against extortion do not function effectively when it comes to corporations. And so to some extent these private entities have indeed, via the social responsibility notion, been converted into crypto-public enterprises that are the essence of socialism. Milton Friedman was right again" (Manne, 2006, para. 10). While Manne (2006) raised some valid points, large corporations inherently affect many stakeholders and it is through stakeholder theory that proponents of CSR maintain its importance.

Porter and Kramer (2006) suggested an alternative view of social responsibility when they discussed the link between competitive advantage and CSR and looked at why it makes business sense for companies to use CSR as an opportunity for success. Although companies have done much to improve the social and environmental aspects of their operations, Porter and Kramer (2006) believed that their productivity had been limited by the approach taken. Business is pitted against society when they are clearly interdependent, and these approaches pressurise "companies to think of corporate social

responsibility in generic ways instead of the way most appropriate to each firm's strategy" (Porter & Kramer, 2006, p. 1). The current approaches to CSR are disconnected from business and strategy and as a result they obscure the greatest opportunities for companies to benefit society. If firms analyze prospects for social responsibility in the same way that they do their core business choices "they would discover that CSR can be much more than a cost, a constraint or a charitable deed, - it can be a source of opportunity, innovation, and competitive advantage" (Porter & Kramer, 2006, p. 1).

Although companies have awakened to these responsibilities, what needs to be done about them is a lot less clear. Porter and Kramer (2006) suggested that the most common corporate response has been neither strategic nor operational but cosmetic – focusing on PR and media campaigns centred on CSR reports that showcase the firms' social and environmental good deeds. Of the largest 250 multinational corporations, 64% published CSR reports in 2005. According to Porter and Kramer (2006) supporters of CSR have made four arguments to support their case; however none offer enough guidance for the difficult choices corporate leaders must make:

Moral obligation: Companies have a duty to be good citizens and do the right thing. - **Limitation**: Most corporate social choices involve balancing competing values, interests and costs and there is as of yet no method of weighing the social benefits against the financial costs.

Sustainability: This emphasises that corporations pay attention to environmental and community issues and Porter and Kramer (2006) gave a definition of sustainability as: "Meeting the needs of the present without compromising the ability of future generations to meet their own needs."[4] - **Limitation**: The sustainability principle raises questions about these trade-offs without offering a framework to answer them

License to operate: This derives from the fact that all companies need explicit (or implicit) permission from governments, communities and various other stakeholders to do business. - **Limitation**: By viewing CSR as a way to appease pressure groups, companies will often find that its approach delves into short-term defensive reactions that ultimately have minimal value to society and no strategic benefit for the business.

[4] This definition is attributed to the former Norwegian Prime Minister, Gro Harlem Brundtland; and is used by the World Business Council for Sustainable Development (Porter & Kramer, 2006, p. 3).

Reputation: This suggests that companies justify CSR initiatives on the grounds that they will improve their company image, strengthen the brand, increase morale and possibly increase the value of its stock. - **Limitation**: This risks confusing PR with social and business results and having no way to quantify the benefits puts such CSR programs on shaky ground liable to be dislodged by a change of management or a swing in the business cycle.

All of these arguments share the same weakness in that they focus on the tension between business and society, instead of on their interdependence. Each creates a rationale not tied to the strategy and operations of any specific company or the places in which it operates; and as a result none of them are sufficient to help companies identify and address the social issues that matter most, or the ones where they can make the biggest impact. The result is a combination of uncoordinated CSR activities disconnected from the company's strategy that makes no meaningful social impact and does not strengthen the firm's long-term competitiveness. Internally CSR practices are isolated from operating units, and externally the company's social impact is diffused among many unrelated efforts each responding to a different stakeholder group. The consequence of this fragmentation is a lost opportunity, with the power of corporations to create social benefit being dissipated, along with the potential of companies to take actions that would support their communities and their business goals.

One of Porter and Kramer (2006)'s key points was that to further the idea of CSR it must be based in an understanding of the interrelationship between a corporation and society, while anchoring it in the strategies of specific companies. Society and business need each other and examples of this are: successful corporations need a healthy society in that education, health care and equal opportunity are essential to a productive workforce; efficient use of land and energy makes business more productive; good government, rule of law and property rights are key for innovation and efficiency. It is this truth that will help corporations move past their ineffectual thinking about CSR. Leaders of business and society have looked too much at the friction between them instead of the points of intersection. The fact that there exists a mutual dependence of corporations and society means that business decisions as well as social policy need to follow the principle of shared value which states that choices should benefit both sides. Problems will occur if business or society pursues policies that benefits its interests at

the others expense, as "a temporary gain to one will undermine the long-term prosperity of both" (Porter & Kramer, 2006, p. 7).

To put these ideas into practice companies need to integrate a social perspective into the frameworks they use to understand competition and guide its strategy. There are various important steps that arise in this process:

Identifying the points of intersection: There are two forms of interdependence between a company and society: when a company imposes upon society through its operations in the normal course of business (**inside-out linkages)** and when external social conditions influence corporations (**outside-in linkages**). Every firm operates in a competitive context which affects its ability to carry out its strategy in the long run (where social conditions form a key part of this context) and many aspects of this context can be opportunities for CSR initiatives.

Choosing which social issues to address: Since no business can solve all of society's ills or bear the cost of doing so, each company must select issues which intersect with its specific business. "The essential test that should guide CSR is not whether a cause is worthy but whether it presents an opportunity to create shared value – that is, a meaningful benefit for society that is also valuable for business" (Porter & Kramer, 2006, p. 8)

Creating a corporate social agenda: By categorising and ranking social issues, companies can create an explicit and affirmative corporate social agenda which looks past community expectations to opportunities to achieve social and economic benefits simultaneously. For this agenda, CSR can fall under Responsive (being a good corporate citizen; minimising the harm from value chain activities) and Strategic (choosing a unique position to differentiate from competitors; involving strategic linkages to implement initiatives). Strategic CSR also unlocks shared value by investing in social aspects of context that strengthen company competitiveness. The success of the company and the success of the community become mutually reinforcing where "the more closely tied a social issue is to the company's business, the greater the opportunity to leverage the firm's resources and capabilities, and benefit society" (Porter & Kramer, 2006, p. 10). The authors gave as an example Microsoft's partnership with colleges in filling the void of IT workers through contributing money and products as well as employee volunteers. As the staff were

able to use their core skills for a social need this is a far cry from typical volunteer programs, and Microsoft achieved results that benefitted many communities while having a direct impact on the company.

Integrating inside-out and outside-in practices: Value chain innovations and addressing social constraints to competitiveness are useful for creating economic and social value, however the impact is greater if they work together. Activities in the value chain can be performed in ways that reinforce improvements in the social dimensions of context, and investments in competitive context have the potential to reduce constraints on a company's value chain activities. Marriott International provides 180 hours of paid classroom and on the job training for unemployed candidates, which is combined with support for community service organisations that screen and refer the candidates to Marriott. The result is a benefit to communities as well as a reduction in Marriott's cost of recruiting entry-level employees. 90% of those in the training programs take jobs with Marriott and after one year 65% are still in their jobs, which is substantially higher than the normal retention rate. Once these two tools are integrated, CSR becomes hard to distinguish from the day-to-day business of the company. Porter and Kramer (2006) cited Nestle which works with small farmers in developing countries to source the basic commodities on which its business depends. The company's investment in infrastructure as well as its transfer of knowledge and technology has produced massive social benefits through improved health care, better education and economic development, while Nestle receives direct and reliable access to the commodities it needs - thus its distinctive strategy is inseparable from its social impact.

Creating a social dimension to the value proposition: The centre of any strategy is a unique value proposition which is a set of needs the company can meet for its customers that others cannot, and "the most strategic CSR occurs when a company adds a social dimension to its value proposition, making social impact integral to the overall strategy" (Porter & Kramer, 2006, p. 12).

Porter and Kramer (2006) noted that more important than measuring stakeholder satisfaction is measuring social impact and managers must understand the importance of the outside-in influence of competitive context. Those in charge of CSR initiatives need a complete understanding of the value chain - and success in CSR depends on the choices made by the company in terms of the social issues focused on. Since companies

face short-term performance pressures there cannot be indiscriminate investments in social value creation, instead creating shared value should be viewed as a long-term investment in the company's future competitiveness. Efforts to find shared value in operating practices as well as in the social dimensions of competitive context can foster economic and social development, and change the way companies and society think about each other. Governments and businesses must stop thinking in terms of social responsibility, and start thinking in terms of social integration. Although thinking of social responsibility as building shared value instead of damage control or a PR campaign requires drastically different thinking in business, the authors believed "that CSR will become increasingly important to competitive success" (Porter & Kramer, 2006, p. 13). Corporations are not responsible for the world's problems and they do not have the resources to solve them all; but each company can identify the set of society's problems it is best equipped to resolve and from which it can gain the greatest competitive benefit. Addressing social issues by creating shared value will lead to self-sustaining solutions that don't depend on private or government subsidies, and when a well-run business applies its resources, expertise and management talent to problems that it understands (and has a stake in) it can have a greater impact on social good than any other institution or philanthropic organisation.

2.2 Analysing the Relationships between Corporate Social Responsibility, Corporate Social Disclosure and Firm Performance

This section of the literature examines the relationships that exist between CSR and other aspects of the firm such as financial performance and corporate social disclosures. These questions are ultimately the most important in that although the theory behind the CSR research needs to be laid down, once this foundation has been set, a proper attempt at researching the relationships may occur and with knowledge of these relationships managers can then make fully informed decisions regarding the behaviour of the firm in terms of their social responsibilities. Although it is not covered in this paper, Moskowitz (1972) followed up his proposal in a later issue of the Business and Society Review by analysing his sample of fourteen firms and comparing their performance with that of the Dow-Jones Industrials, and the New York Stock Exchange Composite

Index – both of which underperformed his sample. This is one of the earliest instances where an academic examined the relationship between CSR and firm performance albeit the measures used for CSP and CFP were simplistic.

Vance (1975) looked at Moskowitz (1972) as well as his follow up research regarding the performance of the socially aware firms. According to Moskowitz his sample of companies performed well after being selected using good social responsibility credentials (the 14 stocks were up 7.28% in the first six months, versus 4.4% for the Dow Jones Industrials, 5.1% for the NYSE Composite index and 6.4% for the S&P Industrials). Vance contended that by updating the records comparing the 1975 stock prices with the 1972 data, all but one of the 14 firms had records considerably worse than that of the Dow Jones Industrials, NYSE Composite, and S&P Industrials. Vance also looked at the relationship between the rankings of socially responsible firms (according to the Business and Society Review surveys, polling businessmen and students) and their change in value during the 1974 market. The findings indicated that a firm with no interest in social responsibility showed hypothetical gains of 37% in value based on the businessmen's survey (18.2% based on the students) and for every 1.0 increase in its corporate responsibility rating, a firm's price would decline by 23% for the businessmen's survey (18.03% for the students). In the 1974 marketplace, a businessman favouring only common stocks of companies ranked in the upper half of the socially responsible firm rankings would have lost 43.9% of his investment. Investing $1 000 in each of the top 22, his $22 000 investment would have shrunk to $12 342, whereas a portfolio consisting of only the firms ranked low in social responsiveness would have ended on $17 798. Although these results are in direct contradiction to Moskowitz findings, both studies are limited, and it is interesting to note the different arguments as the rest of the literature is discussed.

Parket and Eilbirt (1975) looked at the underlying factors of social responsibility by studying the actions of 96 major corporations with regards to corporate social initiatives. Their initial survey led to a number of conclusions:

- Corporations involved in social responsibility activities are interested in making them widely known.

- Specific organisational positions have appeared as a functional specialisation in this area.
- Those holding such positions have attained higher educational levels and are older than the general run of executives.
- The usual activities of this group are voluntary.
- Company size is associated with social responsibility efforts.

The authors acknowledged the problem of measurement as "to be sure, the scope of endeavour categorized by the term social responsibility cannot be analyzed on the order of a balance sheet or profit-and-loss statement. There are, as yet, no accounting techniques, analytical tools or statistical methods which will objectively differentiate companies that are socially responsible from those that are not" (Parket & Eilbirt, 1975, p. 6). This is common in much of the literature, and Parket and Eilbirt (1975) stated that trying to measure degrees of social responsibility would be an even more ethereal task. To aid in their analysis they used only two classifications for companies: those companies who are more socially involved, and those who are less involved.

The authors suggested variables which may account for differences in CSR activities, such as payoff and self-defence. The payoff idea is that these activities are undertaken because of an expected payoff, with the inputs being correlated with advantages to the firm (higher morale, larger labour pool etc). The self-defence motive suggests that activities are reactions to criticism the companies' face with regards to social issues – however these ideas do not explain why not all firms undertake such functions. The authors suggested that social responsibility may be a fad but due to the differentiation among firms it appeared that the personality of the companies affected how firms reacted to the issue of CSR. Parket and Eilbirt (1975) conjectured that much of this personality would depend on top management and on the CEO and they suggested that when an executive believes social responsibilities are important the probability is high that activities of this type will be undertaken. Thus, whatever the motivation, executive leadership is crucial in explaining the differences in social performance among companies.

Parket and Eilbirt (1975) analysed the relationship between profits and CSR activities as they believed it may be a potentially inhibiting factor, and "corporate efforts in this area will expand within the limits made possible by profitability" (Parket & Eilbirt, 1975, p. 7). They defined profitability using four measures: dollar net income (NI), NI as a percentage of sales, NI as a percentage of shareholder equity and earnings per share. The authors used a sample of 80 firms (who responded to their survey and were in the Fortune Top 500 industrials list) as well as 420 who were in the list but had not been surveyed. For each metric the sample of 80 respondents outperformed the 420 companies as well as the combined Fortune 500 list, thus the tests showed a positive relationship between higher profits and greater effort in terms of CSR. From the tests, the authors inferred three conclusions: the existence of supernormal profits is not only a necessary condition for engaging in CSR, but may be a stimulant; profit represents a reward for virtue (whether it is improved public relations value or better internal relationships which result in cost/productivity advantages); and it may be argued that the reason for both greater profit and social responsibility may be a more efficient management. Although CSR initiatives may be useful for PR as well as contribute to social welfare it seems that they are more likely to be undertaken "when there is some 'fat' in the company's financial structure" (Parket & Eilbirt, 1975, p. 9). The authors concluded this thinking with the assumption that more profitable corporations are more involved in corporate responsibility activities; thus, measures which reduce size or diminish profits may lower the potential for corporate responsibility action.

In 1975 Fogler and Nutt wrote their paper "A Note on Social Responsibility and Stock Valuation" in the midst of a period of increasing attention to the relationships between social responsibility, pollution control and corporate action. This attention led to changing actions regarding investments and the authors believed that social consciousness might be expected to reduce the demand (and the price) for stocks of socially irresponsible companies. Their study looked at the valuations of nine paper companies after details regarding their pollution tendencies were announced. Cross-section valuation models were prepared for four quarters beginning just prior to the publicity, and both the institutional purchases and price changes were analyzed to determine the impact of the undesirable publicity. Fogler and Nutt (1975) hypothesized that if investors were becoming more socially conscious, companies with better pollution ratings would be capitalized more favourably than companies with lower

ratings – which they tested using a company's price earnings ratio. Their analysis showed that the trend was actually just the reverse (although not statistically significant): the P/E ratio of less responsible companies increased. The authors stated that these results could be explained by the fact that the earnings of the less socially responsible declined by more than did those of the other companies at a time when the earnings of most paper companies declined. The authors then looked to the relationship between relative price changes and institutional purchase patterns and again there appeared to be little relationship between the pollution ratings and mutual fund purchases.

In light of no long-run price impacts, the authors believed that it may be reasonable to hypothesize that a short-run price break might occur near the date of the initial publicity. Examining daily stock prices around announcement dates, the authors found that pollution information had no discernible impact on the market during the period under study. Therefore this may indicate that the market had already considered the effect of stricter pollution control legislation and its impact on company earnings. In conclusion, there was no evidence of temporary sell-offs following unfavourable company news. In an efficient capital market composed of a majority of return conscious investors, when socially conscious investors sell the shares of less socially responsible companies the sales would be viewed as bargains by the return conscious, and thus the shares would change hands and the price would tend toward the original risk-return valuation price. This process would continue until the majority of investors become socially conscious and although the authors believed this event may occur, it did not appear to exist at the time.

One of the more popular methods of measuring CSP was content analysis which measured CSR reporting in various firm activities; and one of the earliest papers to examine this was Bowman and Haire (1975). The authors described three issues surrounding the topic of Corporate Citizenship (CC) or CSR:

- The myth that activities in this area conflict with the interests of the investor (resources used come out of the equity holders pocket.)

- Motivation for these activities lies only in a sense of "noblesse oblige[5]" on the part of management, and this is not in the interest of the equity holder.
- If the corporate strategist is committed to CSR activities, how much is enough? (The relationship between cost and benefit is difficult to determine.)

One of the difficult tasks in raising the empirical issue of the relationship between CSR and profits is the construction of a scale to measure the social performance of these activities. Such a scale should allow the measurement of the amount and worth of an activity, as the marginal costs and benefits of such activities are hard to find. The authors' chosen measure for activities in the area of CC was the proportion of lines of prose in the annual report devoted to social responsibility as "the annual report is a kind of projective test that allows a firm to express its goals and motives" (Bowman & Haire, 1975, p. 50). The authors noted that the annual report is essentially addressed to stockholders and one might expect this to damp out puffery about activities that seem to run contrary to their interests. Thus they chose to monitor this behaviour as a "tentative surrogate for the difficult to obtain measure of all things the firm may be doing in the area of social responsibility" (Bowman & Haire, 1975, p. 50).

The authors tested the efficacy of this instrument using the firms identified by Moskowitz (1973; cited in Bowman & Haire, 1975) and the results showed that firms which behaved responsibly reflected this in their annual reports, whereas a matched sample of conventional firms did so far less (the median percent of lines devoted to CSR was 4.25% for the responsible group versus 0.30% for the conventional group). Eighty-two annual reports of food-processing firms were analyzed and the prose was coded in order to identify discussed efforts to either increase positive potential externalities or decrease negative potential externalities (increase social benefits or decrease social costs) where externalities were defined to be "those costs and benefits which will not ever be captured in a company's books of accounts" (Bowman & Haire, 1975, p. 52).

[5] Directly translated from French it means "nobility obliges". According to the Collins Pocket Reference English Dictionary, this refers to the supposed obligation of nobility to be honourable and generous. According to Wikipedia, noblesse oblige is generally used to imply that with wealth, power and prestige come responsibilities.

Their initial analysis looked at the relationship between the degree of discussion of corporate responsibility and the mean return on equity (ROE), defined by the authors to be the last five year's ROE. The degree of discussion was classified into low mention, medium mention and high mention, where the median ROE was 10.2%, 16.1% and 12.3% respectively. This inverted U-shape indicated medium mention was associated with the highest profitability, and the fact that the left hand tail was lower than the right was similar to the results found when the authors performed an analysis on the sample of firms in the pulp and paper industry used by Bragdon and Marlin (1972; cited in Bowman & Haire, 1975). Bowman and Haire (1975) argued that CSR is a signal of a management style that extends across the entire business and leads to a more profitable operation and they concluded that the "presence of a discussion of corporate responsibility, or indeed, the activity itself, is not a cause of higher profits" (Bowman & Haire, 1975, p. 57). Instead it indicates the presence of some underlying factor that results in sensitivity to a variety of external factors, of which pollution control or affirmative action are only a part. Socially responsible behaviour, not by itself and not uniquely, is a signal of good, sensitive, informed, balanced, and modern management. For many issues it is best to neither under nor over respond; thus, the idea of diminishing returns was applied to externalities where average behaviour appeared to be optimal.

As suggested in Parket and Eilbirt (1975) management is an important factor when looking at CSR; whether it is an underlying element of its existence or whether it permits its continuation through the control of company policy. Sturdivant and Ginter (1977) looked at management attitudes and associated economic performance; and stated that for CSR to be achieved there must be some movement in the sphere of company policy. The authors explored the relationship between CSP, and the values and attitudes of top management; and a few underlying assumptions were made (Sturdivant & Ginter, 1977, p. 30):

- Corporate policies and practices tend to have social consequences.
- While those consequences may range from minor to highly significant, their observation over time by the corporation's various constituents leads to the shaping of an image related to social responsiveness.

- Corporate policies and practices reflect the values and attitudes of the top management group.

Following from these assumptions, if management believes the role of business in society is a narrow one, one would expect its policies and practices to reflect this belief and such a company may be perceived as not being socially responsive since it can be argued that "corporations have personalities which reflect the conscious and unconscious values of the corporate hierarchy" (Sturdivant & Ginter, 1977, p. 30).

The authors looked at sixty seven firms rated by Milton Moskowitz as showing exceptional social responsiveness and which were categorised as 'best', 'honourable mention' and 'worst'. The authors suggested that when a business organisation buys a man's talents it also purchases the individuals values which shape the direction those talents will be expressed. Thus an instrument was developed which would determine the profile of a top management group's attitudes on socially sensitive issues. Generally a clear pattern of differences emerged between the best and worst groups which were especially prominent regarding racial attitudes and perceptions of the poor. Another important finding was the difference in attitudes concerning centrality of profits to the business system, and overall it seemed that "the best managers reflect a greater concern for individual rights and a greater responsiveness to demands for change in the social and economic system" (Sturdivant & Ginter, 1977, p. 36). The authors examined the relationship between perceived corporate social responsiveness and long-run economic performance as the conventional rationale for social responsiveness is that the serving of the wider needs of society will contribute to the firm's long-run profitability.

Sturdivant and Ginter (1977) again looked to Moskowitz' list and the sixty seven companies were grouped on the basis of reasonable homogeneity; where the long-term indicator of economic performance felt to reflect of quality of management was earnings per share (EPS). The results of their analysis indicated that the best and honourable mention firms outperformed their worst industry counterparts. Average economic performance relative to industry was 1.18, 1.26 and 0.69 for the Best, Honourable Mention and Worst groups, respectively. This inverted U-shape was reminiscent of the results obtained by Bowman and Haire (1975). Although the findings did not support the argument that socially responsive companies will always outperform

less responsive firms in the long-run, it appeared that the responsively managed firms enjoyed better economic performance. It is too simplistic to argue a one-on-one cause-effect relationship but "a case can be made for an association between responsiveness to social issues and the ability to respond effectively to traditional business challenges" (Sturdivant & Ginter, 1977, p. 38). The authors concluded that major policies and practices of corporations are shaped by the top managers and a management group that reflects narrow and rigid views of social change and rising expectations might also be expected to respond less creatively and effectively in the traditional and dynamic arenas in which business functions. As a result there is the stronger economic performance of the best and honourable mention firms. Sturdivant and Ginter (1977) noted that perhaps the experience of these firms is the strongest argument to date that executives can recognise and act on the broader social dimensions of managing an enterprise without losing sight of their basic economic mission.

Following on from Moskowitz (1972) and Vance (1975); Alexander and Buchholz (1978) attempted to look at the relationship between the market performance of a firm's stock and its social responsibility using improved methodology. This question has been subject to contradictory views in the past and one view is that "socially aware and concerned management will also possess the requisite skills to run a superior company in the traditional sense of financial performance, thus making the firm an attractive investment" (Alexander & Buchholz, 1978, p. 469). The authors noted that both Vance (1975) and Moskowitz (1972) had empirical deficiencies (used short time periods and ignored risk) and correcting for these short-comings allowed for "a more definitive statement to be made regarding the relationship between social responsibility and stock market performance" (Alexander & Buchholz, 1978, p. 480). Since securities are generally described in terms of return and risk it was necessary to incorporate both of these factors into the analysis. The model used for measuring security performance on a risk-adjusted basis took the form:

$$\mathbf{R_{jt} - R_{Ft} = \alpha_j + \beta_j\,[\,R_{Mt} - R_{Ft}] + \varepsilon_{jt}} \quad \mathbf{(1)}$$

R_{jt} denoted the rate of return on security j at time t; R_{Ft} the risk free rate of return and R_{Mt} the rate of return on the market. The intercept α_j can be interpreted as a measure of risk-adjusted stock market performance, and is frequently called the differential return (or Jensen's alpha). For their CSP measure, Alexander and Buchholz (1978) used the

same social responsibility rankings as those used in Vance (1975) - four firms from the two surveys were eliminated as they were mutual life insurance companies without common stock - and returns were determined using the formula:

$$\mathbf{R_{jt} = (P_{jt} - P_{jt-1} + D_{jt}) / P_{jt-1} \quad (2)}$$

P_{jt} denoted the price of security j at the end of month t and D_{jt} denoted all dividends received during month t. The results showed that over the sample period few securities had differential returns significantly different from zero, which lead to the conclusion that there was no significant effect of social responsibility on stock market performance.

Alexander and Buchholz (1978) concluded that from their analysis the degree of social responsibility as measured by the rankings of businessmen and students bears no significant relationship to stock market performance. Furthermore, there seemed to be no significant relationship between stock risk levels and degree of social responsibility; thus these findings suggested that both the interpretations of Moskowitz (1972) and Vance (1975) were invalid. The authors proposed a third possible view on the relationship between stock market performance and social responsibility, which was consistent with the findings of their study. This view assumes that stock markets are efficient, and that in this efficient stock market any new information relevant to the earnings outlook of a firm is immediately reflected on the current price. Thus any positive or negative effects associated with the degree of social responsibility of a firm are reflected immediately in its stock price. Since a large majority of the firms sampled had returns which were no different from the market on a risk adjusted basis, the effects of social responsibility on stock prices were either non-existent, or had occurred prior to 1970.

Spicer (1978) aimed to provide empirical evidence relevant to the social performance disclosure question. His investigation concentrated on the validity of the view that a moderate to strong association exists between the investment value of a company's shares and its social performance. At the time, society was paying greater attention to the wider social and environmental consequences of corporate activity, and subsequently put larger pressures on managements to become aware of these consequences. With this arises the need for better methods of measuring, assessing and controlling the social performance of private enterprise with respect to these social

concerns. Implicit in these efforts is whether corporations should be required to disclose more information with respect to these social concerns, and while the developments in social accounting provided motivation for the research, the objective was to provide some empirical evidence relevant to the social performance disclosure question. Spicer (1978) attempted to find if a strong association existed between a company's investment value and its social performance; where this evidence may strengthen the position of those seeking increased disclosure by corporations of their performance with respect to key social and environmental issues.

Increased concern over environmental and social consequences leads to new sanctions against activities deemed socially undesirable, and these sanctions include legislative enactments, government regulation, judicial decisions and consumer retaliation. The expected economic impact on the affected corporation may be enough to induce a direct relationship between its social performance and the worth of its securities; therefore under these conditions it would not be surprising to find investors considering social performance while making their investment decisions. Additionally, in a society where there is an ever-rising environmental awareness and expectation of firms, there exists potential legal and economic risks to which the capital market is becoming increasingly sensitive. Failure to respond to these expectations in a socially responsible manner may induce the capital market to perceive lower expected earnings, and imply higher risk factors - resulting in lower firm valuations. Spicer (1978) hypothesized that companies with better pollution-control records have higher profitability, larger asset size, lower total risk, lower systematic risk and higher P/E ratios. Since any complete measure of CSP would require the specification of the factors included as part of the social performance, the measurement of performance with respect to each of these factors and the summarisation of these measures into one overall index; only one performance area was used to assess the firms' CSP. Pollution control was chosen because of a strong a priori argument that it was a major social issue for certain classes of corporations and the sample looked at consisted of eighteen firms in the pulp and paper industry where pollution was a major social concern. Spicer (1978) concluded from the results that the larger more profitable firms tended to have the best pollution control records and that these companies were in general judged by investors to be less risky in terms of total and systematic risk. These companies were also awarded higher P/E ratios than companies with poorer pollution-control records. The analysis using two sub-periods

indicated, however, that such associations may be relatively short-lived phenomena under circumstances where public pressure results in legislation. While generalisation of these results beyond the pulp and paper industry required further research, the findings were consistent with stated investor perceptions, and this supported the belief that social accounting may have some potential.

In a related paper, Abbott and Monsen (1979) looked at self-reported disclosures as a method of measuring corporate social involvement. A corporate social involvement disclosure scale was developed based on the content analysis of the annual reports of the Fortune 500. According to Abbott and Monsen (1979) the two basic difficulties in measuring corporate social involvement were: The unavailability of information in quantitative terms of the social activities that have relevance and the lack of a methodology to measure the full impact of known corporate activities on society. An adequate measure of corporate social activities required the investigator to have unrestricted access to data on the full range of activities of the firm. Three types of research attempted to derive useable measures:

- Social accounting - categories pertaining to the social impact of the firm are added into the firm's formalized accounting system; this suffered from an absence of reliable data on aggregate social costs and benefits of business
- Reputational scales - researchers obtain the response of a public to a social phenomenon, with responses being registered on a scale for example from 1 to 5, as used by Vance (1975). These surveys are used to create indexes by which the firms can be ranked.
- Content analysis of corporate publications.

The reputational method has a fundamental difficulty since the respondents providing the ratings must be in a position to have detailed information about the corporations in the sample. What lands up being studied is the image of the corporation which is influenced by the corporation's size, age, access to the mass media, as well as by the experience of the respondent. Additionally the time required for this method limits the number of firms that are rated. Bowman and Haire (1975) used content analysis for their research, and while this measure is limited "the scale used has the value of

indicating an aggregate measure of concern with corporate responsibilities" (Abbott & Monsen, 1979, p. 504). The authors constructed a quantitative scale: Social Involvement Disclosure (SID), obtained from a content analysis of the annual reports of the firms. By analysing more than one category the authors achieved a more complex measurement and Figure 8 lists the different content areas examined:

Issue Areas and Indicators	Ernst & Ernst Code 1973	Ernst & Ernst Code 1974	Disclosure (percent)[a] 1973	Disclosure (percent)[a] 1974	Change
Environment					
1. Pollution control	01	01	32.5	35.8	3.3
2. Product improvement	02	02	3.8	4.0	0.2
3. Repair of environment	04	03	4.0	3.6	-0.4
4. Recycling of waste materials	03	04	7.3	15.9	8.6
5. Other environmental disclosures	05	05	8.3	30.6	22.3
Equal Opportunity					
6. Minority employment	10	06	17.7	15.9	-1.8
7. Advancement of minorities	-	07	-	12.3	-
8. Employment of women	09	08	14.3	14.1	-0.2
9. Advancement of women	-	09	-	12.9	-
10. Minority business	08	10	4.6	5.8	1.2
11. Other disadvantaged groups	-	11	-	2.6	-
12. Other statements on equal opportunity	11	12	14.5	21.1	6.6
13. Advancement of racial minorities or women	07	-	10.9	-	-
14. Hardcore racial minority employment	06	-	0.8	-	-
Personnel					
15. Employee health and safety	-	13	-	13.3	-
16. Training	14	14	13.3	16.1	2.8
17. Other disclosures	15	15	10.5	12.1	1.6
18. Personnel counseling	12	-	0.4	-	-
19. Assist displaced employees locate new work	13	-	1.0	-	-
Community Involvement					
20. Community activities	16	16	14.3	18.4	4.0
21. Public Health	17	17	4.2	5.8	1.6
22. Education or the arts	18	18	12.9	15.9	3.0
23. Other community activity disclosures	19	19	8.1	10.5	2.4
Products					
24. Safety	20	20	1.8	3.6	1.8
25. Quality	21	21	1.2	4.4	3.2
26. Other product-related disclosures	22	22	2.6	6.0	3.4
Other					
27. Other disclosures	23	23	9.7	5.6	-4.1
28. Additional information	-	24	-	3.6	-
Location of Disclosures					
1. Letter to stockholders	-	-	21.0	22.5	1.5
2. Separate section of annual report	-	-	24.6	29.2	4.6
3. Other section of annual report	-	-	30.6	52.1	21.5
4. Separate booklet with annual report	-	-	1.2	1.2	0.0

[a] Indicator percentages are based on 496 firms in 1973 and 497 firms in 1974.

Figure 8- Breakdown of Content Areas and Location of Social Responsibility Disclosures (Abbott & Monsen, 1975, p. 505)

The main issue areas (environment, equal opportunity, product quality etc.) represent the criticisms that were being faced by the modern corporation at the time, and were also the targets of government regulation. To use the data, a set of categories needed to be formulated and the data coded in terms of the categories, however, two errors that may occur are when the formulation of categories does not reflect all important issues, and when the coding is inaccurate. The issue with content analysis as a source of social information is whether "the reported variation in social activities among firms is a reflection of real activities or is only an index of company policies on communicating activities to shareholders" (Abbott & Monsen, 1979, p. 506).

Abbott and Monsen (1979) argued in favour of their SID, as the ready availability of annual reports makes it possible to derive social involvement scores for a large number of firms. The research costs are low, and these reports are public eliminating the need for cooperation from firms (response rates in voluntary business surveys often are extremely low) and making it possible to replicate the results easily - unlike reputational scales. Their results indicated that firms reporting one or more items in the social involvement index increased from 51.4% to 85.7% during the sample period as corporations came under pressure from the public and the state. Environmental matters constituted the most frequently mentioned area in the annual reports and Abbott and Monsen (1979) noted that environmental matters appeared to be of greatest concern to corporate thinking, and should remain so in the near future mainly because of the threat of political repercussion. To test the relationship between the SID scale and the total return to investors, the firms were separated into a low involvement group and a high involvement group where the firms averaged 2.32% and 2.58% return respectively. The difference of 0.26% indicated that there appeared to be no significant effect of social involvement for sample firms. Being socially involved did not appear to increase investors' total rate of return, nor did it appear that being socially involved was dysfunctional for the investor and "perhaps it is the latter finding that has greater significance for decision making purposes, particularly given current political and social pressures" (Abbott & Monsen, 1979, p. 514).

Arlow and Gannon (1982) summarized the literature looking at corporate social responsiveness and its relationship to economic performance. Murphy (1978; cited in Arlow and Gannon, 1982) defined social responsiveness as "a more positive and

accurate term than social responsibility…. Many corporations have already recognized their responsibility to society and now are reacting to these demands in diverse ways" (Arlow & Gannon, 1982, p. 235). Interestingly this definition was very similar to Carroll (1979) where he defined social responsiveness as the third component of his conceptual model, based on the assumption that business has a responsibility and the focus is not on management accepting a moral obligation but rather on the degree and type of managerial action. The period beginning in 1974 was the Era of Corporate Social Responsiveness as it was marked by corporations reacting to concerns about their role in society; and their paper focused on the relationship between responsiveness and corporate goals, as well as the relationship between responsiveness and economic performance.

Regarding the business response to social responsibility, Arlow and Gannon (1982) found many executives viewed social involvement as necessary even if this resulted in a reduction of short run profits. There appeared to be greater consensus about the positive outcomes of involvement and positive views towards social responsibility reflected government pressure as well as long-run self interest (in the case of avoiding future regulation). One of the most frequently cited reasons for responding to social demands is matching a social need to a corporation's ability to deal with a problem. This is reminiscent of Fitch (1976)'s idea of corporations being society's most efficient problem solving organisation and Porter and Kramer (2006)'s idea of finding the points of intersection between social need and business objectives. Other reasons include the seriousness of a social need and top executives' interest in a problem - profitability was the least cited reason for selecting an area of social involvement. These reasons supported a contingency perspective where the firm responds to issues based on the relevance of the issue, and the firm's resources and skills. Inter-industry differences in areas of social involvement indicated that some social specialisation may be "motivated either by an industry's unique competence or by its role in creating the problem, thereby inviting external pressures" (Arlow & Gannon, 1982, p. 236). Due to the importance of social responsibility to business, the authors expected it to be incorporated into corporate goals and organisational structures.

The relationship between social responsiveness and corporate goals was looked at, and it was found that in earlier surveys social responsibility was rarely chosen as one of the

top four corporate goals; and in cases where social goals were cited as important they were subordinate to economic goals. Overall the studies showed financial goals dominated social goals, and in terms of priority there existed inter-industry and size differences possibly explained by visibility, government pressure and the consumer oriented nature of the firms. The authors noted that previous studies could not conclusively explain the relationship between social responsibility and economic performance. The authors observed limitations with the earlier studies as varying sample periods were used, as well as different measures of financial and social performance. Such approaches may have clouded any comparisons to be made between the different research results. In terms of methodologies, surveys of individuals were regarded as suspect as it was doubtful the respondents possessed sufficient information regarding the firm, and annual reports were questioned as they may have more accurately reflected PR efforts. In conclusion, Arlow and Gannon (1982)'s analysis showed that business has recognized the importance of social responsiveness; however it is subordinate to corporate goals that are primarily economic in nature. Although firms seemed committed to socially responsible actions, empirical studies had not provided strong support for a positive relationship between social responsiveness and economic performance. The authors tentatively concluded that economic performance (in the short run) was not directly linked in either a positive or a negative way to social responsiveness.

Cochran and Wood (1984) similarly pointed out that the previous literature could not reach a conclusion on whether a relationship existed between a firm's CSR and its financial performance. Before causation can be addressed, the question of whether CSP and CFP are related needs to be answered. The authors explicitly controlling for factors omitted in previous studies and used improved financial performance measures as well as additional variables. The authors also enhanced the sample by utilizing a large industry-specific control group as well as using two test intervals. Although Cochran and Wood (1984)'s analysis of previous research paralleled Arlow and Gannon (1982) they examined a larger number of studies and their literature review provided the rationale for a new and more extensive empirical test of this topic. Cochran and Wood (1984) examined the common methods of measuring CSR and their analysis is summarised in Figure 9. The authors noted that "neither content analysis nor

reputation indexes can be considered wholly adequate measures of CSR" (Cochran & Wood, 1984, p. 44). The problem of measuring the social responsibility of firms needed considerably more attention in the literature; however at the time there were no better measures available.

Methods of Measuring CSR

Reputation Index:

Advantages
- Internally consistent
- Can summarize perceptions of key constituencies

Drawbacks:
- Highly subjective
- Varies between observers
- Small sample sizes

Common Indexes:	**Used by:**
- Council on Economic Priorities (CEP)	- Spicer (1978) - Fogler & Nutt (1975)
- Moskowitz Lists (Moskowitz, 1972, 1975)	- Moskowitz (1972) - Sturdivant & Ginter (1977)
- National Association of Concerned Business Students	- Vance (1975) - Alexander & Buchholz (1978)

Content Analysis:

Advantages
- Reasonably objective
- Independent of the particular research
- Firms aware of issues will act

Drawbacks:
- Choice of variables is subjective
- Indication of what firms say they are doing
- Firms doing poorly may publicize their efforts

Methods:	**Used by:**
- Number of lines devoted to CSR	- Bowman & Haire (1975)
- Beresford Studies (1973, 1975 and 1976) *cited in Cochran & Wood (1984)	- Abbott & Monsen (1979)

Figure 9 - Measurement of Corporate Social Responsibility (Cochran and Wood, 1984, p. 43-44)

In terms of measuring CFP, Cochran and Wood (1984) noted that most measures fall into two categories: either investor returns or accounting returns. Investor returns are looked at from the shareholder perspective, and early studies to use this were Moskowitz (1972) and Vance (1975). Their use of changes in share price flawed since

they ignored dividend income, and this improved measure was used by Abbott and Monsen (1979). Another missing dimension was risk, which may explain the contradictory results of Moskowitz (1972) and Vance (1975). In finance theory, the risk of holding assets is measured by the covariance of the return on the asset with that of the market (called beta) and is obtained by regressing the stocks' realized returns on those of a broad based market index. An average beta is 1, where a stock with a beta above 1 is considered aggressive because it will move faster (up or down) than the market (Cochran & Wood, 1984, p. 45). An analysis of Moskowitz' high CSR firms indicated that they had a beta of 1.56, thus in the period examined (the first half of 1972) it was a bull market and the shares outperformed the market. The period Vance (1975) looked at was a bear market, and thus the stocks performed worse than the market.

Alexander and Buchholz (1978) used risk adjusted measures, however due to the efficient markets hypothesis (EMH), even if CSR leads to improved performance, the stock price will be immediately altered to reflect changes in CSR ratings. Thus, to use investor returns properly researchers must conduct an event study. Accounting returns are the other primary method of measuring CFP and the idea is to focus on how earnings respond to differing managerial policies. A summary of the most common accounting measures is provided in Figure 10 where the authors noted "accounting returns may be the best proxy for financial performance. However the particular measures used in previous studies have serious defects" (Cochran & Wood, 1984, p. 47).

Measurement of Financial Performance: Accounting Returns

Measure:	Drawbacks:	Used by:
- EPS	- Influenced by the rate of growth	- Bragdon & Marlin (1972; cited in Cochran & Wood, 1984)
- P/E	- Influenced by accounting practices - Cannot be compared without considering leverage and risk	- Bowman & Haire (1975) - Fogler & Nutt (1975) - Spicer (1978)

Figure 10 - Measurement of Financial Performance (Cochran and Wood, 1984, p. 44-47)

Throughout the literature most of the samples were too small to generalise results where several papers had less than 30 firms in their samples and in all but four studies control

groups smaller than 100 firms were employed. To overcome this researchers compared samples to market averages, however although it is an improvement comparison to industry control groups remains superior due to the homogeneity in accounting practices, operating leverage and other influential variables within industries. Additionally, many sample periods were too short with only five studies using periods greater than or equal to five years. Taking into account the questionable sample sizes and measures of CFP and CSP, the various results from earlier papers need to be viewed with suspicion. The authors used the combined Moskowitz list (from Sturdivant & Ginter, 1977) however to avoid the problems of inadequate samples each firm in the list was independently compared to its industry group. The authors also followed the precedent of most of the previous studies and used accounting data to measure financial performance, as summarised in Figure 11.

Measures of Financial Performance Employed

Strengths:	**Weaknesses:**
Ratio of Operating Earnings to Assets:	
- Measures relative efficiency of asset utilization - Free from effects of differences in capital structure	- Distorted by inflation and depreciation
Ratio of Operating Earnings to Sales:	
- Free from leverage differences	- Subject to depreciation - Fails to capture relative effectiveness of the use of assets by competitors
Excess Market Valuation (EV)*:	
- Measures premiums and discounts accorded by market. If CSR is correlated with future prospects it will be correlated with EV.	- Subject to inflation distortion
- Reflects market evaluation of the firm	

*EV is defined as the difference between total firm market value and the book value of assets, normalized by sales:
EV = (Market Value of Equity and Book Value of Debt – Total Assets) / Sales

Figure 11 - Measures of Financial Performance Employed (Cochran and Wood, 1984, p. 48-50)

The use of accounting data raised the possibility of distortions from inflation differences across firms as well as different applications of accounting principles. These

distortions were controlled for insofar as possible. Cochran and Wood (1984) evaluated the relationship between CSR and financial performance through analysis of covariance to see if CSR was significantly correlated with either superior or inferior financial performance within industry groups. The results showed significance where Operating Earnings / Sales had the firms with 'Best' ratings outperform 'Honourable Mention' firms which in turn outperformed 'Worst' firms; the pattern was repeated for EV (with a slight reversal between 'Worst' and 'Honourable Mention' categories in one of the intervals). The pattern differed for Operating Earnings / Assets, as all statistical significance was lost, and 'Honourable Mention' firms appeared slightly superior to 'Best' firms. This result (also in Bowman & Haire, 1975) raised questions concerning the nature of the assets, or their use by these firms. Perhaps there are differences in the effectiveness of the use of assets, or differences in asset age between CSR groups. To explore these differences, Asset Turnover (the ratio of Sales to Assets) and Asset Age (the ratio of Net Fixed Assets to Gross Fixed Assets) were included in the regressions and it was found that asset age was strongly and significantly negatively correlated with the 'Worst' CSR firms.

The variables employed appeared to be significantly related to CSR although the relative strength of each was not yet clear – EV had the highest t-statistic (4.03) and asset turnover had the highest coefficient of multiple determination (0.76). Due to interaction between the variables, a logit analysis was performed with the model being estimated as:

$$\mathbf{CSR = a_0 + a_1 OES + a_2 AGE + a_3 TURN + a_4 EV + \varepsilon,}$$

This statistical technique provided an appropriate test procedure by which the underlying assumptions of the model were met by the data. In this model OES represented Operating Earnings / Sales, AGE was Asset Age, TURN was Asset Turnover and EV was Excess Market Valuation. The results indicated that asset age was significant in predicting whether or not an observation would be in the Best versus Worst distinction or Honourable Mention versus Worst distinction in both time periods (no variables significantly classified firms between the Best and Honourable Mention categories). Operating Earnings / Sales was only significant during one time period thus "the evidence strongly suggests that the financial variable most significantly associated with CSR is asset age – specifically, firms with older assets have lower CSR ratings"

(Cochran & Wood, 1984, p. 54). The association was strongest with the Best/Worst comparison and this was understandable, however the association of CSR and financial performance was still marginally significant.

In conclusion the authors noted that within industry groups the financial variable most strongly correlated with CSR was Asset Age and that omission of this variable results in a spurious correlation of CSR and financial performance. It is possible that older firms may possess less flexibility in adapting to social change or management of older firms may simply be less responsive in both business and social dimensions than management of 'younger' firms. Alternatively, the type of managers that old firms attract may differ from those attracted by young firms (found in Sturdivant and Ginter, 1977). After controlling for Asset Age and using a large sample as well as industry control groups there was still weak support for a link between CSR and financial performance and the authors reiterated Abbott and Monsen (1979)'s findings that being socially involved is not dysfunctional to the investor. It is this finding that has greater significance for decision-making purposes given current social pressures.

Another paper summarising the previous literature was Ullmann (1985) which concluded that the "situation pertaining to the relationships among social performance, social disclosure, and economic performance can best be characterized at this time as empirical data in search of an adequate theory" (Ullmann, 1985, p. 555). A table summarising some of the literature has been recreated in Appendix 8.1. One problem with the literature concerned the conceptualisation and operationalisation of key terms, with different dimensions of performance being looked at in different papers. The majority of studies reviewed by Ullmann (1985) addressed neither the variety of the underlying models nor the validity of the measurement procedures used, but a closer look at the criteria used for assessing economic and social performance as well as social disclosure illustrated the conceptual variety. Figure 12 summarizes the principal findings of the studies included in Ullmann (1985) regarding the relationship between social disclosure, social performance and economic performance. Interestingly some of the conflicting results were reported in cases based on the same sample of firms, and was perhaps "inevitable, given the studies' conflicting hypotheses, as well as

differences in the models, methods, measurements and time periods considered" (Ullmann, 1985, p. 543).

Major Results by Data Basis

Relationship \ Data Base	Moskowitz	BSRI Surveys	CEP	Ernst & Ernst	Other
Social Disclosure - Social Performance	Bowman & Haire (1975): +	Abbott & Monsen (1979): +		Abbott & Monsen (1979): +	
Social Disclosure - Economic Performance				Abbott & Monsen (1979): 0	Bowman & Haire (1975): +
Social Performance - Economic Performance	Cochran & Wood (1984): + Moskowitz (1972): + Sturdivant & Ginter (1977): + Vance (1975): -	Alexander & Buchholz (1978): 0 Vance (1975): -	Bowman & Haire (1975): + Fogler & Nutt (1975): 0 Spicer (1978): +		Parket & Eilbirt (1975): +

Note: + positive correlation; - negative correlation; 0 no correlation

** This table was reproduced from Ullmann (1985), however studies reviewed that were not included in this paper have been left out of the table.*

Figure 12 - Major Results by Data Basis (Ullmann, 1985, p. 542)

Social Disclosure and Social Performance:

Social performance refers to the extent to which an organisation meets the needs, expectations and demands of external constituencies beyond those directly linked to the company's products and markets. Measuring CSP in this context implies creating a list of the external constituents, measuring the constituent satisfaction and developing an overall index so that firms can be ranked in terms of their overall performance. As mentioned in Abbott and Monsen (1979), there are potential reasons for companies to under-report (costs of initiatives to shareholders) the activities as well as to over-report (to create an impression of sensitivity to nonmarket influences), however some critics

argued that social disclosures are nothing but public relations gestures, and thus are more linked to variables such as company size, visibility and external pressure as opposed to performance. Although the more elaborate studies converged on the conclusion that no relationship exists between social disclosure and performance, it was not well established given the limitations regarding the sample sizes and depth, the weakness in the methods used as well as the periods surveyed. The studies analysed relied on content analysis to measure the quantity and quality of social disclosure however there existed differences in the level of sophistication in the application of the methodology (some used lines of prose devoted to social responsibility, while others differentiated among various levels of information quality, disclosure categories, and industry differences). Ullmann (1985) concluded that studies of the relationship between social performance and economic performance are highly questionable when social disclosure is used as a proxy for social performance.

Social Performance and Economic Performance:

Alexander and Buchholz (1978) argued that socially aware management also possess the skills needed to run a superior company in the sense of financial performance. Consequently, socially responsible firms should outperform less responsive companies in terms of accounting variables. Better economic performance should also be reflected in the firm's stock price and attached risk. Importantly, other variables such as the social beliefs of the firm's decision-makers and visibility of the firm need to be controlled for. Since shareholders differ in their expectations of future returns as well is in their interpretative skills, "Friedman-type" investors could view social performance as detrimental to economic performance resulting in a negative or inverted U-shaped correlation between social and economic performance. Overall, no clear tendencies could be discerned from the literature and Ullmann (1985) stated that the more elaborate studies seemed to converge towards rejecting any relationship between social performance and economic success, but it was by no means conclusive.

Social Disclosure and Economic Performance:

Here, the information content of social disclosures was questioned, since if Friedman-type investors place a negative premium on CSR activities social disclosures could lower the price of a security (conversely ethical investors may bid the price up). Social disclosures may depend on other variables such as firm size, industry and company

visibility, external pressures, and executive values which need to be controlled for when investigating the relationship. The studies using accounting variables for economic performance converged on weak positive correlations whereas those using investor reaction were more ambiguous.

Ullmann (1985) argued that questions about the correlations among the three concepts were pseudo-problems and rather what should be looked for is the missing element that explains the relationships: strategy. Bowman and Haire (1975)'s findings suggested that managers are confronted with a problem when deciding how to allocate resources optimally between various dimensions for coping with the environment. Organisations are selective with regard to the stakeholders they take into consideration as well as the actions they undertake to achieve an optimal relationship with them, and it is posited that the stakeholders' importance derives from their power to control resources required by the organisation. For providing the resources, the external groups may demand certain actions in return and since different strategies can be observed as attempts to fulfil these external demands, social performance is viewed as a result of the strategy for dealing with stakeholder demands. The author suggested a framework where social performance and social disclosure are used to manage dependence relationships. The three dimensions of the framework are: Stakeholder power; Strategic posture (mode of response of management toward social demands - e.g. formulating CSR programs etc.); and the firm's economic performance (the financial situation determines the importance of social programs, and the degree of the response). It was noted that for more consistent results, improved methodologies and frameworks need to be examined.

One attempt at these improvements came when Aupperle, Carroll and Hatfield (1985), henceforth Aupperle et al. (1985), examined the relationship between CSR and profitability. They noted that much of the actual empirical research designed to test the definitions, concepts and theories had been scarce, and that a great deal of the research had been incomplete and simplistic in methodology. Many of the issues in studying CSR stemmed from the nature of the subject, as the concepts were value laden and susceptible to varying interpretations. Once again, the most noticeable constraint was the difficulty of developing a valid measure of CSR and the problem with assessing levels of CSR is determining appropriate criteria and standards of corporate performance. Additionally, there is the lack of effort to empirically test definitions and

propositions, where researchers have instead tended to create their own measures rather than to use one of the many pre-existing definitions in the literature. Aupperle et al. (1985) noted this has hindered inter-study comparisons, and has limited development of a research base in the social issues area. The initial purpose of the paper was to develop an instrument to measure the degree of orientation to social responsibility based on a model defining CSR that has appeared in the literature. Another related purpose was to assess how CEOs viewed their firm's social responsibilities and ultimately to investigate the relationship between profitability and orientation toward CSR.

Aupperle et al. (1985) noted similar shortcomings in the previous literature as found by Cochran and Wood (1984) and Ullmann (1985) (summarised in Appendix 8.1); where many researchers did not perform significance tests, or adjust performance for risk. It was noted that the performance criterion of investor's yield is not necessarily an adequate proxy for profitability as yield is a function of capital gains and dividends, neither of which need be tied directly to profitability. Aupperle et al. (1985) also pointed out that in Sturdivant and Ginter (1977) their sample was derived from a single source that classified the firms in terms of orientation to CSR, and no criteria were offered for this classification. Additionally the final sample of firms was small, there was no adjustment for risk and the performance measure of growth in earnings per share was not definitive.

These studies reflected varying methodologies and different degrees of rigour and although reputational surveys and content analysis of annual reports provide useful beginning points, other methods also exist. The two studies employing the most rigour (Abbott & Monsen,1979; Alexander & Buchholz, 1978) found no relationship between CSR and financial performance; however two studies employing different methodologies (Bowman & Haire, 1975; and Sturdivant & Ginter, 1977) found a curvilinear relationship between CSR and financial performance, with moderately socially responsible firms performing the best. To avoid the problems of previous studies, Aupperle et al. (1985) developed a survey instrument capable of assessing a corporate respondent's social-responsibility orientation. The design and validation of the survey instrument drew on Carroll (1979)'s CSR construct as the attractive feature of this construct was its definition of CSR through four components. As mentioned previously, the four components of the defining model were economic, legal, ethical

and discretionary concerns. With this construct, Aupperle et al. (1985) could assess corporate executives' orientations toward social responsibility, as well as use the construct to determine whether or not four separate components of CSR exist, and if they do whether they exist in the proportions implied by Carroll (1979). The graphic representation of the four-part construct suggested a weighting of 4-3-2-1 for the economic, legal, ethical and discretionary components respectively (as seen in Figure 3).

Aupperle et al. (1985) performed a factor analysis and found a clear inverse relationship between the economic and ethical dimensions which implied that an emphasis on one of these two components was at the expense of the other. This was surprising given the amount of support for ethical behaviour by business leaders and social critics alike. The strongest correlation was between the economic and ethical components as the economic factor correlated negatively with all three of its non-economic counterparts. Aupperle et al. (1985) noted that their analysis supported the existence of four distinct but related components, and the relative weights implicitly depicted by Carroll (1979) approximated the relative degrees of importance the executives placed on the four components. The mean scores for the components were: economic = 3.50, legal = 2.54, ethical = 2.22 and discretionary = 1.3. For the purposes of later analysis the four components were rearranged into two categories - as social responsibility often includes legal and ethical issues - with the non-economic factors (legal, ethical and discretionary) denoted as "a concern for society" and the economic component denoted as "a concern for economic performance". The social orientation of a firm can be appropriately assessed through the importance it places on the non-economic components compared to the economic. Aupperle et al. (1985) used return on assets (ROA) as the profitability indicator, employing both one year and five year measures, which had to be adjusted for risk propensities typical of various firms and industries so that the firms could be compared with one another. The exact method of standardizing the ROA can be found in Aupperle et al. (1985, p. 458-459).

The results from the analysis showed no statistically significant relationships between a strong orientation toward social responsibility and financial performance (regardless of risk-adjustment and ROA measure). Aupperle et al. (1985) concluded that it was not

possible to support the notion of a positive or negative relationship between profitability and an orientation toward CSR, which was consistent with the conclusion of Arlow and Gannon (1982). Although respondents placed more emphasis on the economic component, the non-economic component means taken together (6.06) were of much greater weight than the mean for the economic component (3.50) and "perhaps this suggests the corporate community is more responsive to socials issues than has been suspected" (Aupperle et al., 1985, p. 461). The study was unable to confirm the claims of either advocates or critics as to the value social responsibility may have for firms, however, Aupperle et al. (1985) stated that the findings of this study were limited in part to the perceptions on CSR of CEOs. "Perhaps its merits simply do not show up on the 'bottom line'; perhaps superior methodologies or new qualitative approaches are required" (Aupperle et al., 1985, 462). The authors suggested that maybe "the intangible benefits of corporate social responsibility tend to evade scientific inquiry" (Aupperle et al., 1985, 462) and possibly this issue of whether or not CSR is related to profitability will never be completely resolved.

Moving from management's perceptions, McGuire, Sundgren and Schneeweis (1988), henceforth McGuire et al., used Fortune magazine's ratings of corporate reputations to analyze the relationships between perceptions of a firm's CSR and their financial performance. Different arguments exist regarding this relationship, where some believe firms face a trade-off between social responsibility and financial performance. Proponents of this view contest that socially responsible actions put firms at an economic disadvantage through additional costs and missed strategic opportunities. Another viewpoint is that the explicit costs of CSR are minimal and that firms may actually benefit from socially responsible actions in terms of employee morale and productivity. A firm perceived as high in social responsibility may face fewer labour problems, and customers may be favourably disposed to its products. Socially responsible actions may also improve a firm's standing with important constituencies such as bankers, and Spicer (1978) found that banks and other investors have reported social considerations to be a factor in their investment decisions - therefore high CSR may improve a firm's access to sources of capital.

A third alternative suggests that the costs of socially responsible actions are significant but offset by a reduction in other firm costs, since a firm must satisfy not only

stockholders and bondholders but also those with less explicit (implicit) claims. Stakeholder theory suggests that implicit claims like product quality are less costly than explicit claims like wage contracts or stockholder or bondholder demands. Low social responsibility may result in some stakeholders doubting the ability of a firm to honour implicit claims, and may increase the number of a firm's explicit claims. Thus, if a firm does not act responsibly parties to implicit contracts concerning the social responsibility of the firm may attempt to transform these implicit agreements into more costly explicit agreements. For example, if a firm fails to meet promises to government officials with regards to the environment, government agencies may need to pass more stringent regulations (constituting explicit contracts) to force the firm to act in a socially responsible manner. Bowman and Haire (1975) and Alexander and Buchholz (1978) suggested that stakeholders and stock- and bond-holders may see CSR as indicating management skill and "in short, a firm has an investment in reputation, including its reputation for being socially responsible" (McGuire et al., 1988, p. 855). An increase in perceived social responsibility may improve the image of the firm's management and permit it to exchange costly explicit claims for less costly implicit charges.

Although research has focused on financial performance, arguments can be made for a relationship between social responsibility and measures of financial risk. Low levels of CSR may increase a firm's risk as investors view management skills in the firm to be low. In contrast a high degree of CSR may result in low financial risk as a result of the stable relations with government and the financial community. A firm with high responsibility may also have a low total debt to assets ratio, as a low total debt ensures that a firm can easily continue to satisfy implicit claims. The impact of social responsibility on measures of a firm's systematic risk may be minimal since most events affecting a firm's level of social responsibility do not systematically affect all other firms in the marketplace. CSR may be related to subsequent financial performance as the benefits cited earlier may carry over into later periods, and it may also be linked to past firm performance, as its financial performance may influence a firm's evolving social policy and actions. "Policies and expenditures, particularly in discretionary areas such as social programs, may be especially sensitive to the existence of slack resources" (McGuire et al., 1988, p. 857) and if CSR is viewed as a significant cost, firms with relatively high past financial performance may be more willing to absorb these costs in the future. The type of measures used by previous studies have influenced results

because accounting and market-based performance measures focus on different aspects of performance, and each is subject to particular biases, as summarised in Figure 13:

Accounting Measures versus Market Measures

Accounting Based Measures:

(-) Tap historical aspects of performance
(-) Subject to bias from managerial manipulation and differences in accounting procedure
(-) Need to be adjusted for risk, industry characteristics and other variables

Market Based Measures:

(+) Less susceptible to accounting procedures
(+) Represent investors' evaluation of future earnings
(-) Imply investors' evaluation is proper performance measure
(-) Due to multiple constituencies, concentration on investors may not be sufficient

Figure 13 - Accounting Based Measures of Financial Performance Versus Market Based Measures (McGuire et al., 1988, p. 859)

McGuire et al. (1988) used Fortune magazine's ratings on corporate reputations as a proxy for CSR; alpha (risk-adjusted return) and total return for measuring market performance; and ROA, total assets, sales growth, asset growth, and operating income growth for accounting performance. The market risk measures were beta and the standard deviation of total return, while the accounting-based measures of risk were the ratio of debt to assets, operating leverage, and the standard deviation of operating income. The main findings of the correlation analyses were:

- No significant correlations between CSR and market based measures of performance. ROA (+), total assets (+) and operating income growth (–) were significantly correlated with CSR; thus through stakeholders CSR affects financial performance.
- Risk measures were negatively associated with CSR.

"This suggests that low-risk firms and firms with a high return on assets will later have an image of high social responsibility" (McGuire et al., 1988, p. 865). Using regressions with prior stock-market and accounting-based performance measures to predict social responsibility showed that accounting performance had a higher explanatory value than market performance possibly because market-based measures are related primarily to systematic movements among all firms whereas accounting measures are more likely to capture unique firm attributes. Therefore "since actions leading to high or low perceived corporate social responsibility may be predominately unsystematic, accounting

performance may better capture social responsibility" (McGuire et al., 1988, p. 868). The most interesting conclusion was that prior performance was a better predictor of CSR than subsequent performance, therefore associations found between concurrent social responsibility and performance may partially be artefacts of previous high financial performance. Links between responsibility and subsequent financial performance may also be artefacts of prior high performance and it was noted that "subsequent studies should attempt to separate the effects of prior, current and future firm performance on the relationship between financial performance and corporate social responsibility" (McGuire et al., 1988, p. 869). Although financial performance tended to predict CSR better than risk, measures of risk explained a significant portion of the variability in social responsibility across firms (highlighting the importance of controlling for risk), thus instead of increased profitability managers might look toward reduced risk as a benefit of CSR.

Waddock and Graves (1994) looked at the CSP-CFP relationship in a new way when they examined the number of institutions holding a company's shares as well as the percentage of the company held by institutions. As the stock holdings of institutional owners grow, managers need to take into account the concerns of these investors if their company's stock is to be attractive; thus the relationship between institutional ownership (IO) and CSP was analyzed. According to myopic institutions theory, institutional owners tend to be more short-sighted than individuals because institutional money managers must compete for accounts and are reviewed and rewarded on the basis of annual or quarterly performance. It is assumed that these short time horizons limit their investment decisions and since investments in CSP tend to be long-term there may be an incompatibility between an institutional owner's time horizon and the time needed to realize the benefits from commitments to CSP. Waddock and Graves (1994) found the main body of empirical work seemed to refute the myopic institutions hypothesis as with changes in the scale of institutional shareholdings, these holdings increased to the point that institutions could not move quickly out of a stock that was undesired. As they became longer-term holders by necessity, institutional investors became more involved with their investments and Waddock and Graves (1994) concluded that the argument for a short time horizon was no longer supported. Regarding the attitudes of institutional owners, CSP information was taken into account if it was quantified, focused on specific issues, and obtained from independent parties.

It was also suggested that institutional investors are more able (than individuals) to assimilate and act upon information about socially responsible corporate practices.

Waddock and Graves (1994) recalled Spicer (1978)'s argument that institutional investors consider low-CSP firms to be riskier investments. This arises from the possibility of adverse legislative or regulatory actions, judicial decisions, or consumer retaliation. In terms of finance theory an investment in a company that is socially irresponsible could be inefficient since "by choosing a similar but socially responsible company, an investor might achieve the same return with less risk" (Waddock & Graves, 1994, p. 1035). Investors consider both risk and return, and since high social responsibility may reduce risk, this may incentivise managers to invest in positive CSP measures. Generalizing traditional financial risk aversion, the authors interpreted increased CSP as risk-reducing, and ceteris paribus, institutional investors will view high social performance positively. Since a rational investor choosing between two companies with the same return will select the one with less risk, the following hypothesis was posited:

Hypothesis: *Improvements in a company's Corporate Social Performance will increase institutional ownership.*

To test this, the authors used IO as the dependent variable while the independent variables included CSP, firm profitability, size, debt level and industry as control variables. The authors measured CSP using an index constructed from data developed by KLD – a firm specializing in the assessment of CSP [covered in the appendix chapter 8.2 Social Screens]. This assessment rated each company on multiple attributes considered significant, was applied consistently and was replicable. One limitation noted was that the KLD attributes were given equal importance, whereas generally observers of CSP consider certain issues to be more important than others. To deal with this Waddock and Graves (1994) used weights developed by Ruf, Muralidhar and Paul (1993) to calculate a weighted average across the eight attributes for each company in the study - resulting in a single CSP value for each company, ranging from -2.0 to +1.66. Ruf et al. (1993) provided an objective, empirically based approach for CSP based on eight dimensions of social responsibility. Their multicriteria decision-making technique was used to access the relative importance of the eight dimensions of CSP used in ethical investing (Ruf et al., 1993, p. 326). Profitability was measured with

ROA and ROE, size was measured by total assets and total sales and debt level was measured as the ratio of total long-term debt to total assets. The squares of sales and assets were also included since the authors found that the number of institutions owning a company's stock showed a quadratic relationship with company size.

Waddock and Graves (1994)'s regression models using the number of institutions as the proxy showed significant positive relationships between CSP and IO which provided support for their hypothesis that high CSP values result in high levels of institutional ownership. This finding suggested that strong financial performance leads to increases in ownership with other variables held constant. Waddock and Graves (1994) concluded that, "institutional investors prefer firms with low debt ratios, suggesting that institutions are risk-averse. With respect to firm size… other things being equal, institutional investors prefer large firms, but that, when firms pass some size threshold, those investors view them less favourably" (Waddock & Graves, 1994, p. 1042). The models using the percentage of shares owned as the dependent variable were largely insignificant with only the debt-to-asset ratio being significant - again indicating risk aversion. The results showed that a company incurred no penalty resulting from improvements in CSP ratings and institutions actually responded positively to such improvements. Ultimately, this risk aversion was translated into a preference for strong CSP. From the study "managers can conclude that improving a company's social performance will not depress institutional stock ownership" (Waddock & Graves, 1994, p. 1044) and due to the increases in SRI, and information about companies' CSP records, these results suggested that institutional investors were taking this information into account when deciding on stock ownership.

Waddock and Graves (1997) also assessed the relationship between CSP and financial performance where they noted the difficulty earlier studies faced when trying to measure CSP as it is a multidimensional construct with behaviours ranging across a variety of inputs, internal behaviours/processes and outputs. Additionally, CSP encompasses many issues, decisions and corporate behaviours and as a result there has been little clarity on the measurement of CSP as measures tended to be one-dimensional and were only applied to small samples. Each of the measurements widely used in the past offered some benefits however they tended to be very limited and many measures were "either unidimensional and may not properly reflect the overall level of a

company's CSP or they are difficult to apply consistently across the range of industries and companies that need to be studied" (Waddock & Graves, 1997, p. 305).

Waddock and Graves (1997) formulated their hypotheses with the sign of the relationship and the direction of causation in mind. The sign indicates a negative, neutral or positive relationship between CSP and financial performance; and it is possible that changes in CSP influence financial performance, or that changes in financial performance influence CSP. Summarising the relationships:

Negative association: Responsible firms incur a competitive disadvantage as they sustain costs that might be avoided or should be borne by others. Furthermore, there are few readily measurable economic benefits to socially responsible behaviour whereas the costs are numerous and fall directly to the bottom line.

Neutral association: Since there are so many intervening variables between social and financial performance, there is no reason to expect a relationship to exist (measurement problems may mask any linkages).

Positive association: A tension exists between explicit costs (e.g. bond payments) and implicit costs (e.g. product quality costs or environmental costs). Thus, firms which lower implicit costs by socially irresponsible actions will incur higher explicit costs resulting in competitive disadvantage. Additionally, the costs of CSP are minimal whereas the benefits are potentially great (good employee relations may have a low cost but potentially significant gains in morale and productivity). A final view is that high levels of CSP are indicators of superior management skill, and this leads to lower explicit costs.

Waddock and Graves (1997) proposed two views on causality that were contrasted and tested empirically:

Slack Resources: Better financial performance results in the availability of slack resources, providing the opportunity to invest in social performance domains. Thus, financial performance would be a predictor of better CSP (as found in McGuire et al., 1988):

H_1: *Better financial performance results in improved CSP (ceteris paribus)*

Good Management: There is a high correlation between good management practice and CSP because attention to CSP domains improves relationships with important stakeholder groups - improving overall performance. This includes managements' attempts to meet stakeholder expectations before they become problematic or it may represent posturing on the part of companies to improve their external reputations. Additionally, customer perceptions about the quality of a firm's products, environmental awareness and community relations are becoming bases of competition; thus, the lines between good management practice and social performance are becoming less defined:

H_2: *Improved CSP leads to better financial performance (ceteris paribus)*

Based on earlier empirical evidence, the authors hypothesised that CSP is a predictor and consequence of firm financial performance, resulting in a simultaneous relationship which they termed a "virtuous circle". Waddock and Graves (1997) constructed an index of CSP (proposed by Ullmann, 1985) based on the eight CSP attributes rated by KLD. Five of the attributes emphasise stakeholder relations that might be put forward as important by emerging influences on corporate strategy while the remaining three attributes are less directly related to stakeholder groups, but encompass areas where companies have received significant external pressures. The authors computed the relative importance and weights of each attribute to the overall index and noted that their index was statistically the same as that found by Ruf et al. (1993). Waddock and Graves (1997) controlled for size, risk and industry; while profitability was measured with ROA, ROE and ROS. Size may be important as when firms grow it is possible that they attract more attention from external constituents, and need to respond more openly to stakeholder demands (Burke et al., 1986; cited in Waddock & Graves, 1997).

The regressions using CSP from 1990 (dependent) and financial data from 1989 (independent) were significant at the 1% level for all models. Specifically CSP was related to ROA - the relationship was still strong when the measure was ROE, at the 10% level, and ROS at the 5% level; which strongly supported **H_1**. For the model using 1991 financial data (dependent) and 1990 CSP data (independent) the results again supported their hypothesis; this time, that financial performance depended on CSP (**H_2**). This provided evidence of relationships in both directions indicating a virtuous circle where a simultaneous and interactive impact exists and consequently where causation

runs in both directions. The findings of the study indicated that attention to CSP arenas did not represent a competitive disadvantage and may even be an advantage. If better performance along CSP dimensions allows companies to attract better employees, forgo costly battles with communities or avoid fines then CSP no longer "represents a discretionary activity on the part of management" (Waddock & Graves, 1997, p. 314) but is linked to management performance itself. Thus, stakeholder relations fall under CSP and expenditures in stakeholder domains become important elements of improved corporate performance as well as improved CSP. This study supported the notion that "it may pay to give attention to dimensions of management that are normally outside of strict financial, productivity and efficiency considerations" (Waddock & Graves, 1997, p. 315).

McWilliams and Siegel (2000) posited that R&D was positively correlated with financial performance as well as CSR, thus when it is omitted from the model estimating this relationship it is misspecified. Two types of studies on the relationship were noted, the first set used the event study methodology to assess the short-run impact (abnormal returns) while the second set examined the nature of the relationship between some measure of CSP and measures of long term CFP. The second category is where Aupperle et al. (1985), McGuire et al. (1988), and Waddock and Graves (1997) fall into. Results from both sets of studies have been mixed, with some findings indicating no relationship, while others have shown significant positive/negative correlations. According to McWilliams and Siegel (2000) the inconsistency from these studies is not surprising given the nature of the models forming the basis of the empirical estimation. Waddock and Graves (1997) used a model which set long-run economic performance as a function of CSP, size, risk and industry (Equation 1). McWilliams and Siegel (2000) hypothesised that this model was misspecified due to omitted variables like the firm's rate of investment in R&D and the advertising intensity of its industry; thus the authors added the two new covariates (Equation 2). It was noted that excluding R&D is problematic due to the extensive literature linking R&D to improvements in economic performance- since R&D can be considered a form of investment in technical capital resulting in product and process innovation. "If R&D has a positive impact on firm performance, then the coefficient on any variable that is strongly positively correlated with R&D will be overestimated when R&D is omitted from the equation" (McWilliams & Siegel, 2000, p. 605) thus the authors hypothesised that R&D and CSP

are positively correlated since aspects of CSR create either a process innovation, product innovation, or both.

The authors equated various CSR strategies (such as the appearance of natural food companies, or the use of organic farming methods) to the product innovation and process innovation of R&D to show why their posited relationship holds. The second additional covariate, industry advertising intensity, was designed to serve as a proxy for the extent of product differentiation at the industry level and entry barriers that may serve to enhance firm profitability. The positive and significant coefficient on CSP (reported by Waddock and Graves, 1997) could be reflecting the impact of R&D on firm performance as it is impossible to isolate the impact of CSP on firm performance in the misspecified model. This argument follows for other omitted regressors (such as advertising intensity) if they are also positively correlated with CSP and firm performance. For CSP the authors used a dummy variable which indicated whether a firm was included in the Domini Social Index (DSI) in a given year, having passed the "social screen" - the DSI was a socially responsible index constructed by KLD and shall be covered later in this study. Importantly the authors found that R&D, CSP and financial performance all appeared to be strongly positively correlated, which supported the hypothesis that Equation 1 was misspecified. The authors examined variants of Equation 2 including the rate of firm level investment in R&D and industry dummy variables in the model; and the results confirmed the importance of including these additional factors in the model. When R&D and industry factors were added, the magnitude of the coefficient diminished and was no longer significant, and the adjusted R^2 increased; thus the "findings underscore the importance of using the appropriate specification when estimating the 'return' on CSR investment" (McWilliams & Siegel, 2000, p. 607). Interestingly, it was noted that the result of no financial impact from CSR may arise from the lack of a good measure of CSR.

Orlitzky, Schmidt and Rynes (2003), henceforth Orlitzky et al., performed a meta-analysis of 52 studies regarding the relationship between CSP and CFP. A meta-analysis combines the results of several studies that address a set of related research hypotheses, with the aim being to estimate the true effect size as opposed to the smaller effect sizes derived in the single studies under given assumptions and conditions (Wikipedia, 2010). This was noted to be an improvement over the "vote-counting"

technique that codes previous studies as showing positive, negative or insignificant results; and which had been proven invalid by academics. The meta-analysis allowed for the statistical aggregation of results across individual studies and corrected for statistical artefacts such as sampling error and measurement error resulting in much greater precision than other research reviews. From the literature the authors proposed a few hypotheses regarding the relationship between CSP and CFP (Orlitzky et al., 2003, p. 405-410):

> H_1: *CSP and CFP are positively related across a wide variety of industry and study contexts* (derived from stakeholder theory, also identified as the 'good management theory')

The authors posited that the positive correlation is a result of CSP's influence on reputation building, as well as its ability to contribute to organisational knowledge and enhance organisational efficiency as investment in CSP may help firms develop new competencies, resources and capabilities manifested in a firm's culture, technology and structure. This is especially so when CSP is pre-emptive as it may help build managerial competencies because preventive efforts necessitate significant employee involvement, organisation-wide coordination and forward-thinking managerial style; which increases the firm's preparedness for external changes, turbulence and crises. CSP may also effect organisational reputation where a firm's communication about its level of CSP may help build positive images with customers, investors, bankers and suppliers. This may facilitate access to capital, attract better employees or increase current employees' goodwill which may in turn improve financial outcomes. The authors also proposed testing for prior CSP related to subsequent CFP, prior CFP related to subsequent CSP and a contemporaneous association to examine any temporal relationship which resulted in:

> H_2: *There exists bidirectional causality between CSP and CFP*

Before inclusion in the analysis, Orlitzky et al. (2003) checked each of the studies against the definition of CSP set out by Wood (1991; cited by Orlitzky et al., 2003, p. 403): "a business organisation's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs and observable outcomes as they relate to the firm's societal relationships". The meta-analytic findings supported hypothesis $\mathbf{H_1}$, in that CSP and CFP were positively correlated while their results

regarding the temporal sequence pointed to a virtuous circle between CSP and CFP (as suggested in Waddock & Graves, 1997). Additionally, the association between CSP and CFP depended on the firm's operational definition of each construct. Accounting measures were more highly correlated with CSP than market measures and particularly highly correlated with CSP reputation indices. Ultimately, the findings with respect to CSP operationalization indicated that studies using reputation indices as proxies for CSP showed the highest average correlation with CFP whereas disclosure measures appeared to be only minimally related.

Orlitzky et al. (2003) showed that there was a positive association between CSP and CFP across industries and study contexts and many of the negative findings in individual studies were artefactual allowing for a broader generalisation of the positive relationship. Additionally, CSP and CFP seemed to mutually affect each other in that financially successful companies spend more because they can afford it, but CSP also helps them become a bit more successful. The meta-analysis rejected the idea that CSP is necessarily inconsistent with shareholder wealth maximisation (Friedman, 1970) as organisational effectiveness may encompass both financial and social performance. It appeared that market forces did not penalise companies that were high in CSP, thus, firms can afford to be socially responsible. Their conclusion was that portraying managers' choices with respect to CSP and CFP as an either/or trade off is not justified in light of the empirical data and ultimately "corporate virtue in the form of social and, to a lesser extent, environmental responsibility is rewarding in more ways than one" (Orlitzky et al., 2003, p. 427).

Since CSP is a multidimensional construct and fundamentally different aspects may have diverse implications for financial performance, Brammer and Millington (2008) analysed the relationship between CSP and CFP within the context of one particular element: corporate philanthropic donations. Their two-stage empirical approach entailed distinguishing between the observed level of a phenomenon and a level expected based on various predictors (industry, size, R&D, advertising intensity etc.) and then separating the sample into three groups: unusually low CSP, normal CSP, and unusually high CSP. The second stage of the analysis examined the financial performance of the grouped firms to test what relationships existed. The authors noted two issues concerning this relationship, namely the shape and the time horizon over which the two

variables are related. Figure 14 shows the four possible models, based on the underlying assumptions: whether there are positive financial payoffs to good social performance; whether such payoffs derive from the absolute level of a firm's CSP or from its performance relative to peers and finally whether any such payoffs are subject to diminishing returns.

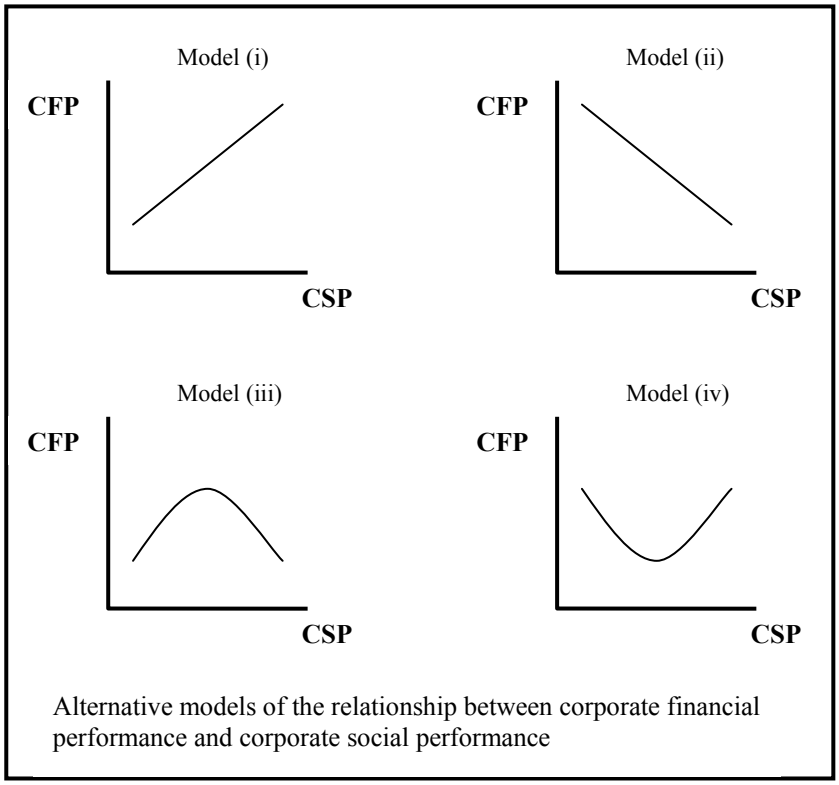


Figure 14 - Alternative Models of the Relationship Between Corporate Financial Performance and CSP (Brammer & Millington, 2008, p. 1328)

Model (i) – describes a positive relationship between CSP and CFP (benefits that are not subject to diminishing returns)

Model (ii) – shows a linear negative relationship between CSP and CFP based on the assumption that there are no financial payoffs to good social performance (unresponsive firms incur less costs and have a competitive advantage)

Model (iii) – this nonlinear relationship assumes positive financial payoffs to good social performance that are subject to diminishing returns. This view is consistent with agency theory in that owners are assumed to be risk neutral (they can diversify their overall risk) whereas managers are risk averse (since their job security and income are tied to the firm). Thus, if the financial benefit of social performance is subject to diminishing returns but its capacity to reduce firm-specific risks is not, then the differences in the degree of risk aversion of principals and agents leads managers

to overinvest in projects that reduce a firm's financial risks at the expense of the higher (and riskier) level of financial performance preferred by owners.

Model (iv) – this shows CFP highest at the extremes of CSP: since increases in CSP involves higher costs, competitive advantage can arise from the avoidance of these costs. Alternatively a firm can use social responsiveness strategically to differentiate a firm in the eyes of stakeholder groups. Thus "firms that make moderate levels of investment in social performance neither save the resources for alternative investments nor achieve differentiation in the eyes of stakeholders, and, in consequence, exhibit relatively poor financial performance" (Brammer & Millington, 2008, p. 1329).

The authors noted that the time horizon would depend on the relative timing of the costs and benefits of good social performance. Social initiatives tend to require significant investments in the short run whereas the size of the benefits varies across the different types of social performance as well as across time. Brammer and Millington (2008) stated that while some of the initiatives may bring financial benefits relatively quickly through increased revenues or reduced costs, many of the benefits resulting from being socially responsible are reliant on awareness of firm behaviour among the shareholder groups. Thus, for a firm to attract many of the benefits it has to be socially responsive over time and ultimately "the net benefits to financial performance accrue only over the long run when the costs of such initiatives are amortised and when stakeholders are sufficiently aware of the firm's social performance for it to shape their decision making in ways that bring benefits to companies" (Brammer & Millington, 2008, p. 1330).

Brammer and Millington (2008) used their model to determine the difference between the observed level of giving and the predicted level - given firm characteristics – where the residuals were used to classify the companies according to their CSP strategy. The authors looked at three time periods: a one-year period (short term); a five-year period (medium term); and a ten-year period (long term). For financial performance market-based measures were employed as they reflected both the emphasis on the possible trade-offs involved in ownership of firms with different social performance characteristics, and the diversity of the industrial composition of the sample. To control for the risks associated with share ownership, the Sharpe Ratio was used. The results were consistent with earlier findings in that larger more profitable and more R&D and

advertising intensive firms made donations at a higher rate. Firms with more liquid cash reserves made a higher rate of donations, and there seemed to be some important industry variation. Furthermore, the authors noted that all else equal, the rate of giving as a proportion of sales has remained constant over time. After separating the firms into the three categories of social performance the authors found that in every time period the firms from the middle group underperformed the firms in either extreme. Additionally, over the short-run, firms in the bottom CSP group significantly outperformed other companies before and after the risk adjustment; whereas, over the medium- and long-term the top CSP group had the highest financial performance.

The evidence indicated that firms who exhibited unusually good or bad social performance were predicted to have significantly higher financial performance. This was hypothesised in Model (iv) and suggested that high performing firms either differentiate themselves by investing in CSP, or choose to save the resources that would have been invested. Firms that give at the expected rate neither differentiate themselves from competitors nor do they conserve the resources; thus they may be stuck in the middle in the sense that neither their social nor financial performance is exceptional. Overall, the findings suggested that it may take time for social responsiveness to translate into higher returns; and it is through the "consistent application of a strategy of social sensitivity that ultimately pays off in financial terms" (Brammer & Millington, 2008, p. 1340).

Callan and Thomas (2009) re-examined the relationship between CSP and CFP and attempted to improve upon earlier studies by correcting for deficiencies such as the assumption of linearity and the absence of key control variables while using acceptable measures of financial as well as social performance. The authors noted several shortcomings from the established literature: many studies were dated and their CSR measures may not have been entirely relevant; papers presented theoretical models without empirical evidence, or used regression models that did not test for nonlinearity nor specify lags between CSP and CFP. Callan and Thomas (2009) noted that in earlier papers there was strong support for a positive relationship between CSP and CFP as well as evidence indicating that CSP predicts or helps to determine CFP (Margolis & Walsh, 2001; cited in Callan & Thomas, 2009) thus to test these relationships the authors explored corporate CSP as a determinant of CFP. The theory underlying this

causal direction was that the firm's investment in socially responsible behaviour had a measurable effect on its financial performance. The positive relationship was based in stakeholder theory where firms must engage in socially responsible behaviour to achieve legitimacy and in so doing the socially responsible initiatives are rewarded through improved productivity, enhanced reputation and a larger consumer base. The alternate view (Friedman, 1970) argued that corporate interests should not stray from those of investors, and allocating resources to achieve social goals adds to costs and runs counter to the firm's objective to maximise profit – suggesting a negative relationship between CSP and CFP. Callan and Thomas (2009) assumed that the stakeholder theory evidence was sufficiently strong to hypothesise a positive relationship, however such a theory could only be tested with proper controls for other determinants of financial performance (such as risk and size). Their resulting theoretical model was:

$$CFP_{it} = f(CSP_{it-1}, Size_{it}, Capital_{it}, Risk_{it}, RD_{it}, Adv_{it}, Z_{it})$$

Z was a vector of variables capturing the industry in which the firm operates, and the other variables (R&D investment, advertising spending, capital spending etc.) were included as per the earlier literature. ROA, ROS, ROE and Tobin's q were included as the measures of financial performance (CFP) - where Tobin's q is a measure representing the market value of the company divided by the replacement cost of the company's capital. The measure used for CSP was taken from KLD's database of CSP assessments and it looked at two broad categories: seven Qualitative Issues Areas and six negative screens called Controversial Business Issues. The authors used models with the CSP defined as all thirteen issues, as well as separated into the two categories (the Qualitative issues and negative screens). The final adjustment to their models was to include quadratic variables to test for linearity; where total assets, net sales and number of employees were squared.

Callan and Thomas (2009) found that with the exception of ROE, the results were consistent with their expectations, and the R^2 statistics suggested that the models performed well. Positive CSP-CFP relationships were seen in all equations except for the ROE models; and most were statistically significant which supported proponents of stakeholder theory and validated the majority of findings in the literature. The results implied that the benefits of SRI outweighed the costs. A unique finding was the fact that

the models specified with two separate CSP measures as opposed to one aggregated variable tended to be stronger overall (where the negative screens' parameters were much larger in magnitude). This suggested that research using a CSP index of all KLD indicators - including negative screens - may be misspecified. While ROS and ROA showed similar significant results, ROE tended to be insignificant in many of the models, and the authors hypothesised ROE may be more related to CSP in the long-term. Callan and Thomas (2009) found that in their models using ROS and ROA, Total Assets seemed to be quadratically related to CFP indicating a need to test for linearity in their models. Overall, their results regarding the CSP-CFP relationship seemed robust as they held across various model specifications; appeared independent of the measure of CFP employed; and integrated the assessments and findings from previous empirical studies.

Lankoski (2009) looked at the economic impacts of various CSR issues. Some studies argued that the relationship between corporate responsibility and economic performance is likely to differ across issues, and thus an attempt was made to differentiate between a set of issues, and to test whether their impacts were statistically different. Lankoski (2009) noted theoretical distinctions between situations where the corporate responsibility outcome itself is a causal factor for economic performance and situations where the corporate responsibility outcome and the economic outcome arise jointly from some other activity. Where the outcome is a causal factor; either the outcome directly affects the firm's own production process, or the outcome is linked to the firm's economic performance through the stakeholders of the firm. Stakeholder theory has become instrumental in explaining the relationship between CSP and CFP, and Lankoski (2009) noted that stakeholders may have different expectations regarding different issues, especially since CSR can be seen to consist of actions that reduce negative externalities or generate positive externalities. The ethical case for responsible behaviour is different when the firm actually contributes to the social problem, and thus stakeholders may expect as a priority that a firm should take care of reducing those harmful externalities that it is directly causing, and as a result "taking an active stance in generating positive externalities would come only secondary in stakeholder expectations" (Lankoski, 2009, p. 209).

Mattingly and Berman (2006; cited in Lankoski, 2009) found that positive and negative social actions (defined using the KLD ratings data) were empirically and conceptually distinct constructs – an idea which concurred with Callan and Thomas (2009). These studies implied that it may be more important for a company to "do no harm" (avoiding punishment from stakeholders), than to "do good" (and be rewarded by stakeholders). Additionally, Folkes and Kamins (1999; cited in Lankoski, 2009) found that a failure to avoid unethical behaviour had a larger impact on consumer attitudes than did engaging in pro-social activity, and this led Lankoski (2009) to posit the hypothesis that:

> H_1: *The economic impacts of corporate responsibility are more positive for issues reducing negative externalities than for issues generating positive externalities.*

To assess who benefits from the CSR outcome the author separated stakeholders into market and nonmarket stakeholders. Market stakeholders engage in market exchanges with the firm (employees, consumers) whereas nonmarket stakeholders are those who have some interaction without engaging in market exchanges (e.g. the community). Previous studies found that corporate responsibility activities that were directly tied to primary stakeholders improved economic performance, but activities going beyond the direct stakeholders' interests harmed performance, thus the second hypothesis was:

> H_2: *The economic impacts of corporate responsibility are more positive for issues benefiting market stakeholders than for issues benefiting nonmarket stakeholders.*

Lankoski (2009) employed a survey where executives assessed the potential of CSR issues to influence economic performance over the medium term. The reason for this is that there may be a temporal asymmetry in the distribution of costs and benefits with many corporate responsibility issues, and thus the choice of a time frame may affect the outcome. The results showed that there was a highly significant difference between reducing negative externalities and generating positive externalities; with the impacts being more positive for issues that reduced negative externalities thus supporting H_1. Similarly, there was a significant difference between corporate responsibility issues whose outcomes benefit market versus nonmarket stakeholders, with impacts being more positive for issues benefiting market stakeholders – supporting H_2. The key conclusion of this study was that "the content of corporate responsibility matters for the economic implications" (Lankoski, 2009, p. 218). Different issues have different impacts and there are patterns in these differences according to whether the issue

represents reducing a negative externality or generating a positive externality and whether the outcome benefits market or nonmarket stakeholders.

The results clarified the causal link between CSP and economic performance since for an issue to result in economic impacts from stakeholders, it must trigger powerful stakeholders to act; which will happen if the stakeholders are the ones experiencing the outcome (self-interest) or if they decide to act on behalf of others (if the issue is worth defending for ethical reasons). The concept of moral intensity has been proposed to explain the act-provoking character of an issue, and one component of this is the social consensus about the importance of an issue, which tends to be more strongly present for reducing negative externalities than for generating positive ones. Lankoski (2009) questioned whether the examination of corporate responsibility should not begin to acknowledge the dimension of economic responsibility in addition to the environmental and social dimensions. "Economic responsibility is a much richer concept than simple economic performance" (Lankoski, 2009, p. 222) and the author noted that without due attention to all three responsibility dimensions, the picture on sustainable business remains incomplete.

2.3 Socially Responsible Investing

The relationship between CSP and CFP is important to SRI insofar as the direction of the relationship determines if socially responsive firms will do well financially, or suffer the costs of these social initiatives. The financial performance translates directly into return for the investors, and thus the sign of the relationship is paramount to SRI investors who wish to 'do well while doing good'. If the CSP-CFP relationship is positive, investors receive an extra incentive to invest with their beliefs whereas a negative relationship means investors must pay to be ethical. A neutral relationship indicates that an investor seeking returns would be indifferent between SRI and conventional portfolios, thus an investor can be socially responsible without incurring a cost. The previous studies focused on the relationships between socially responsible corporations and the cost to the corporation, however the literature presented in this section specifically looked at what being a socially responsible investor means, and the subsequent benefits or costs that accrue to investors.

Due to the political situation in South Africa, the 1970s and 1980s saw a movement for the more socially aware investors to move away from investing in South Africa as a form of protest, and Grossman and Sharpe (1986) analysed the financial implications of divestment of South Africa-related stocks. The Investor Responsibility Research Center (IRRC) provided lists of companies having direct investments in South Africa, as well as some banks with loans to the South African public sector and those advocating a "complete divestment strategy" adopted this list of companies. As the alternative, non-compliance with the Sullivan Principles, resulted in too few firms being excluded the complete strategy was used. Grossman and Sharpe (1986) stated that any study of divestment must compare at least two security universes, one that would be utilized in the absence of a divestment policy and another that would be chosen if such a policy were adopted; thus the authors compared their South Africa-free (SAF) portfolio with the S&P 500 and the NYSE. Their SAF universe comprised of NYSE stocks that did not appear on the 1984 IRRC list and key statistics regarding the universe characteristics were examined; where the two universes had similar beta values, indicating that divestment need not significantly affect systematic risk. In contrast, the average SAF stock was nearly 30% smaller than that of the average NYSE firm. It was noted that size is an important factor affecting stock returns and the "small stock bias" of the SAF universe undoubtedly represented its most significant difference form the larger set of investable stocks.

Grossman and Sharpe (1986) found that the SAF portfolio outperformed the NYSE; however, the standard deviation of the SAF portfolio's excess return was also significantly higher. Comparing equal risk portfolios, the SAF portfolio still outperformed the NYSE although the difference had decreased. Grossman and Sharpe (1986) found that the average South Africa factor (indicating whether the firm was South Africa-related) was positive over the period. They also noted two key differences between the SAF and NYSE portfolios: since by design the SAF strategy excluded South Africa-related stocks this reduced the portfolios performance due to the positive average South Africa factor. A byproduct of this was that the SAF strategy also had small stock bias, increasing its returns over the sample period. This small stock effect was much greater than the South Africa effect causing the "equal-risk" SAF portfolio to outperform the NYSE, and had the South Africa factor equaled zero, the SAF strategy

would have performed even better relative to the NYSE. Grossman and Sharpe (1986) concluded that it is a "simple exercise in logic to demonstrate that any constraint placed upon a decision can only lower or leave unchanged the maximum utility that can be obtained" (Grossman & Sharpe, 1986, p. 27). The avoidance of South Africa-related stocks cannot improve the financial situation of an investor who has previously made an optimal set of investment decisions. However, some institutional investment portfolios appeared to be suboptimal and it may well be that the substitution of an efficient passive South Africa-free strategy for an inefficient active strategy may lead to an overall improvement (albeit smaller than one may obtain with an efficient unconstrained strategy).

Teoh, Welch and Wazzan (1999), henceforth Teoh et al., analysed the South African boycott with a variety of measures to assess whether socially activist investment policies had any effect on the financial markets. Sanctions during the time were aimed at applying economic pressure, thus the authors attempted to determine the extent to which the financial markets bore the burden of sanctions by looking at stock prices as "the advantage… is that stock prices quickly impound information about investors' perceptions of the consequences of these events" (Teoh et al., 1999, p. 37). The authors used an event-study methodology and "investigated the effect of the most important legislative and shareholder boycott to date: the boycott of South Africa's apartheid regime" (Teoh et al., 1999, p. 79).

Their analysis attempted to determine if political or social preference was an additional attribute of investments so that investors preference created downward sloping demand, i.e. "is the elasticity of demand for divesting firms' stock low enough so that regaining the approval by social activists can increase the firm's share price?" (Teoh et al., 1999, p. 74). Their results showed no significant return reactions, thus there was no evidence that firms were affected by their divestment announcement. Although there had been debate over divestment consequences, the authors found little empirical evidence which supported the perception that anti-apartheid shareholder and legislative boycotts affected the financial sector adversely. There was weak evidence that institutional shareholdings increased when corporations divested, and that firms that divested had their shareholders return, with a possibly more positive but insignificant valuation response. One reason suggested for this may be that "the boycott primarily reallocated

shares and operations from 'socially responsible' to more indifferent investors and countries" (Teoh et al., 1999, p. 83). Overall their evidence suggested that the South African boycott had little valuation effect on the financial sector despite the prominence and publicity of the boycott and the multitude of divesting companies. Although the sanctions may have raised the moral standards and public awareness of the situation in South Africa, it appeared that the financial markets avoided the brunt of the sanctions and "this may be an important point for future activists who are considering using the tools of the boycott for other causes" (Teoh et al., 1999, p. 83).

Hamilton, Jo and Statman (1993), henceforth Hamilton et al., considered the investment performance of socially responsible mutual funds; and at the time, the authors noted that socially responsible investment portfolios had reached $600 billion as of January 1992; and the Teachers Insurance and Annuity Association College Retirement Equities Fund (TIAA-CREF) Social Choice Account had grown to $273 million as of September 1992. The authors noted that the definition of "socially responsible" varied considerably, and that socially responsible investors usually used a combination of negative and positive investment criteria. While there was no consensus on the role of social responsibility in investment management, Lowry (1991; cited in Hamilton et al., 1993) gave four goals of SRI:

- SRI involves strategies to democratize the economy through "encouragement of the hiring, retention and promotion of woman and minorities and the increase of worker ownership in corporate America" (Hamilton et al., 1993, p. 62).
- SRI promotes practices to humanize the workplace, recognising the human price that has been paid for industrial development.
- SRI reassesses the way profits have been traditionally used and distributed.
- SRI aims to convince the world that a corporate conscience can pay.

In contrast, Rudd (1981; cited in Hamilton et al., 1993) contested that the difference between social criteria and others is that the traditional criteria have been imposed on managers solely by the investment considerations, and while they may be misguided the rationale is justifiable as they aim to protect the financial state of the beneficiaries. The authors proposed three hypotheses about the relative returns of socially responsibly portfolios:

1) *Socially Responsible returns = Conventional returns*: The social features of firms are not priced, and undesirable firms that are sold find sufficient conventional investors so that the price does not drop. Since expected returns to investors are also the cost of capital to the company, "this hypothesis implies that socially responsible investors do not reduce the relative cost of capital to socially responsible companies by favouring their stocks" (Hamilton et al., 1993, p. 63).

2) *Socially Responsible returns < Conventional returns*: Socially responsible investors impact stock prices by driving down the expected returns and the cost of capital for socially responsible firms thus increasing the value relative to conventional companies (the markets price the social features).

3) *Socially Responsible returns > Conventional returns*: This is 'doing well by doing good' and may be possible "if a sufficiently large number of investors consistently underestimate the probability that negative information will be released about companies that are not socially responsible" (Hamilton et al., 1993, p. 64). An example is when conventional investors underestimate the probability that oil companies will be in trouble because of oil spills. Declines in the price of stocks following oil spills will lower the returns of conventional portfolios, whereas socially responsible investors who shunned the oil stocks will be unaffected. This was evident with BP's Deepwater Horizon oil spill where as of the 25th June 2010, BP had lost over $100 billion in market value (Associated Press, 2010).

Hamilton et al. (1993) looked at the returns of all equity mutual funds over the sample period (including a sample of socially responsible funds). The excess returns for each fund was measured by Jensen's alpha, using the NYSE as the market rate; and the average return for the socially responsible funds was around -6 basis points per month. The authors then constructed a mutual fund benchmark by excluding all socially responsible funds from their list of funds. The average differences between the socially responsible funds and their conventional counterparts were not statistically different from zero, which indicated that the market did not price social responsibility characteristics. Investors can expect to lose nothing by investing in socially responsible mutual funds, as social factors do not affect returns or cost of capital. These results may "disappoint socially responsible investors who hope to do well while doing good. They

might also disappoint socially responsible investors who are willing to receive low returns as fair exchange for changing the world. But not all socially responsible investors attempt to change the world" (Hamilton et al., 1993, p. 66).

Diltz (1995) looked at the private cost of SRI by analyzing the effect of ethical screens on a sample of common stock portfolios. Although conventional wisdom held that investors should not mix money and morality, the fact that by 1991 the total asset value of ethically screened funds exceeded $625 billion suggested that times were changing. The theory of market efficiency suggests that as all securities are priced to reflect public information, investors should not be able to earn abnormal returns by screening firms for ethical behaviour. One view suggests that firms displaying commendable ethical behaviour may earn greater long-run returns by avoiding litigation and damages resulting from ethically negligent behaviour. Alternatively, social screening may impose an additional set of constraints to the optimisation problem faced by wealth maximising investors and thus the question becomes: are these constraints binding?

As a result of the subjective nature of ethical evaluation, Diltz (1995) examined data on individual firms, constructing portfolios rather than analysing data for investment companies that sell shares in screened portfolios. There existed a large amount of variability between investment funds regarding the types of screens employed and the degree to which firms were screened; and examination of these funds may have prevented observation of contrasts between screened and unscreened portfolios. The most comprehensive and consistent ratings applied to firms were compiled by the Council on Economic Priorities (CEP) and a summary of the CEP rating system can be found in the appendix chapter 8.2 Social Screens. Criteria such as nuclear involvement and South African operations were easily quantified, whereas other criteria like environmental performance and community outreach were subjective in nature and were more difficult to evaluate. For all but three of the criteria, they were rated as either: good, fair or poor. South African involvement and nuclear involvement were binary, while charitable giving had four categories.

The author constructed fourteen portfolio pairs, where one portfolio in each pair consisted of all firms receiving the highest rating for a particular ethical screen, and the other consisted of all firms receiving the lowest rating. Eleven of the pairs were

designed to analyse single ethical screens, while a combination of screens was examined in three of the pairs. Diltz (1995) compared estimated market model alphas for the portfolios to determine whether significant differences in unexpected returns existed (controlling for systematic risk). Following Jensen (1968; cited in Diltz 1995) significant differences in mean alpha were taken to represent a corresponding difference in portfolio performance with higher mean alpha indicative of better performance. Out of the fourteen pairs of portfolios, there were statistically significant differences in three of the pairs. Interestingly, the portfolio of firms with good environmental records displayed a significantly higher alpha at the five percent level. Similar findings occurred in the portfolios concerning defence and non-nuclear firms and these results may not be surprising given world political developments.

The second analysis consisted of an examination of excess returns for the fourteen portfolio pairs using cumulative average abnormal returns (CAARs). Out of the 168 statistics for the CAAR analysis, only nineteen were statistically significant; and of these seven were positive and twelve were negative. The CAAR analyses indicated that depending on the circumstances social screens may either enhance or hinder portfolio performance. The screens which may enhance performance come from the environment and charitable giving screens, while negative effects may result from the family benefits screen (interestingly the South Africa screen yielded ambiguous results). Ultimately, Diltz (1995) interpreted the findings "to be most consistent with the overall notion that ethical screening of portfolios neither helps nor hinders portfolio performance" (Diltz, 1995, p. 76). This was good news for individuals and institutions concerned with ownership in good corporate citizens – particularly if one views the research and its findings as an empirical test of the binding constraint issue mentioned previously. The relevant empirical question was "Are the additional ethical constraints binding, in the context of maximising portfolio return for a given systematic risk?" and it appeared that this was not the case.

Guerard (2001) investigated the cost of being socially responsible by examining the returns of an unscreened universe versus those of a screened universe. In 1990, KLD developed the Domini Social Index (DSI) by excluding the S&P 500 companies that did not pass certain screens (South Africa, product, environmental, military, nuclear power and employee relations) and including 50 Non-S&P 500 stocks with good records on

corporate citizenship, product quality and board presentation of woman and minorities. Luck and Pilotte (1993; cited in Guerard, 2001) found that the DSI outperformed the S&P 500 due to higher growth sensitivity; and out of an annualized active return of 233 basis points, 199 was due to specific asset selection providing evidence of a "green effect". It was noted that the period examined was characterized by positive growth factors and size returns meaning that smaller stocks performed better than large stocks. The literature on the impact of social screening gave mixed conclusions and at a minimum it suggested that it does not cost investors to invest socially. Guerard (2001, p. 604) noted "that it is not 'dumb' to be a socially conscious investor" and it is how a manager implements the investment process that impacts returns as opposed to the social screening itself. Guerard (2001) examined the returns of Vantage's 1300 stock unscreened universe and a 950 stock screened universe to determine if the returns were different at the 5% level. The author found no significant difference between the average monthly returns of the screened and unscreened universes during the sample period (less than a 15 basis point differential), thus an investment process that adds value using an unscreened universe is not impacted by social screening.

Guerard (2001) stated that "if there is no long-term return difference, short-term variations are due to style and size biases of a screened portfolio" (Guerard, 2001, p. 604). After examining the characteristics of the unscreened and screened universes, it was found that the unscreened universe had lower growth, higher market capitalisation and higher book-to-price sensitivities. Additionally, the socially screened out stocks had higher market capitalisations and were more value-oriented than the unscreened universe. There was a statistically significant difference between the unscreened universes lower price-to-book ratio, and the screened portfolios higher price-to-book-ratio and in the very long run this represented a risk exposure to the socially responsible investor. The screened universe was also more sensitive to the growth factor (as measured by the book-to-price ratio), which helps relative performance for socially responsible investors when the growth factor return outperforms the value factor return. In conclusion, Guerard (2001) noted that there was no statistically significant difference between the average returns of a socially-screened and unscreened universe during the sample period and "performance can vary dramatically across managers, but should not vary due to social screening over the long term" (Guerard, 2001, p. 606).

Kurtz (1997) analysed various studies to determine if SRI had no effect, or no *net* effect. The author noted that the theoretical problems raised by SRI are non-trivial, and can include questions of market efficiency, arbitrage pricing theory and the size effect. After the South Africa boycott ended, there were still in excess of 800 money managers who handled $150 billion using social screens which highlighted the importance of SRI. During the analysis, three apparent contradictions were noted: despite unavoidable diversification costs SRI stocks did not appear to have systematically underperformed the market; some studies found that factors monitored by social investors could be associated with positive abnormal returns; and differences between screened and unscreened accounts have not been material thus either social screens do not harm investment performance, or diversification costs are being offset by information effects. The question becomes, does screening have no effect on performance, or no net effect. Regarding diversification, SRI portfolios are active portfolios by definition as their screens make them different from any common benchmark and Kurtz (1997) suggested that since the impact of social screens is non-random they create uncompensated risk – which is the most widely cited objection to SRI. Grossman and Sharpe (1986) found that a South-Africa-free portfolio had a residual standard deviation of 2.51% relative to the NYSE; and Freeman and Winchester (1994; cited in Kurtz, 1997) found that simply removing SRI stocks from their investible universe increased uncompensated risk by more than 2%.

Earlier studies found that screened portfolios tend to have "smaller average capitalisations, higher price-to-book ratios, higher P/E ratios and more favourable 'excellence' ratios than their unscreened counterparts" (Kurtz, 1997, p. 38). Kurtz (1997) stated that SRI exposures can be redressed; and the search for better methods led to the use of arbitrage pricing theory (APT; described by Ross and Roll, 1976; cited in Kurtz, 1997) which rejects the notion that one portfolio dominates all others. With APT, two portfolios are good substitutes as long as the APT factor exposures are equivalent and the portfolios are large enough to diversify away idiosyncratic risk. When using fundamental factor models it was found that underweighting in the market capitalisation factor persisted because there were not enough stocks that were big enough to substitute for excluded companies. DiBartolomeo (1996; cited in Kurtz, 1997) found that when a screened portfolio was optimised to the S&P 500 using the APT model, there was a mean monthly difference of only -0.01%.

For information effects the question was whether an SRI effect existed or not. As SRI investors believed social screens contributed to the DSI's performance in the 1990s, they disputed an argument put forth by Malkiel (1971; cited in Kurtz, 1997) when he argued against the South Africa boycott. He believed that innovative and growth-minded companies will market their products worldwide, resulting in a relationship between profitability and the likelihood that the company will operate in all parts of the world, including South Africa. To the extent that these characteristics can affect future returns, altering the composition of the portfolio by divesting from South Africa might reduce the yield. SRI proponents responded that innovative and growth-minded managements will be more likely to have superior environmental programs, good employee relations and corporate citizenship; and Waddock and Graves (1997b; cited in Kurtz, 1997) found evidence of this quality of management. Thus, these firms would be better represented in the DSI than in the S&P 500 and might thereby improve returns; and it seemed the historical performance supported this position. Since corporations do not operate in a vacuum social responsibility could be a way for them to improve relations with important constituencies; however attempts to measure a "social factor" directly had failed:

- DiBartolomeo (1996) and Kurtz and DiBartolomeo (1996) [both cited in Kurtz, 1997] found that the returns of the DSI were fully explained by its fundamental factor bets.
- Grossman and Sharpe (1986) found a small negative effect of the South Africa screen after accounting for all other factors.
- Luck and Pilotte (1993; cited in Kurtz, 1997) found that the Barra fundamental factor model could not completely account for the performance of the DSI during 1990 to 1993, and an active return of 9 basis points per month remained unexplained. More recent studies with different methodologies, data sets and time periods have come to support the idea that social screens may be associated with positive abnormal returns.

Some multifactor studies of the DSI (Luck and Pilotte, 1993; Kurtz and DiBartolomeo, 1996; and DiBartolomeo, 1996; all cited in Kurtz, 1997) suggested that its performance was largely replicable by matching factor exposures, and Kurtz (1997) noted

proponents of SRI usually reject the reductionism implied by these findings with one of the following arguments:

Sign of Skilful Management: Socially responsible behaviour may be an indicator of management competence (Alexander & Buchholz, 1982) and good managers should be more likely to excel at social responsibility than their less clever counterparts.

Result of Prosperity: Social responsibility may be a by-product of financial success as prosperous businesses have less incentive to cheat and more of a stake in protecting their names. This justifies avoiding criminal behaviour, having good employee relations and investing in environmental programs and philanthropy. Kurtz (1997) stated that for researchers investigating this argument, they would need to explain why social responsibility is not a coincident indicator and why some of the most-excluded companies generate significant free cash flows, e.g. General Electric, Philip Morris etc.

Catalyst for Change: Some evidence suggested that SRI programs can stimulate operating efficiencies, particularly in the environmental area. Feldman, Soyka and Ameer (1997; cited in Kurtz, 1997) and Diltz (1995) reported positive returns to their environmental variables.

Signalling Mechanism: Socially responsible behaviour may be interpreted as a signal from management. If management expects increased free cash flows, managers who value financial flexibility may choose not to allocate these funds to dividends or share buybacks. Instead, they distribute the capital to areas that improve customer and employee perceptions of the company, but from where it can be reclaimed if necessary without much trouble.

Kurtz (1997) stated that employee relations provided an example of the difficulties faced by researchers who want to find an SRI effect where there was some theoretical justification for it. Krugman (1992; cited in Kurtz, 1997) noted firms may offer higher wages and benefits in exchange for loyalty from their workforce. This contradicts the conventional view that gains to labour come at a cost to shareholders outlined by Hotelling (1932; cited in Kurtz, 1997) and market participants may have overlooked the possibility that "progressive employment policies make the pie larger, so that workers' gains need not come at the expense of shareholders" (Kurtz, 1997, p. 42). Relationships between stock returns and these variables might be expected however many studies

failed to find them, and it may be that the market already correctly priced the social information. Although this is good news, the down side is that gaining an understanding of these issues presents no investment advantage. SRI embodies many different disciplines each with its own measurement challenges and subjective inputs and "the risk that the market already understands the relationship, or will come to understand it, is always present" (Kurtz, 1997, p.42).

Kurtz (1997) noted that screened portfolios may suffer diversification costs which have been offset by information effects. In this case the problem is that information effects are likely to be arbitraged away when they become known whereas diversification costs are permanent in unadjusted portfolios. If social screens have no impact once factor exposures have been accounted for, then portfolio managers could apply the screens and match the factor exposures to a benchmark resulting in a portfolio that is consistent with their ethics and simultaneously offers competitive returns. This would make compliance with statutory diversification requirements such as The Employee Retirement Income Security Act (ERISA) easy; although, it appeared that few portfolio managers had taken this approach. Portfolio managers wishing to get rid of active exposures of social screens may do so without incurring material costs, however "those who choose to accept active exposures, believing that an SRI effect will more than offset the diversification costs, have not yet shown why this is a compelling investment strategy" (Kurtz, 1997, p. 43).

Sauer (1997) assessed the impact of social responsibility screens on investment performance, while focusing on the evidence from the Domini 400 Social Index and the Domini Equity Mutual Fund. The performance of this screened portfolio was compared to two unrestricted benchmark portfolios in an attempt to provide a better indication of the potential costs associated with subjecting the investment universe to social screening. Sauer (1997) used various performance measures to compare the DSI to the S&P 500 and the CRSP Value Weighted Market Indexes. The results showed that although the DSI displayed higher average monthly raw returns as well as variances, the differences were not significant. Using Jensen's alpha, the results showed once again that the alphas were insignificantly different from zero (which was consistent with the findings of Hamilton et al., 1993). This suggested that screens do not necessarily have an adverse impact on the risk-adjusted returns for the well diversified investor. Sauer

(1997) noted the more appropriate risk measure for a socially responsible investor might be total risk, since if implementing these social screens restricts the investment universe then investors may subject themselves to otherwise diversifiable risk. Therefore, the Sharpe index may be a more relevant risk-adjusted measure of performance for investors that are less than well diversified. The author looked at the differences in Sharpe indexes between the DSI and the two benchmarks and found that once again there were no significant differences between these measures. Sauer (1997) stated that this was surprising since the CRSP index would be more efficient in eliminating diversifiable risk through a passive diversification strategy; however, the empirical evidence again indicated that the use of social screens did not necessarily have an adverse impact on the risk-adjusted returns for the less than well diversified investor.

Sauer (1997) examined the additional screening and monitoring costs that may adversely impact the performance available to socially responsible investors. For this, the author looked at the performance of the Domini Social Equity Mutual Fund (DSE) relative to the Vanguard Index 500 Mutual Fund and the Vanguard Extended Market Mutual Fund. The raw returns, alphas and Sharpe Index values for the mutual funds indicated that there were no statistically significant differences. This suggested that the additional screening and monitoring costs associated with implementing social screening did not have a negative impact on performance. Sauer (1997)'s evidence indicated that "the application of social responsibility screens does not necessarily have an adverse impact on investment performance" (Sauer, 1997, p. 148) regardless of the market proxy selected. The empirical evidence presented clearly indicated that "investors can choose socially responsible investments that are consistent with their value system and beliefs without being forced to sacrifice performance" (Sauer, 1997, p. 148).

DiBartolomeo and Kurtz (1999) examined the effect social screening had on portfolios, and how it was possible to manage the various risk exposures inherent in this process. "Equity portfolios whose selection of securities is subject to social responsibility screening represent different sets of economic opportunities from, and hence generally produce different returns from, those of more broadly based market indices" (DiBartolomeo & Kurtz, 1999, p. 3). Critics claim that if markets are efficient then

screens impose diversification costs, whereas if they are inefficient then social screening interferes with active management strategies. The performance of socially responsible portfolios have indicated no significant difference between conventional portfolios and screened portfolios. The strong performance of these portfolios have asked the question of what is the source behind these returns, and Luck (1993,1998; cited in DiBartolomeo & Kurtz, 1999) found that half of the DSI's outperformance was due to stock selection - a function of the social screens. With the possibility of a "social factor" the authors attempted to determine the sources of returns through the use of multi-factor models, and they found that the differences between the DSI and the S&P 500 were not from the socially responsible behaviour of the firms, but rather from the economic and sector exposures resulting from the screening process. The difference in return of 0.18% between the DSI and the S&P 500 was broken up into 0.06% for the DSI's higher beta, while the 0.12% extraordinary return consisted of 0.02% from bets on fundamental characteristics (size etc.) and 0.1% was attributable to differences in industry composition. Thus, stock returns were zero to two decimal places suggesting that the DSI performed in accordance with its factor exposures – casting doubt on the existence of a social factor. Even with the APT optimisation removing differences in macroeconomic exposures between the optimised DSI and the S&P 500, the industry contribution was still significant and this suggested that some industry-specific risks cannot be hedged away even with sophisticated risk management techniques.

Statman (2000) assessed the performance of various socially responsible mutual funds, as well as looked at the relative performance of the DSI and other stock indexes. For the sample period, the DSI beat the S&P 500 using raw and risk-adjusted returns, however using alpha the difference was found to be insignificant (consistent with Sauer, 1997). For Statman (2000)'s analysis of socially responsible mutual funds the performance of each fund was compared with that of the DSI and S&P 500. On average the raw returns of socially responsible funds trailed the returns of the S&P 500 by 6.26 percentage points a year (pps), while they trailed the DSI by 8.03 pps. A major concern of socially responsible investors is to have performance consistent with conventional funds; thus, Statman (2000) compared the performance of socially responsible funds with the performance of conventional funds of equal asset size. It was found that the socially responsible funds performed better than the conventional funds; however the differences were not significant and it seemed that "the mean performance of socially

responsible funds was negative but no worse than the mean performance of conventional funds" (Statman, 2000, p. 34). While some investors want to invest in line with their beliefs, others want to change the world and these investors can use investment or political actions. Investment actions are banners in the battle that rally people who use political actions (regulation, taxes, consumer boycotts) as swords. Investment actions can also act as swords by withdrawing capital from socially irresponsible firms. For these firms, their demand for capital depends on the profitability of investment projects and on the cost of capital, thus when socially responsible investors sell they shift the company's capital supply function in Figure 15 from S_1 to S_2 (labelled Effect of Investment Action), as a withdrawal of capital raises the cost of capital.

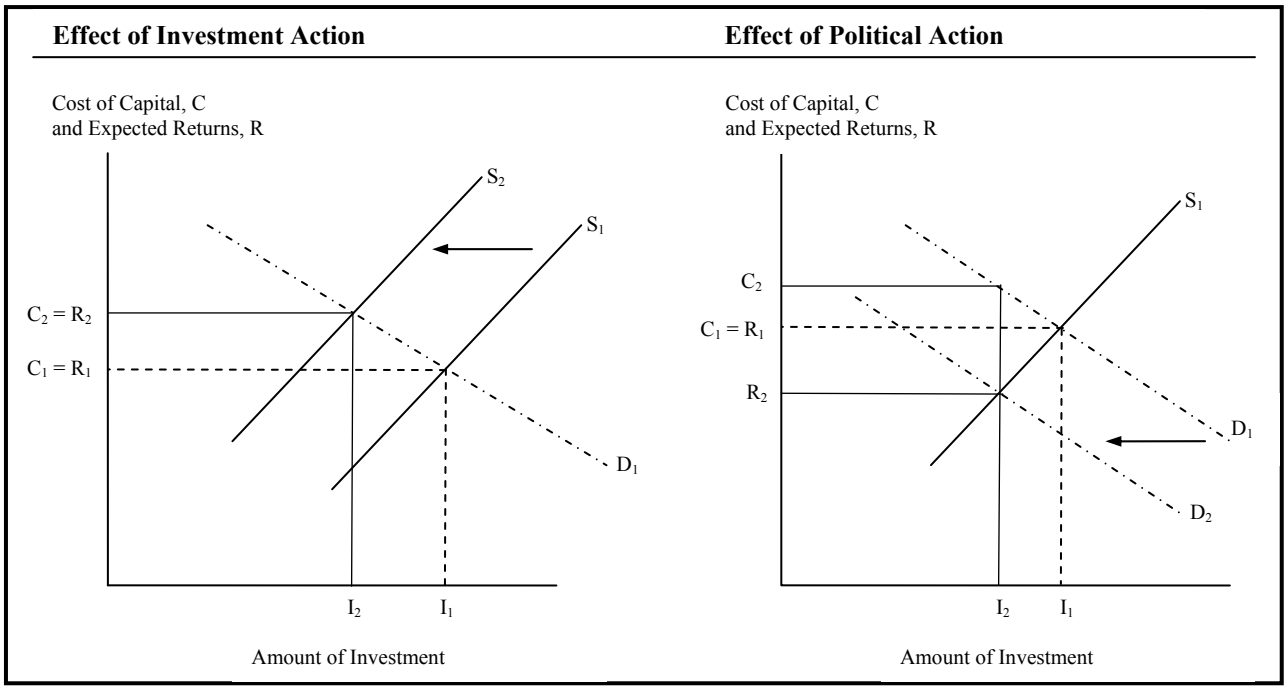


Figure 15 - The Effect of Investment Action and Political Action (Statman, 2000, p. 36)

Importantly, the supply function of capital slopes upward if higher returns induce investors to increase the supply of capital. The cost of capital to the company is the return to the investors who supply the capital, thus the shift in the supply function increases the cost of capital to the company, as well as the return to its remaining shareholders (unless the demand function is perfectly elastic). If the company's cost of capital increases, and the increase in the cost of capital forces the company to reduce its capital investment (from I_1 to I_2). Statman (2000) stated that socially responsible investors can raise the cost of capital of irresponsible firms only in the absence of numerous conventional investors who are willing to provide substitute capital at the

same cost. Thus, socially responsible investors can raise the cost of capital only if the capital supply function is less than perfectly elastic; and Statman (2000) suggests this is the case. Kinder and Domini (1997) did not consider this effect as the main objective of SRI, nor did they consider it to be an effective sword in the battle for social responsibility. Similarly, Teoh et al. (1999) doubted whether consumer boycotts have any effect on irresponsible companies after they found no financial impact of divestment.

For Kinder and Domini (1997) investment actions served only as banners and political actions, the swords. These banners rally the faithful to successful political actions, and these actions result in taxes and settlements that are costly to the irresponsible firm. These taxes and settlements diminish the number of projects companies can undertake, and the reduction of investment can be seen in Figure 15 (labelled Effect of Political Action). The imposition of taxes and settlements shifts the demand for capital from D_1 to D_2, the cost of capital increases from C_1 to C_2 (however the return to shareholders decreases from R_1 to R_2) and the increase in cost of capital leads to a reduction in the capital investment from I_1 to I_2. The difference between C_2 and R_2 is the drain from the company in the form of taxes or settlement payments. Both political actions and investment actions reduce the number of investment projects undertaken by irresponsible companies. Investment actions can lead to a downward shift in the supply of capital, which reduces the number of projects the firm can undertake, however it also increases the returns for conventional investors who remain loyal to the company. A downward shift in the demand for capital through political actions reduces the number of projects without increasing the expected returns for conventional investors, with the extra return instead going to the government. Statman (2000) concluded that "pooling investing power for something other than making money is no worse at making money than pooling it for money alone" (Statman, 2000, p. 38). The socially responsible investment movement may seem unusual to some investment professionals because the utilitarian features of money are being mixed with the value-expressive features of social responsibility, but Statman (2000) believed this resistance was odd as most products share both utilitarian and value-expressive features.

Stone, Guerard, Gultekin and Adams (2001), henceforth Stone et al. (2001), used an illustrative security return forecast as well as the construction of a forecast-based cross

section of matched portfolios to study how social screening impacted active portfolio management. The authors expanded the generality and robustness of their major conclusion which was that there was no significant cost to social screening - which also meant that there was no significant benefit to social screening. By no significant cost, the authors meant no statistically significant difference in risk-adjusted return for the performance possibility cross-section. Stone et al. (2001)'s review of previous literature found that superior returns were attributable to greater risk, higher growth and smaller size outweighing any negative impact of a higher P/E ratio; and the authors' results suggested that performance from social screening could be sensitive to the market environment. Both size and price-earnings factors exhibited high year-to-year variation in performance impact, thus "in a market adverse to risk bearing, growth, size, and/or high price-earnings ratios, socially responsible portfolios could do worse because of their factor exposures" (Stone et al., 2001, p. 21). The authors' construction of forecast portfolios matched over entire cross-sections on risk, growth, size and dividend yield eliminated most cross-sectional impact from these factors thus their conclusion of no significant cost/benefit from social screens was robust to these factor exposures. Additionally, it held for major sub-periods, and the finding was consistent for long-run as well as short-run averages.

Guerard (2001) found that the universe of unscreened stocks had an average market capitalisation of $3.433 billion, while the screened universe had a mean capitalisation of $2.796 billion; thus, the screened stocks tended to have larger market capitalisations. In contrast, McWilliams and Siegel (2001)'s framework regarding supply and demand for CSR posited that a firm's level of CSR will be positively related with size; therefore the larger a firm is, the more likely it is to display good CSR attributes. This leads to the hypothesis that depending on the way one chooses to invest (social screening or social tilting) the fundamental factors of the portfolio and ultimately the performance may be affected. Stone et al. (2001) noted that screening stocks out of an investment universe based on a social criterion decreases the size of the possible investment universe and by definition cannot increase possible returns (as any stock selection from the screened universe can still be chosen from the unscreened universe). Regarding positive social tilting, although no firms are explicitly removed those exhibiting positive social performance are favoured in the stock selection, which could increase a portfolio's returns if there is a positive relationship between social performance and financial

performance. Stone et al. (2001) focused on social screening, and factor assessments of their socially responsible portfolios concluded that most portfolios were smaller in size, confirming the above hypothesis.

An important question when looking at the theory behind SRI is why do investors feel the need to be socially responsive, and what are the differences between these people and conventional investors? Williams (2005) used data from an extensive survey of stakeholder attitudes to CSR to determine key observations regarding the characteristics of the different types of investors. The author focused on six countries which had the highest number of shareholders, as well as the most highly developed SRI focus in their investment industries: Australia, Canada, Germany, Netherlands, UK and U.S.A. Shareholders were taken to be investors who owned shares directly or indirectly through a mutual fund, pension plan or other retirement fund and SRI investors were defined as respondents who answered that a company's social responsibility influenced their investment decisions (conventional investors either considered it but did not act on the information, or did not even consider this information). Williams (2005) developed a set of hypotheses regarding the demographics, attitudes and behaviour, investor strategy and views on financial return for SRI and conventional investors.

The results of the study showed that in general demographic factors did not appear to distinguish between conventional and SRI investors. Some of the findings were that SRI investors were more highly educated and tended to have higher income. Williams (2005) found that gender did not appear to be important in any of the countries contrary to what some earlier studies had suggested. Attitudinal variables were better at distinguishing between investor types, where SRI investors prioritised social aims over financial aims (in every country except for the U.S.). SRI investors were also found to be more likely to follow through with their ethical priorities into their overall purchasing, in that they were more likely to punish firms for poor CSR by changing buying patterns, or discouraging others from buying from companies with low ethical standards. Interestingly, most respondents did not agree that firms should only pay attention to shareholder objectives which contradicted Friedman (1970)'s hypothesis. In terms of company performance "all investors appear to believe that firms with good CSR records have higher profits, whereas as discussed earlier the actual evidence for a relationship between CSR and firm performance is at best mixed" (Williams, 2005, p.

17). This is interesting since although conventional investors perceived CSR to be correlated with better financial performance, they did not act on this belief.

Derwall and Koedijk (2005) recognised the growing importance of SRI within the investment arena and analysed mutual funds that invested in socially responsible bonds. Conventional wisdom states that markets incorporate information quickly and efficiently therefore observed portfolio returns reflect compensation for portfolio risk and the best portfolio is one which is efficiently diversified. Social investments (inherently a subset of the investment universe) face a financial penalty for avoiding assets that could enhance portfolio return. This coupled with the costs of collecting data and ranking firms leads opponents of SRI to argue that socially responsible funds should underperform. Proponents of SRI believe that CSP is a determinant of long-term performance which can be overlooked by a myopic investment community. As markets correct their pricing errors, undervalued SRI stocks undergo price corrections and earn abnormal positive returns. Derwall and Koedijk (2005) compared socially responsible funds with a matched portfolio of conventional funds and employed various measures to assess the performance of these bond funds. Using Jensen's alpha the authors found that all one-factor specifications suggested SRI funds and conventional funds do not earn statistically different market-risk adjusted returns. Due to the inability of the single-index models to explain the returns of all bond classes, the authors turned to the APT model, using a number of determinants (passive indexes) as well as fundamental economic variables to determine abnormal performance.

The results indicated that SRI funds produced a higher alpha compared to conventional funds, with the difference estimated at 0.34% per annum – however it was not statistically significant. When the authors conditioned fund performance on economic cycles they found that the differential between SRI funds and conventional funds varied strongly with the state of the economy. During periods of expansion performance was similar, however during economic downturns SRI funds delivered superior factor-adjusted returns - the estimated differential in alpha was 3.75% and significant at the 10% level. It was hypothesised that the performance of SRI funds is relatively more important during downturns because of the possibility that investors are more risk averse and consequently less willing to forego return in order to be socially conscious. Thus assuming that investors are relatively more performance sensitive in downturns

the authors concluded that "SRI bond mutual funds have outclassed their conventional counterparts during periods when such outperformance seems to matter the most" (Derwall & Koedijk, 2005, p. 16). Testing the long run performance it was found that investors do not have to forego return when investing in bonds constrained by social screens and Derwall and Koedijk (2005) concluded that SRI is viable for private bondholders and for large institutional players that face strategic asset allocation problems.

Barnett and Salomon (2006) examined the relationship between CSR and CFP within mutual funds from the investor perspective; and distinguished between the different social screens and their effects on portfolio performance. Evidence has shown that SRI investments tended to perform well either being on par with conventional investments or even outperforming. SRI detractors contend that the increase in financial performance in recent times has been a direct result of slacker social screening processes which offers support for a negative relationship: as less social screening resulted in higher financial performance. In contrast proponents of SRI believe that the better a firm's social performance, the easier it can obtain quality employees, attract resources, market products, and create unforeseen opportunities - thus defining social responsibility as a source of competitive advantage. Firms with higher CSP (the focused investments of SRI investors) would be expected to perform better than their conventional peers and deliver higher returns. Since mutual funds seek to maximise profit and are also concerned with diversification, funds that have strict social criteria may be unable to adequately diversify exposing the fund to additional risk. SRI supporters note that although the breadth of firms is lacking, socially responsible firms are better managed than the average firm and generate higher financial returns, offsetting the diversification costs; thus, this resulted in two opposing views:

Financial costs of social responsibility: CSR is costly and puts firms at a competitive disadvantage. Through screening, SRI funds restrict their investments to firms that have higher operating costs, and below-average financial performance. Additionally, modern portfolio theory predicts that screening results in a lack of diversification and an introduction of specific risk which decreases risk-adjusted returns.

Financial benefits of social responsibility: Evidence shows SRI funds have yielded equal or excessive returns compared to conventional funds (Diltz, 1995; Hamilton et

al., 1993). Although the screening process limits diversification, portfolio theory does not recognise the possible benefits that social screening may bring. While managers are constrained in their choice of stocks, the pool from which they choose is superior to the overall market, and likely to provide superior returns due to superior management talent, as well as better management of key stakeholders.

Barnett and Salomon (2006) noted that comparing screened and unscreened portfolios confounds a range of screening practices within SRI funds and therefore the variances within screened funds must be examined to determine the nature of the relationship. Combining stakeholder and modern portfolio theory the resultant idea was that there is a curvilinear relationship between CSP and CFP. Efficient markets predict that the entire universe of stocks has a uniform distribution of returns, with the stocks in the centre earning the market return and the left and right tails earning less and more respectively. Managers drawing random stocks can expect portfolios that will earn the market return as long as they are diversified, but since social screening constrains the ability to diversify it is expected that an SRI fund will underperform the market. However, a manager using social screens may have better odds at picking stocks in the right tail - as from stakeholder theory, firms engaging in CSR are likely to achieve superior performance and be in the right tail of the distribution. This situation is shown in Figure 16:

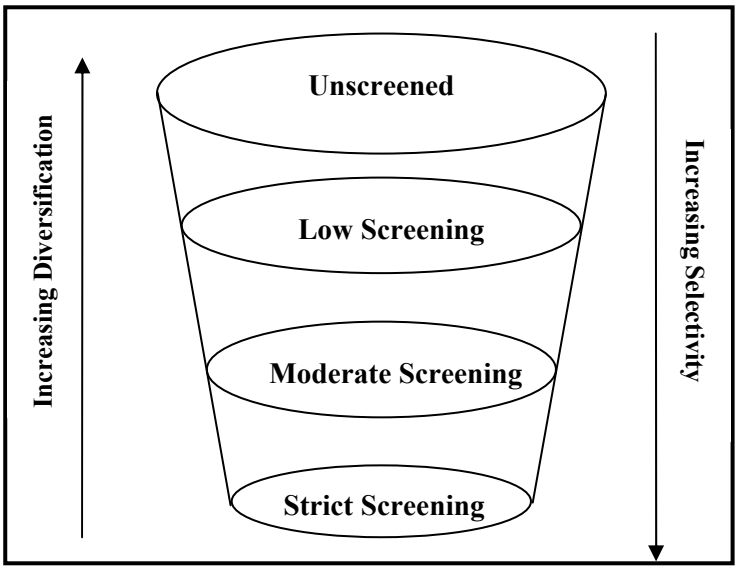


Figure 16 - The Effects of Social Screening on the Universe of Stock Choices (Barnett and Salomon, 2006, p. 1106)

Using screens excludes firms with poor stakeholder relations and funnels in firms with good relations; therefore, SRI managers are more likely to select firms that achieve

above-average returns. SRI funds with weaker social responsibility standards can choose from a broader universe of stocks, increasing diversification and risk-adjusted performance. As the social standards increase, the pool of possible investments shrinks, decreasing the possibility of a well-diversified portfolio, however this is offset by the improved selection of firms inherent in the more stringent screening. As a fund bears more specific risk by choosing from an increasingly smaller pool of stocks, the pool becomes richer and the manager is more likely to pick a stock with superior returns. Funds that are "stuck in the middle" may bear all the costs of either pure strategy (diversification or social screening) without gaining any of the benefits. This leads the authors to their key hypothesis (H1) that "the relationship between the intensity of social screening and financial performance for SRI funds is curvilinear (U-shaped)" (Barnett & Salomon, 2006, p. 1107). This hypothesis is similar to the results found by Brammer and Millington (2008) when they examined the relationship between CFP and CSP. They found that a firm which is in the middle category does not avoid the costs of CSR initiatives yet does not spend enough to receive the benefits, resulting in inferior financial performance. Although earlier papers such as Bowman and Haire (1975) have suggested an inverted U-shape for the relationship, advances in social issues as well as managements' responses to these issues may mean that there is no more "optimal" level of CSR spending, since the theory predicts being "stuck in the middle" may be detrimental to performance. It was argued that either extreme of CSP resulted in inferior performance, however as can be seen in both Brammer and Millington (2008) and Barnett and Salomon (2006), the extremes performed better.

Barnett and Salomon (2006) found no linear relationship between risk-adjusted performance and screening intensity; however they found a positive and significant coefficient once they introduced a squared screening intensity term, implying a curvilinear, non-monotonic relationship - supporting H1. Once performance reached a minimum at seven screens, although it increased continuously until the maximum of twelve screens, performance was still lower than that achieved with one screen (a decrease of around 2.4% per year) as seen in Figure 17.

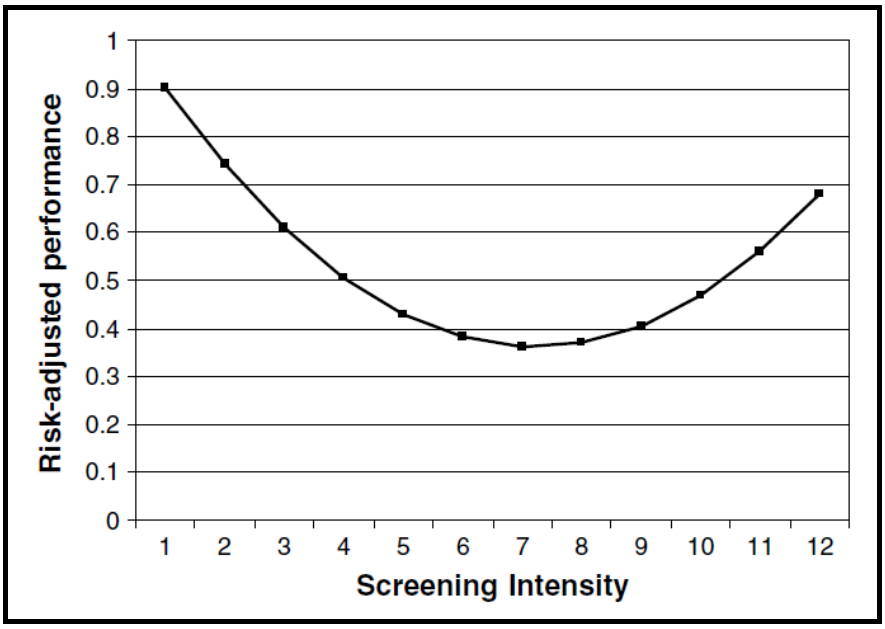


Figure 17 - Non-Monotonic Effects of Screening (Barnett & Salomon, 2006, p. 1115)

Barnett and Salomon (2006)'s finding supported portfolio and stakeholder theories to varying degrees: although screening forces a reduction in investment choices, if properly implemented social screening can lead to an increase in financial returns and "the financial performance of those limited firms chosen through intensive social screening offsets costs from loss of portfolio diversification to some degree" (Barnett & Salomon, 2006, p. 1117). Funds with many screens eliminate underperforming firms, whereas funds with few screens receive the benefits of increased diversification, thus funds that are stuck in the middle may not be able to diversify away unsystematic risk, nor eliminate enough underperforming firms to improve CFP.

Lozano, Albareda and Balaguer (2006) stated that a necessary element for the development of SRI is to achieve acceptance that SRI is not an end in itself but rather a fundamental element of CSR. According to the authors SRI can be understood as "the most widely accepted expression of support from the financial markets for good CSR practices" (Lozano, Albareda & Balaguer, 2006, p. 313). Thus the aim of SRI is to influence businesses to achieve a more sustainable development, and this macroeconomic view of SRI (as a driver of CSR) means that collective investment needs to be considered. Among their chief conclusions, the authors stated that in order to consolidate the link between CSR and SRI, engagement with companies on decisions linked to investments must be improved on – as this would allow business to respond to the social and ethical concerns raised by conscientious investors.

3. Corporate Social Responsibility in Today's world

In this dissertation, although CSR has been looked at in terms of externalities, a deeper look at the corporate governance aspect of CSR may be warranted in terms of South African current affairs. In recent times the newspapers have been inundated with stories about government parastatals being overrun by bad governance practices and dodgy dealings. These serve as good examples of what can go wrong, and why shareholders and other stakeholders need to be vigilant. One example of social factors affecting decisions was evident in The Star newspaper from 10 March 2010. There was an article detailing how a Chinese factory producing figures of the 2010 World Cup mascot had stopped production after the merchandise company for FIFA withdrew manufacturing approval as the result of an investigation into alleged sweatshop conditions. In a statement from the company, it was revealed that "the audit identified a number of non-conformances against Global Brands' CSR policy" and as a result approval was suspended (Mkhwanazi, 2010). This is interesting, in that traditional CSR values and policies would applaud the decision to suspend approval of the Chinese factory until the sweatshop allegations were clarified. In the next chapter on developing economies, Bernstein (2010) makes a case that sweatshops are essentially a necessary evil due to the economic position of emerging economies. Her argument is that by enforcing unreasonable and unrealistic restrictions on undeveloped economies, their growth will be stunted, poverty will not be alleviated, and it will take longer for the countries to grow themselves to a level where they can afford to be socially responsible. Thus, in this light, it is important to consider all aspects of social responsibility as although it may sound unethical on the surface; the underlying reasons behind such situations may necessitate a paradigm shift in our thinking towards developing economies.

In 2000, Anderson & Cavanagh produced a report for the Institute for Policy Studies on the Top 200 economic entities in the world where one of their key findings was that out of the top 100 economic entities 51 of these were corporations and 49 were countries. A cursory examination using lists provided by Wikipedia indicated that this finding more or less holds today. Although Bernstein (2010) argued against taking too much out of this superficial finding, it does help to see that big business truly carries some influence, and inherent in their size lie numerous externalities which if not managed could be

detrimental to society. Although fiction has produced the adage "with great power comes great responsibility" it seems to have even more meaning in this context; thus without restricting business too much, attention should be paid to their 'responsibilities' to society, whether it comes from the externalities they may produce or just from the due course of business.

Professor Mervyn King was quoted in a 2009 SRI Index press release as stating that as sustainability is becoming more important "companies cannot separate governance, strategy and sustainability. The State has a constitutional obligation on sustainable ecological development and the Commissioner, under the new Companies Act, will have the power to stop reckless business. It is reckless to act oblivious to the parallel crises of financial, climate change, ecosystems and biodiversity" (SRI Index, 2009a, para. 10). This statement indicates the importance of pre-empting any action by the government in terms of regulating company activities. Thus, if companies can recognise their impacts and correct them before they are forced to do so by external constituents, they can avoid costs as well as bad publicity. This relates to Joseph Stiglitz (cited in Petrillo, 2009) when he gave a speech in August 2008[6] that stated SRI anticipates broader social movements by excluding stocks due to trends that the entire market will have to respond to, and in this way SRI is thinking ahead. In light of changing ethical and social norms as well as acceptable behaviour, it becomes untenable to continue business activities in ways that society does not approve of. By maintaining a healthy relationship with external stakeholders as well as taking cognisance of their concerns for the future; it becomes easier to predict what future issues may become more mainstream and affect all participants in the market (voluntarily or otherwise). In this way, anticipating the market through socially responsible behaviour can lead to competitive advantage.

One of the most succinct examples of positive externalities being generated by socially responsible activities was given in Porter and Kramer (2006) where they discussed the situation of Nestlé in India. The authors noted that Nestlé's approach to working with small farmers "exemplifies the symbiotic relationship between social progress and competitive advantage" (Porter & Kramer, 2006, p. 11). In 1962 when Nestlé wanted to

[6] Stiglitz gave a speech at an event organized by the Norwegian Ministry of Finance. It can be viewed here: http://media01.smartcom.no/Microsite/dss_01.aspx?eventid=3386

enter the Indian market they were given permission to build a dairy in a region where poverty was severe and people were without electricity, transportation, telephones or medical care. The typical farmer owned less than five acres of poorly irrigated and infertile soil, and produced just enough milk for their own consumption. Additionally, due to the lack of refrigeration and transportation, milk could not travel far and was frequently contaminated. Nestlé was in India to do business (not to engage in CSR) and its value chain depended on establishing local sources of milk from a large, diversified base of small farmers. In order to establish this value chain required Nestlé to transform the competitive context and as a result generated tremendous shared value for the company as well as the region.

Nestlé built refrigeration dairies as collection points in each town and sent trucks to the dairies to collect the milk. With the trucks went veterinarians, nutritionists, quality assurance experts as well as medicines and nutritional supplements for sick animals. Training sessions were held for local farmers where they learned how to improve the quality of the milk, and they began to use previously unaffordable techniques that fed cows, increased crop yields, produced surplus wheat and rice, and ultimately raised the standard of living. When the milk factory first opened there were 180 local farmers supplying milk; whereas at the time of Porter and Kramer (2006)'s article, there were more than 75 000 farmers in the region and Nestlé collected the milk twice daily from more than 650 village dairies. Milk production increased 50-fold, and as the quality has improved the farmers were able to get higher prices than those set by the government. Following from these increased payments farmers have been able to obtain credit that allowed competing dairies and milk factories to open. The region where Nestlé opened its milk factory has a significantly higher standard of living than other regions, where ninety percent of the homes have electricity, most have telephones and all the villages have primary schools. The region has five times the number of doctors as neighbouring regions, and the increased purchasing power of the local farmers has expanded the market for Nestlé's products, further supporting the firm's economic success (Porter & Kramer, 2006, p. 11). Ultimately the firms commitment to working with small farmers is central to its strategy as it enables a stable supply of high quality commodities without paying middlemen; and in each case where Nestlé has set up factories, introduced technologies and helped communities, Nestlé has prospered as well as the community. The socially responsible behaviour in the above example has become a part

of Nestlé's strategy to remain competitive, and by investing in the community it helped build up a competitive advantage, as well as helped develop the economic progress of the society where it operated.

In recent times it has become hard to pick up a newspaper or financial publication without finding some news about social responsibility, going green or sustainable business. It is stemming from this "demand" that this study attempts to examine the underlying relationships between social and financial performance, especially in a South African context. The last part is important due to the fact that being an emerging market, social responsibility may mean different things for this country. Since CSR often aims to solve global issues, the discussion around these topics have tended to be similarly global, but the problem with this (and a valid point raised by Bernstein, 2010, in the next chapter) is that many of the developed economies went through stages in their growth where they could not afford such high social and environmental practices. Thus, if South Africa were to take first world ambitions and goals; and impress these upon local business there may have detrimental effects to the country's economic development. This and other key issues related to the idea of CSR in developing economies are covered in the following chapter.

3.1 Corporate Responsibility in Developing Economies

Bernstein (2010) made a case for business in developing nations where one of the central themes was CSR, and specifically its role in emerging economies. Unfortunately the author framed CSR as inherently anti-business in that the responsibilities put on companies do more harm than good and advocates of CSR seem to be leaning towards anti-capitalist ideas that may sound helpful, but under closer inspection reveal to be devastating to business as a whole, and developing economies in particular. Although Bernstein (2010) does not argue that business can do no wrong, she tries to present a new approach to business and society where the inherent good of business is recognised. One of her most important and frequent ideas is that business does good simply by doing business and making profit. As cited from the World Business Council for Sustainable Development, successful companies create both shareholder value and operate responsibly. They meet customers' needs for goods and services; they create

jobs and pay wages; provide pensions and health plans; innovate products that contribute to human progress; pay taxes; and through efficiency gains reduce the consumption of resources. When businesses try to be sustainable, it goes beyond generating short-term shareholder value to building trust and maintaining a healthy business environment and all of the above benefits are created in the normal course of responding to the market (Bernstein, 2010, p. 348).

In terms of the environment, Bernstein (2010) argued that global policies regarding climate change are far from clear and exceed the competence and remit of private enterprise. Although this does not mean individual companies should not clean up their emissions it is a different matter from developing international measures to combat global warming (Bernstein, 2010, p. 106). This argument may seem reasonable since even if big business makes an effort to change; without getting governments and subsequently all other enterprises to follow suit it may not be sufficient. Although the goal of a more sustainable business environment is the same, Bernstein (2010) suggested this should be headed by governments affected with the public interest as opposed to private corporations. Previous literature on corporate environmental impacts dealt primarily with business practices in developed countries (marked with extensive government regulation) and although labelled CSR, business decisions in this field frequently represented normal business practices rather than new initiatives in corporate responsibility. Additionally, many companies have voluntarily accepted greater responsibility for the environmental impact of what they produce, purchase and sell (Bernstein, 2010, p. 112). This argument fails to appreciate that, as Stiglitz (cited in Petrillo, 2009) suggested, SRI is thinking ahead; thus, a firm acting in accordance with its CSR initiatives today may in fact be acting in accordance with normal behaviour in a few years time. It is through this anticipation that socially responsible companies can foresee future regulation as well as avoid future litigation - and which the author labels normal business practice. Bernstein (2010, p. 122) also stated that many claimed responsibility successes are things companies would have done anyway as new technologies or societal standards changed. This again, however, demonstrates that using CSR to prompt these actions before society demands may save companies time and resources. When everyone else is forced to comply, the necessary changes have already been implemented; and this foresight may result in a competitive advantage for the firm.

It was noted that the reputation of companies has not affected their ability to hire/retain employees, and few companies have been punished or rewarded by financial markets for their social performance. CSR is neither necessary nor sufficient for business success, however many firms act as if it matters. If CSR is viewed as a strategic opportunity then it can be likened to many opportunities that are not necessary or sufficient for business success; but which can have strong positive impacts especially in terms of competitive advantage and differentiation strategies. Unfortunately, many companies now focus on somewhat generic corporate social investment initiatives and Bernstein (2010, p. 267) noted that in general a strategic, long-term, fact-based approach is lacking from most companies' efforts, while these are generally present in other parts of the business. Firms need to understand objectively the political and social context in which they operate and they must pinpoint the complexities, risk and dilemmas that may reside unseen within this context. This mirrors what Porter and Kramer (2006) suggested about CSR in that previous initiatives have tended to lack strategy, and once companies can identify points of intersection between their business operations and social issues; they are able to generate value for society and the business. Companies should define their plans and social roles on their own terms and once this is done, business can identify ways in which it can make a difference to development. This would be more strategically oriented and more closely aligned to their core activities and skills, as well as the social and economic realities in the developing societies in which they operate. Recalling the adage "give a man a fish, and you feed him for a day; teach a man to fish, and you feed him for a lifetime" it may be wise for businesses to move away from the philanthropic aspect of CSR; as corporate giving may not be the most efficient and effective use of resources in terms of solving social ills. With regard to poverty, Bernstein (2010) noted that through developing the economic standing of the country, businesses can slowly improve the living standards of the citizens. Thus, instead of wasting money on social contributions, more positive and beneficial projects could be undertaken that generate value for society as well as business at large.

The author argued that through their normal activities in pursuit of profit, businesses makes a profound difference to communities and individuals and this is generally ignored or taken for granted in the prevailing conversation about business and 'doing

good'. Large companies are rightly committed to playing a broader social role, and are prepared to commit significant resources; however they should be used to maximum effect. Although Bernstein (2010, p. 287-288) does not suggest that business is always better than government, and that all public services should be privatised; it is important to examine what services and goods market forces and companies can provide and within what kinds of structures to ensure that society benefits from the discipline and innovation of market competition. Although certain essential public goods must be provided by the state (or at least funded by it) social goods are sometimes most efficiently produced by the private sector, but their public nature calls for the government to help pay for them. Therefore to provide the foundation for market action the government should supply the monetary, legal and regulatory infrastructure. The question of private schooling was raised in her book, and in an article in The Star newspaper on August 12 2010, a study by the Centre for Development and Enterprise was quoted as having found numerous low-cost and profitable private schools appearing, with at least 30% of the schools in the area being privately run. Bernstein (2010, p. 253) cited a UN report that called for the provision of services by private enterprises which also called for targeted subsidies and tax incentives when they are needed to correct market imperfections. It welcomed the private provision of essential infrastructure such as power, water, communications, and transport through public-private partnerships. Interestingly this has started happening in South Africa with independent power producers looking to partner governmental organisations for the provision of infrastructure and public services.

Another contrasting view was when Bernstein (2010) questioned the need for "development goals" in light of the success that business has had in eradicating poverty in developing economies – through the normal course of business. Generally the impression is created that all actions by business in the social arena are desirable, and energy and commitment count more than results. It was argued that the solution to solving major public problems lies in a functioning government, good courts and economic opportunities for growth. Corruption, poor education and very little accountability get in the way of results, thus companies should attempt to build public capacity instead of trying to replace it. Resulting from this inability to enact change all the pressure on corporations sets them up for failure as, regardless of the intentions behind these projects, their cumulative social impact is greatly overstated (Bernstein,

2010, p. 241). The discussion concerning business and global poverty ignores the phenomenal economic achievements of successful developing countries which engaged with companies who are now deemed inadequate. The commitments society forces on business to do more are not good for developing countries, do not solve the issue of poverty and are not key priorities on the business agenda. If people are truly concerned about the masses living in poverty, instead of focusing efforts aimed at restricting global trade, businesses need to act for the countries by developing alliances with the governments and citizens, and assisting them in developing strategies in line with their circumstances and needs. "Business needs its own agenda, one that will have much more to do with governance, an improved environment in which to do business, and national competitiveness" (Bernstein, 2010, p. 243).

The author also questioned why first world tastes and preferences are considered morally superior to the life-determining choices facing poor people in developing countries. How can developed nations tell poor countries to adopt sustainable development doctrines that restrict energy and economic development when those same countries went through a similar stage in their economic expansion? The risks taken were necessary to achieve their current environmental and technological status, and by imposing additional restraints on the developing world they are penalising the poorest of the poor who are most in need of the resultant economic development. Bernstein (2010, p. 320-322) offered South Africa as an example of a developing country adopting first world best practices regarding environmental impacts, and its negative effect on the development of the poor; as well as making the delivery of a better life for South Africans harder and more expensive. Current discussions do not reflect the trade-offs that developing countries must make and other important elements missing from this dialogue include the role of markets in economic and social arenas, as well as the role of the state in creating the context for growth. The key here is that developing economies cannot afford to be as responsible as developed nations desire, but this does not mean they should be able to develop while sparing no thought towards the externalities which they produce. There are things companies can and should do and it is in their long-term interests to do so, however, they should be handled far more strategically than they are at the moment. This is where the previous academic literature overlaps with the author's suggestions in that as Porter and Kramer (2006) proposed there are social aspects that companies must pay attention to which should be done in

strategic ways that benefit the business and society simultaneously. Companies should use their resources for domestic and international policy change, however "the key is to marry business interest with social involvement and to build on business strengths rather than pretend to be experts in arenas far removed from company activities" (Bernstein, 2010, p. 323). A balance must be found for social responsibilities to be fulfilled while maintaining the economic development that is critical to growth and prosperity. Lankoski (2009) suggested that companies include economic responsibility in addition to environmental and social responsibilities as it is a much richer concept than economic performance and perhaps an ideal like this is needed to combine the importance of economic growth with sustainable business practices in developing nations.

It was noted that the wide scope of CSR and the question of who a company is responsible to is unhelpful in this conversation. As covered earlier, one of the staunchest opponents of social responsibility was Milton Friedman, who stated that the main responsibility of business was to maximise the profits of shareholders. The author argued against the idea that 'the business of business is business', as it is too narrow to be helpful to either society or business and it implies that companies should operate in isolation of the societies in which they are embedded (Bernstein, 2010, p. 324). Another one of Bernstein (2010, p. 335)'s most fervent arguments is that business shall remain a part of the problem until they clarify the benefits of their companies and the importance of markets and companies for social welfare. Successful enterprise is taken for granted and additional regulations and accountability will have an impact on companies' core business and bottom lines; which ultimately will hurt the process of innovation and risk-taking. Companies should start focusing on the key development challenges holding back economic growth such as increasing competitiveness and improving business environments; instead of spending too much attention on welfarist approaches to development. Bernstein (2010, p. 370) suggested a few key areas which need to be thought about, and which will help produce solutions to the issue of 'business and society':

- Companies and business organisations need to be clear on appropriate roles and relationships involving the state and markets.

- Companies should think about establishing specialist organisations to help governments become more effective in certain areas that are vital for business.
- Companies should introduce information and new ideas about business and national development into public debates.
- Business leaders should stand up for the market economy, and participate in the battle of ideas about business and society as they have an interest in reshaping the framework and the role of companies in contributing to the public good.

The debate about corporate power and responsibility is important because it bears on the role of market dynamics in the world economy and individual nations, the place of business organisations within the market, the relationship of both the market and business organisations with politics, the nature of development and modernisation, the best route out of poverty, and the relationship of all of these issues with the global community.

4. Methodology

As seen with the earlier academic literature, there are a number of methods that can be used to analyze the problem at hand. There are options with regard to the measurement of CSP as well as that of firm financial performance; where some of the performance measures are market based while others are accounting based and some thought must be given as to which measures will be used. Similarly, trying to account for the social performance of firms can be challenging as the two most common methods of content analysis as well as reputational indexes require a lot of subjectivity in compiling the data. Waddock and Graves (1994) noted the difficulty in measuring CSP consistently (as mentioned in Aupperle et al., 1985) - and the variety in research methods is evident as some researchers attempted to use forced-choice instruments, the Fortune reputational and social responsibility index, content analysis of documents, behavioural and perceptual measures, and case study methodologies. The limitations for each method have been presented as follows:

Survey method:	this method has problems relating to return rates and consistency among raters,
Fortune ratings:	these were criticized as being as much a measure of overall corporate financial performance as of CSP
Content analysis:	this method depends on the comprehensiveness of and the purposes for which the documents were originally created
Behavioural measures:	these potentially suffer from respondent bias and inconsistency
Case study methods:	these suffer from both inconsistency and lack of generalisability.

Recalling the businessmen and student surveys, Arlow and Gannon (1982) questioned whether evaluations made by students, executives and whoever in the 1970s apply in present times. On top of this, it was doubted that individuals have a sufficient amount of information about corporations to make assessments on CSP, and judgements are likely to vary depending on the respondents or their locale. This lends credit to the methodology used by the JSE to measure the CSR of firms, and indirectly affords the

proxy used in this study with some credibility. According to Cochran and Wood (1984)'s examination of CSR and CSP measurement, it can be seen that EIRIS' analysis of firms for the JSE takes into account both content analysis and the use of a reputational index. Since the firms are analysed using a list of criteria, this 'reputation index' can be taken to mean that these firms comply with social responsibility in certain areas, and although it cannot be used to distinguish between different levels of performance, it was easy to tell apart the performers from the non-performers. To collect the data for application of these criteria, EIRIS looked at all public documentation (such as annual reports, websites etc.) and then gathered feedback from the completion of surveys to clarify research in addition to gathering non-public information. Thus, in its totality, this method of assessing the firms can be seen to encompass two of the most popular methods of measuring CSR. Generally, publications tend to be associated with social disclosure and Ullmann (1985) stated that social disclosure cannot be used as a proxy for social performance when attempting to examine the relationships between CFP and CSP. However, participation in the SRI can be taken as a proxy for social performance as opposed to social disclosure; since the criteria are applied generally to areas of firm performance and thus companies who are actually showing positive signs of social activities are likely to be recognized by the SRI as potential constituents.

Abbott and Monsen (1979) noted theoretical reasons why corporations should be expected to under and over report their activities. Since these activities involve costs, reading of such social activities by shareholders can be taken to mean that the firm is not taking their interests as the highest priority, and therefore the corporation may be induced to underreport such social activities. Alternatively, reading of the corporations progressive views on social responsibilities can enhance confidence of the politically savvy shareholder in management's policies, resulting in overreporting of these activities. On top of shareholder responses, staff effectiveness and sensitivity to issues are also determinants of reporting activities. Arlow and Gannon (1982) questioned the use of annual reports as measures of social responsiveness as they may more appropriately reflect PR or promotional effort rather than responsiveness. Although these aspects of firm behaviour need to be accounted for when performing content analyses, the fact that EIRIS used many sources of information to assess social performance could be taken to mean that any over and under reporting of activities, as

well as PR efforts, may not have affected the outcome in any way. The assimilation of public and private information would have resulted in a complete overview of the CSR situation of the firm, and thus Abbott and Monsen (1979)'s theoretical ideas (although valid) do not have too much bearing in this situation. Callan and Thomas (2009) found that their results changed significantly when they broke up their CSP measure into two distinct variables, one accounting for the positive screens (Qualitative Issue Areas) and another for the negative screens (Controversial Business Issues). The authors found that grouping these two aspects of social performance into one measure may obscure results, and their study showed that the negative screens had markedly stronger influences on a firm's return than changes in qualitative areas such as corporate governance and human rights. Since the main proxy for CSP in this study was participation in the SRI index, the criteria used to assess inclusion can be examined – however, they generally seem to be positive in nature. As mentioned in the introduction, one of the core ideas behind the SRI was to focus on positive issues so that instead of excluding poor performers, they could be guided towards improved social performance. In this way there was no possibility to separate negative screens from positive screens, due to the fact that the SRI index focused on the positive aspects of CSP, as opposed to the KLD ratings where they reported on both types of screens.

In light of the data being derived from the SRI index, as well as any other conventional firms sourced from the JSE, these publicly held firms mean that the framework used by McWilliams and Siegel (2001) for their theory of a firm perspective holds in this case. This was as a result of their framework implying that the market for corporate control is a motivator behind mangers acting in the shareholders interests; thus, for privately held companies this market is missing and firms may behave differently from what is expected. This allows the various hypotheses developed by McWilliams and Siegel (2001) to be applied and tested in this study, and some of the propositions regarding CSP attributes and size are examined in later chapters. The main methodological approaches for this dissertation differ firstly in their time horizon, and secondly in their objectives. This study looked to examine the question of CSR from two perspectives, those being from the standpoint of the actual company involved in CSR, and from the standpoint of the investor who chooses to invest ethically. For the firm, the question is how does being socially responsible affect the traditional bottom line, as well as affect any firm characteristics that would be fundamental to its operations. Ultimately this

allows the firm to determine if being socially responsible is viable as the financial effect will be examined, and it will be possible to establish if the benefits outweigh the costs or not. From the investor's perspective, the key performance indicator here is the financial return that can be attained from the investment. Therefore the question here is finding out how well the socially responsible investment performs relative to a benchmark, market index or conventional investment. This is important because the answer to this allows conclusions to be made about the outcome of SRI. If there is a cost to ethical investing it may deter some people from investing with their morals, or if investors still choose to be socially responsible it is clearly understood that they are sacrificing return in order to invest in accordance with their beliefs. Alternatively, if being socially responsible with your money results in no significant differences in return, an investor may be indifferent to this position. A final possibility is that being socially responsible bestows additional financial benefits, and this outcome may drive additional investors to socially responsible firms, even if their only investment criterion is financial performance.

Regarding the empirical methodology, three main approaches were used in the analysis of these relationships. The short-term approach for the firm perspective was embodied by the event study, where short term price changes were examined around the announcement dates of the SRI company lists. This approach by its very definition examines the market "return" in that the abnormal returns around specified events were examined to see if they were significant. It is also short term as the efficient market hypothesis states that efficient markets impound new information immediately; thus, if the specified CSR event has any significance and does motivate investors to change their perceptions of the firm, it should happen almost instantaneously. As a result it made no sense to look for a long-term effect in terms of changes on the share price, and ultimately the market measure was restricted to the short-term analysis. The actual methodology was taken directly from McWilliams and Siegel (1997) where they examined the event study methodology as it relates to management, and specifically CSR. The upcoming section on the event study details the steps followed as well as the results found. Ortlitzky et al. (2003) noted that some areas required further inquiry, such as the relationship between CSP reputation measures and market-based CFP. In addition, Arlow and Gannon (1982) pointed out that using measures related to common stock have limitations since common stock valuation and returns on equity may be

dependent on other factors such as the state of the economy. These issues may be tested using the SRI index as a proxy for reputation and the market based measures from this study. An informal test of this comes when examining the announcement dates of the SRI constituent lists. If there is no significant result it may indicate that the reputation of socially responsible firms has already been priced into the firms stock. Alternatively, no result could also mean that the firm's reputation does not affect its financial outcome in the eyes of investors.

In terms of another research methodology, once again from the firm perspective, the longer term approach entailed using regression analysis to compare SRI firms to conventional firms. The aim of this analysis was to find out if any abnormal return differences do exist between these two categories of investments, and also if being socially responsible changes the firm in any fundamental way. As an example, the majority of the 40 largest firms on the JSE were consistently in the SRI index constituent list, thus it would be important to find out if this is a direct consequence of being socially responsible, a consequence of the SRI selection process, or perhaps a consequence of circumstance in that the largest firms in South Africa have been able to afford CSR initiatives ahead of the rest of the market. These regressions were also used to test for causality in terms of the CFP-CSP relationship by introducing lags into the variables. As noted by McGuire et al. (1988) the effects of past and future firm performance need to be noted in terms of this relationship, and in some of the regressions the past ROE and ROA were included over the previous five years. The problem when looking at future performance was that since the SRI index was only in existence from 2004 onwards, if the analysis started in 2004 there would be 5 years of future returns for the constituent firms in that year. However, each subsequent year would have one less observation of future performance until the final year where no future performance could be observed, due to the fact that the results had not yet been published at the time. Therefore although prior performance was thoroughly tested, future performance needed to be examined in a different way. As a direct consequence of this issue, for causality separate regressions were run using one year's prior and subsequent performance on the participation in the SRI index, as described in Waddock and Graves (1997).

In order to use the regression analysis to test for the SRI effect, there were potentially a few alternative ways to do this. To test whether SRI firms were more profitable, regressions were run using the dummy SRI variable to indicate past or present participation in the SRI index, whereas a zero in the dummy variable indicated that the firm had never been on any of the SRI constituent lists. Therefore this analysis compared firms who had been on the SRI to the firms that had not made it, and this analysis was back-tested over a fifteen year period. A more refined approach used the SRI dummy variable to indicate if the firm was on the SRI index for the given year, an approach similar to that of McWilliams and Siegel (2000). With this method, it was possible to look at firms coming on and off the SRI, and to analyse whether these changes had any relationships with the prior or current financial performance of the firm.

Measures of financial performance are generally separated into two categories: accounting and market based. Arguments for both of these have been given in the literature review, and they include numerous types from EPS and P/E (which are influenced by the rate of growth and accounting practices, and cannot be compared without considering leverage and risk) to ROA and ROE. McGuire et al. (1988) noted that accounting based measures tap into the historical aspects of performance, and are generally subject to bias from managerial manipulation and differences in accounting procedures. These measures need to be adjusted for risk, industry characteristics and other variables. On the other hand market based measures are less susceptible to accounting procedures and represent the investors' evaluation of future earnings. However, these measures imply that the investors' evaluation is the proper performance measure and due to multiple constituencies concentration on investors may not be sufficient. An earlier view on these two contrasting measures noted that accounting returns are generally best able to capture the firm's unique characteristics and internal efficiencies as opposed to the general performance measure of market return. Brammer and Millington (2008) pointed out that market based measures are influenced by a range of factors unrelated to the activity of the individual firm, and similarly the objectivity and informational value of accounting data can be questioned. Although they ultimately used market measures as they reflected the possible trade-offs involved in ownership of firms with different social performance characteristics, the fact that market measures may encompass general market movements might skew the results. Thus, accounting

measures were used as the main focus for the regression analysis in this dissertation. Supporting this choice, Orlitzky et al. (2003) found that accounting measures were more closely correlated with CSP - a finding that also resulted from the study of McGuire et al. (1988). Two of the most popular measures used in recent literature include ROA (Aupperle et al., 1985; McGuire et al., 1988; Waddock & Graves, 1994; Callan & Thomas, 2009) and ROE (Waddock & Graves, 1994, 1997; Bowman & Haire, 1975; Abbott & Monsen, 1979; Callan & Thomas, 2009) and these were used as the main proxies for financial performance in the regression analysis.

An interesting caveat is found in Callan and Thomas (2009) where they pointed out that Ruf et al. (2001; cited in Callan and Thomas, 2009) did not find a positive relationship between CSP and CFP until year three using ROE, and consequently they concluded that ROE may be more correlated with social performance in the long term. ROS was also used in some of the earlier literature however McGregor BFA did not supply this return measure as a line item, thus only ROE and ROA were used. Callan and Thomas (2009) also noted the importance of testing for linearity as generally in earlier academic studies linearity had just been assumed and this may have resulted in biased results. Thus in their regression model, the authors included the squares of a few select control variables to examine if indeed the relationships were linear. What they found was that Total Assets was quadratically related to financial performance in both the ROA and ROS models, thus these relationships needed to be tested for to avoid incorrect results.

One of the major findings of McWilliams and Siegel (2000) was that previous regression models may have been misspecified due to omitted variables such as those pertaining to R&D intensity, and the industry advertising intensity of firms. Although using these variables in the regression analyses would help confirm McWilliams and Siegel (2000)'s hypothesis, the lack of data places limitations on the possibility for research into this aspect of the relationship. As covered in a later chapter, the main source of data for the regressions came from McGregor BFA where there was no variable to calculate the advertising expenditures, and although a variable for R&D was present, it contained no observations for any of the sample companies over the entire sample period. Callan and Thomas (2009) noted that despite the research, Waddock and Graves (1997) and Ruf et al. (2001), Hillman and Keim (2001) and Salama (2005), all

cited in Callan and Thomas (2009), omitted one or both of the variables. Following from this, the regression analysis was performed without these variables, bearing in mind the possibility of misspecification as noted by McWilliams and Siegel (2000).

As noted in the previous studies (Arlow & Gannon, 1982; Cochran & Wood, 1984; Waddock & Graves, 1994, 1997), industry plays an important role in the relationship and generally this variable needs to be included into any analysis concerning CFP and CSP. On top of distinguishing between industries, Brammer and Millington (2008) suggested that the industry life cycle may affect CSP, but due to the lack of data concerning industries only a cursory examination of the industry affect was included in this study. Generally the papers based in the U.S. used the Standard Industrial Classification (SIC) codes to classify the various industries, however for the models in this dissertation industry classifications were taken directly from McGregor BFA line item (MRK), where each of the different industries were assigned to a dummy variable. As a side note, the BFA industry classifications matched up with a previous list sent through from the JSE which included most of the listed companies along with key data such as industry and sub-sector. Other key control variables include size and debt levels and Waddock and Graves (1994) used Total Assets and Total Sales as two indicators used to proxy for the size of the firm. Callan and Thomas (2009) used the number of employees (a measure also used by Abbott and Monsen, 1979), net sales and total assets as the proxies for size, while Brammer and Millington (2008) used the natural logarithm of firm total assets (following Adams & Hardwick, 1998; cited in Brammer and Millington, 2008). Risk measures were also included, using the leverage ratios as proxies where Waddock and Graves (1994) used the ratio of total long-term debt to total assets, and McGuire et al., (1988) also used the ratio of total debt to total assets.

The final key methodological section entailed the question of CSR's effect on the investor, specifically through the idea of SRI. This method involved the comparison of socially responsible investments to conventional investments and assessing if there were any significant differences in firm performance. Some of the previous literature used asset pricing models such as the market model or the APT to attribute performance and determine if there existed a social factor. Others used risk-adjusted performance measures such as Jensen's alpha to compare the returns between the two investment styles. Viviers, Bosch, Smit and Buijs (2008), henceforth Viviers et al., examined the

situation of responsible investments (RI) in South Africa and used a variety of risk-adjusted performance measures such as the Sharpe ratio, the Sortino ratio and the Upside Potential ratio. A similar approach was used in this study, in that these measures are market independent and this may be useful in light of the composition of the SRI index. Due to the prominence of the top 40 in the SRI this may skew results when using market models to determine performance metrics, thus Viviers et al. (2008)'s approach may provide an easy and acceptable solution to this issue. Following on from earlier literature, raw returns as well as risk-adjusted returns were examined to give a complete picture of the relative performance of SRI funds and companies especially in the South African context. Although some of the earlier literature used various performance attribution models (such as the APT in DiBartolomeo and Kurtz, 1999) some of the methodologies are too in-depth and are beyond the scope of this study. The three-factor model was the only methodology of this type used, and was examined briefly to compare excess returns between a portfolio composed of the SRI companies and that of a conventional portfolio.

4.1 Event study

The event study methodology followed directly from McWilliams and Siegel (1997) where the authors gave a comprehensive examination of this method - specifically in the area of management research and CSR. McWilliams and Siegel (1997) did not dispute the validity of the event study methodology however their concern was over the empirical implementation and due to the important implications of management event studies, it is critical that the research designs and implementations be flawless. The idea behind the event study is to measure the effect of an unanticipated event on stock prices, and to do this one begins by estimating a market model for each firm and then calculating abnormal returns where these are assumed to reflect the stock markets reaction to the new information. Before the actual methodology is looked at, it is important to note the assumptions underlying this method, as outlined by McWilliams and Siegel (1997):

Market efficiency:

One of the most important assumptions is that markets are efficient, which implies that stock markets incorporate all relevant information that is available to market traders. If

this holds, then financially relevant information is instantaneously incorporated into stock prices where following from this, an event is anything that results in new information with value to investors. In order to satisfy this assumption, short event windows were used as "market efficiency is difficult to reconcile with the use of a long event window" (McWilliams & Siegel, 1997, p. 630).

Unanticipated events:

Here the market previously did not have information on the event, and traders gain information from the announcement. Thus, abnormal returns can be assumed to be the stock market's reaction to new information gained specifically from the event.

Confounding effects:

This is based on the claim that the researcher has isolated the effect of the event from the effects of other events. To properly ascertain the importance of an event, it is assumed that there are no confounding effects from other events, and these events can include declaration of dividends, announcements of upcoming mergers, etc. Events such as these may impact the share price during the event window and the longer the window the more difficult it is to control for confounding effects.

Event Study Methodology:

Following McWilliams and Siegel (1997, p. 652) their final suggestions included steps for implementing an event study, and they were as follows[7]:

Step 1: Define an event that provides new information to the market.

- For purposes of this study, the event was the announcement date of the SRI constituent list, as it has been hypothesised that if being a socially responsible firm moves investors to behave differently, announcement of firm participation may underlie abnormal returns.

Step 2: Outline a theory that justifies a financial response to this new information.

- As examined in the previous literature, some academics posited that CSP is a predictor of good management, as well as the firm's ability to manage stakeholder relations in addition to implicit claims on the firm. Thus, if investors take participation on the SRI to be a sign of good CSR, and thus increases their implicit valuation of the firm, they may bid up the price of the stock; resulting in positive abnormal returns.

[7] Steps not relevant were left out of the methodology

Step 3: Identify a set of firms that experience this event and identify the event dates.

- The set of firms identified was every firm on the JSE that had participated in the SRI in the given year, and the events were the various announcement dates, spanning from the indexes inception in May 2004, until the most recent list in the sample period, being Nov 2009.

Step 4: Choose an appropriate event window.

- Since the effects were hypothesised to be instantaneous, and to isolate the effects from this event, the event window was restricted to a maximum of two days. The reason for two days is that generally there was a difference of a day between the announcement dates and the dates that the index went live. Although the go live dates supplied by the SRI index associate indicated that for 2008 the date was the same as the announcement date; the two day window was used to make sure the effects were not missed.

Step 5: Eliminate or adjust for firms that experience other relevant events during the event window.

- Although this step is important, the fact that none of the results showed any significant abnormal returns meant this step may be ignored; since there was no significance which could be attributed to the SRI announcement, let alone any other event.

Step 6: Compute abnormal returns during the event window and test their significance.

- To calculate abnormal returns, a market model was estimated for each firm where the rate of return on a share price of firm i on day t was expressed as

$$\mathbf{R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}}$$

where R_{it} is the return of firm i on day t and R_{mt} is the return on a market portfolio. From this equation, estimates of daily abnormal returns were derived by subtracting the expected return from the actual return:

$$\mathbf{AR_{it} = R_{it} - (a_i + b_i R_{mt})}$$

where a and b are the OLS parameter estimates from the regression of R_{it} on R_{mt} over the estimation period. In this case the period was from 250 days to 50 days prior to the event. The abnormal returns represent the returns earned by the firm after adjustment for the normal return process. Next the abnormal return was standardised by its standard deviation:

$$\mathbf{SAR_{it} = AR_{it} / SD_{it}}$$

where

$$SD_{it} = \{S_i^2 \text{ x } [1 + 1/T\ (R_{mt} - R_m)^2/\Sigma(R_{mt} - R_m)^2]\}^{0.5}$$

S_i^2 is the residual variance from the market model, R_m is the mean return of the market portfolio during the estimation period, and T is the number of days in the estimation period. Next the standardised abnormal returns were cumulated over the event window to derive a cumulative abnormal return (CAR) for each firm:

$$CAR_i = (1/k^{0.5})\ \Sigma\ SAR_{it}$$

where k is the number of days in the event window. From this, the average standardized cumulative abnormal (ACAR) returns across n firms could be calculated as:

$$ACAR_t = 1/n \text{ x } 1/[(T-2)/(T-4)]^{0.5}\ \Sigma\ CAR_{it}$$

Step 7: Report the percentage of negative returns and the binomial Z or Wilcoxon test statistic.

- The test statistic used to assess whether the ACAR is significantly different from zero was given as:

$$Z = ACAR_t \text{ x } n^{0.5}$$

The results are presented in the Discussions chapter along with analysis of their significance in light of the previous empirical evidence.

Step 8: Report firm names and event dates in data appendix

The event study firm names and event dates have been reported in the appendix chapter 8.5 Event Study Lists.

In terms of the data used for the event study, the main source for data was I-Net Bridge due to the fact that only the share prices were needed for this analysis. As already mentioned the market proxy used was the J203 and thus the returns were calculated from the closing price and dividend yield as given by I-Net. For the SRI companies, the initial list of 85 SRI stocks that had participated at some point in time was examined at each announcement date. Those firms without returns data from 250 days prior up until the day following the announcement date were excluded. As a result the size of the lists were as follows: 2004 date (44 firms), 2005 (43), 2006 (53), 2007(50), 2008 (57) and 2009 (63). Overall, this empirical section resulted in the hypothesis:

H_1: The market does not price the social factor into a companies stock

The null hypothesis in this case was that there is no significance around the announcement dates, and that the market does not price the social factor into the companies stock. The alternate hypothesis was consequently that the market does price the social factor, which results in significant price changes at the time of the announcements.

4.2 Financial Performance of SRI

This chapter examines the relationship between a firm's social performance and the financial performance from the perspective of the investor. The key focus here was that investors who use social screens and other criterion in their investment decision-making processes require an understanding of the relationship between the decisions being influenced by their morals, and the effect this may have on their investment performance. The main examination consisted of looking at the raw and risk-adjusted returns between SRI and conventional portfolios, but before this methodology was examined, the portfolios' excess returns were looked at using the Fama and French Three Factor model.

4.2.1 Fama-French Three Factor Model

One of the tools used to compare differences between SRI portfolios and conventional portfolios was Fama and French's Three Factor Model. This is an extension of the traditional asset pricing model, the CAPM, where in addition to Beta; returns are explained by a Size factor and a Book to Market factor. The size factor was calculated as the return of a portfolio of small firms minus a portfolio of large companies, and the Book to Market factor was computed as the difference in returns between a portfolio of the top 30% of companies ranked by the Book to Market ratio, and a portfolio of the bottom 30%.

$$\mathbf{R = R_f + b_1(R_m - R_f) + b_2(SMB) + b_3(HML) + \varepsilon}$$

The data used for this analysis came from the Wits Masters Database (henceforth Findata@Wits), and the companies here were cross referenced with the constituent lists from the SRI index. Two sample periods were looked at, namely from 1995/07 (the earliest time where every factor in the Three Factor model had data) until 2009/06 (the

end of the database) and from 1999/10 (approximately 5 years before the start of the SRI index) until 2009/06 which resulted in a 15 year and a 10 year sample period. After cross-referencing the SRI constituent list with the firms in the Findata@Wits Database, as well as excluding any companies that were not in existence for the entire sample period, the size of the sample was 53 companies for the 15 year period, and 65 for the 10 year period. Ultimately these two time periods allowed for a "back-test" of the SRI companies as the SRI index was essentially around from 2004 onwards. Therefore these sample periods were used with the intention of examining whether socially responsible behaviour was related to prior performance or past firm characteristics. Since the portfolio of conventional firms consisted of the database of all companies, minus those firms that had appeared on the SRI index at any point in time, the conventional portfolio constituents were the same for both time periods.

An alternative 'conventional' portfolio was created using the lists derived from the regression analysis (described in chapter 4.3 Regression Analysis) where the 74 largest firms by market capitalisation in 2009 and 1995 were combined. From the 188 firms, since 74 were part of the SRI index this left 114 firms that were by this study's definition, conventional, in that they never appeared on any of the SRI index constituent lists. These 114 firms were then cross-referenced with the Findata@Wits Database and thirty-four companies were removed because their share codes could not be found in the database. In addition to these companies, one of the companies, New Africa Investments had a return of 1400%, thus as this was probably a typographical error the firm was left off of the portfolio creation. The resulting final conventional portfolio consisted of 79 firms. The size of this alternative portfolio was more comparable to the 53 and 65 firm SRI portfolios, especially when one considers the fact that the broader universe of all stocks less those considered "socially responsible" numbered over 1000 companies.

For the Three Factor Model, to compute the SMB factor all of the firms from the database were looked at in each period and sorted into those firms above and below the median market capitalisation. Value-weighted portfolios were then created in each time period for the big and small firms respectively, and the difference in each time period was computed as the SMB factor. Similarly, for the HML factor the companies were sorted by book to market ratios into the top 30% and bottom 30%. Value-weighted

portfolios were then created, and the differences taken as the HML factor for each time period. In terms of portfolio rebalancing dates, the same composition of each portfolio was held for a year after the rebalancing date (in line with the original three factor model). The rebalancing date occurred on the first date with sufficient data which for the SMB factor was December 1989, resulting in a portfolio held from January till December of the subsequent year. Similarly, for the HML factor the first date with data was August 1990, thus the portfolios were rebalanced every August and held from September to the following August. The market rate was taken as the return on the J203 index and the risk-free rate was calculated as the 30-day equivalent rate of the RBAS 90 day banker's acceptance rate using the formula:

$$r_{30} = (1 + r_{90})^{1/3} - 1$$

Statman (2000) noted that for his study, mutual funds on average tended to tilt their portfolios towards small-cap stocks, and in the sample period small-cap stocks underperformed large-cap stocks. For this reason, it is important to analyse whether return differences can be attributed to fundamental firm characteristics, or if indeed there is something more. In terms of the methodology for portfolio creation, two portfolios were created for the SRI and Conventional firms where the SRI portfolio consisted of the firms that participated in the SRI index at least once during its existence (2004-2009) and this analysis was to serve as a back-test of these responsible firms. The conventional portfolio, as stated, consisted of the universe of all stocks in the Findata@Wits database, excluding those firms who had participated at least once in the SRI index. In addition to this broader conventional portfolio, the alternative 79 firm portfolio was also examined. Due to the composition of the SRI index, value-weighted as well as equally-weighted portfolios were created and tested to examine if the structural characteristics masked any of the relationships between excess performance, size and CSP.

For the value-weighted portfolios, in each period the market capitalisation of each stock was divided by the total market capitalisation of the portfolio to calculate the weight, and this was then multiplied by the firms return for the period. These returns were then summed to calculate the return for the portfolio. To calculate the equally-weighted portfolio returns, for the 15 year time period (with only 53 firms in the SRI index) each of the firms return contribution was calculated was 1/53 multiplied by its return for the

period. Once again these returns were summed to get the total portfolio return. Similarly, for the 10 year period, since there were 65 firms in the SRI portfolio each firm's weight was 1/65 and this was multiplied by their returns for each period to get a weighted contribution; and these contributions were then totalled to calculate the portfolio's return. Regressions were then run with the returns series of the value-weighted SRI and Conventional portfolios as the dependent variables for both sample periods, and the Market Risk Premium, SMB factor and HML factor were used as the independent variables. The final regression consisted of the equally-weighted SRI portfolio being regressed against the Market Risk Premium, SMB and HML factors.

An important aspect of this analysis is the examination of the size factor inherent in SRI portfolios. From Stone et al. (2001), concurrence with the earlier hypothesis regarding investment style and size can be found when attention is paid to the SRI index. For inclusion into the index, the criteria applied can be viewed as positive social tilting in nature as opposed to the social screening method. Companies such as SAB Miller Plc (which may be excluded using screens due to its position in the alcoholic beverages market) are present in the index due to their admirable CSR performance as evaluated using the JSE's set of criteria. In line with McWilliams and Siegel (2001)'s framework, these positive CSR attributes that cause firms to be included in the SRI index should be positively correlated with size and indeed, for the 2009 list of constituents, 34 out of the Top 40 companies were included. Over the existence of the SRI index, the Top 40 firms have generally been well represented and this may raise the question of size (as well as profitability) being a predictor of social performance. The list of companies that were automatically assessed for participation comprised the Top 100 (the Top 40 firms and then 60 of the next biggest mid cap companies) on the JSE along with all constituents of the previous year's SRI index. For the year 2009, there were also 30 of the 60 mid cap companies that passed the required criteria making it the largest year for the SRI index.

As mentioned earlier in the literature review, it was shown that in portfolios where social screening took place the companies that were excluded tended to be large corporations - possibly due to their expanse and reach as it is more likely they fall into a category that is considered undesirable by ethical investors. This contrasted with the positive social tilting method where companies that showed impressive social performance were favoured, and where once again these firms tended to be larger

(McWilliams and Siegel, 2001). This was important because the composition of the SRI index confirmed the earlier hypothesis, and this has direct implications on the portfolio performance for investors who wish to use social criteria when making their investment decisions. If the methodology affects the portfolio's composition, style and biases then it can influence the returns that the portfolio will attain.

4.2.2 Comparison of SRI and Conventional Portfolios

To examine the differences between conventional portfolios and SRI portfolios the raw and risk-adjusted returns over time were looked at. Since the main proxy for CSP was participation in the SRI and this was only in existence from 2004 onwards, different sub-periods were tested including a back-test of the SRI constituents. The main measures of risk-adjusted performance were taken from Viviers et al. (2008) in that the Sharpe Ratio, Sortino Ratio and Upside Potential Ratio were examined to determine the difference in risk-adjusted returns between the SRI portfolios and the conventional portfolio. The explanations of the measures, as well as their interpretations were taken directly from the aforementioned paper, where the actual formulas and calculations of the measures have been included in the appendix (Viviers et al., 2008, p. 42-43):

> Sharpe Ratio: the Sharpe ratio divides the average annualised differential return of a fund by its annualised standard deviation. In terms of interpretation, a higher Sharpe ratio is better.
>
> Sortino Ratio: replacing the downside variation (semi-variance) for the annualised standard deviation in the Sharpe ratio, this new measure is referred to as the Sortino ratio and differentiates between good and bad volatility. To calculate this downside deviation, a minimum acceptable return (MAR) needs to be chosen, and this is generally set to zero since investors are averse to negative returns. Once again a higher ratio is better.
>
> Upside - Potential Ratio: the Upside–Potential ratio (UPR) divides the portfolio's upside potential (returns in excess of the MAR value) by its downside deviation. Once again the MAR was set to zero, and a higher ratio is perceived as better.

As seen in the appendix chapter 8.3 Risk-adjusted Performance Measures, the calculation of the downside deviation and upside potential measures requires the integration of probability density functions. In practice, however, Viviers et al. (2008) calculated the downside deviation by creating a spreadsheet indicating the negative returns for each fund in each month, and the standard deviation of these returns was then calculated. Similarly, for the upside potential, a spreadsheet was constructed where

the monthly returns (greater than zero) were determined, the sum of squares was calculated and the square root taken thereof (Viviers et al., 2008, p. 43).

Since the use of the Fama-French Three Factor model resulted in the 15 year and 10 year time periods being chosen (with appropriate SRI portfolios constructed as such) the same cut off dates were used for this return performance analysis. Once again, the same company lists were used for the analysis, thus the risk-adjusted returns of the SRI portfolio, the broader conventional portfolio and the alternative portfolio (with 79 firms) were compared. Equally-weighted and value-weighted portfolios were created for both sub-periods since the composition of the SRI meant that the majority of the JSE Top 40 stocks were constituents. Using market benchmarks as well as value weighted portfolios may skew the SRI portfolio towards these large stocks. Similarly, with the market indices, they tilt towards the larger stocks, and since the compositions were largely the same this may mask any other social effects that the analysis is trying to uncover. Therefore, by using equally-weighted portfolios, the potentially biased results may be avoided and may produce a better understanding of the relationship between socially responsible firms and their financial performance.

Hamilton et al. (1993)'s null hypothesis was that SRI characteristics did not affect mutual funds, and this was in essence most similar to the standard hypotheses in finance where factors that do not proxy for risk cannot affect returns. Interestingly, one of McGuire et al. (1988)'s key findings was that risk reduction may be viewed as an important benefit of CSR. If this is the case it may be possible that social performance can proxy for risk, and thus there should be a relationship between social and financial performance, as evidenced by the difference in returns between socially responsible firms and conventional firms. This section can be summed up with the hypothesis:

H_2: Socially responsible portfolios do not perform better than conventional portfolios

The null hypothesis states that the difference in returns between SRI portfolios and conventional portfolios is not significantly different from zero, whereas the alternate hypothesis would mean that there is a significant difference (as a result of superior financial performance or other risk reducing effects of CSR as hypothesised above).

4.3 Regression Analysis

This section examined the relationship between social performance and firm financial performance in terms of the characteristics of the firm, as well as any inherent temporal differences. This analysis can aid in understanding the nature of the relationship, and by including various control variables (that have been theoretically justified) it may be possible to better predict a firm's social performance. Another important aspect of the relationship is the direction of causality which has been described by Waddock and Graves (1997) as either falling under the Good Management or Slack Resources theory. The first idea hypothesised that good social performance is a result of good management and, thus, in turn leads towards better financial performance. In contrast the second theory stated that good financial performance results in the availability of slack resources that can be used to improve the firm's social performance. The reason this distinction is important lies in what CSR and subsequently the socially responsible behaviours (as well as initiatives) mean for the firm and its bottom line. If it is the case that slack resources are needed before investments in CSP can be made, and there doesn't seem to be a positive spin-off from CSR initiatives, then this would be at odds with Porter and Kramer (2006)'s idea that CSR can be viewed as a competitive advantage.

With respect to the companies examined, the list of SRI index participants was cross-referenced with the McGregor BFA database and this resulted in 74 of the socially responsible companies being found with data from 1994 to 2009 – with the actual time period being examined only starting in 1995. The reason for this was that the time period covered a 15 year span was well as gave enough data to calculate the changes in some of the variables, as if the period began in 1995, then data from 1994 would be needed for these changes. For the two portfolios, the SRI portfolio consisted of the 74 companies representing the socially responsible firms, and a comparison group was compiled by taking the 74 largest firms (excluding the SRI participants) in the years 2009 and 1995. These two lists of companies were then combined to give a list of firms which could be directly compared to the SRI firms. The resulting list of firms (including conventional as well as SRI) totalled 188 companies for the years 1995-2009. Thus, for the panel data regressions the initial dataset comprised of 188 companies spanning 15 years - which resulted in a total of 2820 firm-year observations. For the various

regressions the different variables used were filtered out so that any firms without data for the specific variable were omitted, and thus the regression sample sizes varied in accordance with the data, variables, and regression models used. Importantly however, the number of observations was generally more than 500 so the regressions maintained strong levels of statistical power. One important thing to note from the data was the possibility of outliers, and since the data was taken directly from McGregor BFA, data that seemed seriously flawed had to be discarded. This was the case with the regressions looking at the 2004-2009 sample period where Hwange Colliery Company Limited was included in the comparison portfolio. The ROA for 2005 and 2006 were 14626 and 1824 respectively, which is clearly incorrect and biased the average ROA upwards to 45 (up from around 14 when these two data points were excluded). Due to the fact that all the data for these firm-year observations were abnormal, it is possible that the company was included as a result of an inflated size measure; thus exclusion of this firm made sense. There were some cases in the less significant regressions where outliers may have been present, and where these observations were removed and the tests rerun. However, as there were no considerable changes in terms of sign or significance these outliers were not reported, and the original data sets were used.

Recalling the argument from Cochran and Wood (1984), the authors proposed two possible explanations for their results which indicated the importance of assets in their regression models. Firstly, firms that are more socially responsible may utilize their assets in a less efficient manner; however this was not consistent with the evidence regarding return on sales. A second explanation was that inflation had seriously distorted reported asset values and the positive correlation of asset age and CSR rankings supported this explanation. Newer firms have higher CSR rating and higher reported asset values relative to their older competitors. Unfortunately, the data retrieved from McGregor BFA did not allow for the more detailed inspection of asset age and turnover as independent variables – due to the lack of key financial ratios. In light of their evidence, and the fact that these variables were not included in the regression models; this may leave open the possibility of misspecification. As a result, because these questions were not looked at the potential misspecification of the model must be borne in mind when the results are interpreted.

In order to replicate McWilliams and Siegel (2000)'s regression analysis, their model needed to be looked at, however, as it was based on Waddock and Graves (1997), the measures for CSP and CFP from the earlier paper were first examined. In terms of CFP, Waddock and Graves (1997) used three measures of financial performance in their regressions: ROA, ROE and ROS. Taken directly from the McGregor BFA database, ROA (BFA line item 07290037) and ROE (BFA line item 07290038) were found for the sample firms and included in the model. The data for returns was given as percentages, thus instead of 0.16, the data was given as 16. These were not converted to percentages since the results would not change, and the only differences arise in the interpretation of coefficients. One important point to mention regarding the financial performance measure is that the interpretation of the coefficients gives us a difference in percentage points as opposed to percentage. What this means, is that the difference in return is an absolute value and therefore the base from which one starts is important. As an example, if the model found that SRI firms attained 5% more ROE; 5% for a firm that earns 10% ROE is considerable, whereas for a firm that earns 50% ROE it is somewhat less significant. To overcome this, it is possible to take the natural log of the return, thus giving the abnormal performance as a percentage. The problem with this method, however, is that all observations with negative performance measures are undefined and would thus be ignored in the model. As a result of this issue, it was decided that correcting for this deficiency at the expense of data was not acceptable and the absolute values were retained. Turning to Waddock and Graves (1997), their model was estimated as:

$$\mathbf{Perf_i = f(CSP_i, SIZE_i, RISK_i, IND_i)}$$

where CSP was a proxy for CSR based on an index of social performance. Size was a proxy for the size of the firm and was represented by Total Assets, Total Sales and the number of employees in the firm. For risk, Waddock and Graves (1997) used the debt/asset ratio as a proxy, and finally they used dummy variables to account for the different industries present in their sample. McWilliams and Siegel (2000) hypothesised that R&D and advertising intensity were correlated with profitability as well as social performance, therefore omitting these from the models would result in biased results - due to the misspecified models. Unfortunately the McGregor BFA database did not contain information regarding the advertising intensity, and although R&D expenditures were present (BFA line item 03090303) for all 2820 firm-years, not one firm had data

available for this variable. Thus, due to these data restrictions the two variables included by McWilliams and Siegel (2000) had to be excluded from the model in this analysis. One of the main features used from their paper was the proxy for CSP in that their original CSP measure was a dummy variable indicating whether a firm was present in the DSI for a given year. Similarly, for the sample of 2820 firms-years, the dummy variable SRI was 1 if the firm was present in the SRI (at some point in time) and 0 if it was never included in the index. Importantly, the SRI dummy variable was defined slightly differently in the 15 year regressions and in the 5 year regressions, but this shall be covered a bit later. As a result of the dummy variable specification, this general regression had no power to determine causality; however, it was hoped that it would shed light on any structural differences between the firms that have been responsible at some point in time and those that have not. The rest of the control variables were included, with the industry dummy variables coming from the BFA line item MRK, where they were coded accordingly:

Dummy Variable	Industry Code
0	Industrials
1	Consumer Services
2	Financials
3	Basic Materials
4	Telecommunications
5	Consumer Goods
6	Technology
7	Health Care
8	Oil & Gas

As a result, the dummy variables were included for the industries coded as 1 through to 8 (there were 9 different industries therefore n-1 dummy variables were used). In the regression models, the variables have been shortened for brevity, thus ConsServ represents firms classified as those from the Consumer Services sector, BasicMat represents Basic Materials etc. For risk the debt/asset ratio was calculated as Long-Term Debt (BFA line item 02010016) divided by Total Assets (BFA line item 02010050). The size variables from Waddock and Graves (1997) were also used with Total assets (BFA line item 02010050) and Total Sales (Turnover, BFA line item 02020060) being included. Since there were significantly fewer firms with data for the Number of Employees variable, this resulted in far fewer firm-year observations for the regressions using employees as a control variable (with similar restrictions in later regressions). Filtering the data on ROE, ROA, Assets and Sales left the sample with 1686 firm-years whereas filtering the data using the Number of Employees variable resulted in only 1237 firm-years. Due to the presence of two financial performance

variables and three different size variables, a total of six regressions for this model were performed:

Regression 1_a: $ROE = a_0 + a_1SRI + a_2ASSETS + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + \varepsilon$

Regression 1_b: $ROE = a_0 + a_1SRI + a_2SALES + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + \varepsilon$

Regression 1_c: $ROE = a_0 + a_1SRI + a_2EMPLOYEES + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + \varepsilon$

Regression 2_a: $ROA = a_0 + a_1SRI + a_2ASSETS + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + \varepsilon$

Regression 2_b: $ROA = a_0 + a_1SRI + a_2SALES + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + \varepsilon$

Regression 2_c: $ROA = a_0 + a_1SRI + a_2EMPLOYEES + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + \varepsilon$

Due to much of the previous empirical evidence suggesting that prior and future returns be included in models attempting to explain this relationship (McGuire et al., 1988; Waddock & Graves, 1997; Orlitzky et al., 2003), the feasibility of such an extension was examined. Unfortunately, due to the relative youth of the SRI index, the only data available for companies participating in the index starts in 2004 and ends in 2009, and as a result it was impractical to use future returns as an explanatory variable. In addition to the data restriction, it was noted in McGuire et al. (1988) that "rather than examining the relationship between corporate social responsibility and a firm's subsequent financial performance, future research should investigate the influence of prior firm performance" (McGuire et al., 1988, p. 869). Thus prior returns were examined, and for both ROE and ROA the returns from the previous five years were included as additional independent variables. Importantly, for these regression models the SRI dummy variable was not coded as 1 if the firm had participated in the SRI index at any point in time (like in the previous regressions). Instead, since the period examined was restricted to 2004-2009, the dummy variable was coded 1 if the firm was present in the SRI index *for that year*. The reason for this was to examine if the previous five years financial return had an impact on the firms participation in the SRI index in the period examined.

In other words, had the firm's prior financial performance affected its current social performance in any way? The additional regression models were as follows:

Regression 3_a: $ROE = a_0 + a_1SRI + a_2ASSETS + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + a_{12}ROE(T\text{-}1) + a_{13}ROE(T\text{-}2) + a_{14}ROE(T\text{-}3) + a_{15}\,ROE(T\text{-}4) + a_{16}\,ROE(T\text{-}5) + \varepsilon$

Regression 3_b: $ROE = a_0 + a_1SRI + a_2SALES + a_3RISK + + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + a_{12}ROE(T\text{-}1) + a_{13}ROE(T\text{-}2) + a_{14}ROE(T\text{-}3) + a_{15}\,ROE(T\text{-}4) + a_{16}\,ROE(T\text{-}5) + \varepsilon$

Regression 3_c: $ROE = a_0 + a_1SRI + a_2EMPLOYEES + a_3RISK + + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + a_{12}ROE(T\text{-}1) + a_{13}ROE(T\text{-}2) + a_{14}ROE(T\text{-}3) + a_{15}\,ROE(T\text{-}4) + a_{16}\,ROE(T\text{-}5) + \varepsilon$

Regression 4_a: $ROA = a_0 + a_1SRI + a_2ASSETS + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + a_{12}ROA(T\text{-}1) + a_{13}ROA(T\text{-}2) + a_{14}ROA(T\text{-}3) + a_{15}\,ROA(T\text{-}4) + a_{16}\,ROA(T\text{-}5) + \varepsilon$

Regression 4_b: $ROA = a_0 + a_1SRI + a_2SALES + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + a_{12}ROA(T\text{-}1) + a_{13}ROA(T\text{-}2) + a_{14}ROA(T\text{-}3) + a_{15}\,ROA(T\text{-}4) + a_{16}\,ROA(T\text{-}5) + \varepsilon$

Regression 4_c: $ROA = a_0 + a_1SRI + a_2EMPLOYEES + a_3RISK + a_4ConsServ + a_5Financials + a_6BasicMat + a_7Telecomm + a_8ConsGoods + a_9Technology + a_{10}Healthcare + a_{11}Oilgas + a_{12}ROA(T\text{-}1) + a_{13}ROA(T\text{-}2) + a_{14}ROA(T\text{-}3) + a_{15}\,ROA(T\text{-}4) + a_{16}\,ROA(T\text{-}5) + \varepsilon$

Subsequent performance was included in five progressive regressions, starting with the full specification of all five years prior performance, (regression 3a1 and 4a1) where the second regression only included 1-years prior performance. The third regression included 1-year and 2-years prior performance, the fourth regression included the performance from 1-, 2- and 3-years prior, and the fifth and final regression included the performance of the prior four years. In the appendix, the regression models were labelled 3a1-5, 3b1-5. etc where the models 1,2,3,4 and 5 each represent the different specifications. The models labelled 1 were the full specification models (with all 5 years prior performance) because these were the initial regression models tested. Following from this, model 2 only included 1-year's prior performance, model 3 included 1-year as well as 2-year's prior performance; model 4 included 1-,2- and 3-year's prior performance and finally model 5 included 1-,2-,3- and 4-year's prior performance.

Lankoski (2009) surveyed managers on CSR issues that they perceived to influence economic performance over the medium term of five years. The author hypothesised that market measures of performance rest entirely on investor perceptions, and considering the information asymmetry between investors and managers, management perceptions may be more valuable than investor perceptions. Additionally, the reason for the five year time period was that there may be a temporal asymmetry in the distribution of costs and benefits with many corporate responsibility issues, and thus the choice of a time frame may affect the outcome. In terms of this study, the proxy for CSP that was used meant that actual corporate social investments were not being observed, thus the temporal asymmetry could not be examined. Instead the performance of firms included in, and excluded from, the SRI index was looked at during the period of the index' existence and back tested to periods before the initiation of the index to see if there existed any temporal effects. The above methodologies can be summarised in the following hypothesis:

H_3: There is no significant relationship between CFP and CSP

The null hypothesis above is that there is no relationship, whereas the alternate hypothesis may imply a positive or negative relationship between social and financial performance.

Although the previous regressions detailed have been rather thorough, different perspectives may be examined to get a more complete understanding of the relationship between social and financial performance. To this end, another regression model was looked at; this time taken from Callan and Thomas (2009). Using their regression model, the main control variables for size were included as quadratics to test the linearity of the relationship. Three measures of financial performance were tested, where operating profit, ROE and ROA were taken as the dependent variables, while the independent variables consisted of:

SRI – Once again a dummy variable indicating whether or not the company has ever been in the SRI index at some point in time

DebtEquity – The long-term debt to equity ratio

Total Assets (millions) – A control for size, included was Total Assets^2 as a test of linearity.

Total Sales (millions) – Another control, where again Total Sales^2 was included.

Employees (thousands) – The final control variable for size; again Employees^2 was also included.

Industry Variables – A list of dummy variables pertaining to the various industries that the companies are from.

In Callan and Thomas (2009) the authors used four financial performance measures commonly used in the previous literature; ROA, ROE, ROS, as well as a less familiar measure, that being Tobin's q. Due to the lack of information for a standardised ROS measure from McGregor BFA, as well as a measure for Tobin's q, these metrics were excluded and instead Operating Performance (BFA line item 02020094) was used. This resulted in the following regression models:

$$\textit{Regression 5a: Operating Profit} = a_0 + a_1 SRI + a_2 DebtEquity + a_3 TotalAssets + a_4 TotalSales + a_5 Employees + Industry + \varepsilon$$

$$\textit{Regression 5b: Operating Profit} = a_0 + a_1 SRI + a_2 DebtEquity + a_3 TotalAssets + a_4 TotalAssets^2 + a_5 TotalSales + a_6 TotalSales^2 + a_7 Employees + a_8 Employees^2 + Industry + \varepsilon$$

$$\textit{Regression 6a: ROE} = a_0 + a_1 SRI + a_2 DebtEquity + a_3 TotalAssets + a_4 TotalSales + a_5 Employees + Industry + \varepsilon$$

$$\textit{Regression 6b: ROE} = a_0 + a_1 SRI + a_2 DebtEquity + a_3 TotalAssets + a_4 TotalAssets^2 + a_5 TotalSales + a_6 TotalSales^2 + a_7 Employees + a_8 Employees^2 + Industry + \varepsilon$$

$$\textit{Regression 7a: ROA} = = a_0 + a_1 SRI + a_2 DebtEquity + a_3 TotalAssets + a_4 TotalSales + a_5 Employees + Industry + \varepsilon$$

$$\textit{Regression 7b: ROA} = a_0 + a_1 SRI + a_2 DebtEquity + a_3 TotalAssets + a_4 TotalAssets^2 + a_5 TotalSales + a_6 TotalSales^2 + a_7 Employees + a_8 Employees^2 + Industry + \varepsilon$$

Each pair of models consisted of the regression with and without the quadratic size variables (as in Callan & Thomas, 2009); and each of the three performance measures was examined resulting in six unique regression models. The above regression models were once again used for a longer-term analysis, therefore the sample period examined was 1995-2009.

As was covered earlier, some studies of the DSI (Luck and Pilotte, 1993; Kurtz and DiBartolomeo, 1996; and DiBartolomeo, 1996; all cited in Kurtz, 1997) suggested that its performance was replicable by matching factor exposures; however, Kurtz (1997) stated proponents of SRI usually reject the reductionism implied by these findings using various arguments. It was noted that one of these arguments resulted from studies that associated positive returns with progressive management practices, as this may be an underlying cause of the relationship; therefore one of the arguments employed by

advocates of CSR is that it is a sign of skilful management. This follows from the possibility that socially responsible behaviour is an indicator of management competence (Alexander & Buchholz, 1982) in that good managers should be more likely to excel at social responsibility than their less clever counterparts. Waddock and Graves (1997b; cited in Kurtz, 1997) showed a relationship between positive social ratings and the Fortune "Most Admired" list however the problem of direction (causality) remained: is the company successful because of good management, or is management perceived as being of high quality because of the stock price? Furthermore social ratings appear to be relatively stable over time whereas the history of the Fortune "Most Admired" list showed the transient nature of management reputation, thus casting some doubt on the direct relationship between social ratings and the management prowess of these socially responsible firms.

Due to the data limitations subsequent financial performance could not be examined as extensively as prior performance, however, the performance of the year directly following each SRI year was examined as a cursory analysis of future performance. This was done for completeness; thus, although it was not as thorough as the prior performance analysis, subsequent performance was still included in some form. The regression using future financial performance was described in this dissertation as the 'test for causality' and generally tried to follow the methodology of Waddock and Graves (1997). The authors were able to regress their financial performance on social performance as well as the other way around since both their variables were quantitative. Due to the fact that the CSP measure used in this study was a dummy variable representing when the firm participated in the SRI index, for comparative regressions examining the CSP proxy as the dependent variable a Logit analysis needed to be used. This allowed for the dependent variable to be a binary response variable, where the results give a prediction of the probability of occurrence. To clearly examine the direction of causality regression analyses were performed more in line with Waddock and Graves (1997, p. 313) in that they examined their two hypotheses using:

- A regression analysis with 1990 CSP as dependent variable, and 1989 financial data as the independent variables
- A regression analysis with 1991 financial performance (profitability) as dependent variable and 1990 CSP as the key independent variable with 1990 financial control variables.

As stated, a direct consequence of the CSP proxy being a binary variable was that Logit analysis was needed when examining social performance as the dependent variable. For the data, the same sample firms were used as from the earlier regression analysis (188 SRI and conventional firms combined). Filtering the data on the variables for the current year, the data for the previous years, as well as the subsequent year's financial data, resulted in around 578 firm-year observations for the Total Assets and Total Sales regressions with around 445 firm-year observations for the Employees regression models. The above methodology can be formed into the following three hypotheses (borrowed from Waddock and Graves, 1997):

H_4: Good CSP does not result in better CFP (Good management theory)

H_5: Good CFP does not result in greater CSP (Slack resources theory)

H_6: CSP and CFP do not affect each other mutually and simultaneously in a virtuous circle

The standard linear regressions had the financial performance from the subsequent year regressed against the SRI variable (and other control variables) for the period looked at – thus testing if CSP influences CFP. For the Logit regressions, the dependent variable was the SRI variable in the period looked at, where the independent variables were the control variables as well as the financial performance from the previous year – testing if CFP influences CSP. The above regressions were described as follows:

$$\textit{Regression 8a: } ROE_{T+1} = a_0 + a_1 SRI_T + a_2 TotalAssets_T + a_3 Risk_T + Industry + \varepsilon$$

$$\textit{Regression 8b: } ROE_{T+1} = a_0 + a_1 SRI_T + a_2 TotalSales_T + a_3 Risk_T + Industry + \varepsilon$$

$$\textit{Regression 8c: } ROE_{T+1} = a_0 + a_1 SRI_T + a_2 Employees_T + a_3 Risk_T + Industry + \varepsilon$$

$$\textit{Regression 8d: } ROA_{T+1} = a_0 + a_1 SRI_T + a_2 TotalAssets_T + a_3 Risk_T + Industry + \varepsilon$$

$$\textit{Regression 8e: } ROA_{T+1} = a_0 + a_1 SRI_T + a_2 TotalSales_T + a_3 Risk_T + Industry + \varepsilon$$

$$\textit{Regression 8f: } ROA_{T+1} = a_0 + a_1 SRI_T + a_2 Employees_T + a_3 Risk_T + Industry + \varepsilon$$

$$\textit{Regression 9a: } SRI_T = a_0 + a_1 ROE_{T-1} + a_2 TotalAssets_{T-1} + a_3 Risk_{T-1} + Industry + \varepsilon$$

$$\textit{Regression 9b } SRI_T = a_0 + a_1 ROE_{T-1} + a_2 TotalSales_{T-1} + a_3 Risk_{T-1} + Industry + \varepsilon$$

$$\textit{Regression 9c: } SRI_T = a_0 + a_1 ROE_{T-1} + a_2 Employees_{T-1} + a_3 Risk_{T-1} + Industry + \varepsilon$$

$$\textit{Regression 9d: } SRI_T = a_0 + a_1 ROA_{T-1} + a_2 TotalAssets_{T-1} + a_3 Risk_{T-1} + Industry + \varepsilon$$

$$\textit{Regression 9e: } SRI_T = a_0 + a_1 ROA_{T-1} + a_2 TotalSales_{T-1} + a_3 Risk_{T-1} + Industry + \varepsilon$$

$$\textit{Regression 9f: } SRI_T = a_0 + a_1 ROA_{T-1} + a_2 Employees_{T-1} + a_3 Risk_{T-1} + Industry + \varepsilon$$

Risk in the above regressions was taken as the long-term debt to assets ratio, and industry once again represented a vector of the different industry dummy variables as described in the previous section.

4.3.1 Panel Data

Due to the fact that panel data may introduce some bias into the results using traditional linear regressions, this can be accounted for by using the appropriate functions. In Stata, this was done using the xtreg command which treated the data set as time-series data and analysed it accordingly. In terms of statistical problems with regressions and the data, it is important to remember the possibility of multicollinearity and heteroskedasticity. Additionally, the stationarity of the data needs to be tested. Using the panel data regression analysis (xtreg) allowed the regression to be run using fixed effects or random effects; however, the problem with random effects is that it makes strong assumptions about the residuals being uncorrelated and is therefore very unrealistic. Additionally, since multicollinearity is most likely, the regressions were run with the fixed effects specification. This controls for unchanging individual effects, and helps pick up any unobserved variables that may underlie the relationship being examined. In all of the regressions using fixed effects, the industry variables were dropped since they remained unchanged throughout the sample period; as a result these regressions did not shed light on any of the importance derived from different industries.

This was vital because, as mentioned earlier, the SRI dummy variable was defined in two ways for this study. In the shorter time periods restricted to the existence of the SRI index, the dummy indicated when the firm was present in the index for the given year, thus over the sample period this variable changed according to whether the firm entered, remained in or left the index. For the longer periods, the variable indicated if the company had been in the index at any point in time, and therefore was unchanged over the entire sample period. In this case using fixed effects for the longer regressions resulted in the SRI variable being dropped, and thus diminishing the regressions usefulness. For the regression models using extended periods of time, and where the fixed effects models were not used, standard linear regressions were used to assess the relationships. Thus, the McWilliams and Siegel (2000) regressions over the 15 year

period [1a, 1b, 1c, 2a, 2b and 2c], the Waddock and Graves (1997) causality regressions [8a-f, and 9a-f], as well as the Callan and Thomas (2009) regressions [5a, 5b, 6a, 6b, 7a and 7b] all used the standard linear regression analysis. In contrast, the regressions restricted to the 5-year period [3a, 3b, 3c, 4a, 4b and 4c] were run using the xtreg fixed effects specification. In these regressions, modified Wald tests indicated the presence of heteroskedasticity, thus to remove any biases the panel regressions were run using robust residuals. In some of the xtreg regressions (spanning different performance measures and size proxies) a Year term was included to distinguish the effect of the business cycle on any of the regressions. The reason for this is that participation in the SRI index may coincide with peaks or troughs in the business cycle; and therefore by including the Year term as an independent variable, significant coefficients would indicate the direction the economy was moving and its effect on financial performance. For the most part, however, the regressions tended to have highly insignificant coefficients for the year variable, and thus the variable was excluded from the regression analysis.

The final issue examined was that of stationarity, and to get an idea of the movement of the series, a visual representation of the returns distribution for ROE (Figure 18) and ROA (Figure 19) over the 1995-2009 sample period was examined:

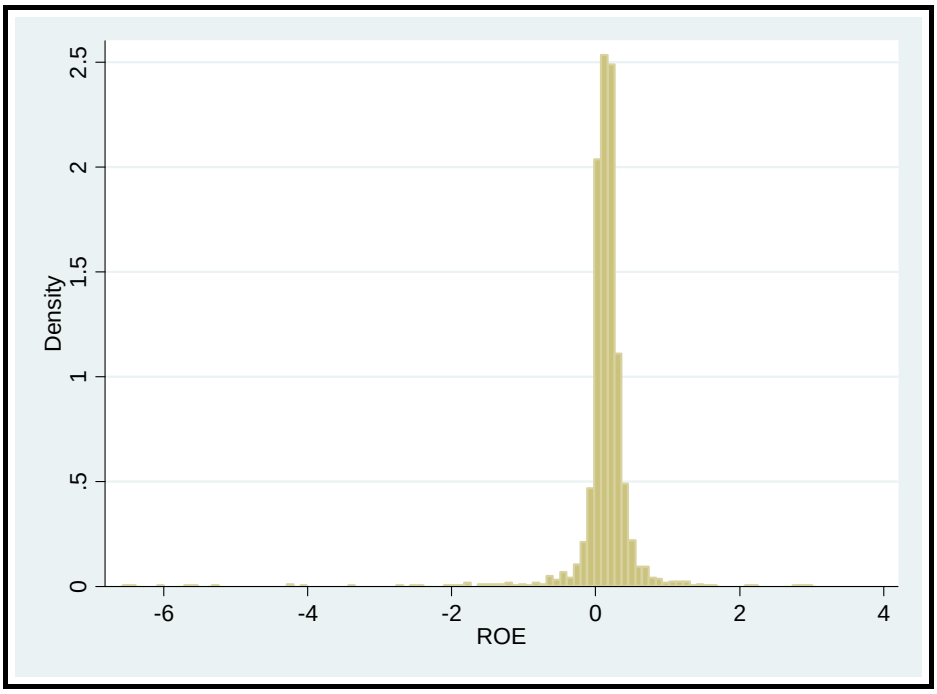


Figure 18 - A Histogram of the ROE Distribution for the 1995-2009 Sample Period.

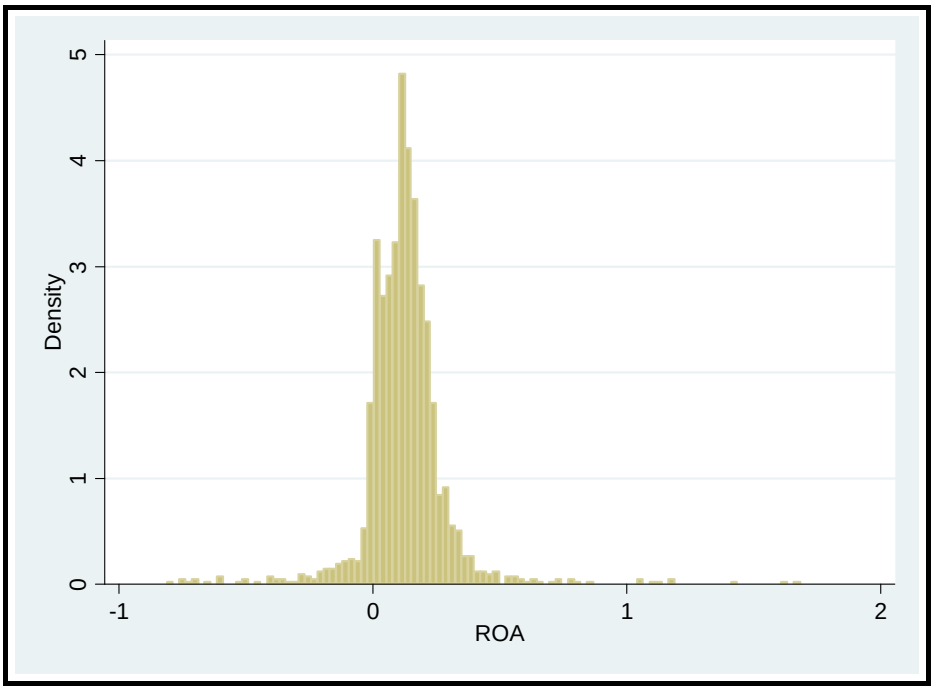


Figure 19 - A Histogram of the ROA Distribution for the 1995-2009 Sample Period.

Figure 18 and Figure 19 give an indication of the distribution of ROE and ROA, and as can be seen they tend to cluster closely to the modal bin. Another way of interpreting the distribution is by examining a graph of the median and mean of each of the financial performance measures over the period 1995-2009:

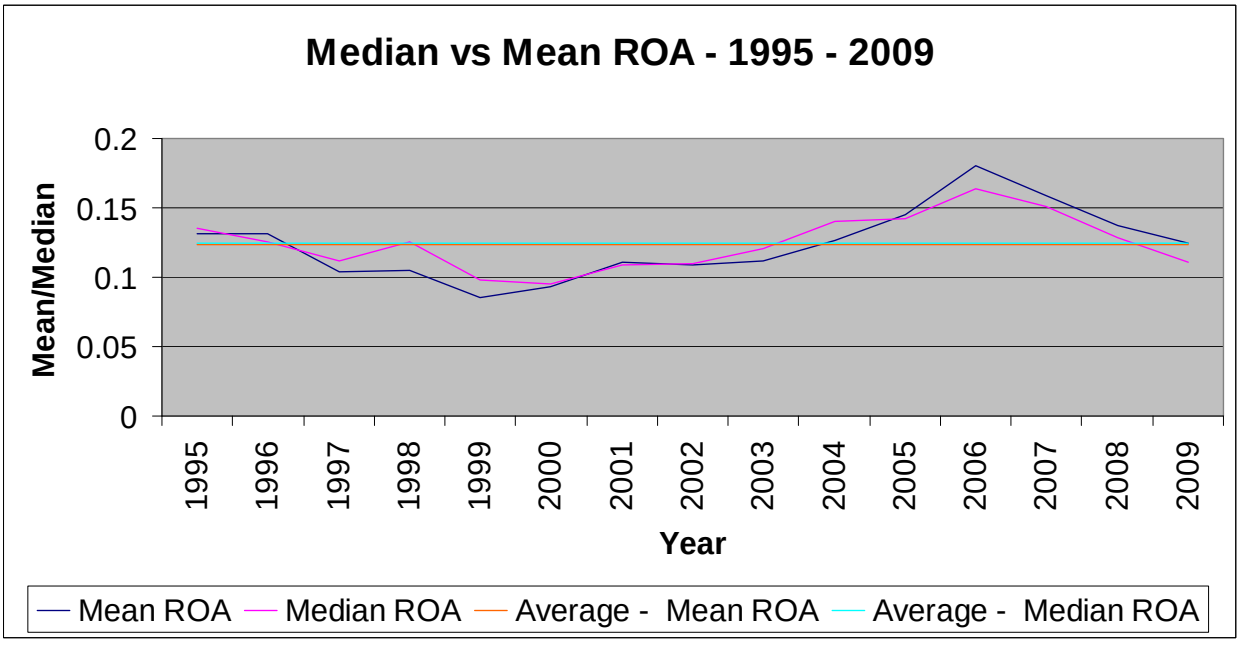


Figure 20 - Median Versus Mean ROA - 1995 - 2009

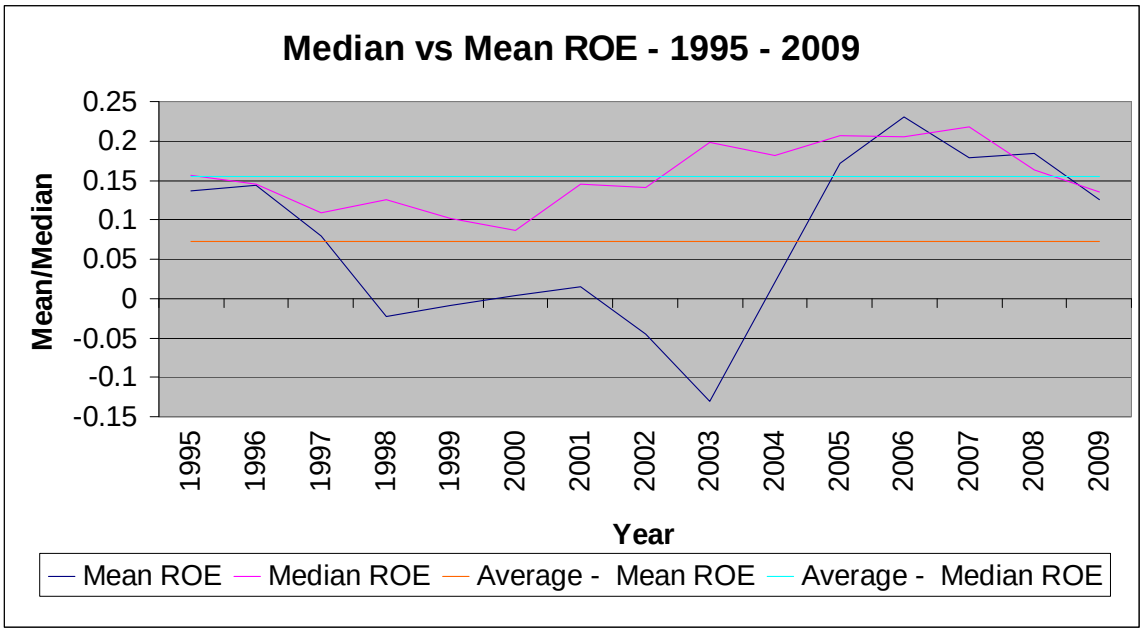


Figure 21 - Median Versus Mean ROE - 1995 - 2009

As can be seen, the results for the graph of ROA tend to be rather stable over the period. Although the values do rise and fall, they appear to hover around the mean quite closely. In Figure 20 the average of the mean and median for ROA are very similar, and both trend lines hover around this average. In contrast, Figure 21 shows that the average for the median of ROE is higher than the average of the mean, which indicates that there are more values above the mean, however they are of smaller magnitude than the negative returns, which pulls the mean down. This is also evident in the highly erratic trend lines for the mean and median ROE, as although in later years it recovered; the middle period indicates severe drops into negative values for the series. Overall, these graphical illustrations do not indicate any critical issues, and the empirical section analysis was discussed and concluded in the upcoming chapters.

5. Results and Discussion

Since the empirical section examined various methodologies with differing aims, each of the tests shall be looked at individually, with their results contrasted to the earlier academic findings. Once the results have been discussed in-depth, they shall be tied together and discussed as a body of evidence for or against CSR and SRI, where the conclusions of these results are discussed in the next chapter.

5.1 Event Study

Looking at the results from the short term analysis (event study) the Z-statistics seemed to indicate that none of the event dates had any significant influence on the stock price of the constituent companies:

Event Dates	Z-score
19-May-04	-0.011016132
19-May-05	-0.029494245
25-Apr-06	0.031508765
27-Nov-07	0.089542563
26-Nov-08	0.325614726
30-Nov-09	-0.014947688

Table 1 – Event dates and corresponding Z-score statistics for an event study with a 1-day event window.

Table 1 shows the results for an event study where only the date of the announcement was used, resulting in a 1 day event window. The results indicated that, in absolute value, the largest of the test statistics was for the 26 November 2008 event date, and this was only 0.326. Therefore these results show that essentially none of the event dates had a significant impact on the financial returns of the firms examined. Due to the fact that the announcement date, and the date the index went live sometimes differed by a day, the event window was increased to two days: the day of the announcement and the next day (the go live date for the index). The same tests were run using this expanded event window, and once again it was evident that none of the statistics were significant. Since the main conclusion was the same (no statistical significance) and a smaller event window is generally better, the results for the 2-day event window have not been presented here.

The consequences of this result may not be entirely conclusive, and may not necessarily impede any motivation for research in the CSR field. It is possible that the proxy for CSR (that being participation in the SRI index) was either not a good enough representation of social performance, or it was not recognised by investors to the degree that it influences their decisions. Alternatively, if markets are not efficient then it is possible that the announcement dates possess some influence; however, the effects are not instantaneously adjusted in the stock prices, and may only appear over the longer-term - voiding the use of the event study. Arlow and Gannon (1982) tentatively concluded that economic performance (at least in the short run) was not directly linked in either a positive or a negative fashion to social responsiveness. The results from the event study seemed to confirm their finding as none of the event dates had significant statistics, indicating that the announcements of the SRI constituents had no effect on their performance. Thus, in the short-term, using price changes as the measure of financial effect, there seemed to be no relation between perceptions of the firms CSR characteristics and the share price movements.

Sturdivant and Ginter (1977) also concluded that CSR may only be related with firm profitability over the long-term and thus if investors are able to evaluate the potential future impact that positive CSR announcements will have, they may be able to bid up the price of the firm. As discussed, the results of the event study seemed to indicate that none of the event dates had any significance; however the theoretical justification for such expectations shall be explained briefly. For the purposes of this study, using the SRI index as a proxy for CSP, the event dates were used as the day that the SRI announced the constituent list for the following year. The hypothesis was that if investors truly value the social aspect of business, then the announcement may change the investors' perceptions of the constituent companies and there may be a follow-through effect on the stock prices. Instead what was found was that none of the dates held any significance, and there may be a few reasons for this. The first possibility is that some of the key assumptions underlying the model may have been violated, and they are as follows: that markets are efficient, the event was unanticipated and there were no confounding effects during the event window. The final assumption regarding confounding events did not even come into picture due to the insignificance of the statistics for each event date, thus in the case that this assumption had been violated, it would mean that for each firm some external event resulted in a change in the opposite

direction to that hypothesised from the announcement. Since this was highly unlikely the other two assumptions were examined.

The assumption of anticipation was likely to be upheld due to the fact that the event window covered the date of the announcement as well as the date on which the changes went live on the index. The process involved in constituent selection meant that only the research organisation (EIRIS) and the JSE would know prior which companies had met all the required criteria for admission into the index, and there would have been no public announcements regarding this matter before the actual announcement of the constituent lists. Thus it was with some confidence that the events were taken to be unanticipated. The final major assumption was that of market efficiency, where the EMH contends that if the market is efficient, then any new public information which could affect the value of the shares should be impounded into the stock price as soon as it becomes known. In light of the results, the conclusions that may follow are either that markets are not efficient, and consequently the information had not been priced immediately even if it did have some value; or alternatively the announcement did not change the perceptions of any investors. Teoh et al. (1999) found that the shareholder boycott resulting in the divestment from South Africa had no financial impact on the markets, where their methodology also entailed the use of an event study. Teoh et al. (1999) conducted their event study with the aim of discerning the financial impact of divestment on South African markets and their analysis was divided into different areas such as looking at U.S. banks with loans to South Africa, South African financial markets, and the impact of legislative events as well as the effect of pension fund divestment. As with the event study presented in this dissertation, none of the event dates were significant. Teoh et al. (1999) found that in terms of legislative events, there was no evidence that the market perceived any individual date to have had significantly adverse effects on banks with South African operations, and similarly there was little evidence that the South African financial markets (or its exchange rates) were adversely affected by these legislative events. The authors also examined the effect of pension fund divestment announcements on U.S. firms with large South African operations where it was concluded that the evidence did not indicate that announcements of pension fund divestment significantly hurt these firms. There was also no reliable negative reaction on any individual financial series at individual divestment dates or with the aggregated divestment dates. The final analysis looked at voluntary divestment

announcements and the associated mean abnormal returns. The aim of this analysis was to determine if political or social preferences were additional attributes of investments so that investor preferences created downward slowing demand. In other words "is the elasticity of demand for divesting firms' stock low enough so that regaining the approval by social activists can increase the firm's share price" (Teoh et al., 1999, p. 74). Teoh et al. (1999)'s results showed no significant return reactions, indicating that there was no evidence of firms being affected by their divestment announcement.

In its totality, the results from their study showed that (as with the event study in this dissertation) the markets did not seem to price the social characteristics of the firm. This resulted in a situation where those firms with operations in South Africa that were sold as a result of their behaviour could find sufficient willing buyers who were not as ethically stringent, and consequently where the share price did not change significantly. Since the announcements were essentially in opposite directions (SRI announcement were taken to be positive, where operations in South Africa were negative), the results for this study meant that in South Africa the social characteristics of the firms were either already priced in the markets, or that investors did not value this information enough to act on it. This contrasts with the South African divestment in that although there was definitely a lot of publicity concerning this social issue, the number of investors willing to act on their beliefs may have been marginal compared to the number of investors with traditional investment criteria and who would readily invest in the firms regardless of their social performance (and political stance). Their conclusion was that the use of boycotts to influence share prices and subsequent company actions had no effect, and their result can be extended to this study in that it seems that the announcement of participation on the SRI index had no effect on the share price. Thus, although it is possible that markets are not efficient, it may seem more likely that the chosen event carried no informational value for investors. Ultimately either socially responsible investments are not being valued by investors, or the proxy used (the SRI index) was not an adequate representation of the firm's CSP – but whatever the underlying reason it was apparent that there were no abnormal price adjustments at the time of announcement.

5.2 SRI analysis – Three Factor Model and Portfolio Return Comparisons

The next examination was of the social factor from the perspective of the investor, where the different methods included risk-adjusted metrics as well as the use of a performance attribution model – Fama and French's Three Factor model. The reason for this section was to examine if being an ethical investor has any direct consequences on portfolio returns. This ties into previous literature (Hamilton et al., 1993; Diltz, 1995; DiBartolomeo & Kurtz, 1999; Viviers et al., 2008) where the importance of the cost to SRI was examined. To outline the three cases once more, it is possible that there are no differences between SRI and conventional portfolios, thus enabling investors to be indifferent about the investment criteria. Alternatively, if there are positive returns to SRI investments, then the social factor is resulting in additional return for investors who act responsibly with their investments. The final possibility is that SRI firms perform worse than conventional firms, and in this case investors have to bear a cost to invest according to their ethics and be 'socially responsible' with their funds. Due to the variety in the possible outcomes, it is important to ascertain exactly which situation exists in South Africa today so that investors may make informed decisions about their investment choices.

5.2.1 – Three Factor Model

The methodology used to examine excess portfolio returns was the Three Factor Model, and it was performed using both value-weighted and equally-weighted portfolios. Looking at the model using the value-weighted portfolios the results showed that in terms of the SRI portfolio, the model explained 56.22% of the variation in the 1995-2009 time period, and only 34.81% of the variation in the shorter 1999-2009 time period. What this indicates is that using the extended market model, the returns could not completely be explained; and that there may be something else driving returns. This is in contrast with the conventional portfolio as for the longer period, 89.84% of the variation was explained while looking at the shorter period this decreased to 86.93%. The results regarding the conventional portfolio are somewhat to be expected as this portfolio consists of the majority of the market, thus the market index should predict returns well. Interestingly, in every model run, the intercept was negative, meaning that the alpha was negative, and that both portfolios underperformed the market-based

benchmark. This was an alpha of -0.0159 and -0.023 per month for the SRI portfolio in the 1995-2009 and 1999-2009 periods respectively. In both periods, the alpha for the conventional portfolio was smaller than for SRI, with values of -0.0148 and -0.0168 for the long and short periods respectively. For both portfolios, the underperformance was worse during the shorter period. Additionally, all of the intercept coefficients were significant at the 1% level. Another interesting finding was that the coefficients for the SMB factor indicated that the SRI portfolio was considered large-cap (while the conventional portfolio was small cap). As mentioned earlier, due to the process of social investing and the nature of the SRI, as opposed to excluding socially irresponsible stocks, the positive social tilting resulted in the majority of the top 40 companies being included in the SRI. Thus, the SRI portfolio relative to the conventional portfolio is much larger, and this is evident in the coefficients of the SMB factors.

Turning to the equally-weighted portfolios, the results indicated that the Three Factor Model explained a lot more of the variance in the SRI portfolio in both time periods when the adjusted R^2 increased to 84.04% and 81.87% for the 15 year and 10 year time periods respectively. This was the opposite of what was expected, as if there is a social factor influencing results, due to the size of the constituents and their contribution to market performance it may be distorted when value-weighted portfolios are used. In this case however, turning to equally-weighted portfolios the explanatory power of the models increased. Once again the intercepts were negative and highly significant with both coefficients having p-values of 0.0000 and t-stats greater than 10 (in absolute value). Although using the value-weighted portfolios resulted in the HML factors tending to be 0 for all the models, a stark contrast with the equally-weighted portfolio showed that for the SRI portfolio in the 15 year period, the HML factor increased from 0.06 to 0.17, and in the 10 year period the factor increased from 0.1 to 0.23. Thus using equally-weighted portfolios, the SRI portfolio seemed to show signs of value characteristics; which were previously obscured when using the value-weighted approach. Following from these differences, the value-weighted portfolio showed that the conventional firms had only one insignificant factor, that being HML - which indicated that the portfolio had growth biases. For the SRI portfolio both the HML and SMB factors had insignificant coefficients, however using the equally-weighted portfolio showed that HML was significantly different from zero, and thus tended towards value while maintaining its large cap bias.

5.2.2 – Risk-adjusted Return Comparisons

Due to the difference in composition between the SRI portfolio for the 1995-2009 and 1999-2009 time periods, they were labelled SRI95 and SRI99 for clarification, and these portfolios were tested against the J203 as well as the Conventional portfolio for differences in their mean over different time periods. The summary statistics are presented in the following tables:

Period: 1995/07/31-2009/06/30					
Variable	**Observations**	**Mean**	**Std. Dev.**	**Min**	**Max**
Conventional	168	0.015631	0.0525041	-0.21157	0.128046
SRI95(value)	168	0.017788	0.0656984	-0.29424	0.187594
SRI95(equal)	168	0.01855	0.0559156	-0.23688	0.1570005
J203	168	0.035948	0.0614342	-0.31792	0.169095

Table 2 - Comparison Between SRI and Conventional Portfolios - 15 Year Period

Period : 1999/11/30-2009/06/30					
Variable	**Observations**	**Mean**	**Std. Dev.**	**Min**	**Max**
Conventional	116	0.015838	0.051754	-0.10559	0.125639
SRI99(value)	116	0.017623	0.060155	-0.13785	0.149783
SRI99(equal)	116	0.018928	0.0499094	-0.1270967	0.1274848
J203	116	0.038357	0.056175	-0.11427	0.169095

Table 3 - Comparison Between SRI and Conventional Portfolios - 10 Year Period

As can be seen from Table 2 and Table 3 the means in both time periods followed similar patterns where the Conventional portfolio consistently underperformed the SRI portfolio, which in turn performed worse than the market index - as proxied for by the J203. Interestingly, the patterns of the standard deviations were again similar in both time periods, where the least volatile portfolio was the Conventional portfolio, followed by the market index, and then by the SRI index which had the highest standard deviation. These raw statistics gave an indication of which portfolios had comparatively higher mean returns, however to perform a more statistically accurate analysis the return series were tested for differences in means, where the results are summarised in Table 4:

Paired t-test - 15 year	**t-stat**	**p-value**
SRI95 - J203	-14.09370	0.00000
Conventional - J203	-7.52290	0.00000
Conventional - SRI95	-0.66320	0.50810
Paired t-test - 10 year	**t-stat**	**p-value**
SRI99 - J203	-19.03530	0.00000
Conventional - J203	-7.15230	0.00000
Conventional - SRI99	-0.4913	0.62410

Table 4 - T-tests for Differences in Mean (Conventional Versus SRI)

It was found that in the 15 year period the Conventional and SRI portfolios were significantly different from the J203 market series, with t-stats of -7.52 and -14.09, respectively. Similarly, in the 10 year period the two portfolios were once again significantly different from the market series with t-stats of -7.15 and -19.04 respectively. In contrast, when the two portfolios were compared to each other, the conventional and SRI portfolios had t-stats of -0.49 and -0.66 for the 10 and 15 year periods respectively. Thus, in terms of statistical significance the two portfolios attained similar performance and using these tests it was impossible to determine whether the SRI portfolio definitively outperformed its conventional peer; therefore further analysis was required.

Risk-adjusted Performance:

Using the same SRI lists for the 1995-2009 and 1999-2009 subperiods as from the three factor model analysis; the portfolios were compared using the three risk-adjusted performance measures mentioned earlier (taken from Viviers et al., 2008), and the results have been presented in Table 5:

Portfolio	SRI (Value)		SRI (Equal)		Conventional	
	SRI95	SRI99	SRI95	SRI99	Conv95	Conv99
Sharpe Ratio	0.17451779	0.443788	-0.24839	0.063167	-0.74471	-0.21274
Sortino Ratio	0.240090845	0.758689	-0.37002	0.118225	-1.01956	-0.31989
Upside Potential Ratio	0.259595755	0.329755	0.265348	0.621449	0.223972	0.237781

Table 5 - Summary of Risk-Adjusted Performance Measures

As can be seen, in all cases (value-weighted SRI, equally-weighted SRI and conventional) the shorter 10 year portfolio always outperformed the 15 year portfolio. For the value-weighted SRI assessment, the SRI99 Sharpe Ratio gave a value of 0.44 as opposed to 0.17 for the SRI95 which indicated that per unit of risk, the shorter period portfolio attained greater excess return; and similar results were found in the same portfolio when the Sortino ratio was used. The differences were slightly smaller for the Upside Potential Ratio; however, once again the shorter period outperformed. An interesting difference was seen when the SRI value-weighted portfolio was compared to the equal-weighted portfolio, as all metrics were worse off except for the Upside Potential Ratio. The SRI95 portfolio had a negative measure for the Sharpe and Sortino ratios, which meant that on a risk-adjusted basis both of these measures achieved negative returns by performing worse than the risk free asset. Importantly, both of the SRI portfolios outperformed the conventional portfolio using all three of the risk-

adjusted metrics - as well as in both time periods. For the Sharpe and Sortino ratios, the Conventional portfolio was negative in all cases which indicated that using the same risk free rate, the Conventional portfolio performed much worse than the SRI portfolio in the 10 year and 15 year time periods. The Upside Potential Ratio was positive, however, once again the measure showed that the Conventional portfolio underperformed both of the SRI portfolios (0.224 and 0.238 verses 0.26, 0.33, 0.265 and 0.621). Using the alternative conventional portfolio as a comparison for raw returns, an investment in July 1995 of R1 in both the SRI (value-weighted) and the conventional portfolios was examined by compounding the returns series created for the two portfolios. This analysis showed that the investments grew to R13.48 and R10.76, for the SRI and conventional portfolios respectively. Figure 22 describes the movement of the portfolios (including the equally-weighted SRI portfolio), from inception in 1995 until the end of the sample period in 2009.

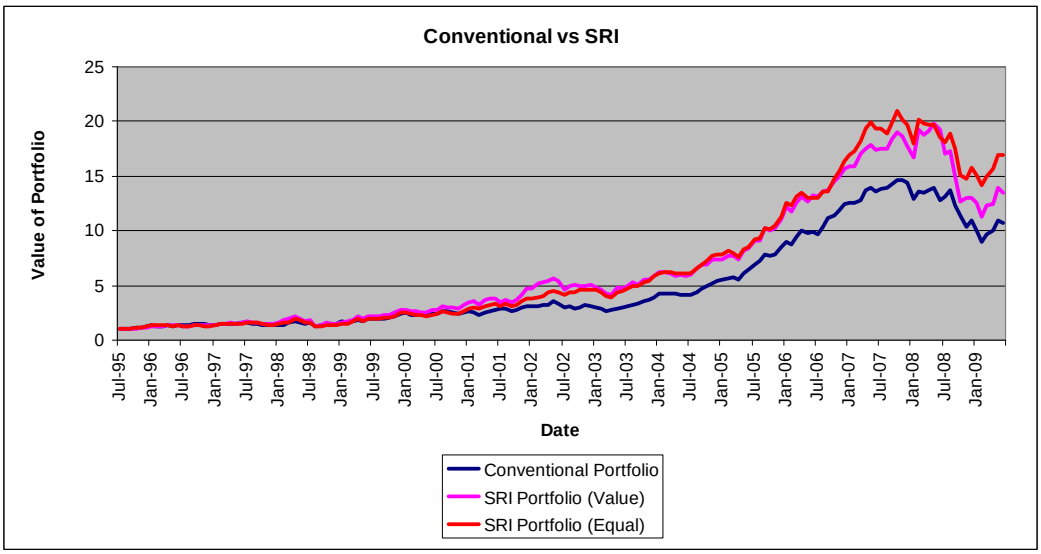


Figure 22 - Simple Compounding of SRI Return Series (Value- and Equally-Weighted) Versus Alternative Conventional Return Series

It is interesting to note that for the first five years, the differences between the two portfolios were marginal, with the differences hovering around zero until 1999. After January 1999, the differences were always positive in that the SRI portfolio consistently had a higher value than that of the corresponding conventional portfolio. As can be seen in the trend line, the SRI portfolio seemed to outperform the conventional portfolio with the differences slowly increasing over time. Towards the end of the sample period the difference between the two series reached its maximum; with the biggest difference between the portfolios (R6.37) occurring during June 2008. Thus, using raw returns

aside from the marginal differences earlier in the sample period, the SRI portfolio seemed to have consistently performed better than its conventional counterpart – a result which is corroborated using the afore-mentioned risk-adjusted performance metrics. Another important finding that must be discussed before moving on was the fact that both of the constructed portfolios consistently underperformed the market index (J203). This may be an artefact of the portfolio creation as they were formed on the basis of SRI and size characteristics only, for the SRI and conventional portfolios, respectively. As a result, these criteria may have introduced biases as well as additional risk factors which were not accounted for and may explain why the purely diversified 'portfolio' - the market index - outperformed both of the constructed portfolios. A graphical representation of this finding is seen in Figure 23, which includes the same returns series compared in Figure 22, with the addition of the J203 returns series. As can be seen, the large discrepancies between the hypothetical portfolios and the market index has compounded over time to result in a significantly different end value.

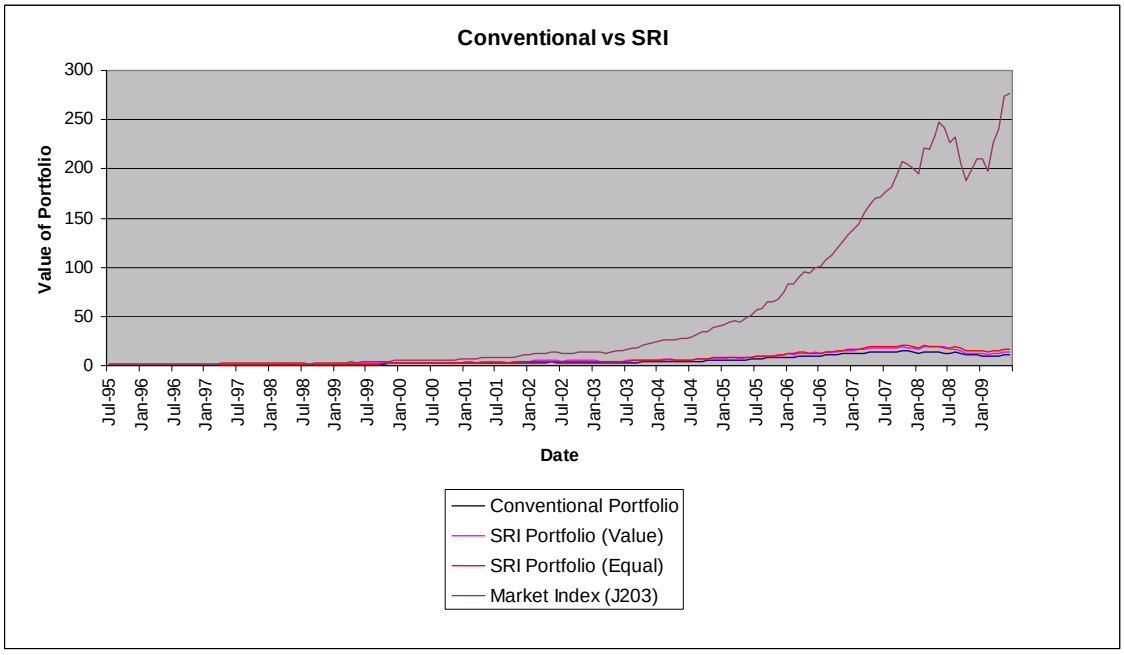


Figure 23 – Comparison of SRI and Conventional Returns Series Versus the Market Index (J203)

One possible explanation is that due to selection issues, although many of the SRI index constituents currently comprise the majority of the market capitalisation of the JSE, this may not have been the case in the past. The fact that the market index included all new companies as well as those influenced by booms, while the SRI list remained the same over time may explain the vast differences in performance. To this end, the composition of the Top 40 since the beginning of the sample period was examined, and the

companies were cross-referenced with those that participated in the SRI index. Using the Findata@Wits database the market capitalisations of the universe of stocks were examined at the end of January for each year from 1995 until 2009. These market capitalisations were then sorted so that the 40 largest companies for each year could be determined (these company lists can be found in the appendix chapter 8.4 SRI Index Participants). The constituent companies of the SRI portfolios were compared against the Top 40 lists throughout the sample period. This was to try explain the significant differences in performance, as if the Top 40 companies differed greatly from the SRI portfolio companies over time, it is reasonable that the performances of the overall market and the SRI portfolio may vary. In the following table, the number of companies that were in the Top 40, as well as the corresponding SRI portfolio were given for each year from 1995 until 2009.

	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
SRI95	15	15	16	15	15	17	19	21
SRI99	15	15	16	16	17	22	24	27
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	
SRI95	22	21	21	20	22	23	22	
SRI99	28	28	29	28	31	30	30	

Table 6 - Number of companies common to both the SRI portfolios and the Top 40

As can be seen from Table 6, for the first few years the SRI portfolios did not even constitute half of the Top 40; which may account for vast differences in performance - assuming the Top 40 companies still influence the market considerably. Overall, both SRI portfolios tended to increase the number of Top 40 participants over time, with occasional reversals in trends until they ended with 22 Top 40 constituents for the SRI95 portfolio, and 30 constituents for the SRI99 portfolio. This may be an artefact of the portfolio creation process as the portfolios were created using lists from 2004-2009 where the SRI companies were already majority constituents of the Top 40 list. These findings regarding the Top 40 compositions do however give some support as to why the performances of the overall market and these constructed SRI portfolios differed by such a large degree.

An alternative check on these results was performed by creating a portfolio of the SRI companies but restricting the period to 2004-2009; during which the SRI index was in existence and during which the SRI companies constituted the majority of the Top 40 (as well as the general market). The same process used for the creation of the SRI95 and

SRI99 portfolios was followed; however as this was just a check for robustness the results have not been presented in this dissertation. It was found that the mean return for the value-weighted portfolio over the 2004-2009 sample period was 0.02083 which was higher than both the SRI95 and SRI99 mean returns, but once again lower than the general market. The equally-weighted portfolio had a mean return 0.0181 which was lower than the value-weighted return. This was in contrast to the earlier findings where for both SRI95 and SRI99; the equally-weighted portfolios outperformed the value-weighted portfolios on a raw-returns basis. This result suggests that the smaller companies in the portfolio performed worse, and once the weightings were levelled their poor performance pulled down the overall portfolio performance. Interestingly the large discrepancy between the J203 and the SRI portfolio is once again counter-intuitive as during the sample period, the Top 40 shared most of its constituents with the SRI index. A final check was performed where a portfolio was created from all of the SRI companies with market capitalisations less than the median market cap of the SRI index constituents. This restricted the portfolio by excluding the larger half of the constituents; and it was found that the mean return of the value-weighted portfolio was 0.001442 (0.00853 for the equally-weighted portfolio) - a much smaller return when compared to any of the previous portfolios. On a value-weighted basis, the portfolio of smaller SRI companies only comprised around 7% of the return, where the rest of the returns came from the larger SRI companies. Looking at this portfolio from an equally-weighted perspective; the smaller SRI companies' contribution increased to 41%.

Overall it was interesting to note that the SRI portfolios consistently outperformed the conventional portfolio, albeit while simultaneously underperforming the overall market index (as proxied for by the J203). The SRI portfolio was broken down into different sample periods, as well as by capitalisation to try and explain the large discrepancies between performances. Even though the large SRI companies accounted for over 90% of the SRI portfolio's performance, this was still only half of the general market's performance and it is possible that the process of portfolio creation introduced biases which over time have decreased the portfolios relative performance.

5.3 Regression Analysis

For the section regarding the regression analyses, it was broken down into chapters that covered the various models used from the earlier empirical literature. This was done so that the different models (with different aims) were examined thoroughly and their results discussed in light of the CSP-CFP relationship. The general distinctions drawn between the models were:

McWilliams and Siegel (2000) – This regression model was used in two variations, where the first tested the equation that financial performance is a function of social performance, size, risk and industry. The second specification of the model extended the first by including prior financial performance (over the previous one to five years) as additional explanatory variables.

Callan and Thomas (2009) – These models looked at three measures of financial performance and had two specifications for each measure where the size variables were included with and without their quadratic forms (as a test of linearity).

Waddock and Graves (1997) – The main methodology in this study was employed to test the direction of causality. Thus, through the use of linear as well as logistic regressions; models were estimated that introduced lags in an attempt to discern which of the Good Management or Slack Resources hypotheses held in this study.

5.3.1 McWilliams and Siegel (2000)

McWilliams and Siegel (2000) extended the earlier regression model used in Waddock and Graves (1997) by including the R&D and advertising intensity variables. As mentioned in the chapter on the empirical methodology, due to the lack of data (as well as some previous studies which omitted these variables) the regression models were run without these additional explanatory variables. The sample data was described in the earlier chapter, however to recap the initial set of firm-year observations spanned 2820 for the 188 companies over 15 years. With firm-year observations being dropped due to missing data, the number of observations were 1686 and 1237 for the models using Assets/Turnover and Employees respectively. The final numbers differed slightly due to the presence of probable outliers in 3 of the observations. The excluded observations along with the year and observation value were: Randgold and Exploration, 1999 (ROE = 4229); Hwange Colliery, 2005 (ROE = 54752) and 2006 (ROE = 3473). Some of the key findings of the basic models have been presented in the following table:

CFP	Regression	Adj R-squared	Size	Significance	SRI coefficient
ROE	1a	0.029	Assets	10%	11.18
ROE	1b	0.029	Sales	None	8.130
ROE	1c	0.017	Employees	none	0.0477
ROA	2a	0.029	Assets	None	-0.616
ROA	2b	0.032	Sales	5%	-1.824
ROA	2c	0.074	Employees	None	-0.00172

Table 7 – Regression Results Following McWilliams and Siegel (2000) Using the 1995-2009 Sample Period

As can clearly be seen, the adjusted R-squared was rather poor, with the best model explaining less than 8% of the variance in financial performance. Regardless, there were a few distinct trends which can be seen here, namely that the models for ROA explained more of the variance than those models using ROE. In addition, the models using number of employees were considerably worse at explaining the variance in the ROE models, and considerably better in the ROA regressions. Interestingly, it has been hypothesised in earlier academic studies that ROE may be more related to CSP in the long-term, and since these measures were essentially testing the social performance against the financial performance in the same year, this may explain why ROA was marginally better at prediction than ROE.

In terms of the actual social performance, the SRI variable was only significantly different from zero in two of the models, with regression 1a being significant at the 10% level and 2b significant at the 5% level. An interesting finding here was that the SRI coefficient was negative for all three of the models using ROA as the financial performance measure, whereas it was positive in all of the ROE models. In terms of the two significant coefficients, model 1a had a SRI coefficient of 11.18 which was significant at the 10% level, indicating that SRI participants tended to attain a ROE that was over 11 points higher than their conventional peers (this finding was for the 15 year period which is quite significant). The other coefficient was significant at the 5% level and had a value of -1.824, which indicated that SRI participants achieved marginally lower ROA values. These conflicting results are interesting as in addition to their sign, the specification of the models used different financial performance measures as well as size proxies.

McWilliams and Siegel (2000) – Prior performance over five years included:

To be more precise, the sample was restricted to the years in which the SRI index was in existence (2004-2009), so that a more accurate representation of McWilliams and Siegel (2000)'s CSP proxy may be used. For these models, the SRI dummy variable was coded as 1 only if the firm participated in the index for that year. Thus, the restricted sample period of 2004-2009, again with 188 companies resulted in a total of 940 observations; with the number of observations varying depending on the regression model used. As a result of the varying model specifications, once the firm-years with missing data were removed the models using Assets and Turnover had around 669 observations; while the models using Employees had 535 observations.

In addition to the restricted sample period, McWilliams and Siegel (2000)'s model was extended as although the same sample companies were used during the period 2004-2009, previous financial performance was included as additional independent variables. The regression models included the stepwise addition of prior performance, starting with the financial performance of one year prior to the current year being examined. In addition to one-year prior, the financial performance of two-years prior was added, all the way until the performance from five-years prior was included in the model. Size was proxied for using the three measures of assets, sales and employees once again. Therefore, in total for each performance measure there were fifteen regressions (five different lengths of prior performance multiplied by the three measures for size). Since the two performance measures examined were ROA and ROE there were a total of 30 regressions for this section. One important observation is that, as mentioned in the methodology section, due to the nature of the statistical analysis using fixed effects, the industry dummy variables were necessarily dropped as they were unchanging over time. Thus the regressions in this section were unable to observe the role of industry in the social-financial performance relationship.

Examining the results from the regressions (which can be found in 8.7 Regression results) shows that once again the R^2 statistics were not too powerful, and thus the models did not necessarily explain all of the variance in financial performance. The highest value was 0.179 for regression 3c1, and this ranged down to a minimum of 0.02. It is interesting to note that in each case, the model that only had 1-years prior performance had the smallest R^2, where the statistic increased until it reached a

maximum with all five prior years' performance included. Callan and Thomas (2009) noted that earlier evidence may have suggested a long-term relationship between CSP and ROE, thus the improved explanatory power may be a result of the inclusion of the longer-term prior performance. In spite of the relatively low R^2 statistics, the regressions highlighted some interesting results, specifically in terms of the differences between ROA and ROE in the social-financial performance relationship. Looking at the constants, the coefficients were positive in all thirty of the regressions, and were significant in every one of the models using ROA as the financial performance measure as opposed to significant in only two out of the fifteen ROE regressions. Turning to the risk variable it was found that for the ROA regressions the sign of the coefficient was negative in all fifteen regressions, however the variable was not always significant. For the regressions using Employees (4c1-5) none of the coefficients were significant, whereas the models using Assets (4a1-5) and Turnover (4b1-5) the only models that did not have significant risk coefficients were 4a2 and 4b2. Interestingly, the striking difference between the models using the different size proxies followed through somewhat in the ROE regressions. In this case however, although none of the coefficients were significant, they were negative for all of the models using Assets and Turnover, but positive for the models using Employees. From these results it seemed that risk was significantly and negatively correlated with ROA except when Employees was used as a proxy for the size of the firm. In addition, risk had no significant power in predicting the ROE of a firm.

Size has been often hypothesised to be correlated with the social performance of a firm. Thus, it is interesting that in these results including the various measures into the models did not seem to have such a significant effect on the financial performance; as evidenced by the fact that none of the size coefficients were significant in the ROE regressions. Similarly, for the ROA regressions using Assets and Employees none of the coefficients were significant; however, when Turnover was used as the size proxy, four out of five of the coefficients were significant. This makes sense intuitively as turnover should be highly correlated with profitability – although it must be considered that turnover did not have any significant correlation with performance as measured by ROE. Again the signs of the coefficients match up in the ROA and ROE models, where for Employees nine out of the 10 regressions had negative coefficients, for Turnover ten out of ten had positive coefficients and for Assets, the same three out of five regressions

were negative for both ROE and ROA. Overall, for the most part, the influence that size had on financial performance seemed to be more or less the same regardless of the measure that was used.

The coefficients from the prior performance variables indicated that for the ROA regressions, generally the coefficients for 3-years and 5-years prior performance were significant. The coefficients for 4-years prior were significant in four out of six regressions, and those of 2-years prior performance were significant in all twelve of the regressions where it was included. One important finding here was that in all of these regression models the sign of these coefficients was negative, thus it seemed that the performance from two to five years prior had a negative relationship with ROA. In contrast, the results indicated that fourteen out of fifteen coefficients for 1-year prior performance were significant, and all of them were positive. This showed that the performance of the previous year had a significant and positive relationship with current ROA. The differences across size proxies were not significant for ROA, but in the case of ROE it became clear that there were some differences between the models using Assets and Turnover, and those using Employees. In the case of the first two proxies (regressions 3a1-5 and 3b1-5) the only time the prior performance coefficients were significant (at the 5% level) was in regressions 3a1 and 3b1 where all five years prior performance was included – and all were significant. In the rest of the regressions using between one and four years prior performance none of the coefficients were significant. This result did not carry through to Employees however, where in regressions 3c1-5, only three of the five coefficients were significant in regression 3c1, and two of those were significant again in 3c5.

The final analysis of these regressions entailed the SRI coefficient which is the variable most pertinent to this study, and which also offers the most interesting finding. Unlike the earlier regressions, the SRI coefficients were positive in all thirty of the ROE and ROA regressions. The important distinction, however, is that in all fifteen of the ROA regressions, the coefficient for the SRI variable was insignificant at all of the traditional confidence levels. In contrast, all fifteen of the ROE models showed significance; thus the results indicated that SRI seemed to be positively and significantly correlated with performance (when measured by ROE). This result was important as it definitively stated that social performance was positively correlated with financial performance in

all of the regressions examined. The significant results were robust to the size proxy used, as well as to the degree of prior performance included in the model. The only caveat is that the period is somewhat short being only six years, however due to the fact that the SRI index is relatively new it is hoped that future studies may be able to confirm the results from these regressions. The magnitudes of these coefficients showed that the smallest coefficient was 17.17 whereas the largest coefficient was 25.14. This means that during the sample period a firm that participated in the SRI index would have attained a return on equity that was between 17.17 and 25.14 higher than its conventional peers. This is an economically significant amount, and the result seemed to support the hypothesis that social responsibility pays off.

One caveat to note is that due to the model including lagged dependent variables, it is possible that using the Ordinary Least Squares method biases the results as a consequence of endogeneity. As a test of robustness the Generalised Method of Moments (GMM) - two-step system with Windmeijer corrections – was used to check the results from this section and the findings from this method have been presented in the appendix chapter 8.7 Regression results. Following on from the McWilliams and Siegel (2000) models where the prior performance over the past five years were included, ROA and ROE were looked at while including lagged terms that were accounted for by the statistical model. As the model took care of the lags there was only one equation for each 'financial performance measure–size proxy' pair. Thus, there were six new equations being examined: three for ROA and three for ROE. A familiar pattern from earlier regressions appeared where the p-values for the SRI variable appeared similar to the R^2 from the original McWilliams and Siegel (2000) regression from the full sample period. For both ROA and ROE, the Assets and Sales models have similar p-values, but with employees as the size proxy, the p-value is much less significant in the ROA model, and drastically more significant in the ROE model. The most important difference between the GMM models and the previous regression models is that out of the six, only the ROE model using employees as the size proxy has a significant SRI coefficient – using traditional confidence levels. Interestingly, the SRI coefficients for all three of the ROE models (14.51, 21.67, and 23.34) are of the same magnitude, and the same can be said for two of the three ROA models (-1.252 and -1.430). The p-values for the SRI coefficients in the ROA models were 0.638, 0.621 and 0.945; while those of the ROE models were 0.134, 0.129 and 0.026. This implies that

while the findings from the earlier (biased) results may not be wholly correct or dependable; there may definitely be something to the relationship between social performance and ROE. This is confirmed when the confidence level is decreased as at the 15% level all three of the ROE models have significant SRI coefficients where none are significant in the ROA models – which once again mirrors the earlier findings. Further analyses were performed to see if the findings remained consistent.

5.3.2 Callan and Thomas (2009)

For these regression models, Callan and Thomas (2009) used a full set of size proxies employing assets, turnover and employees simultaneously; in addition to including the quadratics of these variables to test for linearity (which shall be referred to as the fully specified models). One of the prominent differences between the basic McWilliams and Siegel (2000) model and these models were the R^2 statistics, which indicated that without the quadratics, the models explained 60.1%, 9.2%, and 3.2% of the variance in financial performance for Operating Profit, ROA and ROE respectively. When the quadratic variables were included these metrics increased to 67.2%, 10.2% and 3.7% respectively. As can be seen, generally for ROA and ROE these values were marginally higher than the previous regressions indicating that the models were a slightly better fit, whereas the Operating Profit regressions have much higher R^2 statistics. One possible reason for this is that operating profit is highly correlated with turnover and thus since Total Turnover is one of the explanatory variables, the explanatory power of the model is increased dramatically.

In all six models, the intercept coefficients were highly significant at the 1% level. An interesting difference between the models, however, was seen in the fact that for the normal and fully specified models of ROE and ROA, the intercepts were positive, whereas both specifications of the Operating Profit regressions were negative. In terms of the risk proxy, the long-term debt to equity variable coefficients were positive for all model specifications except for those using ROA, although they were only significant in the models using ROE. Thus, the risk measure was more closely related to the financial performance measure of ROE. In addition, for the ROE models the only size proxies that were significant were turnover (at the 1% level for models 7a and 7b) and number of employees (at the 10% level) for model 7b. For Operating Profit every size proxy

(including the quadratics) was significant in both of the specifications, except for the number of employees in the normal regression model 5a. In contrast, every size variable was significant in the ROA models except for the turnover quadratic variable in model 6b. Ultimately, it seemed that size was indeed significant in predicting financial return and cannot be omitted. In terms of the industry variables, thirteen out of sixteen were significant in the ROA models, whereas this number was only two out of sixteen for ROE, and nine out of sixteen for Operating Profit. This indicated that in terms of the industry effects, they were far more important when using ROA as the financial performance measure, and least important when ROE was being examined.

Turning to the social performance aspect of these models, it was found that the SRI dummy variable was negative in three out of six of the regression models (5a, 7a, 7b), and positive in the remaining three (5b, 6a, 6b). More important than the direction of the coefficient was the significance for each of the coefficients and it was found that none of the coefficients were significant at the 10% level or better. Thus, using the model specification of Callan and Thomas (2009), there seemed to be no significant relationship between social and financial performance. In all specifications of the ROE and ROA models, when the quadratics were included the sign of the SRI coefficient remained the same, however for Operating Profit it was seen that as the model was fully specified, explanatory power of the model increased and the SRI coefficient changed from a positive 13 916 to -68 461. Interestingly, the finding that the SRI coefficients were positive for both ROE models and negative for the ROA models was consistent with findings from the McWilliams and Siegel (2000) fifteen year regressions. Once again, since the results regarding the social-financial performance relationship seemed insignificant, no clear conclusion could be drawn from these regressions. Although as stated there seemed to be a distinct trend appearing that SRI is positively correlated with ROE and negatively correlated with ROA, this relationship may need to be examined further.

5.3.3 Waddock and Graves (1997) – Testing for Causality

This section examined the results from the Waddock and Graves (1997) regressions which had at their core the question of causality. As mentioned earlier, the authors proposed two hypotheses regarding the direction of the CSP-CFP relationship. The

Good Management theory stated that good management (as determined through better social performance) results in improved financial performance. The alternative theory is the Slack Resources hypothesis which stated that through good financial performance in prior years, companies are able to afford social initiatives that improve their future social performance.

As mentioned in the methodology chapter, since the proxy for social performance in this dissertation was a binary response variable the standard linear regressions could not be used when examining social performance as the dependent variable. As a result, half of the regressions were run using linear regression analysis when financial performance was the dependent variable, and logistic regressions were run when the social performance was being examined. For the linear regressions, ROA and ROE were looked at as the measures of financial performance and generally the adjusted R^2 statistics were more powerful for the ROA models than the ROE models. The values were 0.097, 0.088 and 0.1499 as opposed to 0.035, 0.034 and 0.0316 for regressions 8d, 8e and 8f, and 8a, 8b and 8c, respectively. Additionally, the statistics indicated that for ROE the models using assets and turnover as the proxies for size explained more of the variance in return than the model using the number of employees. In contrast for ROA, the model using employees had a significantly higher R^2 when compared to the assets and turnover models. This mirrored an earlier finding from the McWilliams and Siegel (2000) regression over the long-term period - namely regressions 1a-c and 2a-c. Another similar finding was that although none of the six linear regression models had significant SRI coefficients, the coefficients were negative for two out of three for the ROA models and positive for all three of the ROE models (only regression 8f did not conform). As mentioned, the earlier regression models had positive coefficients for ROE models 1a-c and negative coefficients for ROA models 2a-c. Turning to the logistic regressions it appeared that the results were somewhat more interesting. The two regression models that used employees as the size proxy had higher pseudo-R^2 statistics than the other models which used assets and turnover. The regressions R^2 statistics as well as model number were as follows: 0.3562 (9c) and 0.3578 (9f), using employees; and 0.2441 (9a), 0.256 (9b), 0.2417 (9d) and 0.2572 (9e), using assets and turnover. Once again the most important variable in these regressions was the financial performance explanatory variable as this indicated whether prior financial performance affected social performance. In none of the six regressions (9a-f) were the financial

performance coefficients significant at the 10% level or better. The signs of the coefficients were generally positive, with five out of six regressions showing positive albeit insignificant relationships between financial and social performance (only regression 9e showed a negative correlation). Interestingly, the significant coefficients were identical across model specifications regardless of the financial measure used. In other words, the models using turnover, assets and employees as size proxies had identical results for both the ROA and ROE regression specifications. For assets and turnover, the results indicated that the size variables were significant, in addition to the healthcare and oilgas industry variables, and the intercept – all at the 1% level. In five out of the six regressions, the risk proxy was significant, thus although it was not entirely consistent it seemed that risk had a part to play in predicting future performance.

5.3.4 Overall conclusions from the regression analyses

Taken together, the regression analyses offer varying results, obviously depending on which models one uses, and this poses some theoretical issues. To avoid just running regressions until statistically significant results are found, it is important to have a theoretical basis that justifies the use of the model. As covered in the empirical literature Fitch (1976) argued for social responsibility as firms can achieve CSR without sacrificing performance, if they identify and solve social problems in which they are intimately involved. This theme recurs in Porter and Kramer (2006) where they suggest identifying the points of intersection between social problems and business operations. These rational arguments can be tied into earlier frameworks as suggested by the likes of Carroll (1979) in that the three aspects of CSR he proposed encompassed the philosophy of social responsiveness, the different responsibility categories and the various social issues involved. By identifying the social problems the firm can solve, and determining which category the issue falls under; firms are able to use the appropriate managerial response whether it be reaction, accommodation or pro-action. The reason these ideas are important is because as suggested by some of the empirical evidence, social performance can sometimes be significantly related to financial performance. In this way, understanding where and how to respond to these social issues, a firm can improve its financial performance.

McWilliams and Siegel (2001) offered a supply and demand framework for CSR, in that it was described as any other firm attribute. From this the authors predicted a neutral relationship, as the firm uses cost-benefit analysis to determine the optimal level of CSR. Orlitzky et al. (2003) showed that there was a positive association between CSP and CFP across industries and study contexts; and this did not support the contingency theory purported by McWilliams and Siegel (2001) as they took earlier findings at face value and ignored the impact of statistical artefacts. In this study, due to the nature of the social performance proxy there could be no differentiation between optimal levels of CSP, thus the best analysis available using these measures was to examine the relationship between firms deemed socially responsible, versus those who have not been classified as such.

The regression models using Callan and Thomas (2009)'s specification (regressions 5a-7a) did not do a very good job at explaining the variance in performance, and out of the six regressions none of them had significant SRI coefficients. The interpretation from these models is that the socially responsible firms performed no worse in terms of financial performance, regardless of which of the three measures was looked at. Examining the relationship one step further involved a different regression model, this time looking at the size control variables independently, and using a different risk measure (long-term debt to assets, instead of equity). The findings with these models were that they explained slightly less variance, however, two of the six regression models displayed significant SRI coefficients. Regression 1a had a coefficient of 11.18 and regression 2b a coefficient of -1.824, which indicated that for socially responsible firms, depending on the social performance measure looked at, and the size proxy used they would either attain 11.18 points higher ROE, or 1.82 points less ROA. It is important to remember that as mentioned earlier, these values are absolute and therefore the base from which one interprets the results is significant. An important finding with these models is that for all of the ROA regressions SRI was negatively correlated with financial performance, whereas for the ROE models this relationship was positive. This was also found using the Callan and Thomas (2009) models, where both the normal and fully specified ROA models indicated negative correlations between social and financial performance; while the ROE models showed positive correlations. Thus, there may be something in the structural differences between returns on assets and equity that relate differently to social performance.

The attempt at developing a fully specified model of the relationship came with an extended version of McWilliams and Siegel (2000) where the firm's prior financial performance was added. They key finding from these regression models was that out of the thirty regressions there was a clearly distinct trend separating the ROE and ROA models – specifically with respect to the SRI coefficients. Although in every single regression the coefficients were positive, they were insignificant for all ROA regressions and significant for all of the ROE models (twelve models at the 5% level and three at the 10% level). This seemed to be some of the clearest evidence in the study that there indeed existed a relationship between social and financial performance, especially when prior performance was included as an additional variable. The interpretation of the SRI coefficients meant that socially responsible firms could attain between 17% and 25% higher ROE. The fact that these were all statistically and economically significant supported the hypothesis that social performance and financial performance are positively related, as over the entire existence of the SRI index firms that have participated have clearly performed better in terms of their reported ROE. Once the fact that these results may have been biased had been taken into account, only one out of the six models had a significant SRI coefficient at traditional significance levels. If the confidence level was dropped, all three of the ROE models were significant while once again none of the ROA models had significance – thus indicating some credibility to the hypothesised relationship.

The final aspect of the relationship looked at was the direction, and although this is a very important question this study included a brief examination using a methodology employed in Waddock and Graves (1997). Looking at current social performance as a predictor of future financial performance (the Good Management hypothesis, tested using regressions 8a-f) it seemed that in none of the regressions was the SRI coefficient significant, thus rejecting this hypothesis. When the analysis was focused on previous financial performance as a predictor of social performance, the models once again indicated that none of the logistic regressions had a significant CFP coefficient for either ROA or ROE. Thus, these results show that in terms of the Waddock and Graves (1997) methodology there is very little support for either the Good Management (H_4) or Slack Resources hypotheses (H_5).

6. Conclusions

When it comes to arriving at a simple conclusion the evidence from this dissertation seems to be mixed depending on the methodologies used and the approaches taken. In terms of the short-term analysis it was found that since there were no significant Z-statistics, the announcement dates of the SRI constituent lists had no significant effects on the prices of the companies involved. This was found in the case of the 1-day event window, thus H_1 could not be rejected. As mentioned however, this finding may be the result of key assumptions being violated, the most important of which is the assumption that markets are efficient. Ultimately, although there were some interesting findings; and it is important not to take the results at face value and to remember what limitations this study faced. The most stringent restriction was that of the measure for social performance, where the dichotomy of this variable as well as its limited existence needs to be taken into account. Hopefully as time progresses, more robust measures shall appear in academia; and time will prove the validity of the SRI index as a proxy for social performance. As it stands, however, the evidence could not reject the hypothesis that the market does not price social factors, and as a result there were no short-term effects.

Next, the analysis of the investor's perspective in terms of comparative performance between socially responsible and conventional portfolios indicated that using raw returns over the period, the SRI portfolio outperformed the conventional portfolio. Turning to risk-adjusted measures it was found that during the 10 year as well as 15 year time period, the SRI portfolio outperformed the conventional portfolio using the Sharpe Ratio, Sortino Ratio and Upside Potential Ratio as performance criteria. From these results, it seems that H_2 can be rejected, and that the socially responsible portfolio performed better than the portfolio of conventional firms (bearing in mind both portfolios consistently underperformed the general market index). Looking at the long-term relationships, the different regression models gave instances where current social performance was a significant predictor of financial performance, and where the SRI firms appeared to be more profitable. The tests of causality indicated that prior financial performance had no significant relationship with social performance. Similarly, the logistic regressions that tried to predict SRI using prior performance again found no

evidence of significant correlations and the regression specifications taken from Callan and Thomas (2009) indicated that for the all of the models the SRI coefficients were, once again, insignificant. In contrast, the results of the analysis examining raw portfolio returns seemed to corroborate the findings of the McWilliams and Siegel (2000) models which included prior performance, as both indicated that SRI companies had better financial performance. For the raw returns, this was evident in the graph that indicated the superior performance of SRI firms compared to the conventional portfolio. Using the McWilliams and Siegel (2000) models, it looked like ROE was more closely related to social performance, as there were far more significant coefficients (fifteen out of fifteen) when compared to the ROA models (zero out of fifteen). The significant superior performance that was indicated in the model ranged from 17.17% to over 25.14% in ROE, and these figures were not trivial, therefore there may definitely be something to the relationship. In addition to this were the GMM models which at 15% significance indicated a positive relationship between social and financial performance with coefficients ranging from 14.51% to 23.34% ROE. The fact that the corrected models still showed some significance in the relationship adds power to the hypothesis.

These findings, as well as the consistent signs of the SRI coefficients from Callan and Thomas (2009) lead to H_3 being rejected; however the direction of the relationship was not be so clear. The fact that ROE seemed to be the financial performance measure most significantly correlated to social performance, results in a need to recap some caveats that Aupperle et al. (1985) noted in their study. They stated that ROE may mislead as it is not only a function of profitability but of leverage. Thus, while some of the most significant results regarding the SRI variables in the regression analyses were found using ROE as the financial performance measure (and prior ROE as additional explanatory variables), it is important to note that leverage was taken into account using the long-term debt to assets ratio. From this it may be possible to accept the results with slightly more confidence, as if ROE was affected by other factors, *but these were accounted for*, the significant results may not be biased due to model misspecification. The final regression analysis examined was the Waddock and Graves (1997) specification which aimed to test the causality of the relationship. As mentioned, there seemed to be no evidence of current social performance predicting future financial performance, nor of prior financial performance predicting social performance. As a result, neither H_4 nor H_5 could be rejected. In addition to these two hypotheses, due to

the fact that the relationship was found to be insignificant in both directions, the hypothesis relating to the virtuous circle, H_6, could not be rejected.

Joseph Stiglitz (cited in Petrillo, 2009) stated that SRI anticipates broader social movements and in this way is thinking ahead. This is just another example of how SRI is now being seen as mainstream, and how understanding this topic more fully can help investors in the future. For this dissertation, understanding that SRI anticipates future social movements is key to driving the ethical investment movement forward. By accepting the fact that socially responsible firms are not wasting resources meant for the shareholders on pet projects and unviable environmental initiatives, investors can recognize that there is indeed legitimacy in the actions of these companies. Orlitzky et al. (2003) noted that managers need to use CSP as a reputational lever and be attentive to the perceptions of third parties as the key to reaping benefits from CSP is a return from reputation. In addition, earlier studies noted the importance of promoting the benefits of CSR if firms want to derive any benefit from it, thus by talking up the positive aspects investors and investment professionals alike can take this information to heart. As more and more investors start believing in the social investment movement, the more benefits the firms shall see, and through this cycle investors, firms and society will all be able to reap benefits.

Although various reasons have been suggested for companies to pursue CSR, Porter and Kramer (2006) suggested that many of the arguments tend to be very limited and too general in nature. Although sustainability is a noble goal, attempting to coerce everyone to be sustainable according to the same standards does not work, and it may be better for firms to be as sustainable as their circumstances allow. In other words, taking their business objectives and strategies into account, companies must be as socially responsible as they can while maintaining value for themselves as well as their surrounding communities. Thus the trade-offs are considered when looking at CSR decisions, and shareholder interests are not sacrificed for the vague social commitments companies are expected to appease. Kurtz (1997) stated that it was unlikely that there would ever be a final word on the subject of CSR, as it is the nature of SRI that it responds to the changing political and social landscape and the same can be said of companies. As these questions are answered it is important to note that “the findings should matter not only to practitioners of socially responsible investing but also to all

investors" (Kurtz, 1997, p.44). It is in this light that the findings of this study are considered, as Kurtz (1997) mentioned the results would pertain to all spheres of the investment industry, as well as to all the echelons of company management.

In terms of developing nations, as Bernstein (2010) has suggested, being socially responsible as defined by developed economies may actually hurt economic growth in the long-run, and result in poverty for a longer period of time. Coster (2007) noted that Carlos Slim Helu, one of the world's richest men - and one of the first from an emerging economy - has been criticised for his astronomic personal wealth, in the face of a country faced with extreme poverty. Despite making sizeable donations, he was reported to have poked fun at his American counterparts' philanthropic efforts by stating that "poverty isn't solved with donations" and "building businesses often does more for society than going around like Santa Claus" (Coster, 2007, para. 6). This view is exactly what was espoused earlier by Bernstein (2010) and perhaps a more tempered view of social responsibility needs to be accepted. Although recognising the responsibility business has in society is important, its economic role as a developer of economies needs to be incorporated into the social responsibility model. Lankoski (2009)'s idea of economic responsibility (combined with the earlier conceptual models, all highlighting economic aspects) may be the catalyst that turns CSR into a field taken more seriously, as it promotes companies adhering to their social responsibilities., without neglecting shareholders. In this way, companies can behave responsibly in the non-traditional spheres of business; while concurrently being mindful of the limitations inherent in their relationships with the shareholders of the firm. This ties in with Bernstein (2010)'s idea that not all socially responsible behaviours are appropriate for economies at different stages of development, thus the ultimate goal of the firm may be thought of as being 'responsible' - responsibly.

6.1 Areas for Further Study

A new way to look at CSR in the future may be required, in that as Bernstein (2010) suggested some public goods may be effectively outsourced to private enterprises. As CSR may be looked at as a strategic opportunity, this coupled with government assistance may result in firms using their expertise to provide public goods (in place of

the government) with a much greater level of efficiency. Tax and other incentives may be required to instil this level of "responsibility" however it would ultimately benefit the company as well as society (Bernstein, 2010, p. 290-292). Ullmann (1985) stated that for more convincing and consistent results, there was a need for an improved strategic framework and methodological improvements in terms of the additional variables based on a contingency approach that should be included in any attempt to correlate social performance, economic performance and social disclosure. Samples should be developed that include firms with different strategic postures, and longitudinal studies could provide insight into how strategies change as a function of shifting stakeholder power or economic performance. Although some longitudinal aspects were included in this study, a more thorough investigation into the strategic framework is needed.

Important issues regarding CSR may arise in the South African context, where they are specific to the circumstances in this country and as such have not been dealt with or researched overseas. These may include concerns such as Black Economic Empowerment (BEE), the AIDS issue, land reform, and education. Due to South Africa's unique history, the social problems that can be found are somewhat distinct. Ultimately, as a country it may be beneficial for some future research into these areas in terms of how business and society can work together to solve these problems. As already noted the appearance of low-cost private schools show just one example of how private enterprise can alleviate a social ill while turning a profit, and it is out of the box thinking such as this that may help South Africa along its economic development to a first world economy. For future growth, education is one of the most important criteria in that the more people that can be educated, the greater the opportunity there is in terms of jobs, as well as for entrepreneurs and small businesses to drive the economic growth. Land reform is a slightly more difficult topic in that it has its roots in a deeply politicised country. In addition to this, land reform programs have not gone according to plan, with around 90% of the land reclamations resulting in failure (Duvenhage, 2010). Thus where once there existed productive land; through the process of land reclamation, this productivity has disappeared and it is in circumstances like this that opportunity may present itself. It can be argued that private enterprises who have expertise in the running of farms and other productive land functions could partner with government organisations to help facilitate this transfer. As opposed to just taking the land and

giving it to the people who need it, helping in their training and ensuring that they have adequate resources to make the farm work would result in a far greater success rate – and far more benefits for all parties involved.

Brammer and Millington (2008) described a few models of the possible relationships between CSP and CFP where one of these possible models described a positive relationship between CSP and CFP reflecting benefits that were not subject to diminishing returns and where increased CSP could reduce costs or increase revenues. A second model depicted a nonlinear relationship which assumed positive financial payoffs to good social performance that were subject to diminishing returns. This view was consistent with agency theory in that owners are assumed to be risk neutral as they can diversify their overall risk, whereas managers are risk averse because their job security and income are tied to the firm. If the financial benefit of social performance is subject to diminishing returns but its capacity to reduce firm-specific risks is not, then the differences in the degree of risk aversion of principals and agents leads managers to overinvest in projects that reduce a firm's financial risks at the expense of the higher (and riskier) level of financial performance preferred by owners. This may offer an alternative path for future research, as determining if the social benefits of CSR are subject to diminishing returns, it may be possible calculate whether there are additional agency costs involved in the question of CSR.

Another interesting aspect of this topic for future research would be the development of a method to sidestep the issue of the SRI index composition. Due to the dominant presence of the Top 40 in the SRI, this may make analysis using this index quite difficult especially when comparing this index to other benchmark indexes, or indeed the general market in South Africa. Other ways of measuring social performance do not yet exist, and as this index is still rather new, more research into this index as a proxy may be required. In addition to the actual measurement of the social performance, additional explanatory variables need to be examined. Cochran and Wood (1984) found that asset age seemed to be correlated with social performance, however due to data limitations this variable was not included in any of the regression models. Thus, if this truly is a key variable then omission may bias the results; and future studies may want to examine this aspect of the CFP-CSP relationship further.

In communication with the SRI index, the possibility of introducing rankings was mentioned as a future feature of the index. As found in Gompers et al. (2003) and the numerous studies using the KLD ratings, being able to differentiate between different levels of social performance is important for future analyses. This is an interesting prospect especially since the index is unique to South Africa. Previous academic evidence has suggested contrasting relationships in that some found inverted U-shaped links between social and financial performance (Bowman & Haire, 1975). Others (Barnett & Salomon, 2006; Brammer & Millington, 2008) found that there seemed to be a U-shaped relationship, where firms stuck in the middle tended to perform the worst. Interestingly this finding was robust to CSR and SRI, in other words from the perspectives of both the firm and the investor. For SRI, the finding was that firms with average screening intensity bore diversification costs as a result of their screens however they failed to screen exclusively enough to improve the pool from which they picked stocks. From the CSR perspective, the firms that spent average amounts on social initiatives spent more than the firms who spent nothing, but did not spend enough (less than the high CSP performers) to gain a competitive advantage. Therefore improved measurements of social performance in South Africa would be one of the most critical areas for future research in this area of finance.

Waddock and Graves (1994) noted the efficient market theory (from the EMH) which says institutional investors consider both their short time horizon, as well as the relationship between CSP and risk when determining the appropriate discount rate at which to discount future cash flows. Waddock and Graves (1994) described the investor's discount rate as the rate at which future benefits are discounted due to the investor's preference for current over future income. Myopic behaviour is related to the discount rate, and CSP as a risk-reducing measure is related to risk adjustment. EMH suggests that investors consider the effect of public information on both future cash flow and investment risk simultaneously, thus if a firm makes a socially responsible investment that reduces cash flow, but not risk, then the present value of all future cash flows are reduced, and the stock may be sold in line with the predictions of myopic institutions theory. In contrast, if the firm makes the same investment but reduces the probability of adverse legal or regulatory action through CSP enhancement (so the risk adjusted discount rate falls) then the decline in the discount rate could more than compensate for the drop in cash flow making the stock more attractive to investors.

Thus, to predict the effect of CSP-enhancing commitments, the investigator needs to know the effects of the measure on both cash flow and risk, and to the extent that the performance of firms is comparable, institutional investors will tend to choose less risky stocks from firms with strong social performance. This perspective may help in future research in that although this dissertation examined the social performance using a dichotomous variable, future improved measures of CSP may help determine varying levels of performance, and from this the relationships between CSR activities and cash flow or risk. For the perspective of the investor, Williams (2005) also suggested investigating the availability of social funds, the switching costs between conventional and ethical portfolios and the risk profile of investors that choose conventional products compared with those that choose SRI products; where research into these areas may also help understand the difference between ethical and conventional investors.

Although covered in this study to some extent, the direction of causality in the relationship between social and financial performance is key to the understanding of this phenomenon. If firms can definitively identify whether improved social performance will result in future financial performance or not; this will assist firms in taking more defined positions on where they stand in the business and society debate. It is through improved research methodologies that managers as well as investors will truly understand the importance of SRI and CSR - as well as the place of these ideologies in the investment community. In conclusion, as much of the literature has suggested management plays an important role in the firm; for companies to progress in this area it is key that the top decision-makers are on board with this strategy. Only if they believe in social responsibility and its benefits to society as well as the firm, can it succeed as a legitimate business activity.

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8. Appendix

8.1 Summaries of Empirical Studies

Social Performance and Economic Performance

Study	Social Performance	Economic Performance	Control for Other variables	Sample	Result
1. Alexander & Buchholz (1978)	Reputational scales from Business and Society Review ("How Business Students Rate Corporations." 1972; "Industry Rates Itself,"1972)	Stockholder return 1970-1974	Beta	40 firms included in both surveys	No correlation
2. Bowman & Haire (1975)	CEP pollution performance index	Median ROE 1969-1973	None	15 firms from the paper & pulp industry included in Council on Economic Priorities Survey	U-shaped correlation: middle polluters outperform best and worst
3. Bragdon & Marlin (1972)	CEP pollution performance index	Average ROE 1965-1970 Average ROC 1965-1970 EPS growth 1965-1970	None	17 firms from the paper & pulp industry included in CEP survey	Positive correlation
4. Chen & Metcalf (1980)	CEP pollution performance index	ROE, P/E ratio, total risk, beta 1968-1973, 1969-1971, 1971-1973	Size	18 firms form the paper & pulp industry included in CEP survey	Spurious positive correlation, size explanatory variable
5. Cochran & Wood (1984)	Moskowitz' (1972, 1975) reputational scale	Op. Earnings / Sales, Op. Earnings / Assets, Excess market valuation 1970-1974, 1975-1979	Asset age Asset turnover	39 (36) firms in 29 industries compared against industry control groups	Weakened positive correlation when controlling for asset age
6. Fogler & Nutt (1975)	CEP pollution performance index	Normalised P/E ratios 3/1971-3/1972, mutual fund purchase, short run stock price	None	9 firms from the paper & pulp industry included in CEP survey	No correlation
7. Kedia & Kuntz (1981)	Existence of social responsibility programs in 5 different areas	Income before security gains/losses, taxes/total assets	None	30 commercial banks in Texas	Positive with female promotions, negative with charitable contributions, rest no correlation
8. Moskowitz (1972)	n.a.	Stock price change 1/1972-7/1972	None	14 firms	Positive correlation
9. Parket & Eilbirt (1975)	Existence of social responsibility programs	Net income, net profit margin, ROE, EPS	None	80 Fortune 500 firms compared against Fortune 500	Positive correlation for all economic performance measures
10. Spicer (1978a)	CEP pollution performance index	ROE, P/E ratio, total risk, beta 1968-1973, 1969-1971, 1971-1973	None	18 firms from the paper & pulp industry included in CEP survey	Moderate positive correlation for 1969-1973, less for 1971-1973
11. Spicer (1978b)	CEP pollution performance index	Total risk, beta 1968-1973	None (1) Earnings variability; (2) Firm size; (3) Leverage; (4) Current ratio		Negative correlation pollution performance-risk; pollution performance increases explained variance of total risk after (1), (2) and (3), and of beta after (1), (2) and (4)
12. Sturdivant & Ginter (1977)	Moskowitz' (1972, 1975) reputational scale	EPS growth 1964-1974	Industry	28 firms of Moskowitz' list	Positive correlation; positive correlation between managers' social values and economic performance
13. Vance (1975)	Moskowitz' (1972) reputational scale	Stock price change 1972-1975	None	14 firms of Moskowitz' list	Negative correlation
	Reputational scales from Business and Society Review ("How Business Students Rate Corporations." 1972; "Industry Rates Itself,"1972)	Price per share change 1974-1975	None	45 (50) firms from surveys	Negative correlation

Figure 24 - Social Performance and Economic Performance (Ullmann, 1985, p. 547-548)

Studies Examining the Relationship between Corporate Social Responsibility (CSR) and Profitability

Study	Methodology	Performance Criteria	Findings Implications	Limitations
Moskowitz (1972)	Simplistic comparison of stock price increases in Moskowitz' 14 firms with "perceived" high CSR with the average increase in the Dow-Jones index	Stock price increases over time (six months)	High CSR firms outperform the Dow-Jones Industrials	No adjustment for risk; small sample; sample is not necessarily representative of high CSR firms; performance measured over short-term; performance criterion is questionable; no test for significance
Bragdon & Marlin (1972)	Seventeen firms in the paper and pulp industry were rated on a pollution index developed by the Council on Economic Priorities. Each firm's index was compared to its ROE	Return on equity (ROE)	The better the pollution index, the higher the ROE	No adjustment for risk; findings limited to one industry; limited definition of CSR; small sample; performance criterion is inadequate; no test for significance
Bowman & Haire (1975)	Eighty-two food processing firms classified into low, medium and high CSR categories based on the number of lines devoted to the topic of CSR in corporate annual reports. The CSR categories are compared on the bases of their ROE	Five-year return on equity	Existence of a U-shaped performance curve; the highest performing firms being those found in the middle range of CSR	No adjustment for risk; lopsided sample; reliance on annual reports and on the CSR firms of Moskowitz; performance criterion is inadequate; no test for significance
Parket & Eilbirt (1975)	96 firms that responded to the researchers' previous CSR survey were assumed to be CSR firms. The profitability of 80 of these firms compared to the Fortune 500	Absolute net income, profit margin, ROE and EPS	On all four measures, the 80 CSR firms proved to be more profitable	No adjustment for risk; questionable sample; performance measured over short-term (12 months); performance criterion is inadequate; no test for significance
Vance (1975)	Two-fold: 1. Replicating Moskowitz 2. Correlating CSR firms derived from two Business and Society Review Surveys with stock price changes over time	Stock price increases over time	CSR firms are determined not to be good investments; negative correlation between CSR and stock price increases	No adjustment for risk; questionable samples; performance measured over short-term; regression line does not fit the data; performance criterion is inadequate
Heinz (1976)	Correlating CSR ratings of 29 firms from a Business and Society Review survey with ROE	Several measures such as ROA, ROE and profit margins	A significantly positive correlation between CSR and ROE.	No adjustment for risk; small sample; questionable sample; reliance on reputational rating system for determining CSR.
Sturdivant & Ginter (1977)	A population of 67 high CSR firms as identified by Moskowitz in the business and Society Review are used in a CSR survey. Twenty-three firms returned 130 questionnaires. The 67 firm population is also reduced down to 28 firms and reclassified into four industrial groupings. CSR and the 10-year growth in EPS is examined	10 year EPS growth	High CSR firms (Best and Honourable Mention) outperform low CSR firms. Honourable mention CSR firms have the best performance and supports findings of Bowman and Haire and to some extent that of Bragdon and Marlin	No adjustment for risk; employed t-test with very small sample; industrial categories are inconsistent. Many low CSR firms outperform high CSR firms in the same industry group; questionable sample; removal of outliers reduces greatly the difference between high and low CSR firms; performance measure is questionable; failure to identify curvilinear relationship revealed in data between CSR and EPS
Alexander & Buchholz (1978)	Replicating efforts of Vance by using reputational rankings derived from Business and Society Review surveys. CSR ratings are correlated with stock price increases over time and adjusted for risk	Stock price increases over 2 years and 5 years	CSR has no effect on stock market performance; repudiates both Moskowitz and Vance	Reliance on a questionable sample; performance measure is inadequate
Abbott & Monsen (1979)	Development of a Social Involvement Disclosure (SID) scale from a content analysis of Fortune 500 firms. The SID is used to determine CSR firms which are then compared on the basis of their investment yield	10 year yield	CSR has no effect on the total return to investors	No adjustment for risk; the SID may not reflect the true level of CSR; the content analysis used is superior to that of Bowman and Haire but is still questionable; performance measure is inadequate

Figure 25 - Studies Examining the Relationship between Corporate Social Responsibility (CSR) and Profitability (Aupperle et al., 1985, p. 449-451)

8.2 Social Screens

Kinder, Lydenberg and Domini (KLD) assessed companies on eight attributes of CSP providing a multidimensional assessment of their social behaviour. The eight attributes concern "community relations, employee relations, environment, product, treatment of women and minorities, military contracts, nuclear power and South Africa" (Waddock & Graves, 1994, p. 1038). The following table summarises the screens examined in Diltz (1995):

Ethical screening Category	Rating	Criteria
Environment	Good	Substantial positive programmes; relatively clear of violations
	Fair	Mixed record; some positive programmes and some problems
	Poor	Poor public record; lobbying against environmental policies
Charitable giving	Good	> 1.2 per cent of net pre-tax earnings
	Fair	0.7 per cent to 1.2 per cent of net pre-tax earnings
	Poor	< 0.7 per cent of net pre-tax earnings
Women in management	Good	At least three women among Board of Directors or top officers
	Fair	At least two women among the Directors or top officers
	Poor	None or one woman among the Directors or top officers
Minority management	Good	At least two minorities among Board of Directors or top officers
	Fair	One minority among the Directors or top officers
	Poor	No minorities among the Directors or top officers
Animal testing	Good	No animal testing
	Fair	Testing, but with reduction by > 40% over the last five years
	Poor	Testing, with < 40% reduction and/or < $250,000 annually spent for research into alternatives
Information disclosure	Good	Completes the CEP questionnaire
	Fair	Provides some specific information
	Poor	Provides only the most basic publicly available information
Community outreach	Good	Strong programmes promoting education, housing, or volunteerism
	Fair	Moderate community programmes, or mixed record
	Poor	Little or no evidence of programmes
South Africa	Good	No involvement in South Africa
	Poor	Involvement through franchising, subsidiaries, etc.
Family benefits	Good	Offers at least 11 specified family benefits (e.g. parental leave, job-sharing, and child/dependent care assistance)
	Fair	Offers 3-10 specified benefits
	Poor	Offers < 3 specified benefits
Military work	Good	Not one of the top 100 contractors
	Fair	Top 100 contractor, but no weapons work
	Poor	Top 100 contractor with weapons work
Nuclear involvement	Good	No involvement
	Poor	Supplies construction, production equipment, fuel, or consulting

Figure 26 - Simplified Summary of Council on Economic Priorities Ethical Ratings (Diltz, 1995, p. 71)

8.3 Risk-adjusted Performance Measures

Jensen's Alpha:

As used in Hamilton et al (1993), their measure of excess performance was Jensen's Alpha as given by:

$$R_i - R_f = \alpha_i + \beta i(R_m - R_f) + \varepsilon_i$$

R_m is the monthly return on the value-weighted NYSE and R_f is the monthly return on the three-month U.S. Treasury bill.

Portfolio Analysis (taken from Viviers et al., 2008, p. 42-43)

Sharpe Ratio:

$$\text{Sharpe}_i = (r_i - r_f) / \sigma_i$$

where:

r_i = The mean annualised rate of return of fund i during a specified time period

r_f = The mean annualised rate of return of a risk free asset during the same time period

σ_i = The annualised standard deviation of the rate of return of fund i during the pecified time period

Sortino Ratio:

$$\text{Sortino}_i = (r_i - r_f) / \delta_i$$

where:

r_i = The average annualised rate of return for fund i during a specified time period

r_f = The average annualised rate of return on a risk free asset during the same time period

δ_i = The annualised downside deviation of the rate of return of fund i during the specified time period

and:

$$\delta_i = \sqrt{\int_{-\infty}^{\tau} (\tau - r_i)^2 f(r_i) dr_i}$$

where:

τ = the investor's threshold or MAR value

r_i = the return of fund i with a cumulative probability density function f(.)

Upside Potential Ratio:

$$UPR_i = \theta_i / \delta_i$$

where:

θ_i = Fund's i's upside-potential

δ_i = Fund i's downside deviation

and:

$$\theta = \int_{\tau}^{\infty} (r_i - \tau) f(r_i) dr_i$$

where:

τ = The investor's threshold or MAR value

r_i = The return of fund i with a cumulative probability density function f(.)

8.4 SRI Index Participants

	SRI INDEX PARTICIPANTS	2004	2005	2006	2007	2008	2009
1	ABSA Group Ltd	X	X	X	X	X	X
2	AdvTech Limited			X	X	X	X
3	AECI						X
4	African Bank Investments Ltd	X	X	X	X	X	X
5	African Oxygen Ltd	X	X	X	X	X	X
6	***African Rainbow Minerals Ltd***	X			X	X	X
7	Alexander Forbes Ltd	X	X	X			
8	Allied Electronics Corporation Ltd	X	X	X	X	X	X
9	Allied Technologies Ltd	X	X	X	X	X	X
10	Amalgamated Beverage Industries Ltd	X					
11	Anglo American Platinum Corporation Ltd	X	X	X	X	X	X
12	Anglo American plc	X	X	X	X	X	X
13	Anglogold Ashanti Ltd	X	X	X	X	X	X
14	***Arcelor Mittal (Iscor / Mittal Steel)***	X		X	X	X	X
15	Aveng Ltd	X	X	X	X	X	X
16	AVI Ltd	X					
17	Barloworld Ltd	X	X	X	X	X	X
18	BHP Billiton plc	X	X	X	X	X	X
19	The Bidvest Group Ltd	X	X	X	X	X	X
20	Brait S.A.		X	X	X	X	
21	Bytes Technology Group Limited			X	X		
22	Capitec					X	
23	City Lodge Hotels Ltd	X	X	X			
24	Dimension Data Holdings plc	X					
25	Discovery Holdings Ltd		X	X	X	X	X
26	DRDGold Limited						X
27	Edgars Consolidated Stores Ltd	X	X	X			
28	Ellerine Holdings Ltd		X				
29	Exxaro Resources Limited			X	X	X	X
30	FirstRand Ltd	X	X	X	X	X	X
31	Foschini					X	X
32	Gold Fields Ltd	X	X	X	X	X	X
33	Gold Reef Casino Resorts Ltd	X					
34	Grindrod Limited			X	X	X	
35	Group Five Limited			X	X	X	X
36	Growthpoint Properties Limited						X
37	Harmony Gold Mining Company Ltd	X	X	X	X	X	X
38	Highveld Steel and Vanadium Corporation Limited			X	X	X	X
39	***Illovo Sugar Ltd***	X		X	X	X	X
40	Impala Platinum Holdings Ltd	X	X	X	X	X	X
41	Imperial Holdings Ltd		X	X			
42	Investec Ltd	X	X	X	X	X	X
43	Investec Plc		X	X	X	X	X
44	Johnnic Communications Ltd	X					
45	JSE Limited				X	X	X
46	***Kumba Iron Ore Ltd***	X	X		X	X	X
47	Liberty Group Ltd		X	X	X	X	X
48	Liberty International plc	X	X	X	X	X	X
49	Lonmin				X	X	X
50	Massmart Holdings Ltd	X	X	X	X	X	X
51	Medi-clinic Corporation Ltd	X	X	X	X	X	X
52	South African Chrome and Alloys Ltd / Merafe Ltd	X	X	X	X	X	X
53	Metropolitan Holdings Limited			X	X	X	X
54	Mondi				X	X	X
55	MTN Group Ltd	X	X	X	X	X	X
56	Murray and Roberts Holdings Ltd	X	X	X	X	X	X

57	***Nampak Ltd***	**X**	**X**	**X**			**X**
58	Nedcor Ltd / Nedbank Group Ltd	**X**	**X**	**X**	**X**	**X**	**X**
59	Network Healthcare Holdings Ltd	**X**	**X**	**X**	**X**	**X**	**X**
60	New Clicks Holdings Limited						**X**
61	***Northam Platinum Ltd***	**X**		**X**	**X**	**X**	**X**
62	Oceana Group Ltd		**X**	**X**	**X**	**X**	**X**
63	Old Mutual plc	**X**	**X**	**X**	**X**	**X**	**X**
64	Palabora Mining Company Limited						**X**
65	Pick n Pay Holdings Ltd	**X**	**X**	**X**	**X**	**X**	**X**
66	***Pretoria Portland Cement Company Ltd***	**X**		**X**	**X**	**X**	**X**
67	Rainbow chicken Limited						**X**
68	Remgro Ltd	**X**	**X**	**X**	**X**	**X**	**X**
69	RMB						**X**
70	SABMiller plc	**X**	**X**	**X**	**X**	**X**	**X**
71	Sanlam Ltd		**X**	**X**	**X**	**X**	**X**
72	Santam Limited			**X**	**X**	**X**	**X**
73	Sappi Ltd	**X**	**X**	**X**	**X**	**X**	**X**
74	***Sasol Ltd***	**X**	**X**	**X**	**X**		**X**
75	Standard Bank Group Ltd	**X**	**X**	**X**	**X**	**X**	**X**
76	Steinhoff International Holdings Limited						**X**
77	Sun International Limited					**X**	**X**
78	Telkom SA Ltd	**X**	**X**	**X**	**X**	**X**	**X**
79	The Tongaat-Hulett Group Ltd	**X**	**X**	**X**	**X**	**X**	**X**
80	Trans Hex Limited			**X**			
81	Truworths International					**X**	**X**
82	Venfin Ltd	**X**					
83	Vodacom Group Limited						**X**
84	Wilson Bayly Holmes-Ovcon Ltd		**X**				
85	Woolworths Holdings Ltd	**X**	**X**	**X**	**X**	**X**	**X**

The above table indicates the constituents for each year of the SRI, where the X's represent when a firm was included in the SRI constituent list for the corresponding year. The list consists of the 85 firms that have participated at least once in the SRI index during the period 2004 to 2009. The red X's represent a year where the firm was removed from the index during the year. The blue X's represent a firm's final year in the index, i.e. where the firm participated in the index for the entire year, however failed to make it onto the index in the subsequent year. Finally, the firms whose names have been made bold are the firms that entered the index at some point in time, left the index, and then returned to the index during a later year. This is to give an idea of the movement of the constituent firms, and to see if they moved back and forth over the period.

Compositions of the Top 40 lists from 1995 until 2009 (taken as of January 31 in each year)

1995	1996	1997	1998	1999	2000	2001	2002
ABSA Group	ABSA Group	ABSA Group	ABSA Group	ABSA Group	ABSA Group	ABSA Group	ABSA Group
African Rainbow Minerals	African Rainbow Minerals	African Rainbow Minerals	Anglo American Industrial Corporation	African Bank Investments	Anglo American Plc	Amalgamated Beverage Industries	Alexander Forbes
Anglo American Coal Corporation	Anglo American Gold Investment Company	Anglo American Coal Corporation	Anglo American Investment Trust	Anglo American Industrial Corporation	Anglo Platinum	Anglo American Plc	Amalgamated Beverage Industries
Anglo American Gold Investment Company	Anglo American Industrial Corporation	Anglo American Gold Investment Company	Anglo American Plc	Anglo American Investment Trust	Anglogold Ashanti	Anglo Platinum	Anglo American Plc
Anglo American Industrial Corporation	Anglo American Investment Trust	Anglo American Industrial Corporation	Anglo Platinum	Anglo American Plc	BHP Billiton Plc	Anglogold Ashanti	Anglo Platinum
Anglo American Investment Trust	Anglo American Plc	Anglo American Investment Trust	Barloworld	Anglo Platinum	Bidvest Group	Barloworld	Anglogold Ashanti
Anglo American Plc	Anglo Platinum	Anglo American Plc	Beverage & Consumer Industry Holdings	Anglogold Ashanti	BOE	BHP Billiton Plc	Barloworld
Anglo Platinum	Anglogold Ashanti	Anglo Platinum	BHP Billiton Plc	Beverage & Consumer Industry Holdings	CG Smith	Bidvest Group	BHP Billiton Plc
Arcelormittal SA	Arcelormittal SA	Arcelormittal SA	Bidvest Group	BHP Billiton Plc	Compagnie Fin Richemont	BOE	Bidvest Group
AVI	AVI	Barloworld	BOE	Bidvest Group	Comparex Holdings	Compagnie Fin Richemont	Compagnie Fin Richemont
Barloworld	Barloworld	Beverage & Consumer Industry Holdings	C G Smith Foods	BOE	Coronation Holdings	Coronation Holdings	Coronation Holdings
Beverage & Consumer Industry Holdings	Beverage & Consumer Industry Holdings	C G Smith Foods	CG Smith	BOE Corporation	Datatech	De Beers Consolidated Mines	Dimension Data Holdings Plc
CG Smith	C G Smith Foods	CG Smith	Compagnie Fin Richemont	CG Smith	De Beers Consolidated Mines	Dimension Data Holdings Plc	FirstRand
Compagnie Fin Richemont	CG Smith	Compagnie Fin Richemont	Comparex Holdings	Compagnie Fin Richemont	Dimension Data Holdings Plc	ElementOne	Gencor
De Beers Consolidated Mines	Compagnie Fin Richemont	Comparex Holdings	De Beers Consolidated Mines	Comparex Holdings	ElementOne	FirstRand	Gold Fields
Edgars Consolidated Stores	De Beers Consolidated Mines	De Beers Consolidated Mines	Dimension Data Holdings Plc	Coronation Holdings	FirstRand	Gencor	Harmony Gold Mining Company
First National Bank Holdings	Edgars Consolidated Stores	Dimension Data Holdings Plc	Fedsure Holdings	Datatech	Genbel Securities	Gold Fields	Impala Platinum Holdings
Gencor	First National Bank Holdings	First National Bank Holdings	First National Bank Holdings	De Beers Consolidated Mines	Gencor	Impala Platinum Holdings	Imperial Holdings
Gold Fields	Gencor	Gencor	FirstRand	Dimension Data Holdings Plc	Gold Fields	Imperial Holdings	Investec
Ingwe Coal Corporation	Gold Fields	Gold Fields	Imperial Holdings	Fedsure Holdings	Impala Platinum Holdings	Investec	Johnnic Holdings
Johnnic Holdings	Johnnic Holdings	Imperial Holdings	Investec	FirstRand	Imperial Holdings	Investec Holdings	Liberty Group
Liberty Group	Liberty Group	Ingwe Coal Corporation	Johnnic Holdings	Genbel Securities	Investec	Johnnic Holdings	Liberty Holdings
Liberty Holdings	Liberty Holdings	Investec	Liberty Group	Goldfields	Johnnic Holdings	Liberty Group	Liberty International
Lonmin Plc	Liblife Strategic Investments	Johnnic Holdings	Liberty Holdings	Imperial Holdings	Liberty Group	Liberty Holdings	Lonmin Plc
Malbak	Lonmin Plc	Liberty Group	Liblife Strategic Investments	Investec	Liberty International	Liberty International	Metropolitan Holdings
Minorco Societe Anonyme	Malbak	Liberty Holdings	Metropolitan Holdings	Investec Holdings	Lonmin Plc	Lonmin Plc	MTN Group
Murray & Roberts Holdings	Minorco Societe Anonyme	Liblife Strategic Investments	Minorco Societe Anonyme	Liberty Group	Mih Holdings	Metropolitan Holdings	Nampak
Nampak	Murray & Roberts Holdings	Lonmin Plc	Nampak	Liberty Holdings	MTN Group	MTN Group	Nedbank Group
Nedbank Group	Nampak	Malbak	Nbs Boland Group	Liblife Strategic Investments	Naspers	Nedbank Group	Old Mutual Plc
Rembrandt Group	Nedbank Group	Minorco Societe Anonyme	Nedbank Group	Minorco Societe Anonyme	Nedbank Group	Old Mutual Plc	Pick 'N Pay Stores
SABmiller Plc	Rembrandt Group	Nampak	Orion Selections	Nedbank Group	Old Mutual Plc	Pick 'N Pay Stores	RMB Holdings
Safmarine and Rennies	SABmiller Plc	Nedbank Group	Orion Selections Holdings Ltd	New Africa Investments	Rembrandt Group	RMB Holdings	SABmiller Plc
Samancor	Safmarine and Rennies	Rembrandt Group	Rembrandt Group	Rembrandt Group	RMB Holdings	SABmiller Plc	Sanlam
Sappi	Samancor	SABmiller Plc	RMB Holdings	RMB Holdings	SABmiller Plc	Sanlam	Sappi
Sasol	Sappi	Samancor	SABmiller Plc	SABmiller Plc	Sanlam	Sappi	Sasol
Southern Life Association	Sasol	Sasol	Sasol	Sanlam	Sappi	Sasol	Standard Bank Group
Standard Bank Group	Southern Life Association	Southern Life Association	Southern Life Association	Sasol	Sasol	Standard Bank Group	Steinhoff International Holdings
Tiger Brands	Standard Bank Group	Standard Bank Group	Standard Bank Group	Standard Bank Group	Standard Bank Group	Tiger Brands	Tiger Brands
Venfin	Tiger Brands	Tiger Brands	Tiger Brands	Tiger Brands	Tiger Brands	Tigon	Tongaat Hulett
Wooltru	Venfin	Venfin	Venfin	Venfin	Venfin	Venfin	Venfin

Top 40 company lists (continued)

2003	2004	2005	2006	2007	2008	2009
ABSA Group	ABSA Group	ABSA Group	ABSA Group	ABSA Group	ABSA Group	ABSA Group
African Oxygen	Amalgamated Beverage Industries	Anglo American Plc	African Bank Investments	African Rainbow Minerals	African Bank Investments	African Bank Investments
Amalgamated Beverage Industries	Anglo American Plc	Anglo Platinum	Anglo American Plc	Anglo American Plc	African Rainbow Minerals	African Rainbow Minerals
Anglo American Plc	Anglo Platinum	Anglogold Ashanti	Anglo Platinum	Anglo Platinum	Anglo American Plc	Anglo American Plc
Anglo Platinum	Anglogold Ashanti	Arcelormittal SA	Anglogold Ashanti	Anglogold Ashanti	Anglo Platinum	Anglo Platinum
Anglogold Ashanti	Arcelormittal SA	Barloworld	Arcelormittal SA	Arcelormittal SA	Anglogold Ashanti	Anglogold Ashanti
Arcelormittal SA	Avgold	BHP Billiton Plc	Aspen Pharmacare Holdings	Barloworld	Arcelormittal SA	Arcelormittal SA
Avgold	Barloworld	Bidvest Group	Barloworld	BHP Billiton Plc	Aveng	Aspen Pharmacare Holdings
Barloworld	BHP Billiton Plc	Compagnie Fin Richemont	BHP Billiton Plc	Bidvest Group	Barloworld	BHP Billiton Plc
BHP Billiton Plc	Bidvest Group	Discovery Holdings	Bidvest Group	Compagnie Fin Richemont	BHP Billiton Plc	Bidvest Group
Bidvest Group	Compagnie Fin Richemont	Edgars Consolidated Stores	Compagnie Fin Richemont	Discovery Holdings	Bidvest Group	Compagnie Fin Richemont
Compagnie Fin Richemont	Dimension Data Holdings Plc	FirstRand	Discovery Holdings	Edgars Consolidated Stores	Compagnie Fin Richemont	Discovery Holdings
Drd Gold	FirstRand	Foschini	Edgars Consolidated Stores	FirstRand	Discovery Holdings	Distell Group
FirstRand	Gold Fields	Gold Fields	FirstRand	Gold Fields	FirstRand	FirstRand
Gencor	Harmony Gold Mining Company	Harmony Gold Mining Company	Foschini	Harmony Gold Mining Company	Gold Fields	Gold Fields
Gold Fields	Impala Platinum Holdings	Impala Platinum Holdings	Gold Fields	Impala Platinum Holdings	Growthpoint Properties	Growthpoint Properties
Harmony Gold Mining Company	Imperial Holdings	Imperial Holdings	Harmony Gold Mining Company	Imperial Holdings	Harmony Gold Mining Company	Harmony Gold Mining Company
Impala Platinum Holdings	JD Group	JD Group	Impala Platinum Holdings	Investec	Impala Platinum Holdings	Impala Platinum Holdings
Imperial Holdings	Liberty Group	Liberty Group	Imperial Holdings	Liberty Group	Imperial Holdings	Liberty Holdings
Johnnic Holdings	Liberty Holdings	Liberty Holdings	JD Group	Liberty International	Investec	Liberty International
Liberty Group	Liberty International	Liberty International	Liberty Group	Lonmin Plc	Liberty Group	Lonmin Plc
Liberty Holdings	Lonmin Plc	Lonmin Plc	Liberty International	MTN Group	Liberty International	Medi-Clinic Corporation
Liberty International	MTN Group	MTN Group	Lonmin Plc	Murray & Roberts Holdings	Lonmin Plc	MTN Group
Lonmin Plc	Nampak	Nampak	MTN Group	Naspers	MTN Group	Murray & Roberts Holdings
MTN Group	Naspers	Naspers	Naspers	Nedbank Group	Murray & Roberts Holdings	Naspers
Nampak	Nedbank Group	Nedbank Group	Nedbank Group	Netcare	Naspers	Nedbank Group
Naspers	Netcare	Netcare	Netcare	Old Mutual Plc	Nedbank Group	Netcare
Nedbank Group	Old Mutual Plc	Old Mutual Plc	Old Mutual Plc	Pick 'N Pay Stores	Netcare	Old Mutual Plc
Old Mutual Plc	Pick 'N Pay Stores	Pick 'N Pay Stores	Pick 'N Pay Stores	Pretoria Portland Cement Company	Old Mutual Plc	Pick 'N Pay Stores
Pick 'N Pay Stores	Pretoria Portland Cement Company	Pretoria Portland Cement Company	Pretoria Portland Cement Company	Reunert	Pick 'N Pay Stores	Pretoria Portland Cement Company
Pretoria Portland Cement Company	RMB Holdings	RMB Holdings	RMB Holdings	RMB Holdings	Pretoria Portland Cement Company	RMB Holdings
RMB Holdings	SABmiller Plc	SABmiller Plc	SABmiller Plc	SABmiller Plc	RMB Holdings	SABmiller Plc
SABmiller Plc	Sanlam	Sanlam	Sanlam	Sanlam	SABmiller Plc	Sanlam
Sanlam	Sappi	Sappi	Sappi	Sappi	Sanlam	Sappi
Sappi	Sasol	Sasol	Sasol	Sasol	Sappi	Sasol
Sasol	Standard Bank Group	Standard Bank Group	Standard Bank Group	Standard Bank Group	Sasol	Shoprite Hodings
Standard Bank Group	Steinhoff International Holdings	Steinhoff International Holdings	Steinhoff International Holdings	Steinhoff International Holdings	Shoprite Hodings	Standard Bank Group
Steinhoff International Holdings	Tiger Brands	Tiger Brands	Tiger Brands	Tiger Brands	Standard Bank Group	Steinhoff International Holdings
Tiger Brands	Venfin	Venfin	Venfin	Truworths International	Steinhoff International Holdings	Tiger Brands
Venfin	Woolworths Holdings	Woolworths Holdings	Woolworths Holdings	Woolworths Holdings	Tiger Brands	Truworths International

8.5 Event Study Lists

	Event Date: 19 May 2004		Event Date: 19 May 2005		Event Date: 25 April 2006
1	ABSA Group Ltd	1	ABSA Group Ltd	1	ABSA Group Ltd
2	AdvTech Limited	2	AdvTech Limited	2	AdvTech Limited
3	AECI	3	AECI	3	AECI
4	African Bank Investments Ltd	4	African Bank Investments Ltd	4	African Bank Investments Ltd
5	African Oxygen Ltd	5	African Oxygen Ltd	5	African Oxygen Ltd
6	African Rainbow Minerals Ltd	6	African Rainbow Minerals Ltd	6	African Rainbow Minerals Ltd
7	Alexander Forbes Ltd	7	Alexander Forbes Ltd	7	Alexander Forbes Ltd
8	Allied Electronics Corporation Ltd	8	Allied Electronics Corporation Ltd	8	Allied Electronics Corporation Ltd
9	Allied Technologies Ltd	9	Allied Technologies Ltd	9	Allied Technologies Ltd
10	Amalgamated Beverage Industries Ltd	10	Anglo American Platinum Corporation Ltd	10	Anglo American Platinum Corporation Ltd
11	Anglo American Platinum Corporation Ltd	11	Anglo American plc	11	Anglo American plc
12	Anglo American plc	12	Anglogold Ashanti Ltd	12	Anglogold Ashanti Ltd
13	Anglogold Ashanti Ltd	13	Arcelor Mittal (Iscor Ltd / Mittal Steel)	13	Arcelor Mittal (Iscor Ltd / Mittal Steel)
14	Arcelor Mittal (Iscor Ltd / Mittal Steel)	14	Aveng Ltd	14	Aveng Ltd
15	Aveng Ltd	15	BHP Billiton plc	15	AVI Ltd
16	BHP Billiton plc	16	The Bidvest Group Ltd	16	BHP Billiton plc
17	The Bidvest Group Ltd	17	Brait S.A.	17	The Bidvest Group Ltd
18	Brait S.A.	18	Bytes Technology Group Limited	18	Brait S.A.
19	Bytes Technology Group Limited	19	Capitec	19	Bytes Technology Group Limited
20	Capitec	20	City Lodge Hotels Ltd	20	Capitec
21	City Lodge Hotels Ltd	21	Dimension Data Holdings plc	21	City Lodge Hotels Ltd
22	Dimension Data Holdings plc	22	Discovery Holdings Ltd	22	Dimension Data Holdings plc
23	Discovery Holdings Ltd	23	DRDGold Limited	23	Discovery Holdings Ltd
24	DRDGold Limited	24	Edgars Consolidated Stores Ltd	24	DRDGold Limited
25	Edgars Consolidated Stores Ltd	25	Ellerine Holdings Ltd	25	Edgars Consolidated Stores Ltd
26	Ellerine Holdings Ltd	26	FirstRand Ltd	26	Ellerine Holdings Ltd
27	FirstRand Ltd	27	Foschini	27	FirstRand Ltd
28	Foschini	28	Gold Fields Ltd	28	Foschini
29	Gold Fields Ltd	29	Gold Reef Casino Resorts Ltd	29	Gold Fields Ltd
30	Gold Reef Casino Resorts Ltd	30	Grindrod Limited	30	Gold Reef Casino Resorts Ltd
31	Grindrod Limited	31	Group Five Limited	31	Grindrod Limited
32	Group Five Limited	32	Growthpoint Properties Limited	32	Group Five Limited
33	Growthpoint Properties Limited	33	Harmony Gold Mining Company Ltd	33	Growthpoint Properties Limited
34	Harmony Gold Mining Company Ltd	34	Highveld Steel and Vanadium Corporation Ltd	34	Harmony Gold Mining Company Ltd
35	Highveld Steel and Vanadium Corporation Ltd	35	Illovo Sugar Ltd	35	Highveld Steel and Vanadium Corporation Ltd
36	Illovo Sugar Ltd	36	Impala Platinum Holdings Ltd	36	Illovo Sugar Ltd
37	Impala Platinum Holdings Ltd	37	Imperial Holdings Ltd	37	Impala Platinum Holdings Ltd
38	Imperial Holdings Ltd	38	Investec Ltd	38	Imperial Holdings Ltd
39	Investec Ltd	39	Investec Plc	39	Investec Ltd
40	Investec Plc	40	Johnnic Communications Ltd	40	Investec Plc
41	Johnnic Communications Ltd	41	Liberty Group Ltd	41	Johnnic Communications Ltd
42	Liberty Group Ltd	42	Lonmin	42	Liberty Group Ltd
43	Lonmin	43	Massmart Holdings Ltd	43	Lonmin
44	Massmart Holdings Ltd	44	Medi-clinic Corporation Ltd	44	Massmart Holdings Ltd
45	Medi-clinic Corporation Ltd	45	South African Chrome and Alloys Ltd / Merafe Ltd	45	Medi-clinic Corporation Ltd
46	South African Chrome and Alloys Ltd / Merafe Ltd	46	Metropolitan Holdings Limited	46	South African Chrome and Alloys Ltd / Merafe Ltd
47	Metropolitan Holdings Limited	47	MTN Group Ltd	47	Metropolitan Holdings Limited
48	MTN Group Ltd	48	Murray and Roberts Holdings Ltd	48	MTN Group Ltd
49	Murray and Roberts Holdings Ltd	49	Nampak Ltd	49	Murray and Roberts Holdings Ltd
50	Nampak Ltd	50	Nedcor Ltd / Nedbank Group Ltd	50	Nampak Ltd
51	Nedcor Ltd / Nedbank Group Ltd	51	Network Healthcare Holdings Ltd	51	Nedcor Ltd / Nedbank Group Ltd
52	Network Healthcare Holdings Ltd	52	New Clicks Holdings Limited	52	Network Healthcare Holdings Ltd
53	New Clicks Holdings Limited	53	Northam Platinum Ltd	53	New Clicks Holdings Limited
54	Northam Platinum Ltd	54	Oceana Group Ltd	54	Northam Platinum Ltd
55	Oceana Group Ltd	55	Old Mutual plc	55	Oceana Group Ltd
56	Old Mutual plc	56	Palabora Mining Company Limited	56	Old Mutual plc
57	Palabora Mining Company Limited	57	Pick n Pay Holdings Ltd	57	Palabora Mining Company Limited
58	Pick n Pay Holdings Ltd	58	Pretoria Portland Cement Company Ltd	58	Pick n Pay Holdings Ltd
59	Pretoria Portland Cement Company Ltd	59	Rainbow chicken Limited	59	Pretoria Portland Cement Company Ltd
60	Rainbow chicken Limited	60	RMB	60	Rainbow chicken Limited
61	RMB	61	SABMiller plc	61	RMB
62	SABMiller plc	62	Sanlam Ltd	62	SABMiller plc
63	Sanlam Ltd	63	Santam Limited	63	Sanlam Ltd
64	Santam Limited	64	Sappi Ltd	64	Santam Limited
65	Sappi Ltd	65	Sasol Ltd	65	Sappi Ltd
66	Sasol Ltd	66	Standard Bank Group Ltd	66	Sasol Ltd
67	Standard Bank Group Ltd	67	Steinhoff International Holdings Limited	67	Standard Bank Group Ltd
68	Steinhoff International Holdings Limited	68	Sun International Limited	68	Steinhoff International Holdings Limited
69	Sun International Limited	69	Trans Hex Limited	69	Sun International Limited
70	Trans Hex Limited	70	Truworths International	70	Trans Hex Limited
71	Truworths International	71	Venfin Ltd	71	Truworths International
72	Venfin Ltd	72	Wilson Bayly Holmes-Ovcon Ltd	72	Wilson Bayly Holmes-Ovcon Ltd
73	Wilson Bayly Holmes-Ovcon Ltd	73	Woolworths Holdings Ltd	73	Woolworths Holdings Ltd
74	Woolworths Holdings Ltd				

	Event Date: 27 November 2007		Event Date: 26 November 2008		Event Date: 30 November 2009
1	ABSA Group Ltd	1	ABSA Group Ltd	1	ABSA Group Ltd
2	AdvTech Limited	2	AdvTech Limited	2	AdvTech Limited
3	AECI	3	AECI	3	AECI
4	African Bank Investments Ltd	4	African Bank Investments Ltd	4	African Bank Investments Ltd
5	African Oxygen Ltd	5	African Oxygen Ltd	5	African Oxygen Ltd
6	African Rainbow Minerals Ltd	6	African Rainbow Minerals Ltd	6	African Rainbow Minerals Ltd
7	Allied Electronics Corporation Ltd	7	Allied Electronics Corporation Ltd	7	Allied Electronics Corporation Ltd
8	Allied Technologies Ltd	8	Allied Technologies Ltd	8	Allied Technologies Ltd
9	Anglo American Platinum Corporation Ltd	9	Anglo American Platinum Corporation Ltd	9	Anglo American Platinum Corporation Ltd
10	Anglo American plc	10	Anglo American plc	10	Anglo American plc
11	Anglogold Ashanti Ltd	11	Anglogold Ashanti Ltd	11	Anglogold Ashanti Ltd
12	Arcelor Mittal (Iscor Ltd / Mittal Steel)	12	Arcelor Mittal (Iscor Ltd / Mittal Steel)	12	Arcelor Mittal (Iscor Ltd / Mittal Steel)
13	Aveng Ltd	13	Aveng Ltd	13	Aveng Ltd
14	AVI Ltd	14	AVI Ltd	14	AVI Ltd
15	BHP Billiton plc	15	Barloworld Ltd	15	Barloworld Ltd
16	The Bidvest Group Ltd	16	BHP Billiton plc	16	BHP Billiton plc
17	Brait S.A.	17	The Bidvest Group Ltd	17	The Bidvest Group Ltd
18	Bytes Technology Group Limited	18	Brait S.A.	18	Brait S.A.
19	Capitec	19	Capitec	19	Capitec
20	City Lodge Hotels Ltd	20	City Lodge Hotels Ltd	20	City Lodge Hotels Ltd
21	Dimension Data Holdings plc	21	Dimension Data Holdings plc	21	Dimension Data Holdings plc
22	Discovery Holdings Ltd	22	Discovery Holdings Ltd	22	Discovery Holdings Ltd
23	DRDGold Limited	23	DRDGold Limited	23	DRDGold Limited
24	Ellerine Holdings Ltd	24	Exxaro Resources Limited	24	Exxaro Resources Limited
25	FirstRand Ltd	25	FirstRand Ltd	25	FirstRand Ltd
26	Foschini	26	Foschini	26	Foschini
27	Gold Fields Ltd	27	Gold Fields Ltd	27	Gold Fields Ltd
28	Gold Reef Casino Resorts Ltd	28	Gold Reef Casino Resorts Ltd	28	Gold Reef Casino Resorts Ltd
29	Grindrod Limited	29	Grindrod Limited	29	Grindrod Limited
30	Group Five Limited	30	Group Five Limited	30	Group Five Limited
31	Growthpoint Properties Limited	31	Growthpoint Properties Limited	31	Growthpoint Properties Limited
32	Harmony Gold Mining Company Ltd	32	Harmony Gold Mining Company Ltd	32	Harmony Gold Mining Company Ltd
33	Highveld Steel and Vanadium Corporation Ltd	33	Highveld Steel and Vanadium Corporation Ltd	33	Highveld Steel and Vanadium Corporation Ltd
34	Illovo Sugar Ltd	34	Illovo Sugar Ltd	34	Illovo Sugar Ltd
35	Impala Platinum Holdings Ltd	35	Impala Platinum Holdings Ltd	35	Impala Platinum Holdings Ltd
36	Imperial Holdings Ltd	36	Imperial Holdings Ltd	36	Imperial Holdings Ltd
37	Investec Ltd	37	Investec Ltd	37	Investec Ltd
38	Investec Plc	38	Investec Plc	38	Investec Plc
39	Johnnic Communications Ltd	39	JSE Limited	39	JSE Limited
40	JSE Limited	40	Kumba Iron Ore Ltd	40	Kumba Iron Ore Ltd
41	Liberty Group Ltd	41	Liberty Group Ltd	41	Lonmin
42	Lonmin	42	Lonmin	42	Massmart Holdings Ltd
43	Massmart Holdings Ltd	43	Massmart Holdings Ltd	43	Medi-clinic Corporation Ltd
44	Medi-clinic Corporation Ltd	44	Medi-clinic Corporation Ltd	44	South African Chrome and Alloys Ltd / Merafe Ltd
45	South African Chrome and Alloys Ltd / Merafe Ltd	45	South African Chrome and Alloys Ltd / Merafe Ltd	45	Metropolitan Holdings Limited
46	Metropolitan Holdings Limited	46	Metropolitan Holdings Limited	46	Mondi
47	MTN Group Ltd	47	Mondi	47	MTN Group Ltd
48	Murray and Roberts Holdings Ltd	48	MTN Group Ltd	48	Murray and Roberts Holdings Ltd
49	Nampak Ltd	49	Murray and Roberts Holdings Ltd	49	Nampak Ltd
50	Nedcor Ltd / Nedbank Group Ltd	50	Nampak Ltd	50	Nedcor Ltd / Nedbank Group Ltd
51	Network Healthcare Holdings Ltd	51	Nedcor Ltd / Nedbank Group Ltd	51	Network Healthcare Holdings Ltd
52	New Clicks Holdings Limited	52	Network Healthcare Holdings Ltd	52	New Clicks Holdings Limited
53	Northam Platinum Ltd	53	New Clicks Holdings Limited	53	Northam Platinum Ltd
54	Oceana Group Ltd	54	Northam Platinum Ltd	54	Oceana Group Ltd
55	Old Mutual plc	55	Oceana Group Ltd	55	Old Mutual plc
56	Palabora Mining Company Limited	56	Old Mutual plc	56	Palabora Mining Company Limited
57	Pick n Pay Holdings Ltd	57	Palabora Mining Company Limited	57	Pick n Pay Holdings Ltd
58	Pretoria Portland Cement Company Ltd	58	Pick n Pay Holdings Ltd	58	Pretoria Portland Cement Company Ltd
59	Rainbow chicken Limited	59	Pretoria Portland Cement Company Ltd	59	Rainbow chicken Limited
60	RMB	60	Rainbow chicken Limited	60	RMB
61	SABMiller plc	61	RMB	61	SABMiller plc
62	Sanlam Ltd	62	SABMiller plc	62	Sanlam Ltd
63	Santam Limited	63	Sanlam Ltd	63	Santam Limited
64	Sappi Ltd	64	Santam Limited	64	Sappi Ltd
65	Sasol Ltd	65	Sappi Ltd	65	Sasol Ltd
66	Standard Bank Group Ltd	66	Sasol Ltd	66	Standard Bank Group Ltd
67	Steinhoff International Holdings Limited	67	Standard Bank Group Ltd	67	Steinhoff International Holdings Limited
68	Sun International Limited	68	Steinhoff International Holdings Limited	68	Sun International Limited
69	Trans Hex Limited	69	Sun International Limited	69	The Tongaat-Hulett Group Ltd
70	Truworths International	70	The Tongaat-Hulett Group Ltd	70	Trans Hex Limited
71	Wilson Bayly Holmes-Ovcon Ltd	71	Trans Hex Limited	71	Truworths International
72	Woolworths Holdings Ltd	72	Truworths International	72	Wilson Bayly Holmes-Ovcon Ltd
		73	Wilson Bayly Holmes-Ovcon Ltd	73	Woolworths Holdings Ltd
		74	Woolworths Holdings Ltd		

8.6 SRI and Conventional comparison portfolio lists

SRI portfolio: July 1995 to June 2009		SRI portfolio: November 1999 to June 2009		SRI portfolio: 1999 to 2009 - Continued	
1	ABSA Group	1	ABSA Group	56	Sappi
2	AECI	2	Advtech	57	Sasol
3	African bank investments	3	AECI	58	Standard Bank Group
4	African Oxygen	4	African bank investments	59	Steinhoff International Holdings
5	African Rainbow Minerals	5	African Oxygen	60	Sun International
6	Allied Electronics Corporation	6	African Rainbow Minerals	61	Tongaat Hulett
7	Allied Technologies	7	Allied Electronics Corporation	62	Trans Hex Group
8	Anglo American plc	8	Allied Technologies	63	Truworths International
9	Anglogold Ashanti	9	Anglo American plc	64	Wilson Bayly Holmes-Ovcon -A-
10	ArcelorMittal SA	10	Anglogold Ashanti	65	Woolworths Holdings
11	AVI	11	ArcelorMittal SA		
12	Barloworld	12	Aveng		
13	Bidvest Group	13	AVI		
14	Brait SA	14	Barloworld		
15	City Lodge Hotels	15	BHP Billiton plc		
16	Dimension Data Holdings plc	16	Bidvest Group		
17	DRD Gold	17	Brait SA		
18	FirstRand	18	City Lodge Hotels		
19	Foschini	19	Dimension Data Holdings plc		
20	Gold Fields	20	Discovery Holdings		
21	Gold Reef Resorts	21	DRD Gold		
22	Grindrod	22	FirstRand		
23	Group Five	23	Foschini		
24	Growthpoint Properties	24	Gold Fields		
25	Harmony Gold Mining Company	25	Gold Reef Resorts		
26	Highveld Steel & Vanadium Corporation	26	Grindrod		
27	Illovo Sugar	27	Group Five		
28	Impala Platinum Holdings	28	Growthpoint Properties		
29	Imperial Holdings	29	Harmony Gold Mining Company		
30	Investec	30	Highveld Steel & Vanadium Corporation		
31	Lonmin Plc	31	Illovo Sugar		
32	Medi-clinic Corporation	32	Impala Platinum Holdings		
33	Merafe Resources	33	Imperial Holdings		
34	Metropolitan Holdings	34	Investec		
35	Murray & Roberts Holdings	35	Liberty International		
36	Nampak	36	Lonmin Plc		
37	Nedbank Group	37	Medi-clinic Corporation		
38	Northam Platinum	38	Merafe Resources		
39	Oceana Group	39	Metropolitan Holdings		
40	Palabora Mining Company	40	MTN Group		
41	Pick 'n Pay Holdings	41	Murray & Roberts Holdings		
42	Pretoria Portland Cement Company	42	Nampak		
43	Rainbow chicken	43	Nedbank Group		
44	RMB holdings	44	Clicks Group		
45	SABMiller plc	45	Northam Platinum		
46	Santam	46	Oceana Group		
47	Sappi	47	Old Mutual plc		
48	Sasol	48	Palabora Mining Company		
49	Standard Bank Group	49	Pick 'n Pay Holdings		
50	Sun International	50	Pretoria Portland Cement Company		
51	Tongaat Hulett	51	Rainbow chicken		
52	Trans Hex Group	52	RMB holdings		
53	Wilson Bayly Holmes-Ovcon -A-	53	SABMiller plc		
		54	Sanlam		
		55	Santam		

	Conventional portfolio: (10 and 15 year)
1	ADCOCK INGRAM HOLDINGS LIMITED
2	AFGRI LIMITED
3	ARGENT INDUSTRIAL LIMITED
4	ASPEN PHARMACARE HOLDINGS LIMITED
5	ASSORE LIMITED
6	BASIL READ HOLDINGS LIMITED
7	BELL EQUIPMENT LIMITED
8	BICC CAFCA LIMITED
9	BOWLER METCALF LIMITED
10	BRITISH AMERICAN TOBACCO PLC
11	CAPITAL PROPERTY FUND
12	CARGO CARRIERS LIMITED
13	CASHBUILD LIMITED
14	CAXTON CTP PUBLISHERS AND PRINTERS
15	CERAMIC INDUSTRIES LIMITED
16	CLIENTELE LIMITED
17	COMBINED MOTOR HOLDINGS LIMITED
18	COMPAGNIE FIN RICHEMONT
19	CONTROL INSTRUMENTS GROUP LIMITED
20	CROOKES BROTHERS LIMITED
21	CULLINAN HOLDINGS LIMITED
22	DATATEC LIMITED
23	DELTA EMD LIMITED
24	DISTELL GROUP LIMITED
25	DISTRIB. AND WAREHOUSING NETWORK LD
26	DORBYL LIMITED
27	ELB GROUP LIMITED
28	FAMOUS BRANDS LIMITED
29	Fountainhead Property Trust
30	HOSKEN CONSOLIDATED INVESTMENTS LD
31	HUDACO INDUSTRIES LIMITED
32	HWANGE COLLIERY COMPANY LIMITED
33	HYPROP INVESTMENTS LIMITED
34	INVICTA HOLDINGS LIMITED
35	ITALTILE LIMITED
36	JASCO ELECTRONICS HOLDINGS LIMITED
37	JD GROUP LIMITED
38	KAGISO MEDIA LIMITED
39	KAP INTERNATIONAL HOLDINGS LIMITED
40	MARSHALL MONTEAGLE HLDGS SOC ANON
41	MASONITE (AFRICA) LIMITED
42	METAIR INVESTMENTS LIMITED
43	METOREX LIMITED
44	METROFILE HOLDINGS LIMITED
45	MOBILE INDUSTRIES LIMITED

	Conventional portfolio: (10 and 15 year) - Continued
46	MR PRICE GROUP LIMITED
47	MVELAPHANDA GROUP LIMITED
48	MVELAPHANDA RESOURCES LIMITED
49	NASPERS LIMITED
50	NET 1 UEPS TECHNOLOGIES INC
51	NEW AFRICA INVESTMENT LIMITED (Excluded from the analysis using the Findata@Wits Database)
52	NU-WORLD HOLDINGS LIMITED
53	OCTODEC INVESTMENTS LIMITED
54	OMNIA HOLDINGS LIMITED
55	PANGBOURNE PROPERTIES LIMITED
56	PEREGRINE HOLDINGS LIMITED
57	PREMIUM PROPERTIES LIMITED
58	PSG GROUP LIMITED
59	PUTPROP LIMITED
60	RANDGOLD & EXPLORATION COMPANY LD
61	REAL AFRICA HOLDINGS LIMITED
62	REUNERT LIMITED
63	SA CORPORATE REAL ESTATE FUND
64	SAAMBOU HOLDINGS LIMITED
65	SABLE HOLDINGS LIMITED
66	SABVEST LIMITED
67	SASFIN HOLDINGS LIMITED
68	SEARDEL INVESTMENT CORPORATION LD
69	SENTULA MINING LIMITED
70	SHOPRITE HOLDINGS LIMITED
71	SIMMER AND JACK MINES LIMITED
72	SOVEREIGN FOOD INVESTMENTS LIMITED
73	SPESCOM LIMITED
74	SUPER GROUP LIMITED
75	SYCOM PROPERTY FUND
76	TIGER BRANDS LIMITED
77	TRENCOR LIMITED
78	WOOLTRU LIMITED
79	ZCI LIMITED
80	ZURICH INSURANCE COMPANY S A LTD

8.7 Regression results

The tables from the various regressions shall be included in this section in the order that they were presented in the methodology section.

Chapter 5.3.1 – McWilliams and Siegel (2000):

McWilliams Siegel (2000)						
Period: 1995-2009	**1a**	**1b**	**1c**	**2a**	**2b**	**2c**
VARIABLES	roe	roe	roe	roa	roa	roa
sri	11.18*	8.13	0.0477	-0.616	-1.824**	-0.00172
	(6.078)	(6.196)	(0.0300)	(0.908)	(0.924)	(0.00966)
totalassets	-2.90e-08			-2.25e-08		
	(1.18e-07)			(1.77e-08)		
turnover		2.64e-07			8.71e-08***	
		(2.23e-07)			(3.32e-08)	
nopersonsemployed			-4.11e-07			-7.35e-07***
			(6.40e-07)			(2.06e-07)
ltda	-68.88***	-67.70***	-0.0412	-4.169*	-3.587*	-0.0344
	(14.25)	(14.15)	(0.0822)	(2.128)	(2.111)	(0.0265)
consserv	0.344	0.953	0.0482	3.890***	4.127***	0.0470***
	(8.913)	(8.914)	(0.0417)	(1.331)	(1.330)	(0.0134)
financials	20.16**	19.63**	0.00436	0.294	-0.148	-0.0602***
	(9.931)	(9.621)	(0.0538)	(1.483)	(1.435)	(0.0173)
basicmat	-22.42***	-21.93***	-0.000807	-0.275	-0.153	0.0383***
	(7.972)	(7.975)	(0.0400)	(1.191)	(1.190)	(0.0129)
telecomm	-8.898	-13.36	0.0389	5.045*	3.350	0.103***
	(19.24)	(19.41)	(0.0862)	(2.873)	(2.896)	(0.0278)
consgoods	0.0392	0.00953	0.0150	0.705	0.692	0.0148
	(9.378)	(9.374)	(0.0424)	(1.401)	(1.398)	(0.0136)
technology	-58.02***	-57.21***	-0.315***	-12.12***	-11.82***	-0.125***
	(18.41)	(18.42)	(0.0863)	(2.750)	(2.747)	(0.0278)
healthcare	7.870	8.993	0.0310	6.972***	7.338***	0.0785***
	(16.94)	(16.96)	(0.0807)	(2.530)	(2.530)	(0.0260)
oilgas	-1.083	-10.62	0.0403	3.973	0.337	0.0543
	(26.23)	(26.80)	(0.115)	(3.917)	(3.998)	(0.0371)
Constant	18.01***	16.99***	0.123***	12.96***	12.61***	0.133***
	(6.136)	(6.189)	(0.0297)	(0.916)	(0.923)	(0.00955)
Observations	1,683	1,683	1,235	1,683	1,683	1,235
R-squared	0.029	0.029	0.017	0.029	0.032	0.074
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

The following two tables represent the regression results from the McWilliams and Siegel (2000) models that were restricted to the 2004-2009 sample period. For these models, the firm's prior financial performance from the previous five years was included in a step-wise progression and the results were as follows:

* Due to the fact that the industry variables did not change over time, the fixed effects specification resulted in all of the industry dummy variables being dropped. As a result they were not presented in the table of results.

McWilliams and Siegel (2000) *Including Prior Performance (ROE)* Period: 2004-2009 **VARIABLES**	**3a1 roe**	**3a2 roe**	**3a3 roe**	**3a4 roe**	**3a5 roe**	**3b1 roe**	**3b2 roe**	**3b3 roe**	**3b4 roe**	**3b5 roe**	**3c1 roe**	**3c2 roe**	**3c3 roe**	**3c4 roe**	**3c5 roe**
sri	20.82**	21.27**	21.34**	21.64**	22.63**	21.01**	21.13**	21.20**	21.51**	22.53**	23.17**	17.17*	18.34*	21.33*	25.14**
	(9.726)	(10.68)	(10.58)	(10.58)	(10.76)	(9.618)	(10.56)	(10.47)	(10.46)	(10.67)	(10.64)	(9.125)	(10.23)	(10.86)	(11.86)
totalassets	2.26e-07	-2.77e-08	-2.28e-08	-1.96e-08	9.13e-09										
	(2.01e-07)	(1.32e-07)	(1.32e-07)	(1.32e-07)	(1.38e-07)										
turnover						4.09e-07	2.94e-08	3.67e-08	4.29e-08	9.02e-08					
						(2.62e-07)	(1.37e-07)	(1.37e-07)	(1.38e-07)	(1.52e-07)					
nopersonsemployed											7.86e-06	-4.14e-05	-4.08e-05	-3.36e-05	-2.48e-05
											(0.000121)	(0.000103)	(0.000105)	(0.000110)	(0.000117)
ltda	-40.00	-55.67	-52.11	-49.89	-47.09	-38.83	-56.04	-52.45	-50.22	-47.25	33.54	18.45	19.81	27.57	31.35
	(51.10)	(58.61)	(58.07)	(58.01)	(57.29)	(50.48)	(57.77)	(57.23)	(57.18)	(56.51)	(36.62)	(39.81)	(40.73)	(40.37)	(38.41)
roet1	-0.211**	-0.0253	-0.0329	-0.0401	-0.0629	-0.212**	-0.0253	-0.0329	-0.0401	-0.0630	-0.308*	-0.176	-0.187	-0.223	-0.282*
	(0.0841)	(0.0279)	(0.0294)	(0.0330)	(0.0502)	(0.0844)	(0.0279)	(0.0294)	(0.0330)	(0.0503)	(0.158)	(0.117)	(0.131)	(0.151)	(0.160)
roet2	-0.205**		-0.0372	-0.0443	-0.0640	-0.206**		-0.0372	-0.0443	-0.0641	-0.222		-0.0584	-0.131	-0.173
	(0.0843)		(0.0286)	(0.0323)	(0.0463)	(0.0846)		(0.0286)	(0.0323)	(0.0464)	(0.191)		(0.160)	(0.177)	(0.195)
roet3	-0.192**			-0.0262	-0.0479	-0.193**			-0.0262	-0.0480	-0.342**			-0.233	-0.292*
	(0.0845)			(0.0246)	(0.0441)	(0.0849)			(0.0246)	(0.0442)	(0.174)			(0.153)	(0.169)
roet4	-0.209**				-0.0581	-0.210**				-0.0582	-0.246*				-0.200
	(0.0853)				(0.0472)	(0.0856)				(0.0474)	(0.146)				(0.140)
roet5	-0.210**					-0.211**					-0.136				
	(0.0871)					(0.0875)					(0.0841)				
Constant	14.41	16.59	16.17	15.88	15.27	12.94	15.95	15.51	15.20	14.45	22.03***	12.29	12.85*	15.70**	18.70***
	(9.512)	(10.59)	(10.52)	(10.50)	(10.43)	(10.22)	(11.30)	(11.24)	(11.22)	(11.16)	(6.693)	(7.715)	(7.255)	(6.594)	(6.885)
Observations	669	669	669	669	669	669	669	669	669	669	535	535	535	535	535
R-squared	0.150	0.020	0.030	0.034	0.049	0.151	0.020	0.030	0.034	0.049	0.179	0.037	0.040	0.094	0.137
Number of firm	129	129	129	129	129	129	129	129	129	129	105	105	105	105	105
Robust standard errors in parentheses															
*** p<0.01, ** p<0.05, * p<0.1															

McWilliams and Siegel (2000) *Including Prior Performance (ROA)* Period: 2004-2009 **VARIABLES**	**4a1 roa**	**4a2 roa**	**4a3 roa**	**4a4 roa**	**4a5 roa**	**4b1 roa**	**4b2 roa**	**4b3 roa**	**4b4 roa**	**4b5 roa**	**4c1 roa**	**4c2 roa**	**4c3 roa**	**4c4 roa**	**4c5 roa**
sri	2.046	1.080	1.873	1.912	2.209	1.928	0.891	1.737	1.785	2.111	1.797	1.084	1.493	1.836	2.068
	(1.313)	(1.195)	(1.333)	(1.328)	(1.357)	(1.291)	(1.165)	(1.309)	(1.304)	(1.336)	(1.195)	(1.118)	(1.183)	(1.222)	(1.284)
totalassets	1.48e-08	-3.10e-08	-1.22e-08	-1.16e-08	4.70e-09										
	(3.63e-08)	(2.96e-08)	(2.91e-08)	(2.88e-08)	(3.47e-08)										
turnover						1.19e-07**	5.08e-08	6.33e-08*	6.39e-08*	9.84e-08**					
						(4.99e-08)	(3.55e-08)	(3.53e-08)	(3.54e-08)	(4.42e-08)					
nopersonsemployed											-2.65e-05	-3.76e-05	-3.35e-05	-3.34e-05	-3.24e-05
											(3.18e-05)	(3.23e-05)	(3.27e-05)	(3.25e-05)	(3.24e-05)
ltda	-12.81*	-10.89	-13.17*	-13.22*	-13.24*	-12.94*	-11.39	-13.52*	-13.57*	-13.51**	-7.596	-6.451	-8.319	-8.904	-8.645
	(7.001)	(7.874)	(7.286)	(7.185)	(6.953)	(6.915)	(7.787)	(7.181)	(7.086)	(6.853)	(7.191)	(7.333)	(7.084)	(6.915)	(6.918)
roat1	0.176**	0.177**	0.208***	0.206***	0.186**	0.171**	0.175**	0.207***	0.205***	0.183**	0.0772	0.0980*	0.123**	0.105**	0.0923*
	(0.0727)	(0.0747)	(0.0703)	(0.0713)	(0.0723)	(0.0725)	(0.0742)	(0.0701)	(0.0712)	(0.0721)	(0.0530)	(0.0527)	(0.0509)	(0.0515)	(0.0530)
roat2	-0.247***		-0.226***	-0.225***	-0.242***	-0.250***		-0.228***	-0.226***	-0.245***	-0.117***		-0.118***	-0.105**	-0.116**
	(0.0779)		(0.0765)	(0.0769)	(0.0776)	(0.0778)		(0.0764)	(0.0768)	(0.0775)	(0.0449)		(0.0403)	(0.0443)	(0.0448)
roat3	-0.0198			-0.00911	-0.0102	-0.0233			-0.0106	-0.0119	-0.0922			-0.0785	-0.0764
	(0.0610)			(0.0594)	(0.0589)	(0.0613)			(0.0596)	(0.0590)	(0.0624)			(0.0600)	(0.0599)
roat4	-0.116*				-0.118*	-0.124*				-0.126*	-0.0628				-0.0721
	(0.0650)				(0.0654)	(0.0644)				(0.0649)	(0.0494)				(0.0494)
roat5	-0.0522					-0.0622					-0.0735				
	(0.0504)					(0.0511)					(0.0461)				
Constant	18.55***	13.69***	16.15***	16.26***	17.87***	17.84***	12.82***	15.39***	15.52***	17.09***	18.90***	14.32***	15.71***	16.81***	17.88***
	(2.144)	(1.952)	(1.830)	(1.882)	(2.010)	(2.092)	(1.996)	(1.880)	(1.919)	(1.999)	(1.954)	(1.856)	(1.857)	(1.974)	(1.933)
Observations	669	669	669	669	669	669	669	669	669	669	535	535	535	535	535
R-squared	0.143	0.060	0.122	0.122	0.139	0.148	0.060	0.124	0.124	0.143	0.080	0.030	0.052	0.063	0.071
Number of firm	129	129	129	129	129	129	129	129	129	129	105	105	105	105	105

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The following table represents the results from the Generalised Method of Moments (GMM) regressions performed on the McWilliams and Siegel (2000) equations. In place of the five lagged prior performance variables, L.roa and L.roe represent the lagged variables used as per the xtabond2 command in Stata.

GMM method for McWilliams and Siegel (2000)						
Period: 2004-2009	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	roa	roa	roa	roe	roe	roe
L.roa	0.454***	0.483***	0.372***			
	(0.0835)	(0.0790)	(0.0955)			
L.roe				-0.101***	-0.104***	-0.0472
				(0.0208)	(0.0210)	(0.0478)
sri	-1.252	-1.430	0.148	14.51	21.67	23.34**
	(2.654)	(2.884)	(2.146)	(9.619)	(14.16)	(10.31)
ltda	-5.200	-7.807	-0.188	-1.892	-6.438	-29.09
	(14.52)	(18.19)	(6.310)	(27.93)	(32.27)	(23.13)
totalassets	-1.69e-08			-9.20e-08		
	(1.07e-08)			(7.77e-08)		
turnover		4.81e-08			-1.20e-07	
		(3.68e-08)			(1.83e-07)	
nopersonsemployed			-0.000109**			-0.000297**
			(5.30e-05)			(0.000147)
Constant	9.024**	8.376**	10.43***	15.85**	13.81	20.34***
	(3.498)	(3.962)	(1.936)	(6.960)	(9.649)	(5.972)
Observations	532	532	421	532	532	421
Number of firm	124	124	103	124	124	103

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Chapter 5.3.2 – Callan and Thomas (2009):

The following regression table came from the sections looking at Callan and Thomas (2009) where regressions 5a, 6a and 7a are the normal regressions. In contrast 5b, 6b and 7b are the fully specified models which included the quadratic terms for all of the size proxies.

Callan and Thomas (2009)						
Period: 1995-2009	**5a**	**5b**	**6a**	**6b**	**7a**	**7b**
VARIABLES	operatingprofit	operatingprofit	roa	roa	roe	roe
sri	13,916	-68,461	-0.631	-0.315	3.583	2.902
	(183,918)	(176,945)	(0.985)	(1.039)	(3.064)	(3.244)
ltde	77,557	37,347	-0.272	-0.293	3.500***	3.423***
	(61,056)	(55,516)	(0.327)	(0.326)	(1.017)	(1.018)
totalassets	-18,876***	110,846***	-0.0812***	-0.0887*	-0.116	-0.139
	(4,619)	(9,091)	(0.0247)	(0.0534)	(0.0770)	(0.167)
totalassets2		-492.0***		3.28e-05		0.000169
		(30.40)		(0.000179)		(0.000557)
turnover	201,929***	118,481***	0.227***	0.468***	0.384***	0.943***
	(8,750)	(15,292)	(0.0469)	(0.0898)	(0.146)	(0.280)
turnover2		722.6***		-0.00237***		-0.00625**
		(142.7)		(0.000838)		(0.00262)
nopersonsemployed	-2,606	-32,529***	-0.109***	-0.258***	-0.110	-0.279*
	(4,146)	(8,931)	(0.0222)	(0.0525)	(0.0691)	(0.164)
empl2		106.8**		0.000826***		0.000806
		(47.77)		(0.000281)		(0.000876)
consserv	133,583	334,700	4.925***	4.812***	4.746	4.484
	(248,505)	(225,943)	(1.331)	(1.327)	(4.140)	(4.142)
financials	-208,944	-861,406***	-3.817**	-3.519*	1.379	2.203
	(352,705)	(323,003)	(1.889)	(1.897)	(5.877)	(5.922)
basicmat	1.579e+06***	1.272e+06***	4.671***	4.688***	1.956	1.993
	(241,346)	(219,875)	(1.292)	(1.291)	(4.021)	(4.031)
telecomm	6.678e+06***	5.152e+06***	8.208***	6.518**	-0.463	-2.755
	(568,784)	(530,173)	(3.046)	(3.114)	(9.477)	(9.720)
consgoods	721,629***	930,085***	1.840	2.345*	2.507	2.665
	(253,103)	(233,280)	(1.355)	(1.370)	(4.217)	(4.277)
technology	6,308	114,216	-12.07***	-12.36***	-30.66***	-30.88***
	(515,090)	(467,933)	(2.758)	(2.748)	(8.582)	(8.579)
healthcare	805,591*	506,793	8.420***	8.550***	0.455	0.782
	(481,443)	(437,380)	(2.578)	(2.569)	(8.022)	(8.019)
oilgas	5.838e+06***	2.976e+06***	1.181	2.413	-3.295	0.707
	(719,184)	(680,592)	(3.851)	(3.998)	(11.98)	(12.48)
Constant	-566,298***	-454,347***	12.18***	12.07***	9.292***	8.433***
	(167,974)	(155,320)	(0.900)	(0.912)	(2.799)	(2.848)
Observations	1,231	1,231	1,231	1,231	1,231	1,231
R-squared	0.601	0.672	0.092	0.102	0.032	0.037
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

5.3.3 Waddock and Graves (1997) – Testing for Causality:

The following regression results came from the tests of causality as per Waddock and Graves (1997). The first table gives the results from the linear regression analysis where post ROA and ROE were used as the dependent variables regressed against the control variables from the current period. The second table gives the results from the logistic regression which set the SRI proxy as the dependent variable, and regressed it against the financial performance and control variables from the prior year.

Waddock and Graves (1997)
Linear Regression

Period: 2004-2009	**8a**	**8b**	**8c**	**8d**	**8e**	**8f**
VARIABLES	ROE(T+1)	ROE(T+1)	ROE(T+1)	ROA(T+1)	ROA(T+1)	ROA(T+1)
sri(T)	6.115	4.363	3.622544	-0.118	-1.352	0.2448658
	(4.616)	(4.763)	3.539842	(1.536)	(1.592)	1.494458
totalassets(T)	-5.46e-08			-4.85e-08**		
	(6.43e-08)			(2.14e-08)		
turnover(T)		1.92e-08			-2.76e-09	
		(1.27e-07)			(4.24e-08)	
nopersonemployed(T)			-0.0001315**			-0.0000998***
			7.05E-05			0.0000298
ltda(T)	-1.055	-0.389	-7.317688	1.131	1.692	2.294941
	(8.812)	(8.787)	6.811209	(2.933)	(2.937)	(2.87557)
consserv	10.49*	10.61*	12.78297	7.579***	7.651***	7.986912***
	(6.281)	(6.286)	4.43715	(2.091)	(2.101)	(1.873285)
financials	0.735	-0.619	-4.379837	-1.810	-3.051	-8.482306***
	(6.245)	(6.036)	5.106762	(2.079)	(2.017)	(2.155983)
basicmat	-14.13***	-14.23***	-0.291904	-1.962	-2.122	3.118006*
	(5.401)	(5.419)	4.225618	(1.798)	(1.811)	(1.78398)
telecomm	-0.182	-1.281	-19.32465	12.60***	11.95***	11.0716***
	(12.53)	(12.68)	9.367268	(4.171)	(4.237)	(3.542111)
consgoods	-4.236	-4.255	7.929203	-0.302	-0.337	0.7689271
	(6.590)	(6.595)	8.465195	(2.194)	(2.204)	(1.905872)
technology	-21.15	-20.98	-3.195358	-16.16***	-16.10***	-13.12319***
	(13.04)	(13.06)	4.514338	(4.340)	(4.364)	(3.954692)
healthcare	3.745	4.016	7.929203	6.565*	6.642*	6.886743*
	(11.34)	(11.39)	8.465195	(3.774)	(3.807)	(3.573853)
oilgas	-3.666	-7.270	-3.659496	1.461	-0.912	1.571056
	(16.62)	(17.14)	11.54164	(5.534)	(5.727)	(4.872672)
Constant	19.70***	19.50***	22.64568***	14.94***	14.88***	15.36866***
	(4.274)	(4.345)	3.034413	(1.423)	(1.452)	(1.281075)
Observations	577	577	444	577	577	444
R-squared	0.035	0.034	0.0316	0.097	0.088	0.1499

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Waddock and Graves (1997)
Logistic Regression

Period: 2004-2009	9a	9b	9c	9d	9e	9f
VARIABLES	sri(T)	sri(T)	sri(T)	sri(T)	sri(T)	sri(T)
ROE(T-1)	0.00246	0.00112	0.0040885			
	(0.00232)	(0.00183)	(0.0043676)			
ROA(T-1)				0.00121	-0.00904	0.0166291
				(0.00806)	(0.00771)	(0.01214)
Assets(T-1)	8.77e-08***			8.87e-08***		
	(1.19e-08)			(1.20e-08)		
Turnover(T-1)		1.23e-07***			1.25e-07***	
		(1.60e-08)			(1.60e-08)	
Employees(T-1)			0.0001471***			0.0001509***
			(0.0000169)			(0.0000174)
LTDA(T-1)	-1.068	-1.542**	-2.422571**	-1.160*	-1.669**	-2.226261**
	(0.697)	(0.711)	(1.116754)	(0.690)	(0.714)	(1.091903)
consserv	-0.226	-0.471	-0.3946654	-0.221	-0.414	-0.4955081
	(0.337)	(0.375)	(0.3923305)	(0.340)	(0.380)	(0.4013054)
financials	-1.777***	-0.120	0.3188775	-1.756***	-0.119	0.4830642
	(0.509)	(0.409)	(0.5087562)	(0.510)	(0.409)	(0.5239228)
basicmat	0.282	0.767***	0.5053925	0.233	0.703**	0.4519909
	(0.287)	(0.296)	(0.3720025)	(0.286)	(0.295)	(0.3725446)
consgoods	-0.536	-0.615	-2.187168***	-0.548	-0.617	-2.243355***
	(0.362)	(0.388)	(0.5253684)	(0.362)	(0.388)	(0.5298703)
technology	-1.231	-1.362	-0.9923012	-1.254	-1.503	-0.8445879
	(1.063)	(1.117)	(1.089071)	(1.067)	(1.128)	(1.099883)
healthcare	1.215**	1.646***	0.7854066	1.221**	1.767***	0.6178763
	(0.534)	(0.543)	(0.7033743)	(0.541)	(0.553)	(0.7094196)
oilgas	-4.346***	-5.354***	-1.087205	-4.417***	-5.444***	-1.216209
	(1.477)	(1.549)	(1.102636)	(1.481)	(1.549)	(1.130453)
Constant	-1.313***	-1.661***	-1.997626***	-1.271***	-1.510***	-2.193674***
	(0.234)	(0.252)	(0.3127397)	(0.260)	(0.271)	(0.3685758)
Observations	562	562	429	562	562	429
Pseudo R-Squared	0.2441	0.256	0.3562	0.2417	0.2572	0.3578

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1