THE EFFECTS OF CORPORATE SOCIAL RESPONSIBILITY ON THE FINANCIAL PERFORMANCE OF LISTED COMPANIES IN THE UK

Submitted by Graham Paul Buckingham, to the University of Exeter as a thesis for the degree of Doctor of Philosophy in finance, October 2012.

Signature……..……..

ABSTRACT

This thesis is an examination of the financial consequences of corporations engaging in socially responsible activities. It is motivated by the recognition that a socially responsible approach can fundamentally change the conduct and operation of business, which in turn may have a significant impact on financial outcomes both for individual companies as well as the wider economy. If social responsibility improves financial performance then managers, investors and society at large can have confidence that these activities increase prosperity as well as social welfare, making them unequivocally desirable.

Four empirical studies were undertaken of different but related financial aspects of corporate social responsibility (CSR), specifically; the determinants of social responsibility and the effect of social responsibility on profitability, market value and stock return.

In chapter two corporate social responsibility was found to be consistently and positively related to company size and certain industry characteristics, in particular companies that deal directly with the public (rather than with other companies) and companies in extractive and regulated industries were associated with a greater engagement in CSR. Although in some instances a positive link was found between return on assets and subsequent levels of corporate social responsibility the results were not consistent suggesting that higher than average profitability is not a prerequisite or consistent spur to additional social responsibility. A new methodology was also deployed, system GMM as another way of assessing the corporate social responsibility / corporate financial performance relationship; this gave broadly similar results.

Chapter three assessed the relationship between social responsibility and responsibility on profitability. There was a positive significant association with return on assets but generally insignificant results when return on sales was used as the measure of financial performance. This may indicate that social responsibility is materially associated with a better utilisation of the internal assets used by a business but that this does not extend to obtaining better margins from external customers. Alternatively it may indicate that CSR has no consistent unambiguous effect on financial results or finally that it is difficult to witness an effect by using a cross sectional approach. To more directly assess if social responsibility has an impact on financial performance a time series analysis was also carried out, no significant result was found. However given the degree of inertia in corporate social responsibility the five years of data available is unlikely to be a sufficiently long to detect any effect.

Chapter four contains a study of the effect of corporate social responsibility on market value. This uses value relevance methodology which is a relatively new approach and has the advantage of both

directly addressing the principal concern of critics of CSR, that it impairs shareholder wealth. On average corporate social responsibility was found to be associated with higher market value and by implication a better level of profit and/or lower levels of risk.

The final empirical study in chapter five examined the role of corporate social responsibility and risk as a way of parsing the result in the previous chapter and assessing whether investor cash flow or risk was the cause of enhanced market valuations. This also has the advantage of directly looking at stock returns which is a prime concern of ethical investors. Three different methodologies were used; in each case the effect noted was small and generally not significant, suggesting that social responsibility has little discernible effect on risk and hence stock return in the UK.

Overall it appears that corporate social responsibility is associated with greater market value but that no consistent unambiguous significant association between corporate social responsibility and profitability could be found using a cross sectional study. The methodologies used in the various chapters are quite different and there are also obvious differences between market value and profitability, however a more consistent result should be expected. When more extensive data sets become available a longer run time series analysis should provide additional information on the effect of corporate social responsibility on financial performance and provide a useful adjunct to this study.

‘It is not from the benevolence of the butcher, the brewer and the baker that we expect our dinner, but from their regard for their own interest. We address ourselves, not to their humanity, but to their self love, and never talk to them of our own necessities, but of their advantages.’’

The Wealth of Nations, Book I, 1776, Adam Smith

‘‘... by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was not part of it. By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it. I have never known much good done by those who affected to trade for the public good. It is an affectation, indeed, not very common among merchants and very few words need be employed in dissuading them from it.’’

The Wealth of Nations, Book IV, 1776, Adam Smith

"When national debts have once been accumulated to a certain degree, there is scarce, I believe, a single instance of their having been fairly and completely paid.’’

The Wealth of Nations, Book V, 1776, Adam Smith

Acknowledgements

I wish to express my sincere gratitude to a number of people who directly or indirectly contributed to the completion of this thesis. Firstly my supervisors, Alan Gregory, Julie Whittaker and Rajesh Tharyan without whose sage advice and encouragement this challenging project would not have been completed but also for making this an interesting process that stretched me intellectually. Secondly the wider academic community within Exeter University including my friends and colleagues; Yang Yang, Felix Haller, Yan Qui, Shan Hua, Fanis Tsoligkas, Xingzhou Liu, Xioajuan Yan and Nader El-Sayad.

My Cornish family and friends also unfailingly supported and humoured me in this endeavour which at times appeared to them to be a bizarre and unlikely pursuit, this is greatly appreciated.

CONTENTS

Chapter 3: Does Corporate Social Responsibility affect company profitability?

Chapter 4: Does Corporate Social Responsibility affect company market value?

LIST OF TABLES

Chapter 2: What are the determinants of Corporate Social Responsibility?

Chapter 3: Does Corporate Social Responsibility affect company profitability?

Chapter 4: Does Corporate Social Responsibility affect company market value?

Chapter 5: Does Corporate Social Responsibility affect stock returns?

INTRODUCTION

The study of corporate social responsibility (CSR) has two broad perspectives; firstly a normative or prescriptive approach examining the basic principles of CSR and the reasons why firms should implement certain policies, secondly an empirical or descriptive approach which seeks to explain the effect of corporate social responsibility using data. The latter empirical approach was taken in this thesis which contains four separate but related studies of the effect of corporate social responsibility on company financial performance.

Corporate social responsibility is both an economic and social process that is conditioned by the environment in which it occurs. The background and development of CSR frames these activities and needs to be understood in order that research can be appropriately constructed and results correctly interpreted. To provide this context the first chapter outlines the development of corporate social responsibility, reviews the major theories of CSR as well as giving a detailed analysis of the business case for corporate social responsibility.

Chapter two examines the motivation for a company to engage with social responsibility. Extant literature suggests that social responsibility is driven by the goal of better financial performance as well as pressure from society, managers and staff. The amount of social responsibility activity carried out varies quite widely between companies and appears to be related to the industry a company belongs to as well as a number of other company characteristics. Given that societal pressure to become socially responsible is reasonably uniform it appears likely that the main impulse to carry out social responsible activities stems from these heterogeneous economic factors, with differences in the amount of CSR undertaken being a response to differences in the business and operational situation companies find themselves in. It was found that the higher levels of social responsibility were associated with larger companies as well as some aspects of industry affiliation. In particular members of regulated and extractive industries and those dealing directly with the public carried out more corporate social responsibility. Interestingly it was also found that higher debt gearing was also associated with more corporate social responsibility. Previous work has suggested that this is due to companies using CSR as a way of reducing operational risk to compensate for higher financial risk. This result could also simply be that higher debt gearing is just the visible part of a particular management strategy that is also associated with adopting a more socially conscious corporate strategy. A new methodology was also deployed, system GMM to assess and deal with any potential endogeneity of financial performance. The results were broadly similar to those using OLS. There were a few instances of return on assets being positively related to future CSR but this was not a consistent result.

Chapter three provides a detailed examination of the relationship between corporate social responsibility and profitability. The relationship is complicated; therefore three different specifications were carried out along with a long list of control variables. In general corporate social responsibility recorded a positive significant relationship with return on assets but not a significant relationship with return on sales where both negative and positive coefficient was recorded. It is possible that this indicates that social responsibility has a positive effect on utilising assets but a negligible effect on sales margins. Therefore no unambiguously consistent relationship between CSR and profitability was found. This is generally in accordance with prior literature, which fails to find a consensus in empirical work to support this conjecture. An alternative explanation for this weak effect is that an approach which compares levels of CSR and profitability is not capable of identifying an effect that is likely to be small when the efficacy and impact of CSR is conditioned by a number of factors not all of which can be controlled for in a cross sectional model. A time series analysis was also carried out regressing changes in CSR on changes in subsequent return on assets, no significant results were found. The data set was however limited to only five years of data which unfortunately severely limited the scope of this alternative approach.

Chapter four provides a more direct way of comparing the effect of CSR on financial performance by examining whether corporate social responsibility is reflected in company market value; this also has the advantage of addressing the central concern of critics of CSR; that it reduces shareholder wealth. This is one of the first studies of the relationship between corporate social responsibility and market value in the UK. Value relevance methodology was employed using the residual income model where market value is expressed as a function of earnings, book value and corporate social responsibility performance, the CSR score here being a proxy for other value relevant information. A positive link between social responsibility and market value was found, indicating a market expectation that corporate social responsibility generates additional investor cash flow and/ or reduced risk.

Chapter five was motivated by the need to dissect the result in the previous chapter, specifically whether the link to company valuations is due to expectations of larger investor cash flows (coming from enhanced profits) or the effect of social responsibility on expected risk or perhaps a combination of both. A comprehensive treatment was undertaken using three different methodologies; realised returns, factor models and required returns. No significant difference in realised stock returns was found; presumably these returns have been equilibrated by the market with CSR being ‘in the price’. Using the Carhart four factor model revealed that two factors, size and momentum were negatively related to social responsibility suggesting lower stock returns, although the effects were not large. Examination of required returns used a two stage procedure, firstly inverting a stock valuation model to obtain estimates of the implied cost of capital and then regressing these values onto social responsibility performance and known risk factors. No significant difference between high and low

CSR performing companies was found, although it was noted that a two stage process inevitably exacerbates the noise to signal ratio making it more difficult to identify small differences. In general it was concluded that the effect of corporate social responsibility on risk and hence on stock returns was negligible.

Overall although there are a number of good reasons why corporate social responsibility is likely to have a positive effect on the profitability and the financial performance of companies however no consistently unambiguous results were found here. In some instances corporate social responsibility was associated with a stronger return on assets but not with return on sales, whilst higher levels of CSR were associated with larger market values. The methodologies employed are quite different which may account for the divergent results, with the effect of CSR being too weak to be consistently identified from a noisy set of financial data. If a much longer run of data becomes available in the future, a time series analysis of changes in CSR and financial performance may produce additional useful evidence of the nature of the corporate social responsibility / corporate financial performance relationship.

CHAPTER 1

CORPORATE SOCIAL RESPONSIBILITY IN THEORY AND PRACTICE

Abstract

This chapter provides the context and background to the thesis enabling the subsequent empirical research to be correctly framed and interpreted. The development of corporate social responsibility and the theories that have been used to explain it are outlined. There are also specific sections on the business case for social responsibility and social responsibility in action. These are of particular use because this area is the focus of the subsequent empirical chapters. To provide balance the final section outlines the case against corporate social responsibility.

1.1 The motivation for this study and definition of Corporate Social Responsibility

The study of corporate social responsibility lies at the crossroads of a number of academic disciplines. It is intimately concerned not only with the management of business enterprises but also goes to the essence of the purpose and role of these organisations in society. This has implications for philosophy, business ethics, law and economics amongst others.

These are not just academic concerns but have a substantial impact on the lives of many people in countries throughout the world. For example the Social Investment Foundation in 2010 estimated that in excess of $3.1 trillion was invested in ethically orientated funds in the

USA, approximately one dollar in nine of total managed funds. Similar proportions are invested in Europe with sustained growth in other countries. There is an expectation and desire by people for corporations to act ethically and responsibly, the notion that firms have no duty beyond maximising their profits may be commonplace in economics textbooks but is not recognised elsewhere. There is genuine dismay and anger when from time to time flagrant abuses by companies are exposed in the media.

The concept of corporate social responsibility is important because there is a widespread acceptance that business does have a moral dimension and should contribute to the welfare of society in the same way that other parts of society like government, charities and individuals are expected to, Bernstein (2000). Furthermore it is recognised that companies represent a vitally important sector not only because of their size and wealth but also because they possess a great deal of expertise with the capability and experience to tackle important issues, Davis (1973).

These normative arguments are well founded and well known, this thesis however takes a positivistic empirical approach examining what is rather than what should be. The motivation for this comes from Adam Smith's insight on the power of self interest and the need to harness this in order to make progress. The focus in this study is on the financial impact of corporate social responsibility, if it can be established that there is a positive return to these activities then the existing market mechanism can be used as a vehicle to deliver corporate social responsibility. Alternatively if corporate social responsibility reduces wealth there is no financial incentive for companies to be ethical.

The study of corporate social responsibility is hampered by the lack of a clear definition of what this concept actually means, to that extent it has been called a 'contested concept', Moon (2004). There are a number of perspectives and aspects that are used interchangeably when CSR is being discussed, making the use of one definition inadequate, therefore to produce a comprehensive guide to what the concept means five definitions are given below drawn from what are arguably the principal viewpoints on corporate social responsibility; normative, business, organisational, stakeholder and international:

*'*Corporate social rectitude embodies the notion of moral correctness in actions taken and policies formulated. Its general value referent is that the body of sometimes dimly or poorly expressed but deeply held moral convictions that comprise the culture of ethics', Frederick (1986:135).

‘The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time’, Carroll (1979:500).

‘A business organization’s configuration of principles of social responsibility, processes of social responsiveness, and policies, programmes, and observable outcomes as they relate to the firm’s societal relationships’, Wood (1991:693).

‘The extent to which businesses meet the economic, legal, ethical and discretionary responsibilities imposed on them by their stakeholders’, Maignan and Ferrell (2000:284).

‘CSR is the commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life, in ways that are good for business and good for international development’, World Bank (2003:5).

This provides an indication of what taking a socially responsible stance might mean for a company, however the scope and boundaries of corporate social responsibility is also unfortunately not completely clear, in other words what is relevant and salient when applying this responsible approach. The International Standards Organization (ISO) in an attempt to clarify this has created an international standard for the social responsibility of corporate and public sector organizations. ISO 26000 establishes seven core subjects of social responsibility:

- Organisational governance
- Community involvement and development
- Human rights
- Labour practices
- The environment
- Fair operating practices
- Consumer issues

Many in the CSR field group these issues into more convenient categories using the acronym ESG, i.e. environmental, social and governance, Sandberg (2009).

The aim of this chapter is to provide the context and background for this thesis. The historical development of corporate social responsibility is firstly outlined, followed by a discussion of the main philosophical concepts. As most of the thesis follows an instrumental empirical approach a separate section is made for 'the business case for CSR' where most of the current research falls, as well as a section on social responsibility in action. Corporate social responsibility is not without its critics, so this chapter finishes with a section on the case against corporate social responsibility to provide a balanced view.

1.2 The development of Corporate Social Responsibility

It is possible to trace back through history the concern and responsibility of business for society, however the concept of corporate social responsibility that is used today is a twentieth century idea that developed in particular from the 1950's in tandem with a recognition of the growing influence of modern corporations, Carroll (1999).

The scope and importance of large corporations dramatically increased in the first half of the twentieth century, they were not simply small firms writ large but qualitatively different because the shareholders did not own or control them in the same way as a small enterprise run by its proprietor. The accountability of these entities became a pressing issue given their obvious power and influence, Wells (2002). A number of prominent writers questioned the previous laissez faire approach where big business was allowed to operate in a relatively unfettered way. Berle and Means (1932) who felt that corporations' power rivalled that of governments, Galbraith (1952) argued that these large corporations possessed oligopolistic economic power, whilst Drucker (1955) noted that firms' power over workers and consumers inevitably gave them a social and political dimension. Given their undeniable economic and social impact the natural corollary was that they also had economic and social responsibilities. This was a break with the past where philanthropy was applauded but regarded as a private matter separate from business, the new perspective was holistic; business and society were inevitably intertwined, they relied on each other and necessarily had duties towards each other.

A series of articles appeared in the Harvard Business Review in the 1950's advocating a broader role for business with titles like 'Managements responsibilities in a complex world', Abrams (1951). The thrust of these articles was that business had certain moral obligations to

society and the objective of modern management was to fulfil these without compromising their fiduciary duties to shareholders, Frederick (2006). This was also the viewpoint taken by Howard Bowen in his book 'The social responsibilities of the businessman' written in 1953 which coined the phrase corporate social responsibility. By the end of the 1960's, the idea that business owed a duty beyond making a profit was in the mainstream.

A 1970 Business Week article claimed that a corporate officer could 'no longer...live a cloistered life behind the walls of private enterprise, concerning himself solely with turning out product and a profit', Wells (2003). Milton Friedman reacted to this new zeitgeist writing in the New York Times Magazine in 1970 that 'the social responsibility of business is to increase profit'. Corporate social responsibility was a 'subversive doctrine' that was being exploited by managers to waste the owners' money which amounted to a form of illegitimate expropriation. With the benefit of hindsight however given the range and number of firms engaged in CSR it is clear that the growth of corporate responsibility was not just a symptom of an agency problem, something more fundamental was occurring.

This was an era in which the activities of companies became the focus of increasing media attention, most of which was unfavourable. In 1962 Rachel Carson's Silent Spring was published detailing the terrible effects of man-made pesticides, which was followed by the discovery of the impact of leaded petrol and in later decades there were regular instances of corporate disasters including Bhopal, and the Exxon Valdez oil spill. The 1980's and 1990's produced high profile corporate scandals like Enron, Tyco and Worldcom in the USA and Maxwell and BCCI in the UK. Paradoxically the reach and influence of business increased at the same time, perhaps due to disenchantment with socialism, state planning and intervention. People and governments looked to corporations for the answers to a range of difficulties; they were regarded as having the competencies and skills that were not available elsewhere whatever the dubious ethical standards some companies displayed, Smith (2003).

The demand for corporations to engage with social issues and programmes perhaps unexpectedly was accepted by many enterprises, whereas it was not even a consideration a few decades earlier. The expectation of a more socially responsible attitude by the public rather than being resisted by corporations was becoming accepted, a sea change in attitudes on both sides. Previously CSR had involved a normative stance on what companies should do, but now increasingly there was a realisation that corporate social responsibility could have a beneficial effect on companies and even increase the bottom line, Lee (2008). A viewpoint

developed that companies may be better off conforming to public opinion rather than risking opprobrium and sanction by pursuing short term profit maximisation.

Wallich and McGowan (1970) were amongst the first to advocate pragmatic self interest for managers and companies. This instrumental approach was developed in a number of articles, culminating in Carroll (1979) who provided a framework where CSR and shareholder interests were regarded as complements in one system. Wartick and Cochrane (1985) suggested a way in which these responsibilities could be discharged by outlining the relevant policies. Freeman (1984) outlined stakeholder theory, an examination of the different groups who influence companies and this was followed by Jones (1995) developing an 'instrumental stakeholder theory' making the link between responsibilities, actions and outcomes much clearer.

Stakeholder theory was to be a watershed in a number of ways. It provided a way of identifying and focusing on the critical issues, which enabled the development of a methodology to measure corporate social performance (CSP). This paved the way for empirical studies; previously it had seemed impossible to quantify the amount of CSR carried out by companies. For example Moskowitz (1972), in the first paper attempting to assess CSP, simply selected companies on the basis that they were thought to generally receive a favourable press on social issues.

A consistent systematic procedure was developed that assessed company performance in a variety of dimensions based loosely on stakeholder groups. Some social responsibility pressure groups mutated into 'CSR ratings agencies' that specialised in this corporate social performance assessment, Kinder, Lydenberg, Domini Research & Analytics (KLD) in America in particular was at the forefront of systematising and developing these methodologies. Their data was used not only by academic researchers but also by fund managers of ethical investment funds. There followed two decades of explosive growth in socially responsible investment, where mutual funds were set up that specifically screened and selected companies based on their ethical credentials. The

Social Investment Foundation note that ethically screened portfolios in the US grew from $162 billion in 1995 to $3.1 trillion in 2010, whilst the European Social Investment Forum 2012 report noted that sustainability themed investments in Europe amounted to €4.8 trillion in 2011. Indices were set up to benchmark the performance of ethical companies, starting

with the Domini 400 Social Index in 1990 and subsequently the FTSE4Good and the Dow Jones Sustainability Indexes.

Corporate social responsibility has therefore had a significant impact on financial services and has also been closely associated with two other major changes in the economy; globalisation and sustainability.

The increased mobility of capital from the 1980's onwards enabled large corporations in the developed world to shift production facilities to low cost developing countries. This globalisation of business was conducted by transnational corporations, multinational corporations and also by the use of subcontractors and supply chains that manufactured and assembled products. These corporations had a wide choice of countries to locate in and have been accused of indulging in 'regulatory arbitrage', Jenkins (2005). Fierce competition for their investment from potential host countries meant that few constraints were imposed on their conduct and operations, with this having the parallel effect of pressurising the home governments of these companies to also adopt a light touch with regulation. At the same time the increasing importance of consumer brands and public image made corporations more vulnerable to adverse publicity. A string of scandals involving sweatshops and child labour erupted, involving amongst others, Nike, Gap and Disney, Best and Lowney (2009). Pressure groups formed and grew as a reaction to these events, with activists targeting firms with boycotts and demonstrations. These groups were listened to by a larger and larger audience and grew in confidence and power to the extent that by 1995 Greenpeace were able to dictate to a multinational like Shell over the Brent Spar incident, Zyglidopoulos (2002).

The international regulatory vacuum was partly filled by a mix of non governmental agencies, pressure groups and corporate social responsibility. The UN in 1999 launched the Global Compact, which has the objective of encouraging companies worldwide to adopt and report on the implementation of socially responsible policies. It provides a framework based on ten principles of business activity for human rights, labour standards, the environment and anti-corruption. These principles are flexible and broadly based but have also been criticised as too vague, however the compact was not set up to be regulatory but rather to provide a forum and dialog between companies, governments and NGOs. Whether corporations in the future comply with the spirit of these principles will provide a test of the effectiveness of a voluntary approach to corporate social responsibility, it can be argued that the credibility of CSR will be tested most keenly in this area.

Sustainable development is a much more nuanced approach than the earlier environmental concern that business should not pollute. The World Commission on Environment and Development defines sustainable development as development that 'meets the needs of the present without compromising the ability of future generations to meet their own need'. Sustainability accepts that economic activities are desirable but that they should not compromise the quality of life of future generations or countries in the developing world. Inter-generational justice is important and can be assessed though the scientific concept of global 'carrying capacity'.

Corporate social responsibility has therefore had a profound influence on both globalisation and sustainability but it is also the case that CSR is evolving and developing as a result of these changes in the business environment. Sustainability for example is reshaping and refining the perception and assessment of the environmental performance of corporations.

1.3 Theories of Corporate Social Responsibility

Although corporate social responsibility flowered in the latter part of the twentieth century its philosophical roots go much deeper.

Virtue ethics is concerned with a person's character, the extent to which they hold to rightness, goodness and moral values. Plato in The Republic (2000), Aristotle in Nicomachean Ethics (2000) and Confucius in The Analects (2000) all advocated virtue ethics, with the assessment of virtue ultimately depending on the specific context of certain actions. In contrast the concepts of teleology and deontology are more tractable, the former judges whether an action is right based on whether it produces a desired outcome, the latter holding that one should adhere to moral obligations whatever the consequences.

A teleological view with its focus on outcomes is consequentialist and in turn underpins the utilitarian theories of Jeremy Bentham and John Stuart Mill, the aim of this philosophical line of thought was defined by Bentham (1815) as maximising the utility or happiness of the greatest possible number of people. In contrast to virtue ethics actions are neither good nor bad in themselves but only in terms of the consequences they bring about, a good act could therefore be defined as one that maximises utility, with this applying to companies as well as other actors. Corporate social responsibility under this utilitarian perspective is concerned

with the size of the contribution made to overall utility which comes from both economic and social welfare.

Utilitarianism however can be the enemy of liberalism if individual rights are subverted by the majority, this on occasion having been used to justify oppression by totalitarian regimes. Under this philosophy dangerous working conditions and subsistence wages can be socially responsible if they lead to greater utility in aggregate. John Rawls (1971) in particular rejects this conclusion, 'justice denies that the loss of freedom for some is made right by a greater good shared by others'.

The second strand of philosophy behind the modern concept of corporate social responsibility is derived from the idea of a social contract, developed by John Locke and Jean-Jacques Rousseau, where society is founded on and cannot function without implicit contracts between participants. Natural law is the expression of this social compact and from this springs individual rights including the rights to life, freedom and property, making these rights inalienable entitlements that must be respected and upheld.

These two perspectives give rise to the current plethora of theories and viewpoints on corporate social responsibility. These can be said to be concerned either with society, the relations between society and business or business on its own, Secchi (2007) for example categorises theories of CSR into utilitarian, relational and managerial headings. This scheme is followed below, where each of these perspectives is outlined and discussed to provide an insight into the way corporate social responsibility is currently understood. Necessarily only the major themes and theories are discussed.

1.3.1 Utilitarian theories

Weintraub (2007) suggests that neo-classical economics rests on four principal propositions; individuals maximise their utility, firms maximise profits, people have rational preferences and act independently on the basis of full information.

Agency theory casts company owners in the role of the 'principal' and company managers in the role of the 'agent', Ross (1973), Jensen and Meckling (1976). The latter has fiduciary duties towards the former, in particular to maximise shareholder wealth.

Shareholder value theory weds these two approaches; the objective of shareholders is to maximise their wealth, managers as agents of shareholders are obligated to pursue this objective, therefore any social customs and norms are subsidiary to this purpose and are only valid if they contribute to economic value, Garriga and Mele (2004) note that Milton Friedman (1970) has been the foremost proponent of this view.

Critics of Friedman frequently misconstrue his arguments as suggesting that he rules out all socially responsible activities; however he gives the example of a firm that provides amenities for the community as one way to attract desirable employees. It is expected that governments set the law to maximise social welfare and it is they and not corporations that are best placed to judge the amount of social responsibility that should be carried out.

Although Friedman was a free market apostle, in some ways by taking such an uncompromising position he (inadvertently) highlighted the inconsistency and fallibility of the neo classical approach. One reading of his New York Times article is that it was a rebuke to firms for not operating in accordance with his preferred theory of how firms operate, Etzioni (1988)!

Shareholder value theory however has a narrow focus, concerned with economic output, social responsibility here is simply a tool that can sometimes be used to attain this goal. Carroll (1979) introduced the concept of corporate social performance, the recognition that corporations produce not only goods and services but can also produce valuable social outcomes. Corporate social performance is defined by Turban and Greening (1996:658) as 'a construct that emphasises a company's responsibilities to multiple stakeholders, such as employees and the community at large, in addition to its traditional responsibilities to economic shareholders'.

Wood (1991) provides one of the leading articles here; a three part 'integrative framework' is built starting with the two key responsibilities of business being socio-economic and socio-human, from this processes of corporate responsiveness arise which then result in outcomes of corporate behaviour. The importance and relevance of measuring, assessing and reporting social responsibility is evident, with Elkington (1998) introducing the concept of a 'triple

bottom line' made up of 'social, economic and environmental' factors also called 'people, planet and profits'. This expresses the idea that company activities span a much wider spectrum of activities and that these need to be measured, accounted and reported on when assessing the success of an organisation; everything a corporation does has an impact, either favourable e.g. producing goods or negative, e.g. polluting the environment.

1.3.2 Relational theories

Relational theories focus on the interaction between corporations and the environment in which they operate. It is assumed that there should be a balance between the power businesses wields and its responsibility to society, if corporations are taking too much from society then society can be expected to react and restore a more equitable situation. Donaldson and Dunfee (1999) developed the concept of a macro social contract, where companies sometimes describe their involvement in social responsibility as being due to societal expectations and obligations.

Business greatly benefits from society, drawing on and using educated staff, natural resources and the physical infrastructure, moreover companies could not operate without the rule of law and in particular property rights. Social responsibility can be viewed as a return on and acknowledgement of this reciprocal arrangement between corporations and society. Using a relational perspective, ethical behaviour consists of abiding by the unwritten rules and conditions of the social contract, with moral norms being the pattern of behaviours that are congruent with that contract.

Davis (1973) notes that 'society grants legitimacy and power to business. In the long run, those who do not use power in a manner which society considers responsible will tend to lose it', with Suchman (1995) defining legitimacy as 'a generalised perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions.' Some authors, e.g. Guthrie and Parker (1989) and Gunningham et al. (2004) have described an implicit 'licence to operate'; industrial companies comply with the perceived expectations of regulators, the local community and the public particularly in respect of their impact on the environment. An Australian study CCPA (2000) notes that natural resource companies regarded corporate social responsibility as a form of revocable licence that sanctions and permits them to carry out their mining activities.

The pre-eminent relational theory can be said to be stakeholder theory, where Freeman (1984) defined the term stakeholder as any group or individual who can affect or is affected by the achievement of the organization's objectives. This is extended by Mitchell et al. (1997) who produce a typology of stakeholders based on their relative power, legitimacy and urgency, with the combination of these attributes determining the importance or salience of competing stakeholder claims.

The strength of stakeholder theory is that although it starts from a normative view of what corporations should do, it naturally leads to an instrumental view of what corporations can do. In particular a firm can reduce its contracting costs, frictions and regulatory burdens as well as turning stakeholder connections into unique resources that confer competitive advantage.

Awareness of the importance of stakeholders naturally leads to a strategic approach by management that has practical benefits. The goal is to achieve cooperation between important groups recognising that these groups can and do decide the success of the company, the most pragmatic solution is to explicitly bring them into managerial decision making to achieve a synergistic solution. A stakeholder dialogue can be opened up that has the two way benefit of gaining an understanding of the business environment as well as explaining and justifying company activities to outsiders. Waddock and Graves (1997), claim that the quality of a firm's stakeholder relations is the very definition of corporate social performance.

Stakeholder theory to some extent represents a more up to date theory of the firm, Kristoffersen et al. (2005). Zingales (2000) characterises a 'traditional firm', as being asset intensive, highly vertically integrated and exerting a tight control over its employees by using a hierarchical system of authority. He notes three major changes in the economy that are leading to the development of the 'new firm'; firstly physical assets are less important mainly due to the increased ease of financing, secondly competition has highlighted the need for innovation and quality which in turn increases the importance of human capital and thirdly firms' control of employees has weakened due to alternative employment opportunities.

For a 'new firm' human capital, knowledge and the goodwill that arises from its reputation and connections becomes much more important. Wealth creation is a more complex process that depends at least in part on the quality of stakeholder relations. This implies that the locus of control has followed an arc from shareholders to management and now to key employees and other stakeholders.

Stakeholder theory is central to a discussion and understanding of corporate social responsibility studies; however there are arguably substantial difficulties with this theory. It runs counter to the current law and corporate governance framework; shareholders own companies and management have a fiduciary duty to run them profitably on their behalf. Conflicting interests are not adequately addressed, Marcoux (2003); employees crave high wages, customers want low prices and shareholders expect high profits. Stakeholder theory does not resolve these disagreements but in a way exacerbates them through raised expectations. It tends to be vague and unspecific, for example pollution and dangerous working conditions need to be dealt with but there is no explanation is given of how they are to be tackled. Orts and Strudler (2009) argue that stakeholder theory is not a consistent or cogent approach to business ethics and should be confined to an analysis of strategic decision making where it does have a useful role to play.

The concept of corporate citizenship is a more recent relational perspective; it speaks to the rights and duties of business to society as a whole. The main themes are responsibility to the local community and perhaps the world community, consideration of the environment, along with the importance of forging partnerships and consensus with other groups. Globalisation has created a demand from firms for guidelines on how to operate in different geographical areas with multiple stakeholders. Business has to abide by global norms (called hyper norms) as well as respect local culture and deviations from these hyper norms. This idea of corporate citizenship grew out of work by practitioners, e.g. Altman and Vidaver–Cohen (2000) and Windsor (2001) and is not yet fully developed, however it has a lot of potential to express the underlying essence of CSR that many people feel but find difficult to describe in a tidy way. Corporations have both rights and duties and operate as part of a wider community, a mix of law and social norms police these relationships, corporations can expect to receive appreciation if they exceed their responsibilities and sanction if they fall short.

1.3.3 Managerial theories

For managerial theories, the corporation is the starting point and the perspective from which other activities are viewed. The approach is overtly instrumental, social responsibility is a managerial decision in a similar way to running a marketing campaign or deciding to develop a particular competency or technology. This is frequently structured as making a ‘business case’ for social responsibility, once social responsibility has been framed in the same way as

any other business process it can and should then be assessed using the same methods applied to these other business decisions. Social responsibility may enhance the public image of the firm, motivate staff and save resources. This can contribute to achieving economic goals, principally the overriding objective of wealth maximisation.

The pyramid of corporate social responsibility developed by Carroll (1991) may at first sight appear to be simply a description of corporate social responsibility, however it does provide management with an insight into how CSR can be operationalised and deployed. Corporate social responsibility is broken into four components; economic, legal, ethical and philanthropic. These elements are arranged in the form of a pyramid to suggest their importance as well as the inter- relationships between them. The foundation of CSR is economic, commerce rightly has a primary duty to produce goods and services and without this the other elements of CSR are in doubt. This economic activity is sanctioned by governments providing that firms abide by the law and sanctioned by society providing that firms comply with ethics and norms; these are the second and third levels of CSR. Finally companies can engage in philanthropy which is regarded as optional and additional to the activities stemming from the other three levels. In short the socially responsible firm should strive to make a profit, obey the law, be ethical and make a positive contribution to society.

This may appear to be similar to Friedman's assertion that management should 'make as much money as possible whilst conforming to the basic rules of society, both those embodied in law and those embodied in ethical custom' with the exception that philanthropy is a private activity for Friedman. However Archie Carroll's pyramid does provide the insight that management in a modern world has a series of conflicting objective to reconcile, the mantra that management's role is simply to maximise profits is not a practical guide to running a modern corporation. The elements of the pyramid can be viewed by management from a satisficing perspective, they are considerations that have to be met in order to continue to operate smoothly but do not necessarily have to be exceeded. The pyramid therefore provides management with a valuable tool to categorise, understand and prioritise management strategy and its response to corporate social responsibility.

The majority of the academic literature and attention falls within the managerial category. Usually these papers share an instrumental approach looking at the effect on corporations of engaging with social responsibility, their motivation and hope is that congruence not conflict

is found, with social responsibility being synergistic, good for business as well as good for society.

The studies in this thesis also fall within this area of research; therefore given its importance the whole of the following section is devoted to 'the business case for CSR'.

1.4 The business case for Corporate Social Responsibility

The business case for social responsibility has been colloquially called 'doing well by doing good'; can a firm enhance its financial performance at the same time as increasing social welfare or perhaps enhance financial performance *because* it is increasing social welfare. The attraction of this is obvious; shareholders and other stakeholders have common cause, the existing regulatory furniture can be left where it is because if there is a positive financial return to companies the market mechanism will incentivise firms to engage with CSR and there is no need to attempt to measure the value of social responsibility as a trade off for more or less financial return. If the business case can be established, in a Pareto sense corporate social responsibility can be shown unequivocally to be the best policy.

The literature in this area has grown to the extent that Margolis et al. (2007) note thirteen surveys of literature in this area starting with Aldag and Bartol (1978) and three formal meta-analyses; Orlitsky et al. (2003), Allouche and Laroche (2005) and Wu (2006). The authors followed this paper with perhaps the largest meta study to date, Margolis et al. (2009). A total of 213 papers were examined that had empirically examined the corporate social responsibility / corporate financial performance (CSR-CFP) relationship. Overall the link was found to be weak, showing a positive correlation of only 0.13, only in the situation where social misdeeds are revealed was the connection substantially more robust with this form of social irresponsibility leading to a sharp short term financial penalty.

In many empirical papers the business case has been simply based on whether there is a positive association between social responsibility performance and financial performance, with this outcome being taken as enough to establish a link and perhaps causation. A stronger connection could be established if it can be shown that CSR improves competitiveness leading to improved financial performance. Porter and Kramer (2006) suggest that the best

way to assess if the relationship between corporate success and social welfare has escaped a zero sum game is to examine the possible competitive advantage of corporate social responsibility. This approach benefits from being able to draw on well established competition and managerial theory to assess this possibility and is followed in the next section. Competition theory is firstly outlined, this is then used as a framework to assess the interaction of social responsibility and financial performance, finally the business case for social responsibility is discussed.

1.4.1 Competition theory and corporate social responsibility

Saloner et al. (2001) state that 'most forms of competitive advantage mean either that a firm can produce some service or product that its customers value than those produced by competitors or that it can produce its service or product at a lower cost than its competitors'. Kay (1993) argues that this is usually generated by four factors; strategic assets, reputation, capacity to innovate and key internal and external relationships. One can readily see that all of these factors are relevant to corporate social responsibility.

Porter (1980) outlines three main competitive strategies. Firstly a cost strategy of competing on price by reducing cost, secondly differentiation which involves developing distinct product characteristics so that price is no longer the sole consideration for customers, finally a firm may use a focus strategy where it identifies its natural advantages e.g. geographic or historic and then concentrates on these areas, the markets in which it has no discernible advantage are abandoned. Mintzberg (1983) finds this too prescriptive, it is nearly impossible to forecast future events, therefore planning and allocating resources for these eventualities is futile. A more pragmatic approach is to set an overall long term direction and ethos for the firm which allows for innovation and change. Capacities, competencies and resources should then be available to confront competitive challenges as they arise.

All of these ideas are framed by an earlier paradigm; the resource based view of the firm. This was pioneered by Penrose (1959) and refined by Wernerfelt (1984) and Dierickx and Cool (1989), here firms are composed of heterogeneous bundles of resources and capabilities. The degree to which these assets are inimitable, substitutable and rare measures the degree of advantage a company enjoys over its peers. The mobility of these resources indicates the durability of any competitive advantage, if competitors are able to easily acquire these assets,

abnormal profits will be quickly eroded away. Bowman and Ambrosini (2003) assert that competitive resources are difficult to acquire in three situations; path dependency i.e. they are the result of a long process that cannot be shortened, ambiguous, where it is not clear how these resources developed making them difficult to create and thirdly socially complex, deriving from a culture, institution or tradition that if not unique is certainly hard to reproduce.

Tangible assets whether physical or financial are the easiest to acquire, intangible assets in contrast generally have no market where they can be bought and are generated by the organisation, either deliberately or accidentally. The creation of these intangibles can take a long time and is likely to be a social process that is causally ambiguous, Barney (1991). A resource based perspective explicitly recognises the importance of intangible assets such as corporate culture and reputation, Russo and Fouts (1997). Company reputation for example takes some time to develop and is socially complex, creating a barrier against competitors in the short run.

Management's task can be seen as assembling a bundle of resources and developing the capability to utilise these assets to accomplish their objectives, resources are passive and need to be actively engaged, directed and deployed. Different firms have different capabilities and attributes, some of which are difficult or even impossible to acquire or imitate, this is the principal reason for different financial outcomes.

Hart (1995) and Sharma and Vredenberg (1998) were the first to propose that corporate social responsibility is an intangible resource, an asset as well as the capability to use other assets more effectively, which is manifested in both internal and external effects. Internally CSR can lead to greater resource efficiency, Majumdar and Marcus (2001). External effects come from an informational signal, Frombrun and Shanley (1990), leading to enhanced reputation and image.

This is a convenient way to group the potential advantages of corporate social responsibility; firstly enhanced strategy and capabilities, secondly cost savings from better use of internal resources and thirdly improvements in the external image and reputation of the company. These potential effects are important; the business case for social responsibility is built on these three areas, therefore a separate section below is devoted to each heading.

1.4.2 The impact of CSR on strategy and management capabilities

Strategic planning starts with an understanding of the environment that a corporation operates within, therefore the ability to recognise and harness the interdependence between business and society is an essential management capability. Firms that undertake social responsibility activities necessarily have to engage with and develop relationships with a variety of other groups. This encourages and enhances management's skill in dealing with these issues and coordinating responses.

Using this perspective strategy should focus on building competitive advantage through orientating and directing resources towards stakeholder needs, which are viewed less as a constraint on the organisation and more as an opportunity that can be leveraged to benefit the firm.

It is argued that this approach can promote goodwill between stakeholders and organisations thereby reducing friction and costs, Dyer and Singh (1998) and Donaldson and Dunfree (1998). This is particularly important when dealing with the government and can mitigate legal action, regulatory interference and sanction, Hillman and Keim (2001). Corporate social responsibility leads to lower fines and legal costs, Shane and Spicer (1983) and Freedman and Stagliano (1991). A stakeholder perspective ensures that management has a greater awareness of potential risk and adverse publicity, McGuire et al. (1988) and Gibson (2000), with Orlitzky and Benjamin (2001) finding CSR to be negatively correlated with financial risk.

Corporate social responsibility is associated with management quality and innovation, Bowman and Haire (1975) and Alexander and Buchholz (1978). A progressive, forward thinking management looks beyond routine operational issues, engages in innovation and is interested in social responsibility. For example, Porter and Van der Linde (1995) suggest that a poor environmental performance indicates a lack of innovation and the use of out of date technology, equipment and procedures.

Porter and Kramer (2006) outline why CSR can be regarded as an additional capability that has an independent direct financial benefit. They assert that it enables a more rounded strategic approach to business and supports long term relationships, with Berger et al. (2007:143) calling CSR a 'management philosophy, an overarching approach to business'.

1.4.3 The impact of CSR on internal resources

The literature on the management of human resources leading to competitive advantage is evident, e.g. Meyer (1991) and Teece (1998). Using corporate social responsibility as a way of establishing a quality workforce has been discussed from the earliest days of research, for example Moskowitz (1972) proposed that socially responsible entities have increased opportunities to attract educated, highly skilled and quality orientated staff. More recently with technological advances and the growth of 'knowledge' industries, the importance of fostering a 'learning organisation' along with the concept of knowledge management has come to the fore. Reichheld (1996) argues that a firm which is concerned with delivering high quality to customers engenders in employees greater job satisfaction and pride in their work.

Although potential employees may not be fully aware of existing working practices, a good ethical reputation helps with recruitment because it acts as an indication of employee relations. Turban and Greening (2000) conclude that not only does CSR increase the perceived attractiveness of a firm to potential employees but that candidates actively pursue firms that are aligned with their personal values leading to an increase in an employee's commitment to a company.

Corporate social responsibility can also lead to cost reduction through more efficient use of raw materials. Porter and Van der Linde (1995) propose that stringent environmental standards will stimulate new solutions and innovations that improve the production process as well as avoiding waste. Epstein and Roy (2001) argue that implementing a sustainability policy will reduce energy and material costs, for example by reducing packaging material or planning the optimum route for delivery trucks. The process of adopting CSR principles motivates executives to reconsider their business practices and to seek more efficient ways of operating.

1.4.4 The impact of CSR on external reputation and image

Public image is 'the mental picture of a company held by its audiences', Gray and Balmer (1998:696). This image or reputation is perhaps the most direct source of competitive advantage in the 21st Century economy as well as being the most fragile. An example of this fragility is Arthur Anderson, a global professional services company with nearly a hundred

years of success and growth which imploded within twelve months of allegations of unethical behaviour involving Enron.

Vandermerve and Oliff (1990) and Russo and Fouts (1997) point out that customers are sensitive to social issues and want to be associated with a firm that has an attractive image. A number of other studies have identified that social initiatives lead to positive responses by customers; Murray and Vogel (1997), Folkes and Kamins (1999) and Becker-Olsen (2005). Whilst Sen and Bhattacharya (2001) show that when evidence of unethical conduct becomes public, firms suffer from a sharp short run drop in sales and deterioration in brand image.

Fombrun (1996) sees reputation as tied intrinsically with stakeholder management and sustainability, with a good reputation conferring an enduring advantage that competitors find difficult to mimic. Management that is stakeholder and environmentally aware can be rewarded by better financial performance, Klassen and McLaughlin (1996). Miles and Covin (2000) suggest environmental marketing as a means to promote company reputation.

Corporate reputation is important in a market characterised by incomplete information, where contracting between parties is infrequent, potentially ambiguous and where trust and cooperation is paramount. A firm can minimise the costs of contracting by developing trusting relationships with stakeholders, Wicks et al. (1999). Stakeholders are often able to detect unreliable firms that might cheat them, whilst an ethical company will enjoy better relations with customers, suppliers and other parties, Jones (1995). If a company tries to reduce its costs through reduced quality and unethical actions it may cause other stakeholders e.g. bondholders, to doubt their reliability, McGuire et al. (1988).

Overall there is a long list of studies showing that a good reputation is associated with better financial performance, including Sturdivant and Ginter (1977), Fombrun and Shanley (1990), Waddock and Graves (1997) and Verschoor (2003).

1.5 Corporate Social Responsibility in action

Most of the studies above were conducted with large data sets of financial variables which were analysed using statistical techniques. Obtaining a general conclusion that applies on average to a collection of companies is appropriate for this type of approach; however corporate social responsibility is a social process that is nuanced, complicated and

conditioned by the context in which it is found. An understanding of both the process and situation of CSR is necessary not only in order for results to be correctly interpreted but is also vital in ensuring that the research process is framed correctly in the first place.

A valuable source of this background information and context has been obtained from case studies of particular organisations which go into the detail of how social responsibility is operated in practice. These tend to be carried out by practitioners and take widely different styles. Kotler and Lee (2005) for example present twenty five case studies of corporate social responsibility in action ranging from Ben and Jerry's through to American Express, along with interviews with the senior management in these enterprises. The authors identify six main categories into which these social initiatives fall; cause promotions, cause marketing, social marketing, philanthropy, community volunteering and socially responsible business practices. From this management expect a range of possible financial payoffs; increased sales, strengthened brand position, improved corporate image, increased ability to attract and retain employees, decreased operating costs and increased appeal to investors. Interestingly these are in line with the hypothesised benefits noted in the academic literature above.

Hockerts (2007) interviewed twelve investor relations directors working in European multinationals to elicit the mental models used to explain their firm's motivation to engage with corporate social responsibility. All respondents claimed that CSR can have positive financial payoffs, but ethical considerations and individual responsibilities were hardly ever mentioned. This suggests that the 'business case' for CSR has become a dogma that is widely accepted, although it is fair to assume that investor relations departments would tend to emphasise shareholder benefits. An increase in competitiveness was mentioned by all respondents although they agree it is difficult to establish a clear direct link between CSR and financial performance. Interestingly this financial benefit was conceptualised in quite different ways by managers, with four different categories emerging; risk, efficiency, branding and new markets. The author concludes that although CSR is widely expected to have positive financial effects the form this takes is differentiated and highly dependent on the context in which it is found.

Morimoto et al. (2005), uses a grounded approach, defined as the discovery of theory from data systematically obtained from social research. Ten interviews are conducted drawn from government, the private sector, academia and non- governmental organisations each of which are likely to have a particular perspective on social responsibility issues. They conclude that

there are six main factors in achieving successful CSR; good stakeholder management, good corporate leadership, greater priority for CSR at board level, the integration of CSR into corporate policy, regulation at national and international level and coordination between government, business, NGOs and civil society.

Blowfield and Murray (2008), depict the adoption of corporate social responsibility as an organisational change, management examines the purpose of the new policy, the process of how it can be achieved and the people who are needed to achieve it. Management objectives are sometimes simply framed in terms of boosting the bottom line, from this the areas that are likely to be the most fruitful are identified, be it staff productivity, cost savings or public image. Alternatively a social approach would be to assess company strengths and aptitudes to identify which projects to champion, e.g. the environment, support for the arts or education. Kramer and Kania (2006) distinguish between defensive and offensive CSR. Reducing risks, maintaining reputations and staying within the law are defensive ploys and are particularly vital for firms in the public eye, alternatively BP is cited as an example of offensive CSR, who created the phrase 'beyond petroleum' to confront the reality of global warming and its involvement and response to it. This accepts and acknowledges that extracting and burning fossil fuels is bad for the environment but shows BP to also be proactive in hunting for alternative energy sources.

Examination of the effect of leadership and management attitudes on corporate social performance appears to be a relatively neglected area of research. Manner (2010) used a sample of 650 public companies in the USA and found that the personal characteristics of the CEO of these companies had an impact on their social performance. The strengths category of KLD's ratings were positively related to the CEO having a humanities degree, having a wide ranging career and being female, whilst possessing a degree in economics and having higher than average short term compensation was negatively related to this rating. It can be expected that CSR activities are usually initiated by senior management but also that implementation is carried out by the rest of the staff. Collier and Esteban (2007) note two factors affecting employees' commitment to CSR; firstly the organisation's culture and secondly the extent to which staff align their personal identity and image with that of the organisation. McShane and Cunningham (2011) take this further by investigating how employees evaluate whether corporate social responsibility programmes are authentic (sincere) or inauthentic using a series of interviews with 24 staff chosen separately from large companies with established programmes of social responsibility. It was found that

'perceptions of authenticity play an important role in determining whether a CSR program is well-received by employees'. The establishment of authenticity depended on the extent to which the actual responsibility activities carried out were congruent with the firm's identity as well as the extent to which the company were proactive in responding to changes in expectations of corporate social responsibility.

Looking at the experience of corporate social responsibility in different countries can provide a fresh perspective on the different ways CSR is conceived and implemented in different situations and cultures, helping to highlight the underlying dynamics of the process. Mallin (2009), presents case studies grouped into three geographical areas, Europe, central and eastern Europe and Asia, noting that corporate social responsibility has evolved in different ways around the globe in response to variations in culture, law, governance and ownership structures. The studies are conducted in quite different ways so it is difficult to obtain generalisations however it is apparent that social responsibility is a well known concept internationally, that it is respected and aspired to even if it is sometimes poorly executed and it is not a passing fad but something that is expected to become an integral feature of these economies as they mature.

1.6 The case against Corporate Social Responsibility

An examination of the case against corporate social responsibility is useful and important for a number of reasons; it provides a counterbalance and alternative view that can be used to evaluate the worth and validity of the CSR concept, highlighting areas that need investigation and improvement. A critique can also provide light and shade, in other words provide more contrast, texture and depth to a study.

A superficial examination of corporate social responsibility reveals that there is little consensus or agreement on even the most basic or fundamental parts of this field, to the extent that five different definitions had to be provided at the beginning of this chapter as a start in describing what this concept means. This may be because the field is a relatively new part of the business landscape that has perhaps temporarily outstripped its roots; a victim of its own growth and popularity. Arguably however the lack of an agreed definition is a symptom of weak or contradictory philosophical and theoretical foundations.

As noted earlier in this chapter the majority of research into and practice of corporate social responsibility is described and framed through the perspective of 'the business case' for corporate social responsibility. This is conceived and implemented in an overtly teleological way, in other words decisions and actions are guided, measured and judged on the basis of outcomes. There are however clear difficulties with this 'ends justifies the means' perspective; essentially this is amoral in nature because consequences are often a result of situations and factors outside the control of individuals and therefore outside the moral compass of individuals. It is difficult or impossible to be sure of and assess the long term effects of actions carried out. More importantly this has little to do with responsibilities, duties or fairness and what would normally be assumed to be the obvious source of guidance for responsible activities by either individuals or corporations.

Alternatively deontology, the branch of moral philosophy dealing with duties and responsibilities covers both the responsibility to respect the rights of others and the obligation to act in a just way that is fair and equitable. Rae and Wong (1996) note that this extends not just to individual relationships but also to business dealings and the relationships between a corporation's stakeholders. This could therefore be expected to be the foundation and source of authority on which corporate social responsibility is based.

Immanuel Kant and David Hume advocate both the primacy of human responsibilities as well as suggesting that they can be discovered by reasoning, Kant (2000), Hume (2000). Responsibilities are identified as either categorical responsibilities or prima facie responsibilities with the former never to be violated but with the latter needing to be examined and ranked according to the situation. The existence of conflicts of interest however is a considerable practical obstacle in using this as guidance for corporate social responsibility. For example animal rights activists may want to ban all animal testing of cosmetics, whilst consumer groups may champion their right to have this testing carried out. We may agree that business has responsibilities but they are potentially unlimited, and more importantly it is not clear how to rank these responsibilities, Ross (2000).

Responsibilities however only exist because of correlative rights, therefore if these rights can be ranked and reconciled then it may be possible to resolve the dilemma of which responsibilities have precedence. Baird (1996) notes that the assertion of a 'right' by an individual that at the same time precludes another from exercising the same 'right' nullifies that right such that it should not be regarded as existing. A simple illustration would be where

an individual's claim to an item of property or even subsistence leads to depriving another individual of the same item. From this it appears that purely altruistic corporate social responsibility, for example giving charitable donations is not on a narrow definition responsible because the right to receive that donation comes at the expense of the company owner, causing the original 'right' to cease to exist and hence generate a valid responsibility.

Hospers (1996) argues that it may be possible to prioritise rights depending on whether they are either positive or negative rights. Negative rights concern those aspects of life that are naturally occurring; the right to liberty, freedom of choice, freedom of speech and the right to give or withhold consent. Breaching, infringing or curtailing these rights through an act of commission by an individual or organisation could be viewed as more heinous than failing to respond to a positive right by way of an act of omission. Positive rights are sometimes described as welfare rights for example providing material goods. This perspective suggests that it is more irresponsible to build a factory and pollute the local environment than to decide not to build a factory and therefore deprive people of a livelihood.

This however is of limited use, most corporate activities are in the material realm and so are concerned with positive and welfare rights, in addition they may also be the type of 'right' described earlier that is not genuine because it necessarily deprives another of that right. It seems that as with responsibilities there is little agreement on how to prioritise rights, Lippke (1996).

The ethic of care may however be more tractable and useful in providing guidance, because it overtly distinguishes between important and less important relationships, duties and responsibilities. Identity is described by the nexus of relationships and the place of the individual within that network, Velasquez (1998). Using this perspective there is a requirement to exercise special care towards those groups and individuals towards which we have close connections, especially where a degree of dependency exists. This ethic is extended to companies by Etzioni (1993) and Rivoli (1996) who view corporations as part and parcel of the communities and social networks that created them. It is not difficult to describe business in this way with different activities involving, developing and using different relationships. From this it appears that the strongest corporate obligations are towards those who are dependent, have the closest connection and the longest relationship with that organisation. Brenkert (1996) applies this to corporate social responsibility, noting that long term employees and in some cases customers and suppliers are owed a particular

duty of care. Interestingly this may indicate that managers have a lesser duty towards shareholders because this relationship is fragmented and in most cases not close or long term.

Unfortunately it appears from the above that deontology does not provide clear guidance on how corporations should act responsibly. Whilst a teleological approach has little connection with responsibilities or duties, this perhaps just leaves 'strategic' corporate social responsibility. Corporations here follow a strategic course of action that is alive to community and other stakeholder concerns but their own financial interests remain paramount. This could be regarded as a type of sophisticated management that recognises the complications of the modern business environment and in particular the importance of public image. An alternatively view is that this is simply too far removed from the idea of 'responsibility' and should not be described as part of corporate social responsibility. Attaching the CSR label to this is a cynical use of the concept of responsibility as a form of public relations and in the extreme is a cover for corporate manipulation, the example of Enron springs to mind. Fougere and Solitander (2009) claim that companies exaggerate their achievements in a form of public relations spin, with environmental activities in particular being susceptible to a 'green wash',

The argument above that business uses CSR as a fig leaf to cover up their real motivation which is purely profit maximisation is usually associated with the political left but interestingly most of the criticism of corporate social responsibility in the past has been from free marketers using shareholder value theory, in particular Friedman (1970) and Hayek (1969). Corporations it is argued produce goods with this output being achieved in the most efficient way through the unfettered free market system. Any defects of this mechanism including externalities, public goods and harmful short term individual personal preferences can in large part be dealt with by law and regulation, therefore it is argued companies should be left to focus on profit. Corporate social responsibility distracts companies from reducing costs and adding value with this resulting in lower economic efficiency, Klassen and Whybark (1999).

Halfon (1998) argues that corporate social responsibility has been hijacked by those that think that profits do not contribute to the public good but rather that it is a measure of the amount corporations have extracted from society. Examples of corporate irresponsibility, malfeasance and wrong doing (which are plentiful) are not arguments for corporate

responsibility per se but demonstrate incompetence and lack of rigour in corporate governance, regulation and corporate law.

Smith et al. (1976) however outline four reasons why this may not be correct. Firstly the economic efficiency argument may be true for individual enterprises but it is not necessarily true for the corporate sector or the economy as a whole, secondly corporations focus on short term and not long term profits, thirdly corporations actually place survival rather than profits as their principal goal and finally companies are usually unaware of the social costs arising from their activities and do not in any case account for them. Therefore profit maximisation does not automatically lead to an efficient allocation of resources.

The Economist magazine in its 20.02.2005 issue contained a number of articles questioning the widespread acceptance of corporate social responsibility, suggesting that this is not necessarily due to the achievement of any tangible success either economic or social but may just be an expression of an agency problem where corporate social responsibility is popular with company management. Managers should be ethical but the magazine questioned if they had the legal or moral authority to put their own interests before their fiduciary duty to shareholders. They note that most CSR programmes are initiated by management rather than shareholders and suggest this is because managers enjoy being associated with these activities and are happy for shareholders to pay for this. In addition management was portrayed as generally weak and pliable in the face of the (considerable) pressure that special interest groups sometimes exert.

Friedman (1970) also questions whether companies generally know what their social responsibilities are and how they should go about performing them; this has been called the competency question. Freeman and Liedtka (1991), note that company employees are trained in business practices and processes, whilst their responses to social and community issues are sometimes rudimentary and simplistic. Society has numerous problems; if these were easily remedied profit seeking enterprises would have been set up long ago to provide these services, Karnani (2010).

However this is perhaps to overstate the scope of CSR activities, in general companies are not expected to launch into new social initiatives, corporate social responsibility is usually construed as conducting existing business in a way that is socially acceptable. Companies could be expected to be aware of and knowledgeable about their existing business activities and by extension the social impact of them.

Davis and Blomstein (1975) argue that if corporations do take on social projects this may lead to an excessive concentration of power in their hands, giving big business discretionary power and influence to mould society to their ends. The political process in contrast gives governments the authority to act as well as providing a brake on their power. Corporations however do not have the legitimacy to appoint themselves to take on these types of societal roles, 'government's job is not business, and business's job is not government', Levitt (1979:139).

Companies have an incentive to embrace corporate social responsibility not for ethical reasons but because it represents a weak form of self regulation and therefore heads off the possibility of genuinely tough rules which would ensure that corporations did serve the community, Lipschutz and Rowe (2005). Politicians of all complexions have been seduced by the mirage of socially concerned enterprises which can be trusted to help society rather than help themselves, Henderson (2009).

It is true that there has been some recognition and encouragement of corporate social responsibility by government in recent years. At the turn of the millennium the labour administration in the UK created a minister for corporate social responsibility (although the subsequent coalition government have not since appointed anyone to the post) to promote the CSR agenda. Further official recognition of corporate social responsibility came in the Companies Act 2006 which replaced and codified previous common and legislative law. One of the most controversial aspects was an extension to the duties of directors with section 172 requiring directors 'to promote the success of the company'. Directors must continue to act in the interests of shareholders but they must also have regard to the interests of employees, the impact on communities and the environment as well as the need to maintain high standards of business conduct. These are framed as subsidiary to the primary responsibility to shareholders, but this still leaves open the possibility of a conflict between these duties. It will be interesting to see how this is resolved if and when it is tested in the courts.

In conclusion it appears that the importance of corporate social responsibility is agreed but that little else is settled; there is no consensus on philosophical questions regarding the role and responsibilities of business in society, there is disagreement on the definition and scope of social responsibility as well as questions regarding the competency and legitimacy of corporations to be involved in the social arena. These issues are returned to in the final

chapter which draws general conclusions on the thesis as well as suggesting avenues of future research.

CHAPTER 2

WHAT ARE THE DETERMINANTS OF CORPORATE SOCIAL RESPONSIBILITY?

Abstract

The purpose of this chapter is to establish the determinants of corporate social responsibility in the UK. Extant literature suggests that corporate social responsibility is driven by financial performance, industry characteristics, company size as well as social pressure from society, managers and staff, the results here broadly agree with these suggestions. In particular a positive but weak link between social responsibility and profitability was noted, whilst larger firms, those with more debt gearing as well as companies in the extractive industries were found to be associated with a greater degree of engagement with social responsibility. A new methodology was also deployed, system general method of moments to deal with the role of unobserved firm specific factors in influencing social responsibility.

2.1 Introduction

Why are some companies enthusiastically involved in corporate social responsibility whilst other firms have no interest, what is motivating companies to engage in social responsibility programmes? This is an important question given the millions of pounds spent and thousands of people involved in these activities.

Examination of the antecedents, causes and determinants of corporate social responsibility has been surprisingly neglected. The reason for this is unclear, perhaps it has been assumed that companies are wealth maximisers and so the only important motivators are risk and

return. Therefore if a positive link between CSR and financial performance is established the determinants are also found, QED.

Research has focused on the effects of social responsibility rather than the causes of undertaking such a programme in the first place. For example Margolis and Walsh (2003) conducted a survey paper and noted that only 22 out of 127 studies examined were concerned with the determinants of CSR, the authors urge that this area should receive more attention by scholars. It is also worth observing that many of these papers are from some time ago and are fairly rudimentary in their approach.

The existing literature on the determinants of corporate social responsibility is outlined in the next section. This is then used as a starting point to develop hypotheses regarding the reasons why companies engage on socially responsible activities, which is then followed by an empirical study of UK firms.

2.2 Literature review

Early work on the economic determinants of CSR by Ullmann (1985), McGuire et al. (1988) and Roberts (1992) produced the 'slack resources' theory. Resources are generally scarce, only when there are spare resources will a company be able to undertake social responsibility activities, therefore strong profits are a necessary precondition for social responsibility.

These papers are widely cited but there are two obvious problems; firstly they do not adequately recognise that some forms of CSR activity can increase profits and be self financing and secondly this also assumes that an agency problem exists where managers wish to pursue 'unprofitable CSR'. However weak governance or institutional factors are usually suggested as the causes of an agency problem rather than high profits, in fact it is more likely that a high profit company is more focused on pursuing profitability than a low profit firm, ceteris paribus.

An association between profits and social responsibility which has been used to support the 'slack resources' school is actually more sensibly explained using a different direction of causation where CSR leads to better profits instead of profits leading to CSR. There are a

number of good reasons why social responsibility might enhance profitability for example through a more efficient use of resources as well as the benefit of having a reputation for fairness and reliability with customers. The possibility of increasing profits is a sufficient motivator for a company to engage with corporate social responsibility by itself although some commentators have raised the possibility of circularity where both directions of causality exist at the same time, i.e. social responsibility enhances profits which then lead to more social responsibility.

Waddock and Graves (1997), suggest that social responsibility is positively related to both prior and future financial performance, albeit with a stronger link to prior performance. Profitability is a catalyst for social responsibility after this a virtuous circle comes into effect, strong profits begat responsible activities, which in turn produces better profits, the methodology they use to illustrate this is however weak. To place financial performance before social performance and therefore infer this direction of causation along the lines of Granger (1969) requires discrete events, CSR and corporate financial performance (CFP) is usually measured at annual intervals but this does not mean they occur at annual intervals. Both social and financial performance has inertia and lasts much longer than one year, with the overlap in time making it impossible to infer which came first.

Surroca et al. (2010) also support the virtuous circle hypothesis, but highlight that because the link between social responsibility and profits is mediated via unobserved factors witnessing and establishing a causal link is difficult. Intangible assets like innovation, management and employee skill, organisational culture and a firm's socially responsible reputation are developed together as part of management's strategy to create a competitive advantage and therefore higher profits. The authors note that these unobserved factors are frequently omitted from empirical models due to difficulties in measuring these qualitative attributes, however if a variable representing CSR is included in the model it may act as a proxy for the omitted attributes, leading to an overstatement of the significance and importance of social responsibility. The authors use instrumental variables to disentangle the process and conclude that there is no direct link between social responsibility and financial performance, only an association via intangible assets.

In a market economy financial incentives are likely to be the biggest determinant of company behaviour therefore financial performance has to be included as a possible determinant of

corporate social responsibility. The effect of CSR on profitability however plays out quite differently depending on the characteristics of a firm, for example if CSR leads to energy efficiency and more goodwill from customers, companies that use more energy and depend more on customer goodwill are likely to be more motivated to be socially responsible. The suppliers and customers as well as operational procedures of a company are therefore important in influencing the amount of social responsibility carried out; this can be described as an industry effect. For example Clarke and Gibson-Sweet (1999), Line et al. (2002) and Jenkins and Yakovleva (2006) note that the extractive sector including mining, oil and chemicals disclose more information regarding their environmental credentials, whilst finance and service industries disclose more information about their social and community activities. Particular industry characteristics as they relate to social responsibility are discussed in the following paragraphs.

Useem (1988) found that business to customer industries for example retailing, insurance and banking gave more in charitable donations than business to business industries. Individuals make their buying decisions for a variety of reasons including ethical considerations, whilst purchasing managers in corporations have to justify their decisions to others this creates a greater focus on cost and less consideration of social issues.

Mature industries sell products that have been available for a long time, there are few recent technical innovations, the products tend to be standardised and customers are knowledgeable about what they are buying. This produces strong price competition, in response companies amalgamate in order to secure economies of scale and try to differentiate their product as a way of segmenting the market and competing on non price attributes. Fombrun and Stanley (1990), argue that membership of a mature industry is a spur to social responsibility because it provides a way for firms to differentiate themselves from competitors.

Information asymmetry between customers and firms also depends on the type of industry. Nelson (1974) categorised goods into search, experience and credence, depending on the amount of information consumers have about the efficacy and quality of these products. For credence goods the customer does not know the value of the good even after he or she has used it e.g. some health and financial services. Siegel and Vitaliano (2007) suggest that social responsibility can provide information by acting as a proxy for quality and honesty. They find firms that sell credence goods and durable experience goods e.g. financial services and

automobiles display more CSR than firms selling search and non durable experience goods. This implies that corporate social responsibility is more beneficial in industries that rely on the trust of customers.

It has also been widely noted that larger firms tend to engage in more social responsibility; perhaps because larger firms have a wider range of stakeholders to placate, importantly this includes the government who are especially sensitive to social issues, Hackston and Milne (1996). Size leads to greater visibility and scrutiny by the public and other stakeholders, Miles (1987). There is also the possibility of economies of scale, social responsibility activities as with other activities may be less economic for smaller firms, although this has not been widely explored in the literature.

Saiia (2000) developed a multidimensional measure of public exposure, finding that firms with higher visibility made larger charitable gifts. Brammer and Millington (2006) using news stories logged on the Factiva database found a strong positive relationship between visibility and philanthropy. Campbell and Slack (2006) used a survey of 500 people to measure the levels of recognition of FTSE 100 companies and found that when controlled for size those with more recognition had significantly higher charitable donations.

Financial performance, industry and size are economic motivators to engage in corporate social responsibility, there is however a social dimension where CSR is demanded because it can contribute to reducing social problems and increasing social welfare. There is pressure from society as well managers, staff and investors for firms to conform to social norms and conventions by being seen to contribute to society. The development of stakeholder theory by Freeman (1984) provides a useful paradigm for analysing the different imperatives facing management. This was extended by Mitchell et al. (1997) who produced a typology of stakeholders based on their relative power, legitimacy and urgency, with the combination of these attributes determining the importance or salience of competing stakeholder claims. Under this perspective the amount of social responsibility carried out can be viewed as a product of the relative power of different stakeholder groups. Shareholders may wish to pursue ‘profit maximizing CSR’ but other groups have other priorities, where they dominate decision making additional ‘unprofitable CSR’ expenditure could occur. Barnea and Rubin (2006) examined the relationship between firms’ ownership structure and CSR activity. They identified three groups; directors and block holders, institutional investors and bond holders.

Social responsibility activity was found to be greater when directors and block holders have more influence and voting power than where institutional investors or bond holders (proxied by the degree of leverage) wield more influence, indicating that there may be an agency effect on social responsibility.

Bowman and Haire (1976) and Holmes (1976) noted that senior management supported and were interested in social issues. Hemingway and Maclagan (2004:38) also find that 'executives' personal values and interest in a particular social cause can be a motivating factor for CSR. It is not however established why management awareness of social issues is manifested into action in some firms and not others, perhaps the norms of particular industries provides this catalyst. Vidaver-Cohen and Altman (2003) emphasize that implied responsibility within various communities including industries can act as a strong impetus to action. Bansal and Roth (2000) find a mix of reasons to carry out CSR, looking at firms in Japan and the United Kingdom they note three main factors; competitive pressure, the desire for legitimisation and the personal preference of managers for responsible activities.

In recent years institutional theory has also been used to explain corporate social responsibility activity. This considers the context within which firms make decisions using a broad range of influences, constraints and regulations. Economic applications of this theory were developed by DiMaggio and Powell (1983) and Scott (1992); the authors suggest that both institutional pressure and competition produce company isomorphism, i.e. homogeneity of structure. They define institutional isomorphism as a 'constraining process that forces one unit in the population to resemble other units that face the same set of environmental conditions'. The legitimisation of one mode of operation creates a standard to be adhered to; there is then normative pressure to conform to this standard. This process creates procedures that are propagated by socialization on the job as well as the movement of staff within an industry and gains further legitimacy if these norms are included in training or educational programmes. Secondly, a mimetic process exists whereby uncertainty encourages imitation; many management decisions suffer from a lack of adequate information, therefore copying the industry standard can be a safe default position, 'no one got fired for buying IBM'. Thirdly, laws and regulations produce coercive isomorphism; certain requirements are mandated by government, thereby initiating common responses from firms and industries.

In a series of influential papers Campbell (2006, 2007 and 2011) applies institutional theory to corporate social responsibility. Institutional factors that are expected to increase social responsibility include the existence of industry organizations and professional bodies as well as publications and education promoting social responsibility. Secondly, the threat of government intervention if this self regulation fails and finally the existence of state enforced regulations especially when there is a broad consensus supporting these regulations. He also notes a number of economic factors that are expected to militate against social responsibility; firms with a weak financial performance, an unhealthy economic environment and where there is either too much or too little competition. If competition is extremely intense, corporations will act in socially irresponsible ways to save money and ensure survival; whilst at the other extreme firms with no competitive pressure do not need to please other stakeholder groups.

These propositions were tested empirically by Chih et al. (2010) using firms in 34 countries. There were a number of findings; firstly larger companies and those with better financial performance were more responsible, secondly self regulation in the financial services industry encourages social responsibility, thirdly countries with more cooperation in labour relations, better quality management schools and a better economic environment also experienced more CSR activity. Strikingly, countries with stronger shareholder rights engage in fewer socially responsible activities.

Maignan and Ralston (2002) found that while 53% of U.S. companies mention corporate social responsibility explicitly on their websites, only 29% of French do. This is translated into action, Brammer and Pavelin (2005) found that American community donations were more than ten times greater than those in the UK, considerably larger even after adjusting for population size. History, politics, legal and cultural systems are all noticeably different between countries so it is not surprising that a normative cultural concept such as social responsibility also differs internationally.

An interesting paper by Ioannou and Serafeim (2010), groups the determinants of CSR into three levels; firm, industry and institutions, these respectively explain 41%, 46% and 63% of the variation in social, environmental and governance social responsibility scores. Therefore institutional factors have a powerful role to play in shaping a firm's social responsibility programme. The authors further divide institutions into legal, political, labour and capital

market categories. Using an international database of 42 countries they find that legal and labour market institutions are the most important country determinants of social and environmental performance, whilst capital market institutions have less impact.

2.3 Hypotheses on the determinants of Corporate Social Responsibility

The review of prior literature above gives a wide variety of possible determinants of CSR which can be grouped into the headings; financial situation, industry, size and social pressure. Many of the expected determinants are closely related making it difficult to separate these influences, reduce interference, establish clear links as well as deal with the problem of collinearity, in addition obtaining relevant and reliable data is not always possible. The purpose of this section is to produce testable hypotheses given these constraints.

Financial situation:

The financial situation of a company is expected to have a pervasive effect on its' policies and actions. The broadest measure of profitability is arguably return on assets, in addition the availability of cash could also be relevant; a company with poor solvency may have to reduce responsible activities even if they are profitable as a short term measure to conserve funds, therefore a measure of debt gearing will also be used.

Industry related:

Firms in different industries have different public profiles, customers, business models and other characteristics which may affect the amount of CSR carried out.

Industries that are exposed to greater scrutiny could be expected to be more sensitive to social issues and therefore perhaps be motivated to engage in more CSR. The first socially responsible investment screens were mainly concerned with the so called 'sin' industries as identified by Church groups (for example the first ethical fund launched in 1984 by Friends Provident was sub- titled 'alternative investments for Quakers'), sin industries are usually identified as alcohol, tobacco, gambling, military weaponry and pornography. Therefore companies operating in these areas can be expected to receive more scrutiny. In more recent

years public and media attention has turned to focus on abuses in the supply chain where clothes or footwear were manufactured in sweatshop conditions and also extractive industries causing pollution. Finally companies in regulated industries that are regarded as having fundamental importance due to the type of product or the possibility of abuse of monopoly power e.g. utilities and telecoms, also receive more attention and scrutiny and hence may be more motivated to have a socially responsible profile.

Mature, business to customer, credence industries and those pursuing a product differentiation policy have been noted in prior literature as companies and industries whose situation or business model favours having a good social responsibility reputation. Labour intensity, in other words companies that employ a lot of people compared to their size does not appear to have been examined before but may also be relevant, employees have opinions and need to be motivated but equipment does not. Environmental policies might reduce equipment costs but overall it seems a reasonable conjecture that social responsibility is more useful in a labour intensive situation.

Dummy variables for these characteristics are therefore required in any CSR determinants model to assess if these factors motivate or are associated with more or less social responsibility. Alcohol and tobacco have their own industry sector and are therefore easy to identify, gambling and the arms industry is spread amongst the leisure, industrials and aerospace sectors and are difficult to separate out, whilst pornography is not generally carried out by listed companies, alcohol and tobacco were therefore chosen to represent the ‘sin’ characteristic. It is difficult to clearly identify which sectors are particularly vulnerable to accusations of exploiting suppliers in the developing world. This could include any company importing from abroad or who has used these imports, which would include most of the economy. It seems that analysis of this as a potential determinant of CSR is not well suited to a large scale statistical analysis but is better dealt with by individual company case studies. However mining and the oil and gas sectors are regarded as representative of extractive industries, whilst utilities and telecoms represent regulated industries. The maturity of an industry is a combination of factors including the age of their products, level of technical change and customer awareness and knowledge. Work by Armel et al. (2009), using the global fortune 500 companies, suggest that the amount of R&D carried out is a possible proxy for the maturity of a firm. They note that pharmaceuticals, computer services and healthcare had substantially more R&D than other industries and categorise these as ‘young’

industries and all others as mature industries. Credence goods are identified as those belonging to financial services and healthcare industries, following Siegel and Vitaliano (2007).

Debt gearing has been calculated as total debt divided by total assets. Labour intensity has been included and calculated as the number of staff employed divided by total assets. Whilst McWilliams and Siegal (2000) suggest that one motivation for CSR is that it is part of a firm's product differentiation policy with research and development expenditure being another facet, this possibility has therefore been included by dividing annual research and development expenditure by total assets and including this as an additional regressor.

Size related:

Larger companies have more formalised and extensive systems of control, this is both necessary to support and obtain economies of scale from responsible activities as well making these companies more visible. This visibility can create more scrutiny and pressure from the public and other stakeholders to become socially responsible, as well as producing a bigger payoff to social responsibility if a good image is established, both potentially strong reasons for engaging in corporate social responsibility. Smaller firms in contrast tend to be more closely owned, the founder of the firm, family members or large block holders are a larger element of the share register, this arguably results in a alternative focus on profitability and militates against excessive corporate social responsibility.

There are a variety of candidates to measure size including total assets, staff numbers, sales and market capitalisation. Total assets and staff numbers have already been incorporated in the variables above, this leaves market capitalisation and sales as possible candidates. These were both used separately given their possible importance.

Social pressure:

This comes from different quarters; firstly a societal expectation that business should act responsibly due to national culture and mores, secondly certain sectors and industries are perceived differently, e.g. sin industries and thirdly individuals especially those that are

influential like the CEO can affect the degree and amount of social responsibility that is conducted.

This study and the rest of the thesis is an examination of corporate social responsibility in the UK using data from companies in the UK, therefore it is not possible to assess the impact of national societal pressure because this factor will be common to all firms examined. The differential industry effects are dealt with using the various individual industry dummies noted above. The personal influences that are company specific will appear when comparing the results using ordinary least squares and the general method of moment's methodology, the latter eliminates these company influences through differencing.

The next two sections are devoted to discussing social responsibility data and then the data used in this thesis in detail.

2.4 The measurement of Corporate Social Responsibility

Measuring CSR presents substantial difficulties but is a necessary prelude to carrying out any empirical work. The veracity, character and anatomy of the data used in any study needs to be understood before research can be undertaken or interpreted. There are five principal ways of measuring corporate social responsibility:

(a) Reputational surveys

Moskowitz (1972) was the first to develop such indicators. These scores are calculated by researchers or specialized publications that make an estimate of the 'goodwill' associated with a firm's reputation made on the basis of a subjective definition of social performance. The most common survey used is the Corporate Reputational Index (CRI) calculated by Fortune magazine.

Unfortunately these indices can suffer from the 'halo' effect; the reputation of a firm is partly caused by its financial success, this makes divining the relationship between CSR and corporate financial performance difficult. In addition these surveys rely on journalists and other commentators fairly representing the views of consumers and the public.

(b) One dimensional indicators

These indicators have the benefit of being simple and easy to measure, although of course the broad reputation of a company is usually more important. One of the most common studies uses the amount of charitable donations made each year, e.g. Petrovits (2006). Other measures employed have included dialogue with the local community, orientation towards other stakeholders, respect for the environment and the degree of involvement in illegal practices.

(c) Questionnaire surveys

Questionnaires completed by company managers and directors are analyzed by researchers to appraise the level of social performance. The obvious shortcoming is that these responses are by nature internal and mainly reflect managers' own perception of this performance.

(d) Ratings agency

A multi-dimensional index calculated by a specialized agency. Each agency devises its own selection of indicators concerning different stakeholder groups; these are given a score which is then aggregated into an overall ethical rating according to an arithmetic or weighted average. Kinder, Lydenberg, and Domini (KLD) have led the way in measuring and systematizing CSR performance using these indices and are one of the most well known agencies.

(e) Content analysis

The quantity of content regarding social issues in published documents and/or the qualitative rating of this content is used to measure social performance. An obvious methodological difficulty is the assumption that disclosure is a good proxy for CSR performance.

The big difference between these methods is apparent; with this being one reason why research results are difficult to compare. Choosing which data source to use is largely dependent on the research question posed. A one dimensional indicator has the benefit of relative simplicity and can be appropriate where a single or narrower aspect of CSR is being examined. However most research has focused on overall social responsibility performance, therefore data from multidimensional rating agencies has been most frequently used.

These ratings agencies have increased in number and importance in recent years partly due to their use by researchers but mainly because they are widely used by investment managers running ethical funds as well as being listened to / feared by company management. A survey

by the Bertelsmann Foundation (2006) noted 58 agencies offering ratings of listed companies, with the majority of these assessments being multi-dimensional along the lines of the stakeholder model. Interestingly it noted that European agencies tend to emphasise sustainability issues, whilst American agencies follow a more balanced approach.

The determinants of corporate social responsibility concerns all aspects of CSR therefore data from a multi dimensional agency was chosen, in this case EIRIS in the UK, the next section describes their data.

2.5 EIRIS data

The Ethical Investment Research Information Service (EIRIS), a not for profit organization founded in 1983 is the largest social responsibility ratings agency in the UK. They are a well respected body who have pioneered, developed and improved the understanding of social responsibility in the UK and around the world. They state that their mission 'is to empower responsible investors with independent assessments of companies and advise on integrating them with investment decisions', they have over sixty professional staff in offices in London, Paris and Boston. The organization conducts research, organizes conferences and publishes a monthly newsletter containing the latest news and events in the social responsibility world. They have over 100 financial services clients, who between them manage over 60% of the UK's responsible investment funds, EIRIS (2013). They have also received a number of highly prestigious appointments reflecting their premier position in the UK. The London Stock Exchange FTSE4Good index is based on their research whilst more recently the UK government National Employment Savings Trust (NEST) have adopted their data to screen investments for social responsibility. NEST was set up in 2011 to manage new workplace pensions and in time will become the largest pension fund in the UK.

The organisation is divided into specific functions; senior management, research team, client team, market development, I.T. applications, finance and personnel. The research team are responsible for evaluating company CSR performance; this is the biggest department, comprising 37 staff in 2013. Analysts are divided into sectoral groups along the lines of buy side analysts, so as to specialise in particular industries and companies, as follows; consumer goods, financials and technology, industrials, military and nuclear power, extractives and pharmaceuticals and USA companies. They are well qualified; the great majority have a

master's degree in a field related to social responsibility, the environment or development. The website has extensive details about their qualifications, experience and contribution to the CSR field, these qualifications are summarised in table 2.1 at the end of this chapter.

EIRIS in 2002 was invited with two other leading European CSR organisations to jointly develop and implement the first Corporate Social Responsibility Research Quality Standard, CSRR-QS, partly as a response to the European Union's Green Paper 'Promoting a European framework for corporate social responsibility'. The standard outlines best practice in CSR research, promoting a rigorous and thorough methodology in which to produce evaluations. At the core of CSRR-QS is a matrix used to define the requirements for quality control in the CSR research process, which is subject to both internal and external audit to ensure these quality control procedures are adhered to.

The standard is organised and certified by the Association of Responsible Investment Services to which most of the major ratings agencies in Europe are affiliated. Since its inception the standard has been updated, with the most recent edition being ARISTA 3.0 which extends to 18 pages, the contents page of this is shown in table 2.2 at the end of this chapter.

The EIRIS research process starts with data already on public record, for example published accounts, trade journals, newspapers, and the internet. Specific questionnaires are then sent to companies to elaborate on particular areas and obtain more information. The relevant analyst conducts a discussion and dialogue with each firm to confirm and expand on their knowledge of certain areas. They look at all aspects of social responsibility, covering over eighty different topics ranging from hardwood deforestation to the sale of tobacco, although naturally most of these issues only affect specific firms or industries. CSR is an evolving concept and a few new topical questions that become of concern are introduced each year, for example in 2007 for the first time the exposure of a company to issues relating to obesity was included. Company performance is evaluated on four levels, to reflect the development of a firm's implementation of CSR; company CSR policies, the adequacy of management systems in place to deliver these policies, the reporting of CSR and CSR performance.

The assessment by the analyst is necessarily holistic, taking into account the broad mix of information available, as well as general economic, social and industry trends. Evaluations are reviewed by the senior analyst in each industry sector in order to improve quality, consistency and comparability between firms. It is not possible to assess the exact proportion

of information that comes from each source; this will presumably vary depending on the situation of each company.

EIRIS wish to improve corporate social responsibility in the UK and around the world. This is achieved in a number of ways including developing a dialogue and relationship with firms but the principal method is by making the CSR performance of corporations more transparent, so that pressure from the public and importantly investors discourages management from irresponsible activities and encourages pro social activities. It is thought that this agenda will not bias the individual company assessments, their evaluations have to be fair, well researched and supported by evidence to be credible. Poor quality or even erroneous assessments will likely be challenged by a firm's management resulting in reputational damage to EIRIS which will in turn hurt their mission.

The data is updated on a continuous basis with significant pieces of news being incorporated straight away; in addition each company is examined at least twice annually. This information is made available through a number of channels but the premier outlet is the EIRIS Portfolio Manager, a database that enables users to interrogate the data in a variety of different ways. This brings together all the firms that are covered by EIRIS in one place, analysis could consist for example of comparing all companies on one issue or alternatively assessing one firm on all issues. Companies are included in the database if they are noteworthy or have been requested by clients for assessment.

Although EIRIS cover many companies in different countries it was decided to focus on UK companies mainly because of the paucity of research on CSR in the UK but also because their coverage is much more comprehensive in the UK.

EIRIS cover most of the companies in the FTSE All Share index but not all companies, although all industries and industrial sectors are represented. Table 2.3 gives the annual numbers of UK companies examined by EIRIS as well as those that fall in the FTSE 350 index and FTSE small capitalisation indices respectively. The numbers range from 400 to 600 over this five year period, a large proportion of the index. There is a decline in the numbers of smaller firms covered in later years in particular in 2006 and 2007. Over this period EIRIS was expanding their operations internationally, it seems in an effort to cover the important companies in the major countries. In general the sample covers a smaller proportion of the FTSE Small Companies index compared to the FTSE 350 index and so by number is skewed towards larger firms. This seems to be a result of public interest and concern being focused

on those firms that are larger. It will therefore be important to control for differences in size if general conclusions on UK listed companies are to drawn. In terms of market capitalisation EIRIS cover the overwhelming proportion of UK listed companies.

Table 2.9 gives a breakdown of the EIRIS firms by industry as well as putting them into the six industry characteristics that were discussed above and that will be used in the analysis later on. All industries and sectors are covered, with the sample appearing to be broadly representative of the various industrial types in the UK, albeit with a bias towards larger companies as noted above.

The EIRIS database follows a consistent format, a question is posed and EIRIS then evaluate a firm's performance by giving a range of responses. For example one question is 'how clear is the company's commitment to community or charitable work?' EIRIS gives one of four possible responses; 'little / no evidence', 'moderate', 'clear' and 'very clear'. The evaluation is based on a bottom up approach, a response of 'little or no evidence' does not indicate that a firm is socially irresponsible, rather that it is abiding by the law but has not provided any evidence that it is going beyond this minimum. A response beyond this is incremental based on evidence that it has policies, systems and CSR performance that are better and more extensive than the regulatory minimum.

The eleven core questions that were common to all firms were used, these questions did not change during the period of study 2003 to 2007 and fit sensibly into three dimensions; environment, employee and community. Observations were collected at the end of December each year.

The specific questions are as follows; environment assessed management's policy and commitment to the environment, environmental management system and environmental reporting, employee covered health and safety, job creation and security, employee relations, training, equal opportunities and diversity, whilst community questions examined charity work, policy towards all stakeholders and the existence of a code of ethics, table 2.4 at the end of the chapter tabulates this. The responses to these questions were translated into an integer scale starting at 0 for a 'no evidence or weak' through to 3 for a 'very clear or excellent' answer. The three environment questions had five responses, these were compressed into a 0 to 3 range by having the answers score 0.75 rather than 1. A mean score for each dimension was then produced; in addition a composite or overall CSR result was calculated for each firm by summing the dimensions and dividing by three.

CSR has been described as a 'sticky' institutionalized feature of an organisation, Eccles et al. (2012), setting up a programme of social initiatives takes time and money and once started is usually continued. This is understandable given the normal inertia in human affairs as well as being more credible; a company that stopped and started initiatives perhaps lacks a commitment to CSR and would not appear to be genuinely concerned about social responsibility. Table 2.5 describes the inter-temporal correlation between the scores in one year and the year following, this starts in 2003 and records the correlation of a firm with its score in the following year, obviously if there is no observation in the following year no correlation is noted, this procedure is then repeated for 2004 through to 2006. There is a high correlation of scores between years of approximately 90%, as expected. However, the business environment does change over time, so some degree of variation is inevitable. It is reassuring that the scores given by EIRIS each year have some degree of variation indicating that they are alive to the underlying year by year changes that must be occurring. This degree of continuity does reduce the amount of variation in the values of the variables and consequently potentially the power of any regression. To some extent this is offset by regular changes in the composition of firms being assessed, with a turnover each year due to a variety of reasons, including take-over, listing, de-listing or going out of business. However a long run of data would be useful in order to increase the variation in the scores, this is also necessary if any type of causation is to be assessed, i.e. changes in CSR causing changes in other variables. Unfortunately only five years of data were made available by EIRIS from 2003 to 2007 but a longer stretch would have been more useful. This limitation is important and relevant to the conclusions in this and other chapters. It should be noted however that a longer run of data over say 20 years would have difficulties in that the types of question would change over this period as well as the form of assessment. Five years has the advantage of providing a coherent and consistent data set.

2.6 Methodology

The determinants of corporate social responsibility can be represented as follows:

$$CSR_{it} = X'_{it-1}\beta + c_i + \varepsilon_{it} \quad (2.1)$$

The vector X contains the observed explanatory variables, β is the vector of coefficients, c represents the unobserved and assumed time constant effects, and ε is a zero mean idiosyncratic error term. It is appropriate both to recognise that there is a mix of observed and unobserved determinants like firm ethos and the attitude of senior management and to explicitly model this.

Unobserved firm heterogeneity is usually dealt with by either random or fixed effects estimation. The random effects approach assumes that the unobserved effects are uncorrelated with the observed effects and can therefore be subsumed into the random error term, with the implied serial correlation being dealt with by using the feasible generalized least squares method. This assumption is not required in the fixed effects approach which instead uses the time invariance assumption to transform the data in time and then pool into one OLS regression. However both methods require strong exogeneity, i.e. no element of the covariate vector X is correlated with the error term in any time period, otherwise the estimates are inconsistent, Nickell (1981). As noted above financial performance is expected to affect CSR but it may also itself be influenced by CSR, this circularity therefore casts doubt on the appropriateness of the random or fixed effects methodology.

Financial performance could change the amount of social responsibility carried out by making resources available but it is also possible that social responsibility alters the financial success of a company and so the amount of resources available. If there is simultaneous causality financial performance becomes endogenous in a model with social responsibility. There is a dual effect on the dependent variable; the direct impact on CSR but also an element of the error term moving the value of the financial performance variable and indirectly the dependent variable. Even if there was no unobserved firm heterogeneity bias the use of OLS would still produce biased and inconsistent estimators in this situation.

One solution to endogeneity is to use instrumental variables; if these are available and chosen correctly these can consistently estimate the true coefficients. An instrument is selected that is

correlated with the endogenous variable, but not the dependent variable. This enables the part of its variation that is exogenous i.e. not correlated with the error term to be captured but excludes the variation that is endogenous. Returning to the case in hand, any instrument must be strongly correlated with financial performance but not with the error term, in other words influence social responsibility directly by making resources available for social initiatives but not itself be influenced by social responsibility due to an increase in the resources available through enhanced profitability. This creates a major practical hurdle because it is very difficult to obtain such an instrument. Social responsibility is expected to affect profitability through cost savings and better sales derived from an enhanced reputation, so an instrument would need to exclude these factors; broadly this just leaves market inefficiency. Monopoly power, regulatory restrictions, barriers to entry, patents and technology are candidates but difficult to measure satisfactorily. This is reflected in the lack of papers that use instruments, only three could be found; Amato and Amato (2007) use market concentration, market share and capital intensity as instruments, Surroca et al. (2009) use a one year lag of financial performance and Jo and Harjota (2012) use company age. This confirms the difficulty in obtaining instruments that are suitable both theoretically and empirically.

Research on corporate governance has similar and perhaps bigger problems with endogeneity: financial performance and unobserved factors may shape corporate governance but corporate governance could also be expected to affect financial outcomes. A few recent papers in this field, e.g. Boulouta (2012) and Wintoki et al. (2012) have employed the system generalized method of moments (GMM) methodology to deal with the twin problems of unobserved heterogeneity and simultaneous causation. This methodology enjoys widespread use in micro economics with a recent paper by Flannery and Hankins (2011) testing its appropriateness in corporate finance research by using Monte Carlo simulations on the typical datasets found in this arena. They found that GMM and system GMM performed as expected even with serially correlated explanatory variables, which is a particular hazard in corporate finance data. In comparison OLS and fixed effects did poorly in these estimations, with the exception where the true model residuals have second order serial correlation, here fixed effects outperformed the more advanced techniques. It appears from this that the generalized method of moments methodology may be appropriate for analyzing the determinants of corporate social responsibility. The following explanation of this methodology is derived principally from Greene (2012) pages 468 to 508 and Roodman (2006).

Moments describe the shape of a distribution and are defined as the expected value of the power of a random variable e.g. variance and kurtosis. The method of moments dates back to Pearson (1895) who estimated these values directly from samples of moments, however when there are more moment conditions than parameters over identification occurs and the system of equations cannot be solved directly. Hansen (1982) produces a solution by providing a method of estimating the moments by minimizing a quadratic form of the sample moment conditions; this is the generalized method of moments (GMM). Ordinary least squares can be described as a particular case of GMM where the number of moment conditions is equal to the dimensions of the vector of parameters and the regressors are uncorrelated with the errors. When this latter condition is not met because of endogeneity OLS is biased even asymptotically producing inconsistent estimators.

The Arellano and Bond (1991) difference general method of moments uses instruments to deal with potential endogeneity and provides a way of combining several instruments optimally. This procedure uses first differences in the regression equation to remove any unobserved effects and then instruments any endogenous explanatory variables by using lagged values of that variable.

This dynamic GMM estimator does not require strong exogeneity only weaker sequential exogeneity; here social responsibility can be determined by past and present financial performance but not future values. This does not contradict rational expectations; actors are allowed to adjust their actions to expected future events but it simply requires that they are unable to anticipate future shocks. The procedure is described algebraically as follows, with X being the vector of covariates and ε the idiosyncratic error term:

$$(X'_{is}\varepsilon_{it}) = 0 \qquad \forall\, s \prec t \tag{2.2}$$

With y representing social responsibility, x representing a vector of potentially endogenous variables and c standing for the time invariant unobserved firm heterogeneity, a dynamic process can occur if financial performance is in part affected by prior CSR:

$$X_{it} = f\,(y_{it-1}, y_{it-2}, \ldots y_1, x_{it-1}, c_i) \tag{2.3}$$

$$y_{it} = \rho y_{it-1} + X_{it}\beta + c_i + \varepsilon_{it} \qquad i = 1 \ldots N, t = 1 \ldots T \tag{2.4}$$

Taking a first difference produces a system of T-1 equations which eliminates the time invariant firm heterogeneity and allows social responsibility to be arbitrarily correlated with these fixed effects:

$$\Delta y_i = \Delta X_i \beta + \Delta \varepsilon_i \qquad i = 1 \ldots N \tag{2.5}$$

The sequential exogeneity assumption enables lagged values of the variables to be instruments, for example the first equation in the system is:

$$y_3 - y_2 = (X_3 - X_2)\beta + (\varepsilon_3 - \varepsilon_2) \tag{2.6}$$

X_1 is an instrument for this because of the weak exogeneity assumption:

$$E(\varepsilon_3, \varepsilon_2 \mid X_1) = 0 \tag{2.7}$$

The GMM estimation procedure using the vector Z of instruments is based on the moment condition:

$$E(Z_i' \Delta \varepsilon_i) = 0 \tag{2.8}$$

Asymptotically this is an efficient estimator when the following criterion is minimised:

$$[Z_t' (\Delta y_i - \Delta X_i)]' \widehat{W} [Z_i' (\Delta y_i - \Delta X_i)] \tag{2.9}$$

The GMM estimator that minimizes this criterion is:

$$\hat{\beta}_{GMM} = [(\sum_i \Delta X_i' Z) \widehat{W} (\sum_i \Delta Z_i' X_i)]^{-1} (\sum_i \Delta Z_i' X_i) \widehat{W} (\sum_i \Delta Z_i' y_i) \tag{2.10}$$

Where the optimal weighting matrix is, $W = \wedge^{-1}$ and

$$\wedge = E (Z_i' \Delta \varepsilon_i \Delta \varepsilon_i' Z_i) \tag{2.11}$$

Using this model social responsibility performance is determined by its history and the past and present performance of the observed variables, including financial performance. Possible correlation between CSR and unobserved effects like company ethos, management ability and culture have been eliminated by the first differencing using the weak assumption that these are constant over the period of study. In addition the model does not impose any structure on the lag length of the relationship between the instruments and the variables other than that imposed by the length of the panel, unless one is selected

This approach deals with many of the problems inherent in modelling the determinants of corporate social responsibility, however there has been some econometric criticism of the GMM method that needs to be addressed. The differencing may exacerbate the noise to signal ratio and the impact of measurement error in the dependent variable, whilst using variables in levels may give weak instruments for first difference equations, and a small panel sample may produce 'downward bias of the estimated asymptotic standard errors', Baltagi (2008:154).

These issues led to the development of the system GMM method, by Arellano and Bover (1995); here equations in levels are added to the equations for differences. This works much better, particularly if the variance of the permanent effects c_i is large relative to the variance of the transitory shocks ε_i. Extensive Monte Carlo testing has noted improved precision and reduced finite sample bias, whilst Windmeijer (2005) has provided a correction to the standard error bias in small panels.

2.7 Models employed

2.7.1 System GMM methodology

The first model employed is shown below:

$$CSR_{it} = X'_{it-1}\beta + \sum_{2003}^{2007}\gamma YR + c_i + \varepsilon_{it} \qquad (2.12)$$

Where CSR is the EIRIS social responsibility score, X is a vector of observed determinants, year dummies are included to deal with annual cross sectional effects, c is a vector of unobserved determinants and ε is the random disturbance term.

The observed determinants are financial performance measured by return on assets; an average of the last three years is used as this is expected to be more representative of financial performance than a noisy one year variable and debt gearing measured by debt divided by total assets. Industry characteristics represented by dummy variables are; SIN, membership of a sin industry, EXT membership of an extractive industry, REG membership

of a regulated industry, MAT membership of a mature industry, B2C membership of a business to customer industry and CRE membership of a credence industry. Two other variables are included to represent industry attributes, labour intensity measured as total staff divided by total assets and research and development intensity measured as R&D expenditure divided by total assets. These variables are collected one year before the CSR score is taken to allow them to have an effect on social responsibility, (except average return on assets which is the average ROA of three years up to and including t-1).

The unobserved determinants are expected to include amongst other things; firm ethos and identity, CEO, manager and staff attitudes to social responsibility, with these variables being assumed to be approximately constant over the length of the panel, five years.

There are four specifications of this model for each dimension of CSR, i.e. environment, employees, community and composite because it is possible that these different aspects of CSR will have different drivers.

This model addresses both unobserved firm heterogeneity as well as the possible endogeneity of financial performance caused by financial performance affecting and being affected by corporate social responsibility. The system GMM methodology of Arellano and Bond (1991) and Arellano and Bover (1995) is deployed rather than GMM as the former is better suited to dealing with a short panel i.e. large N and small T that exists here, GMM robust standard errors incorporating the Windmeijer (2005) correction are used.

This methodology was implemented using STATA , here the data file needs to be in the following order; reading from row one downwards, firstly the oldest then the next oldest observations for one firm, following this the observations for the next firm are put in the same date order. The system GMM routine is menu driven:

Statistics> longitudinal/ panel data>dynamic panel data>Arellano Bond/ Blundell Bond

The dependent and independent variables are selected along with the lag length of the dependent variable, here assumed to be one. The existence of panel data needs to be specified, in this case the datastream firm code was used as the firm identifier and the year was noted as the time identifier, it was confirmed that data was taken at annual intervals. The endogenous variable, assumed to be financial performance return on assets is selected from its tab, the default for standard errors is the Windmeijer (2005) corrected GMM robust standard errors, this was kept.

2.7.2 Ordinary least squares methodology

The second model employed is shown below:

$$CSR_{it} = X'_{it-1}\beta + \varepsilon_{it} \quad (2.13)$$

The variables are the same as in first model; the difference is that OLS is being used here in order to provide a comparison to the system GMM results as a way of assessing the impact of unobserved influences and potential endogeneity.

Although panel data has the considerable advantage of increasing sample sizes the pooling of observations can present particular difficulties. In particular there is the possibility that residuals are correlated across observations, in this case standard errors will be biased resulting in either over or under estimation of the size of variation of the coefficient estimates. This correlation may either be cross sectional where there is a common unobserved effect in one year or in time series where residuals from the same firm are related through time, an unobserved firm effect.

A common treatment is to 'cluster' the standard errors by firm using the degree of correlation within the cluster to adjust the standard errors of firms. The possible cross sectional correlations are dealt with by using 'fixed effects', here the unobserved effect is regarded as similar to a group shock that affects observations at one time in a consistent way, introducing a dummy variable for the year picks up this effect.

The regressors did not include a lag of the CSR dependent variable for a number of reasons. Firstly the alternative GMM methodology used above deals with the possible endogeneity using instruments from previous years. Secondly 'inclusion of lagged values of the dependent variable violates the assumption that the explanatory variables are non stochastic', (Brooks 2008:157). Although this is generally not a problem when the current disturbance is unrelated to this lagged dependent variable and the other independent variables are not serially correlation, however it seems that both CSR and the other variables are trending making this approach problematic. An interaction between the serial correlation of the dependent variable and trending in the independent variables can cause substantial bias in estimators, Maeshiro (1996). The size of the potential bias is 'a non linear function of the coefficient on the lagged

dependent variable, the autoregressive structure of the exogenous variables, and the coefficients of the exogenous variables', Grubb and Symons (1987:1). Inclusion of a lagged dependent variable in this particular situation will bias all the estimators, the lagged dependent variable is likely to appear to be strongly significant, and the overall fit of the model will appear to dramatically increase. Given the trending of the variables in the model above a lag of CSR was not included as an additional regressor.

2.7.3 Changes in Corporate Social Responsibility

The methodologies above are cross sectional, comparing levels of social responsibility with the levels of other variables. This may flag up some form of association between high CSR and an elevated level for an associated variable, but by no means is this indicative of causation or any particular linkage. Therefore an alternative methodology was also deployed using time series and regressing changes in CSR on changes is the likely determinants of CSR.

This was set up in STATA by using the 'sort' command to sort into panel and time order, then using 'tsset' command to notify that it is time series data and finally using the 'D' command to obtain annual differences between the values over the period of the run. Unfortunately only five years of data was available from EIRIS and so only four years of change could be used, given the inertia in CSR this is unlikely to be adequate to generate any visible effects.

2.8 Results

2.8.1 Descriptive statistics

The four charts below in figure 2.1 show the CSR scores for the four dimensions, environment, employee, community and composite. It is clear that a lot of firms are given a zero score by EIRIS, in fact some 25% of observations on average are zero across the three dimensions, whilst some 336 out of 2955 observations or 11% score zero on the overall composite score. To some extent this is a function of the lens through which CSR is assessed and the way the database it designed. One perspective is based on Carroll (1991); here CSR consists of the socially useful activities a firm engages in over and above abiding by the law. To obtain recognition from EIRIS and to get a score requires additional activities, a zero score does not indicate irresponsibility but rather the absence of anything obviously better than a law abiding company. An alternative viewpoint is that social responsibility is integral and relevant to everything a firm does; in this case all activity should be judged, generating a merit or demerit, this approach is used by KLD, another major ratings agency. There are advantages and disadvantages to both approaches, the EIRIS system is anchored on a solid foundation that is easy to understand but does not readily accommodate social irresponsibility. The KLD system suffers from users assigning equal weights to merits and demerits and netting off to produce a final measure of social responsibility performance. This is dubious because Mattingly and Berman (2006) for example note that strengths and concerns often do not correlate and sometimes even co-vary positively. Overall the EIRIS system produces useful scores that can distinguish the ethical performance of different companies.

The charts also show that firms score noticeably better on the community dimension than the other two; a total of 492 observations on the community dimension scored more than 2.5 and out of these 190 obtained the maximum score of 3, i.e. 6% of all observations. This outperformance may be due to a bigger payoff from community activities. Supporting charity and community activities is relatively low cost, is not disruptive to the other operations of the company and can produce substantial benefits in terms of public image and employee morale. Environmental and employee action in contrast may be more costly and give a lesser return.

Table 2.6 provides some summary statistics for the CSR variables and the possible determinants, as noted above the community dimension of CSR has a substantially higher mean score of 1.38 than the other two dimensions.

Table 2.7 gives the correlation matrix between the variables and shows a high degree of correlation between the different dimensions of CSR indicating that companies take a holistic approach to social responsibility. Firms in the UK generally do not 'specialize' in their approach to CSR or develop a competency in one type of responsibility at the expense of other areas, perhaps firms either decide to 'do' or 'not do' social responsibility. This is at odds with contingency theory where firms adopt a menu approach and pick and choose activities to suit their situation, for example extractive industries might concentrate on environmental issues and the service sector focused on community matters.

The other variables are average return on assets (this is calculated as the average of the return on assets for the three years before the CSR observation is made) and six dummy variables to represent different industry characteristics; mature, business to customer, credence good industry, sin industry, regulated and extractive industry. The reasons these particular facets were chosen is discussed in section 2.3 above and table 2.9 provides an analysis of the particular industry sectors they belong to. Labour intensity, debt gearing and research and development intensity are also included as regressors measured as staff numbers, debt or R&D expenditure divided by total assets.

The correlation between average return on assets and CSR which is the main focus of this chapter is weak at 0.267. The correlation with industry characteristics is positive but fairly small whilst there is a strong positive correlation between company size and the social responsibility score. In general this is broadly as would be expected from prior literature. There is also a positive but not strong correlation between CSR and debt gearing. Both a positive and negative relationship between CSR and debt gearing has been proposed by different papers. A positive connection can be explained by CSR reducing operational risk and so counterbalancing the increased financial risk due to gearing, alternatively debt gearing could reduce the amount of cash available to be spent of social responsibility activities. It appears that the former rather than the latter situation is occurring here, CSR is acting a counterweight to gearing risk.

Table 2.8 ranks the CSR performance of companies in each of the ten industry classification benchmark (ICB) industrial categories in the order of their composite score, confirming that firms' social responsibility performance varies significantly across industries. The table shows utilities as the best performer and technology the worst, utilities is a mature regulated industry selling to the public, the firms are large and visible, with a high proportion of

institutional investors. Technology is a young industry, usually selling to other companies; the firms are smaller with a low public profile and fewer institutional investors. This confirms the expected determinants of social responsibility performance with the exception that utilities sell search goods whilst technology firms sell experience and credence goods, the opposite of what has been hypothesized regarding credence goods.

Table 2.9, provides an overview of the industry based dummy variables, individual industry sectors are allocated to the six different industry characteristics. It can be seen that the sin, regulated, extractive and credence industries relate to a relatively small number of sectors and firms in total. Alternatively most industries are mature whilst about half are classed as business to customer. The mean composite CSR score for all firm observations is 0.99, whilst the means scores for sin, regulated and extractive industries are higher at 1.68, 1.49 and 1.26 respectively; the other three categories have approximately average scores.

2.8.2 System GMM results

This methodology was employed to deal with the potential endogeneity of financial performance by using lags of this variable as instruments, with possible unobserved factors being dealt with by differencing annual cross sections.

The results for this methodology are shown in the two tables 2.10A and 2.10B, the first table using natural logarithm of sales as the control for size whilst the second table alternatively uses the natural logarithm of market capitalisation.

The main focus is on whether financial performance is a determinant of corporate social responsibility. Average return on assets is recorded as a positive but not significant determinant. This agrees with previous survey papers that found that profitability on average was a weak determinant of social responsibility. Indicating that social responsibility does not require strong profits for it to be carried out or that above average profits are a significant spur to corporate social responsibility.

Turning to the six industry characteristics, five out of the six industry characteristics have a broadly positive connection with subsequent CSR using the composite score, in particular extractive and business to customer industries consistently recorded a significant positive link with the amount of social responsibility carried out. Sin and credence industries rarely

registered as a significant determinant whilst regulated industries and mature industries recorded a negative effect in one of the specifications. These results are generally expected, there is much less focus on the so called sin industries in the last few decades social concerns have moved on to different issues, whilst the proportion of ethical investment funds being managed by religious groups is substantially smaller than in the early days of the CSR movement. The suggestion that firms in credence industries carried out more social responsibility was tentative and emanated from only one paper.

A simple dummy for industry was also initially included along with the six specific industry dummies in one regression; however the F statistic failed indicating that this was collinear and this dummy was taken out.

Company size is generally a positive and strongly significant determinant of corporate social responsibility. This is a general result that has been found in most papers before, it has been hypothesised that this is due to a combination of factors including more visibility, a larger scale of operations leading to economies of scale in CSR. In general the results were broadly similar when using either of the two size variables, sales and staff numbers.

Labour intensity was not a significant determinant of social responsibility; however the coefficient was negative which was not expected. Research and development intensity was also not recorded as a significant determinant of corporate social responsibility but also produced a negative coefficient which was unexpected.

The suggestion that high debt gearing would prompt more CSR as a way of balancing the heightened financial risk with lower operational risk receives some support from these results as debt gearing is positive in all the specifications and significant in about half. Alternatively it may be the case that a particular management strategy that is associated with adopting a socially responsible policy is also associated with higher than average gearing.

2.8.3 OLS results

The ordinary least squares methodology was also deployed as a comparison and reference to the GMM methodology. The results are shown in tables 2.11A and 2.11B, the first table using sales as the control for size and the second using market capitalisation.

The majority of results are broadly similar with the results using OLS. Firstly although average ROA is positive in the various specifications the result is rarely significant. In terms

of industry characteristics regulated and extractive industries were consistently significant determinants whilst mature, business to customer and credence were generally not significant. Again both sales and market capitalisation representing company size are strongly significant determinants, with debt gearing also in general being positively related to CSR. Labour intensity in contrast on the composite dimension recorded a negative relationship in table 2.11A and was insignificant on the second table. It is not clear why this has occurred, it is possible that firms with lower than average labour intensity contract out more of their labour to third parties in the developing world. These types of firms are then likely to be more vulnerable to scrutiny of their business practices which could be a spur to increasing their corporate social responsibility. Research and development intensity was also noted as positive and significant on table 2.11A. This agrees with the prior hypothesis that companies that are pursuing a product differentiation policy through innovation may also be pursuing a socially responsible policy. However the results are not consistent enough to give adequate support this conjecture.

Overall then the GMM and OLS methodologies agree that company size, some industry attributes in particular regulated companies along with debt gearing are positive significant determinants, whilst average return on assets although positive does not have a significant relationship. In terms of differences between the two approaches it seems that the OLS results are more equivocal, with less significant results for the various industry characteristics. The main difference between the two sets of tables is that business to customer industries have a consistently significant positive relationship with CSR when GMM is used but that this disappears when OLS is used. The main difference between the two methodologies is that the GMM procedure will neutralise some of the unobserved generally internal drivers for CSR. It is not clear why this should affect business to customer industries in particular, apart from the generic point that this result indicates that the management strategy, ethos or some other type of unobserved omitted variable may also be associated with business to customer firms.

2.8.4 Time series results

Table 2.12 gives the results of the time series regression of changes in CSR on changes in likely determinants. In general the results are not significant and the R squared statistic very low indicating very little fit, as noted above this is not surprising given the short run of only five years. It would be much more useful and interesting if a run of say fifteen years could be

made, this could generate a sufficient degree of change to enable any linkages in the variables to be witnessed, however this data was not available.

2.9 Conclusion

Examining the determinants of corporate social responsibility has been surprisingly neglected in prior literature and merits more research. It has been previously suggested that the principal drivers of corporate social responsibility came from larger companies, membership of mature, business to customer and credence industries, those with better financial performance, debt gearing as well as social pressure from society.

Additional possible industry characteristics have been tested here; membership of sin, regulated and extractive industries, as well as labour intensity and research and development intensity. Due to the importance of company size as a factor indicated by prior research and the nature of the sample two different measures of size were used; sales and market capitalisation.

A new methodology was also deployed, general method of moments (GMM), for two reasons. Firstly there is a possibility that financial performance is endogenous, that it both affects the amount of CSR carried out and also that it is itself affected by CSR simultaneously. Secondly there are a variety of other factors that could be motivating corporate social responsibility which are relevant but cannot be observed and included in the model. These factors could include intangibles like company attitudes and management quality.

In general most of the results accord with prior research or expectation. Company size measured by either sales or market capitalisation is a consistent determinant of corporate social responsibility. Some industry characteristics are also important; in particular regulated and extractive industries appeared to carry out more corporate social responsibility. In contrast membership of credence and mature industries generally did not appear to be a significant determinant.

Debt gearing was mainly positively related to the subsequent amount of CSR which either lends support to an earlier suggestion that undertaking corporate social responsibility could in some way be viewed as a way of moderating operational risk to compensate for increased financial risk. Or alternatively more indebted firms may be pursuing some form of management strategy that is also generally associated with social responsibility. Research and development intensity although positively related to CSR was not usually statistically significant.

Financial performance as measured by the average of return on assets for the last three years was positively related to CSR but was usually not significant. This accords with most prior research, it seems that have a high or low degree of profitability is not a consistently precursor or determinant in affecting the amount of subsequent corporate social responsibility carried out. This may be because CSR is not a significant cost or that CSR is generally self-financing. Firms do not appear to be constrained financially from pursuing CSR if either their size or industry characteristics encourage them to undertake corporate social responsibility.

Table 2.1 EIRIS analysts	Qualification
Carlota Garcia-Manas	M.Sc. Environmental Economics
Gary Kay	B.Sc. Investment Management
Dawn McLaren	M.Sc. Development Studies
Anna Gibson	M.Sc. Development Management
Erin Levey	M.A. Corporate Social Responsibility
Ray Sanghera	M.A. Sustainable Business
Leslie Swyngheduaw	M.A. Political Studies
Hannah Watson	B.A. Modern History
Josh Brewer	M.A. Humanitarian Practice
Coziana Liurea	M.Sc. European Politics
Charlotte Hine	B.A. History
Franziska Jahn	M.A. German Literature & Ethics
Kazutaka Kuroda	M.Sc. Environmental Policy, CFA
Chris Monk	M.Sc. Business & Sustainability
Sheila Stefani	M.A. Political Economy
Michael Marshall	M.A. Philosophy of Science
David Tozer	M.A. Geography
Oliver Jackson	M.A. Corporate Social Responsibility
Reiko Suzuki	M.Sc. Environmental Development
Peter Williams	M.Sc. Business & Community
Michael Frances	M.Sc. Development Economics
Philipp Kloucek	M.Sc. Environmental Engineering
David Cockburn	M.A. Peace Studies
Alessandro Bracoglia	M.Sc. European Politics
Louise Tippet	M.Sc. Information Science
Typhaine de Bonne	M.A. Political Studies
Etsuko Ito	M.Sc. Development & Globalisation
Svetlana Perevalova	M.Sc. Environmental Geography
Naomi Selby	B.A. Philosophy & Italian
Lillya Akhmadullina	L.L.M. Human Rights Law
Kelly Vanstone	M.Sc. Environmental Policy
Molly Betournay	M.B.A.
Kathryn Allan	M.A. International Relations
Silvia Coelho	M.A. Dispute & Conflict Resolution
Jamie MacFarlane	B.Sc. Psychology
Valeh Tehrouchi	M.Sc. Development & Globalisation
Yu You	M.Sc. Environment & Globalisation
Source: EIRIS (2013)	

TABLE 2.2 Contents of ARISTA 3.0 ~ The CSR research standard
June 2012 | ARISTA 3.0® | page 2/18
Contents
Introduction - Documentation – Initiation
Applicability
1 Scope
2 Definitions
3 The quality principles of ARISTA 3.0® ("The Eleven Commitments")
Requirements on Group level
4 The integrity principles and ethical commitments of ARISTA 3.0®
5 Administrative requirements
6 Independence, impartiality and integrity
7 Confidentiality
8 Organisation and management
9 Quality management system
10 Personnel
11 Records
12 Sub-contracting
13 Complaints and appeals
14 Co-operation
15 Public disclosure
Requirements on the level of Quality Management (of research and assessment methodologies)
16 Research standards and indicators
17 Research and evaluation methodologies and procedures
18 Stakeholder involvement procedures, further conformity rules
19 The audit features
20 The case of Derived products/services
21 Tolerated exceptions

TABLE 2.3 Distribution of EIRIS firms scored				
	Total EIRIS firms scored	Total EIRIS firms In FTSE 350	Total EIRIS firms in FTSE Small Cap	Total constituents of FTSE All Share
2003	591	288	303	702
2004	576	289	287	719
2005	521	290	231	683
2006	437	301	136	698
2007	410	300	110	674

TABLE 2.4 EIRIS questions		
	Question	Response
Environment	How does EIRIS rate the company's environmental policy and commitment?	Weak, inadequate, moderate, good, excellent
	How does EIRIS rate the company's environmental management system?	Weak, inadequate, moderate, good, excellent
	How does EIRIS rate the company's environmental reporting?	Weak, inadequate, moderate, good, excellent
Employee	How clear is the evidence of health & safety systems?	Little or no evidence, some evidence, clear evidence, very clear evidence
	How clear is the evidence of systems and practices to advance job creation and security?	Little or no evidence, some evidence, clear evidence, very clear evidence
	How clear is the evidence of systems to support employee training and development?	Little or no evidence, some evidence, clear evidence, very clear evidence
	How clear is the evidence of systems to manage employee relations?	Little or no evidence, some evidence, clear evidence, very clear evidence
	How clear is the evidence of systems and practices to support equal opportunities and diversity?	Little or no evidence, some evidence, clear evidence, very clear evidence
Community	How clear is the company's commitment to community or charitable work?	Little or no evidence, moderate, clear evidence, very clear evidence
	How good are the company's policies towards its stakeholders overall?	Little or no evidence, moderate, clear evidence, very clear evidence
	Has the company adopted a code of ethics or business principles which it communicates to all employees?	Little or no evidence, moderate, clear evidence, very clear evidence

Table 2.5 Inter-temporal correlation of CSR scores					
	2003 to 2004	2004 to 2005	2005 to 2006	2006 to 2007	Mean
Environment	0.90	0.94	0.92	0.90	0.92
Employee	0.87	0.92	0.91	0.89	0.90
Community	0.87	0.93	0.94	0.87	0.90
Composite	0.92	0.96	0.95	0.92	0.94
Cell entries are the Spearman rank correlation between years of CSR scores.					

Corporate Social Responsibility performance

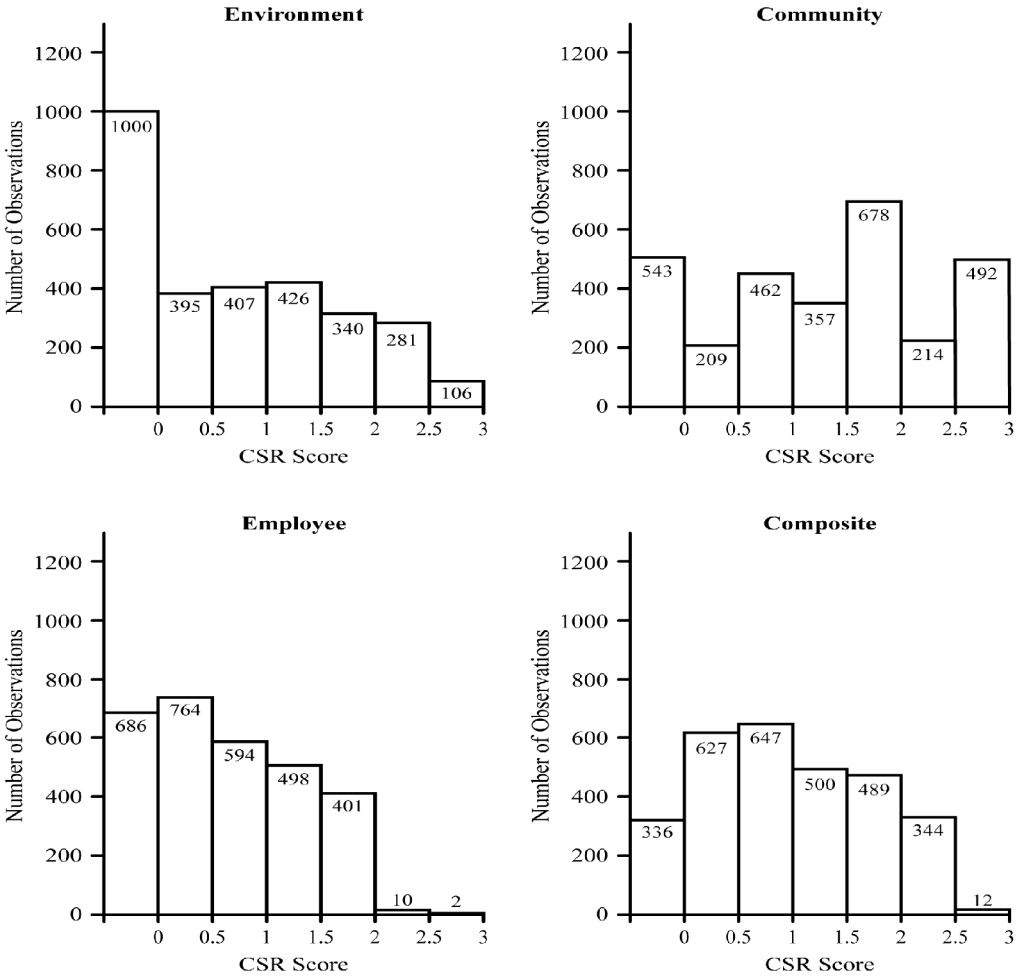


Table 2.6 Summary statistics					
	Mean	Median	Minimum	Maximum	Std Dev
Environment	0.90	0.75	0.00	3.00	0.89
Employee	0.70	0.60	0.00	2.60	0.62
Community	1.38	1.33	0.00	3.00	0.97
Composite	0.99	0.90	0.00	2.87	0.74
Average ROA	0.04	0.06	-0.95	0.46	0.12
Labour intensity	0.11	0.01	0.00	1.84	0.14
Debt gearing	0.24	0.22	0.00	1.33	0.18
R&D intensity	6.46	2.63	0.00	1.84	0.15
Ln Sales	12.73	12.71	4.72	18.95	2.12
Ln Market Cap.	12.86	12.63	6.46	18.94	1.82

The first four rows are the CSR scores, followed by, average return on assets for the three years up to and including t-1, labour intensity calculated as the number of employees divided by total assets, debt gearing calculated as debt divided by total assets, R&D, research and development expenditure divided by total assets, the natural log of sales and market capitalisation.

TABLE 2.7 Correlation of CSR and determinants

	Envir	Employ	Comm	Comp	AVROA	Mature	B2C	Cred	Sin	Reg	Ext
Environment	1.000										
Employee	0.672	1.000									
Community	0.687	0.781	1.000								
Composite	0.883	0.886	0.925	1.000							
Average ROA	0.283	0.211	0.214	0.267	1.000						
Mature	0.164	0.070	0.054	0.103	0.247	1.000					
B2C	0.068	0.124	0.125	0.111	0.084	0.321	1.000				
Credence	-0.037	0.053	0.076	0.038	-0.062	-0.291	0.150	1.000			
Sin	0.190	0.120	0.176	0.140	0.072	0.083	0.228	-0.051	1.000		
Regulated	0.264	0.247	0.221	0.236	0.018	0.176	0.421	-0.108	-0.034	1.000	
Extractive	0.325	0.207	0.237	0.269	0.108	0.176	-0.045	-0.086	-0.023	-0.058	1.000
Lab. intensity	-0.150	-0.080	-0.075	-0.010	0.055	0.121	-0.068	-0.157	-0.069	-0.120	-0.130
Debt gearing	0.285	0.113	0.213	0.192	0.178	0.295	0.195	-0.158	0.119	0.322	-0.041
R&D intensity	-0.258	-0.158	-0.175	-0.197	0.296	-0.502	-0.221	0.359	-0.072	-0.154	-0.121
Ln Market Cap.	0.578	0.392	0.562	0.515	0.260	0.200	0.230	0.067	0.155	0.161	0.154
Ln Sales	0.560	0.354	0.524	0.485	0.286	0.295	0.275	-0.062	0.114	0.134	0.046
	Lab.Int	Debt	R&D	Ln M Cap.	Ln Sales						
Lab. intensity	1.000										
Debt gearing	-0.290	1.000									
R&D intensity	-0.102	-0.290	1.000								
Ln Market Cap.	-0.147	0.113	-0.264	1.000							
Ln Sales	0.048	0.076	0.493	0.825	1.000						

The first four rows are the CSR dimensions, then the average return on assets for the three years before the CSR observation, followed by six industry types and controls.

TABLE 2.8 CSR Scores by industry

	Environment			Employee			Community			Composite		
	Mean	Std Dev	Median	Mean	Std Dev	Median	Mean	Std Dev	Median	Mean	Std Dev	Median
Utilities	2.10	0.74	2.25	1.46	0.60	1.80	2.30	0.81	2.67	1.95	0.63	2.20
Basic Materials	1.57	0.99	1.75	0.95	0.57	1.00	1.67	1.02	2.00	1.39	0.80	1.68
Consumer Goods	1.31	0.87	1.50	0.86	0.64	1.00	1.58	1.00	2.00	1.25	0.77	1.45
Oil & Gas	1.18	1.09	0.83	0.74	0.57	0.60	1.43	0.97	1.67	1.12	0.83	0.97
Telecoms	1.01	1.05	0.58	0.84	0.77	0.60	1.49	1.15	1.33	1.11	0.95	0.84
Financials	0.84	0.89	0.50	0.72	0.66	0.60	1.47	1.00	1.33	1.01	0.77	0.82
Consumer Services	0.76	0.83	0.50	0.66	0.61	0.40	1.42	0.98	1.50	0.94	0.73	0.84
Industrials	0.92	0.76	1.00	0.60	0.56	0.40	1.23	0.88	1.33	0.92	0.64	0.92
Healthcare	0.58	0.77	0.25	0.72	0.66	0.50	1.30	0.94	1.33	0.87	0.71	0.75
Technology	0.40	0.61	0.00	0.48	0.51	0.20	1.11	0.87	1.08	0.66	0.55	0.60
All industries	0.90	0.89	0.75	0.70	0.62	0.60	1.38	0.97	1.33	0.99	0.74	0.90

CSR scores for each dimension split over the ten ICB industries, starting with the highest composite score down to the lowest composite score; covering all five years 2003 - 2007.

Table 2.9 Analysis of industry dummies

Industry	Sector	Number of Obs.	Composite CSR Score	'Sin' Industry	Regulated Industry	Extractive Industry	Mature Industry	Business to Customer	Credence Good
Utilities	Electricity	18	1.96		1.96		1.96	1.96	
	Gas and Other	48	1.78		1.78		1.78	1.78	
	Total	66							
Basic	Chemicals	50	1.21				1.21		
Materials	Forestry	4	1.00				1.00		
	Industrial Metals	5	1.85			1.85	1.85		
	Mining	55	1.33			1.33	1.33		
	Total	114							
Consumer	Automobile & Parts	16	0.98				0.98	0.98	
Goods	Beverages	30	1.62	1.62			1.62	1.62	
	Food Producers	70	1.29				1.29	1.29	
	Household Goods	89	1.34				1.34	1.34	
	Leisure Goods	26	0.77				0.77	0.77	
	Personal Goods	35	0.77				0.77	0.77	
	Tobacco	10	1.87	1.87			1.87	1.87	
	Total	276							
Oil &	Oil & Gas	67	1.15			1.15	1.15		
Gas	Oil Equipment	26	1.12				1.12		
	Alternative Energy	6	0.91				0.91		
	Total	99							
Telecoms	Fixed Line Telecom	39	0.95		0.95		0.95	0.95	
	Mobile Telecom	13	1.38		1.38		1.38	1.38	
	Total	52							
Financials	Banks	52	2.03				2.03	2.03	2.03
	Non Life Insurance	82	0.60				0.60	0.60	0.60
	Life Insurance	39	1.63				1.63	1.63	1.63
	Real Estate	85	0.62				0.62		
	Real Estate Trust	74	1.15				1.15		
	Financial Services	157	0.78				0.78	0.78	0.78
	Total	489							
Consumer	Food & Drug Retail	36	1.32				1.32	1.32	
Services	General Retail	216	0.85				0.85	0.85	

	Media	188	0.93				0.93		
	Travel & Leisure	157	0.96				0.96	0.96	
	Total	597							
Industrials	Construction & Materials	87	1.01				1.01		
	Aerospace	48	0.97				0.97		
	General Industrial	42	1.18				1.18		
	Electrical	80	0.70				0.70		
	Industrial Engineering	102	0.80				0.80		
	Industrial Transport	76	1.01				1.01		
	Support Services	396	0.94				0.94		
	Total	831							
Healthcare	Healthcare Equipment	65	0.90						0.90
	Pharmaceuticals & Biotechnology	105	0.88						0.88
	Total	170							
Technology	Software & Computers	182	0.70						
	Technology Equipment	79	0.76						
	Total	261							
	Total / average	2955	0.99	1.68	1.49	1.26	1.02	1.06	0.98

TABLE 2.10 A Regression using system GMM of CSR on determinants ~ Return on assets potentially endogenous, sales represents size

$CSR_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 AVROA + \beta_3 SIN_{it-1} + \beta_4 REG_{it-1} + \beta_5 EXT_{it-1} + \beta_6 MAT_{it-1} + \beta_7 B2C_{it-1} + \beta_8 CRE_{it-1} + \beta_9 SIZ_{it-1} + \beta_{10} LAB_{it-1} + \beta_{11} DEB_{t-1} + \beta 12R\&Dt-1+20032007\gamma 0jYR+\varepsilon it$

	Environment		Employee		Community		Composite	
CSR (t-1)	0.056	*	0.039		0.027		0.024	
	(0.326)		(0.043)		(0.034)		(0.044)	
Average ROA	0.104		0.151		0.226		0.398	
	(0.312)		(0.344)		(0.372)		(0.393)	
Sin industry	17.505	***	-8.903	**	-0.947		-5.255	
	(2.438)		(3.643)		(3.3881)		(6.061)	
Regulated industry	-0.422		1.031		0.151		2.788	***
	(0.659)		(0.787)		(0.834)		(0.872)	
Extractive industry	0.260		2.060	***	1.260		1.692	**
	(0.721)		(0.775)		(0.847)		(0.897)	
Mature industry	-0.417		-0.489		-0.867	***	-0.708	**
	(0.264)		(0.298)		(0.313)		(0.344)	
Business 2 customer	0.939	***	0.991	***	1.371	***	0.813	***
	(0.325)		(0.364)		(0.363)		(0.415)	
Credence product	0.177		-0.447		-0.610		-0.631	
	(0.335)		(0.353)		(0.395)		(0.411)	
Size Ln sales	0.295	***	0.264	***	0.511	***	0.296	***
	(0.066)		(0.069)		(0.085)		(0.104)	
Labour intensity	-0.611		-0.378		-2.102	**	-0.983	
	(0.703)		(0.754)		(0.844)		(0.874)	
Debt gearing	0.500	**	0.305		0.706	**	0.304	
	(0.263)		(0.290)		(0.313)		(0.330)	
Research & development	-0.001		-0.036		-0.035		-0.042	
	(0.029)		(0.033)		(0.036)		(0.037)	
Intercept	-3.030	***	-2.567	***	-5.077	***	-2.269	
	(0.829)		(0.932)		(1.103)		(1.399)	
Year dummy	Y		Y		Y		Y	

The dependent variable is the CSR score for each dimension of CSR, the independent variables are: average return on assets for the three years up to and including t-1, SIN, REG, EXT,MAT,B2C and CRE are dummies for firms in a sin, regulated, extractive, mature, business to customer and credence industries, SIZ, the natural log of sales, LAB labour intensity calculated as the number of employees divided by total assets, DEB, debt gearing calculated as debt divided by total assets, R&D, research and development expenditure divided by total assets and a year dummy, Windmeijer (2005) GMM robust standard errors are shown in parentheses, *** indicates a p value less than 1%, ** indicates a p value less than 5% and * indicates a p value less than 10% for a two tailed test.

TABLE 2.10 B Regression using system GMM of CSR on determinants ~ Return on assets potentially endogenous, market capitalisation is size

$CSR_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 \text{AVROA}_{it-1} + \beta_3 SIN_{it-1} + \beta_4 REG_{it-1} + \beta_5 EXT_{it-1} + \beta_6 MAT_{it-1} + \beta_7 B2C_{it-1} + \beta_8 CRE_{it-1} + \beta_9 SIZ_{it-1} + \beta_{10} LAB_{it-1} + \beta_{11} DEB_{t-1} + \beta 12R\&Dt-1+20032007\gamma 0jYR+\varepsilon it$

	Environment		Employee		Community		Composite	
CSR (t-1)	-0.059	**	0.016		0.021		0.013	
	(0.033)		(0.043)		(0.034)		(0.044)	
Average ROA	-0.017		-0.015		-0.081		0.282	
	(0.313)		(0.342)		(0.376)		(0.393)	
Sin industry	19.014	***	-6.380	*	3.693		4.574	
	(2.400)		(3.774)		(3.776)		(5.689)	
Regulated industry	0.158		-1.093		0.701		-3.026	***
	(0.622)		(0.785)		(0.829)		0.876	
Extractive industry	0.442		2.353	***	1.122		1.834	**
	(0.722)		(0.767)		(0.851)		(0.895)	
Mature industry	-0.053		-0.216		-0.930	***	-0.398	
	(0.297)		(0.332)		(0.356)		(0.378)	
Business 2 customer	1.015	***	1.025	***	1.455	***	0.757	**
	(0.317)		(0.357)		(0.357)		0.407	
Credence product	0.355		-0.317		-0.572		-0.511	
	(0.345)		(0.766)		(0.406)		(0.424)	
Size Ln M. Cap.	0.196	***	0.173	***	0.272	***	0.132	*
	0.057		0.059		0.071		0.080	
Labour intensity	-0.444		-0.371		-1.927	**	-0.965	
	(0.715)		(0.766)		(0.864)		(0.892)	
Debt gearing	0.631	**	0.442		0.969	***	0.387	
	(0.267)		(0.293)		(0.318)		(0.337)	
Research & development	0.012		0.014		-0.018		0.027	
	(0.013)		(0.015)		(0.016)		(0.017)	
Intercept	-2.238	***	-1.788	**	-2.125	**	-0.627	
	(0.818)		(0.880)		(1.044)		(1.164)	
Year dummy	Y		Y		Y		Y	

Rubric as table 2.10A except size is controlled for by using the natural logarithm of market capitalisation.

TABLE 2.11 A Regression using OLS of CSR on determinants, sales represents size

$CSR_{it} = \beta_0 + \beta_1 \text{AVROA}_{it-1} + \beta_2 SIN_{it-1} + \beta_3 REG_{it-1} + \beta_4 EXT_{it-1} + \beta_5 MAT_{it-1} + \beta_6 B2C_{it-1} + \beta_7 CRE_{it-1} + \beta_8 SIZ_{it-1} + \beta_9 LAB_{it-1} + \beta_{10} DEB_{t-1} + \beta_{11} R\&D_{t-1} + \sum_{2003}^{2007} \gamma_{0j} YR + \varepsilon_{it}$

	Environment		Employee		Community		Composite	
Average ROA	-0.021		0.159		0.021		0.152	**
	(0.185)		(0.162)		(0.242)		(0.159)	
Sin industry	0.586	***	0.334	***	0.199		0.330	
	(0.149)		(0.110)		(0.198)		(0.144)	
Regulated industry	0.442	***	0.258	***	0.215	*	0.274	***
	(0.115)		(0.090)		(0.120)		(0.090)	
Extractive industry	0.439	***	0.226	***	0.206		0.292	***
	(0.128)		(0.088)		(0.150)		(0.098)	
Mature industry	0.285	***	-0.075		-0.083		0.013	
	(0.095)		(0.069)		(0.101)		(0.067)	
Business 2 customer	-0.156	**	0.017		0.032		-0.030	
	(0.061)		(0.040)		(0.064)		(0.043)	
Credence product	0.052		0.097	**	0.213	***	0.117	**
	(0.082)		(0.052)		(0.079)		(0.055)	
SIZ Ln Sales	0.262	***	0.115	***	0.274	***	0.191	***
	(0.013)		(0.010)		(0.014)		(0.010)	
Labour intensity	-0.447	**	-0.170		-0.272		-0.221	*
	(0.204)		(0.106)		(0.180)		(0.120)	
Debt gearing	0.224		0.133		0.197		0.173	*
	(0.144)		(0.089)		(0.142)		(0.099)	
R&D intensity	0.049	***	0.014	*	0.030	**	0.035	***
	(0.011)		(0.008)		(0.012)		(0.008)	
Intercept	-2.812	***	-0.806	***	-2.244	***	-1.617	***
	(0.167)		(0.129)		(0.188)		(0.130)	
Year dummy	Y		Y		Y		Y	
Adjusted R squared	0.383		0.158		0.325		0.274	

Rubric as table 2.10A except using the OLS methodology, standard errors clustered by firm.

TABLE 2.11 B Regression using OLS of CSR on determinants, market capitalisation represents size

$$CSR_{it} = \beta_0 + \beta_1 \text{AVROA}_{it-1} + \beta_2 SIN_{it-1} + \beta_3 REG_{it-1} + \beta_4 EXT_{it-1} + \beta_5 MAT_{it-1} + \beta_6 B2C_{it-1} + \beta_7 CRE_{it-1} + \beta_8 SIZ_{it-1} + \beta_9 LAB_{it-1} + \beta_{10} DEB_{t-1} + \beta_{11} R\&D_{t-1} \sum_{2003}^{2007} \gamma_{0j} YR + \varepsilon_{it}$$

	Environment		Employee		Community		Composite	
Average ROA	-0.113		0.057		-0.201		0.048	
	(0.186)		(0.166)		(0.258)		(0.167)	
Sin industry	0.375	**	0.227	**	-0.055		0.161	
	(0.163)		(0.112)		(0.190)		(0.150)	
Regulated industry	0.345	***	0.217	**	0.102		0.202	**
	(0.122)		(0.091)		(0.122)		(0.095)	
Extractive industry	0.176		0.103		-0.077		0.088	**
	(0.134)		(0.088)		(0.138)		(0.098)	
Mature industry	0.233	***	-0.098		-0.105		-0.028	
	(0.091)		(0.063)		(0.098)		(0.061)	
Business 2 customer	-0.157	**	0.016		0.037		-0.036	
	(0.062)		(0.039)		(0.060)		(0.043)	
Credence product	-0.097		0.027		0.050		-0.001	
	(0.084)		(0.052)		(0.081)		(0.056)	
Ln Market Cap.	0.278	***	0.129	***	0.306	***	0.210	***
	(0.014)		(0.010)		(0.015)		(0.011)	
Labour intensity	0.026		0.053		0.259		0.133	
	(0.178)		(0.109)		(0.171)		(0.118)	
Debt gearing	0.077		0.081		0.078		0.070	
	(0.148)		(0.089)		(0.139)		(0.101)	
R&D intensity	0.005		-0.001		0.000		0.003	
	(0.004)		(0.003)		(0.006)		(0.003)	
Intercept	-2.852	***	-0.910	***	-2.544	***	-1.727	***
	(0.183)		(0.132)		(0.198)		(0.137)	
Year dummy	Y		Y		Y		Y	
Adjusted R squared	0.360		0.163		0.336		0.269	

Rubric as table 2.10 B except using OLS methodology, standard errors clustered by firm

CHAPTER 3

DOES CORPORATE SOCIAL RESPONSIBILITY AFFECT COMPANY PROFITABILITY?

Abstract

The effect of corporate social responsibility on profitability has been and remains the central question in the social responsibility field. Although there has been substantial research, results are inconsistent and inconclusive, given the long and persuasive list of reasons why social responsibility can enhance profitability this is perplexing. Witnessing the impact of CSR is however difficult due to the complexity of the relationship between social responsibility and financial performance; to accommodate these complications three different specifications were used to model the relationship. In addition given the importance of company size noted in prior work these specifications were also run with two alternative measures of company size. Although in general there was a positive effect on return on assets there was no significant association with return on sales. Indicating that corporate social responsibility does not have a strong and unambiguous effect on financial performance based on this dataset or that a cross sectional approach is unable to consistently detect an effect if it does exist. A time series analysis was conducted over the available five years of the dataset to examine changes in CSR and profitability, no significant result was obtained although this period is regarded as too short to obtain a reliable result.

3.1 Introduction

The effect of corporate social responsibility on profitability has been and remains the central question in the social responsibility field. If social responsibility improves financial performance then managers, investors and society at large can have confidence that social responsibility activities enhance prosperity as well as social welfare, making these initiatives unequivocally desirable. Without a positive relationship, CSR has to be justified by normative arguments, where the increase in social welfare exceeds the associated financial cost, a much more complicated and difficult case to make.

The corporate social responsibility / corporate financial performance relationship has four possibilities:

- Positive relationship; the two activities are generally synergistic.
- Negative relationship; CSR incurs costs that are greater than the benefits, with the benefits characterised as small, elusive and difficult to measure.
- Mixed relationship; the effects are heterogeneous over time and/or cross sectionally, perhaps producing a U shaped function.
- No relationship; social responsibility and financial performance are only peripherally connected and/or competitive markets equilibrate the performance of different firms.

The size and extent of the literature in this area has generated no less than thirteen survey papers, the overall conclusion of these reviews is that any relationship between corporate social responsibility and corporate financial performance is inconclusive, with no consensus on the nature, causes and direction of the relationship. This is surprising as well as being more than disappointing given the amount of work that has been carried out over the last thirty five years. The largest literature survey to date by Margolis et al. (2009), using a meta analysis of 213 papers found only a weak correlation of 0.13 between social responsibility and financial performance, they finish with the following; 'we conclude by considering whether, aside from striving to do no harm, companies have grounds for doing good – and whether researchers have grounds for continuing to look for an empirical link between CSP and CFP.'

This is a remarkably pessimistic conclusion, for them research in this area has not yielded a substantive result and any further work is fruitless. The lack of progress is certainly frustrating but should be a strong motivation for investigating why such a large research effort has produced such inconclusive results, rather than giving up.

There are a number of possible reasons for these widely differing results. Firstly corporate social responsibility is difficult to define and measure, studies under the CSR umbrella have looked at quite a range of different topics some of which are only tenuously connected; in addition the data that has

been used is sometimes measured in very different ways making comparison problematic. The actual social responsibility process is also difficult to model, there are likely to be a number of unspecified mediating and moderating variables some of which are both unobservable and difficult to measure. Finally the dynamics of the process are not fully understood, it is likely that the relationship is not consistently linear but linear models are usually deployed, furthermore movement towards equilibrium can mean that the results may have captured a temporary position rather than the underlying relationship.

All of these problems exist, but above all there seems to have been insufficient attention to the theoretical structure; too many papers list reasons why social responsibility may enhance profits and then assume the case proven when a positive association between corporate social responsibility and corporate financial performance is found. This is inadequate; developing theoretical underpinnings is a necessary precondition to understanding the relationships, building a model and interpreting results.

The literature review in the next section discusses the progress to date; this is then used to develop a new theory and model which is tested empirically.

3.2 Literature review

The literature in this area is voluminous and mostly falls into the category of the 'business case' for corporate social responsibility, where the impact of social responsibility on the operational performance of individual firms is considered using a business type analysis. A list of possible benefits arising from CSR is enumerated, with their efficacy being assessed usually by way of a regression result.

These various operational effects can be categorised into three groups; strategic management capabilities, impact on internal resources and impact on external reputation. For example CSR enables management to cooperate and collaborate with other stakeholders in a more effective less risky way; there can be cost savings from the better use of resources, and thirdly an enhanced reputation can lead to an increase in sales and a better profit margin, chapter1section 1.4 analyses this area and the relevant papers in detail.

The suggestion that social responsibility provides management with better strategic skills, that it can produce cost savings and engender goodwill and sales from customers seems reasonable, however finding a consistent empirical result could be hampered by the assumption that there is a direct relationship between CSR and corporate financial performance that is the same for all firms. In some situations and times there will be a strong positive connection, in other situations a negative link. The relationship between social responsibility and financial results is conditioned on a number of factors.

A change in CSR does not inevitably lead to a change in profitability because any transmission between them has to go through a process; there are mediating and moderating factors at work.

Rowley and Berman (2000) adopt a contingency approach and ask under what condition social responsibility is either positively or negatively related to financial performance and in what situations there is an association between the two but no causal relationship. The authors suggest that this is dependent on whether the social action is met by a response from a stakeholder agent, with the size of this response depending on the social or political sensitivity of the issue. They find that extractive and polluting industries, firms that are more visible, those selling trust or credence goods, industries with high regulatory and government interest and companies with more institutional shareholders all attract a response from stakeholders, therefore the CSR/ CFP link is conditioned on these situations.

Barnett (2007) extends and formalises this stakeholder relationship, calling it stakeholder influencing capacity, SIC. Broadly this is both the degree of ethical credibility that a firm enjoys as well as the extent to which that reputation can profit the firm. Therefore although two firms may have a similar amount of social performance this will not result in an equal response because some firms have less ethical credibility perhaps due to the industries they are in or their previous track record. An example of this differing credibility is in Alsop (2001), quoting John Hyde, a retiree in Placerville, California, who says it's hard to believe Philip Morris is 'a good guy just because it donates water to flood victims, or helps the hungry'.

Another reason for the contradictory results is that there may be heterogeneity through time with both a positive and negative relationship between corporate social responsibility and financial performance. There are diminishing returns to social responsibility, for example reducing the carbon footprint of an organisation gets progressively more expensive, therefore one level of CSR can be profitable but there is a point when this tips into financial loss if 'excessive' social expenditure is incurred. A curvilinear relationship can exist if in the early stages CSR requires a bigger increase in company costs than the benefits received because capabilities and a reputation are being built, with this loss being reversed in the medium to long term. In cross section there are also firms that are able to reap the rewards of their social initiatives and others which find this difficult due to the industry they are in. The costs of social initiatives are reasonable easy to calculate but the benefits are notoriously difficult to estimate (as this thesis will testify!). There are likely to be some companies that engage in unprofitable CSR without being aware of it, as well as a group of firms that deliberately wish to fund lavish unprofitable social programs because of agency, cultural or other reasons.

This U shaped relationship is found in Brammer and Millington (2008) where social performance is put into three groups, high, medium and low, with the highest and lowest levels of social responsibility being associated with the best financial returns; their study has the benefit of simplicity by just looking at the effect of charitable giving, although this does limit the scope of the findings. Barnett and Saloman (2012) also find a U shaped relationship between CSR and CFP, with the initial costs of developing a CSR program causing the initial downward slope of the U. This is eventually reversed when a firm develops a critical mass of expenditure that receives recognition from stakeholders and produces significant financial reward.

It is not explicitly spelt out in most of the literature that a causal relationship is being investigated which is another potential pitfall because social responsibility and financial performance are naturally associated in a number of situations which can be mistaken for causality. It has long been noted, Bowman and Haire (1975), Alexander and Buchholz (1978) that CSR is associated with management quality. A modern progressive highly skilled management is likely to be interested in innovation as well as social responsibility and is probably successful at both.

Unfortunately management quality and innovation is difficult to observe and measure and is therefore rarely included in the models employed by researchers. Research and development is a good measure of innovation, with Litchenberg and Siegel (1991) for example reporting a strong positive correlation between R&D and long run productivity. McWilliams and Siegel (2000) use research and development expenditure as a proxy for management quality and when they included this as a control in a CSR / CFP model the link between social responsibility and financial performance disappeared, indicating that management quality rather than the social responsibility is responsible for the financial advantage. This result is supported by Demacarty (2009), who concludes that where a positive relationship between CSR and CFP is found it is probably due to skilful management and not social responsibility per se. These are important papers indicating that although social responsibility and financial performance are usually found together there is no causation because of the mediation of management quality.

This illustrates the importance of examining in detail the relationship between social responsibility and financial performance before constructing a model. Financial performance is principally driven by competiveness, Porter and Kramer (2006), firms require some form of competitive advantage to secure above average profits. If corporate social responsibility can be shown to provide this advantage, a direct link between CSR and financial results can be made. Using competitiveness also has the advantage that well established economic and management theories can be deployed to provide a strong foundation on which to build a model and produce testable hypotheses.

Vilanova et al. (2009) have examined competition and corporate social responsibility using the perspective provided by both Porter's (1980) five forces theory as well as the Mintzberg (1987)

concept of emergent strategies. Porter's thesis put simply is that there are three broad competitive strategies; compete either through low cost, better quality or using natural advantages. In a CSR context a low cost approach suggests spending little on social responsibility activities; alternatively a high quality route would involve building an identity as an ethical company, whilst a natural advantages strategy suggests that CSR is best suited to those companies that have a natural affinity to this area e.g. renewable energy. It follows from this analysis that one would expect companies to cluster into two distinct groups, high and low CSR performance, the high social responsibility group comprises entities pursuing a quality or natural advantage strategy, the low social responsibility group comprises low cost companies which either find CSR to be expensive or have no natural fit with these types of activity.

Mintzberg's concept has a wider relevance; business change is constant, competitive advantage therefore falls to those companies that respond more quickly, flexibly and intelligently to new opportunities. The companies that have strategic capabilities and institutional capacities to deal with new conditions are those who will reap superior financial returns, social responsibility can provide some of these capabilities and relationships. Vilanova et al. (2009) conclude that CSR and competitiveness are related via a learning and innovation cycle where corporate values and practices are established and re-established.

Change, adaptation and learning is crucial, firms learn from and imitate the successful strategies of their competitors. This is addressed in an important paper by McWilliam and Siegel (2001), who use a supply and demand framework to assess the optimal amount of social responsibility to be conducted. CSR is described as a normal good, so demand rises as incomes rise, with the other determinants of demand including changes in taste and the price of substitutes. The cost of supplying social responsibility varies between industries but there are likely to be economies of scale within industries making it cheaper for larger firms to supply CSR. The supply curve is upward sloping as usual because costs rise as additional CSR is supplied. The price of social responsibility is found where supply meets demand, with the quantity of CSR supplied by firms being the amount where this price is just equal to the marginal cost of this additional unit of CSR. In other words social responsibility is regarded as any other investment or financial decision enabling the use of micro economic analysis and investment appraisal. The important conclusion is that firms undertaking social responsibility and those that do not will have the same rate of profitability, in the same way that firms that spend more on advertising are not necessarily more profitable than those that spend less. If for example a firm supplying CSR enjoyed higher profits than other firms, over time more firms would supply CSR, with this continuing until all firms had the same profitability and equilibrium was reached.

This conclusion was foreshadowed by Reinhardt (1998) who argued that a firm engaging in a CSR based strategy can only generate an abnormal return if it can prevent competitors from imitating its

strategy, other studies modelling social responsibility as a form of quality improvement agree, including Dutta et al. (1995) and Hoppe and Lehmann-Grube (2001). CSR can only cause a long term profit advantage if there are barriers to new companies engaging in social responsibility. Although it is still possible for some firms that are more nimble than average to benefit from a form of 'early mover' advantage by anticipating trends in social concerns, positioning themselves appropriately and reaping a short term advantage.

A dynamic analysis of competitiveness needs to account for barriers to entry, with the resource based view of the firm being a useful tool to address this. Firms comprise bundles of capabilities and resources, the strength of these compared to their competitors decides the relative competitive advantage of a firm, whilst the durability of that advantage depends on the degree to which these are inimitable, substitutable and rare. Bowman and Ambrosini (2003) assert that competitive resources are difficult to acquire in three situations; path dependency i.e. they are the result of a long process that cannot be shortened, ambiguous, where it is not clear how these resources developed, making them difficult to create and thirdly socially complex, deriving from a culture, institution or tradition that if not unique is certainly hard to reproduce. The ease of acquiring a socially responsible reputation is an open question; the process is not particularly ambiguous but it is path dependent and does take some time to develop. In the longer run however it seems that most firms could develop a socially responsible reputation if they wanted it, the fact that CSR is found in a wide range of quite different industries and situations supports this conjecture.

The use of micro economic theory is a step forward; however this ignores the dual nature of corporate social responsibility. The original concept was of company philanthropy as an extension to individual charity. This is carried out for ethical reasons, business is an integral part of society and so has no choice but to engage with social issues in order to keep its legitimacy. At the same time social initiatives can be a form of public relations and advertising which generate a direct financial return, Baron (2001) labels these two parts as altruistic CSR and strategic CSR. Hillman and Keim (2001) attempts to disaggregate these two elements by dividing KLD data firstly into direct stakeholder issues, which are taken as being a measure of altruistic CSR and secondly other issues, broadly a firm's interest in but not involvement in social issues, which is assumed to proxy for strategic CSR. Interestingly they find that altruistic CSR is negatively associated with financial performance whilst strategic CSR has a positive financial payoff.

This is taken a stage further by Husted and Salazar (2006) where separate theoretical models are produced for firms that either maximise altruistic or strategic CSR. Altruistic CSR is akin to charity, having the aim of maximising social 'output', those projects with the best social return are carried out first and this continues until all resources are spent i.e. all company income is devoted to charity.

Social output is maximised but as a by product a certain level of financial gain also accrues. Alternatively under strategic CSR the objective is to maximise profitability, projects with the best return are carried out until the marginal cost of a project is equal to benefit derived, and as a by product a certain level of social output is produced.

Under altruistic CSR there is more social output and less economic output and the opposite with strategic CSR, but it not clear which is better. This is the constraint noted by Jenson (2002: 238) 'it is logically impossible to maximize in more than one dimension at the same time unless the dimensions are monotone transformations of one another'. A transformation would be possible if there was a reliable conversion or exchange rate between economic and social welfare, however politics has been searching for this for several thousand years without a definitive result. The authors propose a solution that relies on moving out of this two dimensional world. Strategic CSR purposefully searches for those projects that provide more social recognition implemented at a lower cost, in essence it is maximising the synergy between economic and social events. This is an economic 'free lunch' similar to diversification and is maximised across the economy under strategic CSR. Alternatives where the government coerces firms to undertake a certain type or amount of CSR or where other stakeholders force firms towards altruistic CSR are less efficient and inferior situations.

All of the theories discussed so far have to some extent assumed that social responsibility has a material effect on firms' operations. However corporate social responsibility only began to be widely discussed in the nineteen seventies and companies produced goods and services quite successfully before this date. Commentary on highly successful companies rarely includes corporate social responsibility as a major contributory factor, (although some notable corporate failures have been accompanied by appalling examples of corruption and social irresponsibility). Vogel (2005:25) is one of the few leading authors to put corporate social responsibility into this context, he writes 'CSR is best understood as a niche rather than a generic strategy: it makes business sense for some firms in some areas under some circumstances.'

This section does not have a tidy conclusion; the theories outlined above suggest a positive, negative, mixed and neutral relationship between corporate social responsibility and corporate financial performance. Empirical results also show little consistency except to support this heterogeneity. It is true that the question has proved to be much more complicated than was envisaged when Friedman wrote his newspaper article and progress has been disappointing. However the field is still evolving and some significant strides have been made, further progress can and should occur. A new theory and model is constructed below, which is then deployed using the EIRIS data on UK companies.

3.3 A theoretical framework

The theory developed below is modest but does provide a framework to build a model and interpret results. Neo classical economic theory provides the starting point, here individuals maximise utility and firms maximise profits, supply meets demand in equilibrium leading to the efficient allocation of resources. This is the basis of Friedman's argument and leaves little room for corporate social responsibility. The model below however is derived from real world market imperfections like information asymmetry, externalities and imperfect competition which can both explain the demand for social responsibility from consumers and the public as well as the motivation for firms to supply social responsibility because of the possibility of competitive advantage.

Markets are characterised by incomplete information between buyers and sellers which creates a need for ethical behaviour, in contrast a situation of perfect information makes an ethical reputation generally superfluous as long as the law enforces contracts. Externalities occur when part of the cost or benefit of a market transaction falls on an outside party, the obvious example being pollution. Although governments can legislate there are practical limitations to how effective this is; the number and impact of potential externalities makes the implementation of voluntary codes and practices by socially responsible firms very attractive to politicians and society.

It is expected that companies are motivated to engage in social responsibility due both to economic and social imperatives. The diverse variety and range of engagement of firms with social responsibility however indicates that these social pressures which are generally uniform are relatively less important than the more conditional, contingent and heterogeneous economic factors. There is also a well established business case for social responsibility that supports the conjecture that companies are engaging with CSR principally to enhance their profitability.

There are four subsidiary assumptions, as follows; firstly, social responsibility activities are assumed to be separable from the other operations a firm engages in. It is true that in some cases social responsibility can be an unavoidable by- product of other activities however in general CSR is not a random event but results from deliberate action by management to create responsible outcomes. Secondly, it is assumed that there are usually marginal costs and benefits incurred in taking these decisions. Thirdly, diminishing returns occur, the cost of producing additional social responsibility rises disproportionately and the benefits received from additional CSR falls disproportionately. Fourthly, the structure and nature of firms differs to the extent that some firms can produce CSR at a lower financial cost and the benefits firms receive from a given level of CSR also varies.

This gives rise to the charts below:

The returns to Corporate Social Responsibility

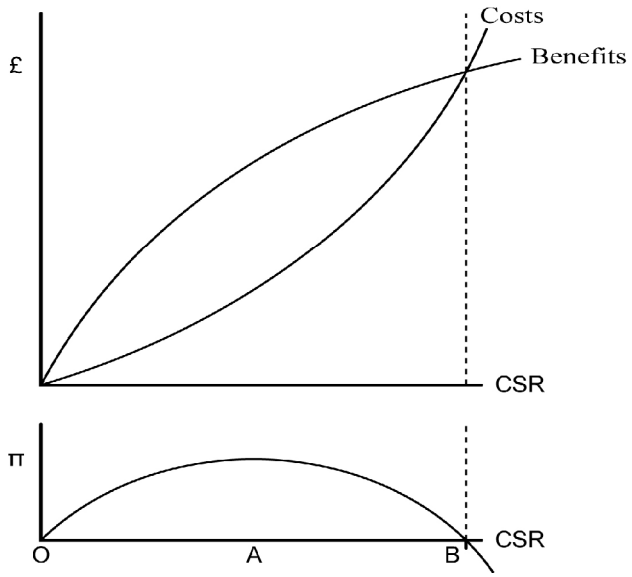


Figure 3.1

The charts are bound at zero; negative CSR is excluded because social irresponsibility would have to be modelled in a more dynamic way, with substantial short run financial benefits and long run disastrous consequences, for simplicity this is excluded here. Assuming socially responsible activities are separable makes it possible to use the terminology of project management and net present value. Point A represents the maximum marginal return, if the profits are risk adjusted this would be the project with the largest NPV, similarly point B is the final positive NPV project. Profit maximisation occurs at B, with the area under the curve from O to B being the total profit earned by a profit maximising company. Under perfect competition firms engage in social responsibility until the marginal return is zero and cluster around point B. This is the 'neutrality result' of McWilliam and Siegel (2001), in the long run there is no financial difference between firms that engage in CSR and those that do not because the market is 'perfectly contestable', firms enter or exit at will.

Due to various reasons there will be a considerable number of deviations from point B. Some forms of social responsibility are difficult to imitate and a good reputation takes a long time to be established, this leads to a substantial amount of disequilibrium in the market for social responsibility. In the short run (which may last some years) there would be investment in CSR with no adequate return, making these activities loss making. In a similar way a socially responsible reputation can provide an entrenched advantage where a firm is associated with a particular character, giving an enduring abnormal profit. There is also an industry effect; the nature of some industries makes social responsibility particularly efficacious, for example due to the importance of staff relations or public

image and the particular production process. Although this profit advantage over time is neutralised within industries, the profit differential between industries is much longer lasting. Finally some companies may engage in additional altruistic CSR on top of strategic CSR, which is by definition loss making and has been labelled 'CSR over investment' by Barnea and Rubin (2010). There are various reasons for this over investment; an agency cause if management wish to pursue social responsibility for their own reasons, or driven by wider cultural norms where a certain level of CSR beyond that which is profitable is expected, or the situation where government regulation prescribes additional CSR that would not otherwise be undertaken, usually in regulated industries like water and energy.

This theoretical framework has been used to create a model of the CSR/ CFP relationship in the next section.

3.4 A model of the corporate social responsibility/ corporate financial performance relationship

A workable model is required that includes the important relationships whilst being as parsimonious are possible. This maps the process by which social responsibility affects financial performance by explicitly including the mediating variables, in addition the particular conditions and situations that are necessary for this process to occur are also dealt with by integrating the moderating variables into the model.

In chapter 1 it was hypothesised that there were three main ways in which social responsibility had a financial effect; enhanced strategic capabilities, better use of internal resources and improved external reputation. However these processes are indirect because they first have to engender a change in for example management capabilities, staff motivation and customer perceptions before causing a change in financial results. Ideally one would like to map and witness for example a high CSR employee score being linked to high staff morale then to high staff productivity and finally bigger profits but these intermediate steps are difficult to observe and are not separately recorded in financial or other documents. Most papers simply attempt to link the two ends of the chain, a high CSR score with high profits.

The relationship between social and financial performance is also conditioned on a number of factors that moderate the strength and to some extent the existence of the relationship. For example the industry a firm is in affects its credibility, a tobacco company might engage in an enormous amount of community and charitable work but garner little praise and financial return whilst a retail company for example in comparison can do a modest amount of CSR and receive plaudits and presumably bigger

profits. The operational situation of a firm is also relevant, certain enterprises benefit disproportionately from strategic capabilities, staff morale and customer perceptions, obvious examples would be firms that deal with the government, those with a lot of staff and highly visible firms that sell discretionary goods resting on the opinions of customers. In addition different firms can leverage these factors more than others, larger companies enjoy economies of scale in CSR and it is also the case that some of the payoffs to CSR are just not relevant to some firms. There are also a number of more intangible and unobservable influences on the efficacy of social responsible activities. For example as previously noted by McWilliams and Siegel (2000) a firm with a high quality management can better utilise the commercial possibilities of a good corporate social responsibility reputation. This can be proxied by including research and development expenditure intensity.

Companies have to spend differing amounts to produce a unit of social responsibility and due to the differing degrees of credibility this 'CSR output' also receives differing amounts of recognition, producing a wide range of payoffs to CSR ranging from highly negative to highly positive. This moderating effect, called here 'CSR efficiency' is an interaction between the characteristics of a firm and the characteristics of corporate social responsibility. In some situations they magnify returns, for example a company that uses a lot of energy gains disproportionately when it invests in energy efficient technology and labour intensive firms reap large benefits from improvements in staff morale, and as noted above other industries get very poor returns from CSR. This CSR efficiency has not been specifically discussed in the literature before, although Barnett (2007) highlighted the importance of credibility in his stakeholder influencing capacity.

An interaction is usually modelled multiplicatively, i.e. the product of the moderator and the variable in question is used to gauge the extent to which the level of the moderator influences the effect of explanatory variable on the dependent variable. It seems that the industry affiliation and the size of a company are the two principal moderators of the impact of social responsibility on financial performance.

In addition to this interactive effect there is also the direct additive impact of these two influences. Industry and size affect financial performance directly over and above any interaction effect they may have, this has to be controlled for in any model of the CSR/CFP relationship. The major survey paper by Margolis and Walsh (2003) notes that industry, size and leverage are the three variables most widely used as controls in the literature. Although the great majority of papers employ these controls there is a genuine dilemma in deciding if they should be included in a corporate social responsibility model. The purpose of incorporating controls is to neutralise the effect of extraneous factors and leave the 'pure' effect of the variable of interest, in this case corporate social responsibility intact. However if one were able to include all of the individual influences on financial performance there would be little point in including CSR, which would then have no effect on financial performance. Corporate

social responsibility represents a bundle of influences and characteristics; controlling for an influence that is also in the 'CSR bundle' reduces the size and significance of the CSR coefficient in a regression. Alternatively not controlling for this factor overstates the importance of CSR because part of its influence will load onto the CSR variable.

For example including a variable for industry should neutralise the difference in average profit between industries, however industry is also an intrinsic part of social responsibility, the sale of tobacco is irresponsible for example. In the case of company size a control is needed because in general larger firms are more profitable due to economies of scale but larger firms also tend to engage in more social responsibility activities, for example Burke et al. (1986) suggests that larger firms attract more attention from stakeholders and are therefore under more pressure to conform to their demands, therefore size is also an attribute of both CSR and CFP. There is no clear solution to this, it is suggested that a limited number of controls should be used; any results will then measure the effect of social responsibility without that part relating to the included controls. This under- estimates the influence of CSR and is therefore a more conservative approach, which is preferable to omitting controls and reporting results that potentially over estimate the effect of social responsibility.

All the points above have been used to create the model below in figure 3.2 showing the major influences on the corporate social responsibility / corporate financial performance relationship:

The relationship between Corporate Social Responsibility and Corporate Financial Performance

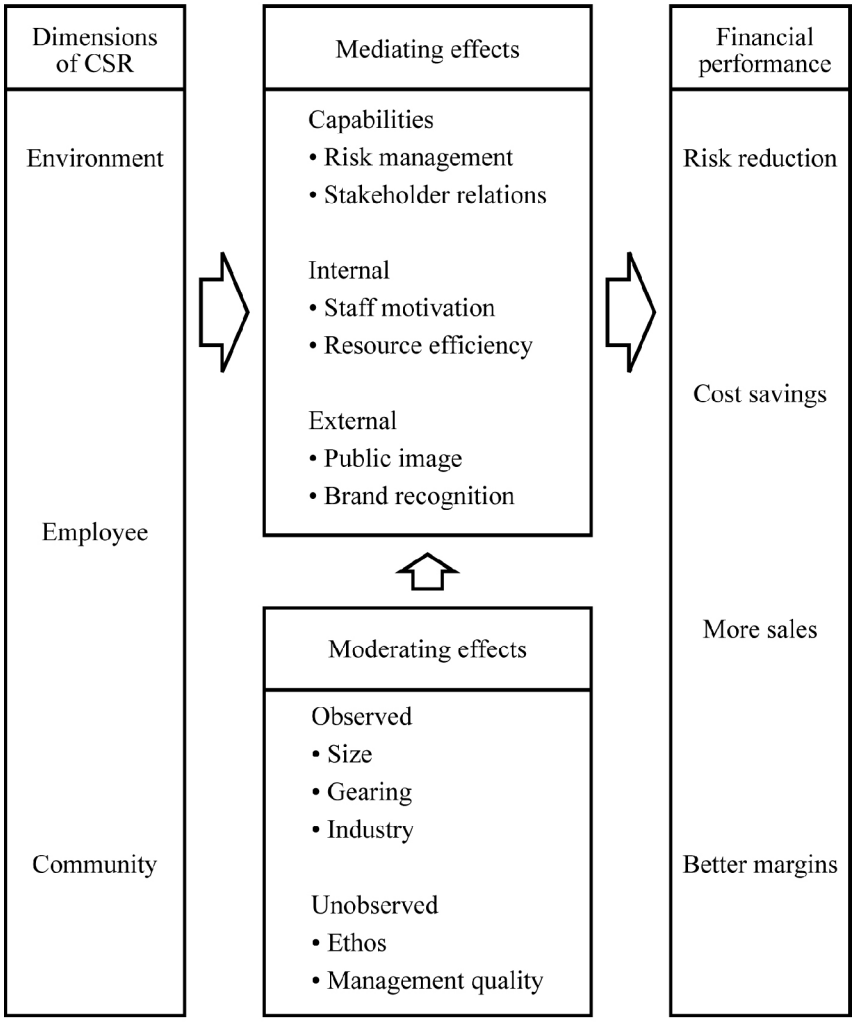


Figure 3.2

This model is tested empirically in the rest of this chapter.

3.5 Data

This thesis focuses on the UK experience of corporate social responsibility because there is a relative paucity of work in this area. The CSR data for all four empirical chapters comes from EIRIS, the premier UK corporate social responsibility agency. This is regarded as the most reliable information available on the social responsibility for UK companies and covers the whole range of CSR issues. A comprehensive description of the data is given in chapter 2.

3.6 Methodology

The model is as parsimonious as possible whilst still retaining the main relationships. Essentially it seems that the corporate social responsibility / corporate financial performance relationship takes three possible forms; firstly it is moderated by industry, size, debt gearing and R&D expenditure, secondly there may also be an interaction between CSR and industry and size and finally there may be a curvilinear relation due to both cross sectional and time series differences between firms. In the previous chapter the possibility of financial performance being endogenous in a model with CSR was examined. It was found that financial performance did not determine subsequent levels of social responsibility and in general results using OLS and GMM methodologies were similar. Therefore OLS methodology has been solely deployed here.

The three different specifications are discussed below along with an additional model using changes in CSR and changes in financial performance:

3.6.1 Simple model with size, gearing and industry controls

$$CFP_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit-1} + \beta_4 RDI_{it-1} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_i \quad (3.1)$$

Here CFP is corporate financial performance measured by return on assets or return on sales. Return on assets reflects the efficiency with which the internal assets are used, whilst return on sales is a measure of how well products are received externally by the market, an item that is perceived as better quality or is preferred for another reason should command a higher margin. These measures are however a noisy approximation to the underlying financial performance of a firm, therefore an average of two years of both measures was used, consisting of an average of year t and t+1, this is hoped to produce a more representative measure of financial performance. Only two years were used because this is a panel data set and therefore the observation of ROA or ROS in the second year could be affected by

the degree of social responsibility in the year intervening between the first and second year.

Return on equity or return on capital employed other possible candidates for financial performance were not selected because the denominator of these ratios are calculated by deducting either total liabilities or current liabilities from total assets. However liabilities and debt are important and should be modelled by using a separate regressor rather than mixing them up with total assets which might interfere with the interpretation of results. Tobin's Q was not used because this is principally a measure of valuation rather than profitability.

The CSR score is taken from EIRIS for each of the three dimensions; environment, employee and community along with the composite measure. Two separate measures of company size are used because of the importance of size to financial performance; these were the natural logarithm of the number of staff and the natural logarithm of sales.

Debt gearing is calculated as debt divided by total assets. Research and development intensity is calculated as the research and development expenditure divided by total assets, this R&D expenditure is included following McWilliams and Siegel (2000) who note the importance of this variable. Only relatively few companies are involved in R&D and who therefore have an observation noted by Datastream, where no expenditure was noted this was converted to a zero following Gregory and Whittaker (2012). Industry is a series of dummies for the 38 ICB industry classifications. A lag of one year is provided between the independent and dependent variables.

As noted in the previous chapter there is the possibility that ordinary least squared residuals are correlated across observations, in this case standard errors will be biased resulting in either over or under estimation of the size of variation of the coefficient estimates. This correlation may either be cross sectional where there is a common unobserved effect in one year or in time series where residuals from the same firm are related through time, an unobserved firm effect. To deal with this a

dummy for the year an observation was made was included in the regression and standard errors were clustered by firm.

3.6.2 Interaction effects

$$CFP_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit-1} + \beta_4 RDI_{it-1}$$
$$+ \sum_{2003}^{2007} \delta_{0j} YR + \beta_5 CSR_{it-1} * SIZ_{it-1} + \beta_6 CSR_{it-1} * \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit-1} + \varepsilon_{it} \quad (3.2)$$

The variables are as noted above, to account for the possible interaction of CSR with size and industry affiliation the product of these two variables with CSR is included as a regressor. When product terms are used there is an additional possibility of collinearity, to reduce this situation the standard procedure is to centre the relevant variables at their mean, this was followed here.

3.6.3 Curvilinear relationship

$$CFP_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit-1} + + \sum_{2003}^{2007} \delta_{0j} YR +$$
$$\beta_4 RDI_{it-1} + \beta_5 CSR_{it-1}^2 + \varepsilon_i \quad (3.3)$$

The variables are as above, with the exception that a square of the CSR score is included to deal with the possible curvilinear relation.

3.6.4 Changes in corporate social responsibility

$$\Delta CFP_{it} = \beta_0 + \beta_1 \Delta CSR_{it-1} + \beta_2 \Delta SIZ_{it-1} + \beta_3 \Delta DEB_{it-1} + \beta_4 \Delta RDI_{it-1} + \varepsilon_i \quad (3.4)$$

Here the two measures of financial performance are regressed onto changes in CSR and changes in controls, i.e. size, debt gearing and research and development

intensity. This was set up in STATA by using the 'sort' command to sort into panel and time order, then using 'tsset' command to notify that it is time series data and finally using the 'D' command to obtain annual differences between the values over the period of the run.

3.7 Results

3.7.1 Descriptive statistics

Chapter two has an extensive analysis of the social responsibility data, this is not repeated here. Table 3.1 gives the summary statistics for the variables employed, due to the presence of a few extreme results both return on sales and return on assets were winsorised at a maximum and minimum of 100% return to exclude outliers, this resulted in eliminating 2 observations for ROS and 17 observations for ROA.

Table 3.2 gives the correlations of the variables. As previously noted there is a high correlation between the different dimensions of CSR, in general companies either 'do' social responsibility or not, rather than taking a contingency approach. The other results are not surprising, in general social responsibility is mildly positively associated with return on assets and return on sales. There is a strong correlation between CSR and company size both measured by sales and staff numbers. These have all been noted before, the positive relationship between debt and social responsibility has been explained as companies seeking to engage with social responsibility as a way of ameliorating their overall risk profile.

3.7.2 Regression results

Tables 3.3 and 3.4 regress firstly average return on assets and secondly average return on sales onto the different dimension of social responsibility along with control variables. Table 3.3 is divided into parts a and b, controlling for size using staff numbers and sales separately, whilst table 3.4 only controls for staff numbers and not also sales because the dependent variable is average return on sales. The results for the controls are consistent; debt gearing is positive and significant whilst research and development is negative and generally significant indicating that R&D on average does not contribute to additional profitability. CSR records a positive significant result with return on assets and a positive

but generally not significant result with return on sales, using the composite CSR as the overall measure. There is no obvious difference between the different dimensions of CSR or the alternative measures of size.

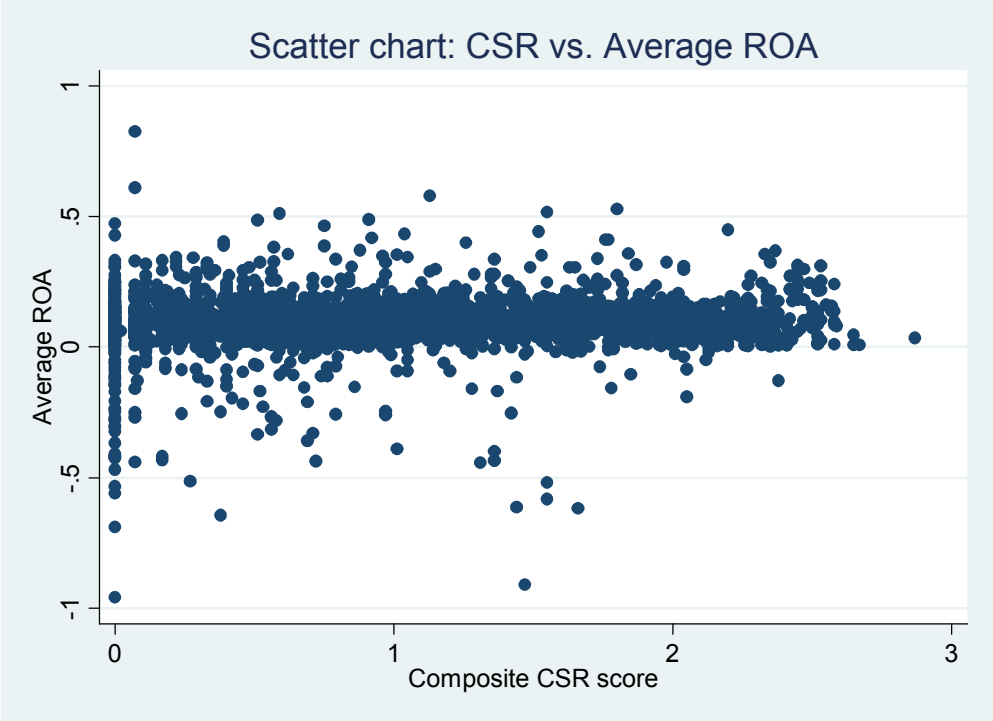
These results are ambiguous; they may mean that social responsibility has a stronger effect on the internal utilisation of assets and no significant effect on sales margins, or alternatively that there is no consistently strong impact by CSR on financial performance. A final explanation is that firms are generally in equilibrium carrying out the appropriate amount of social responsibility that gives the best financial return for their situation. It is however very difficult to adequately control for all these differences in companies therefore no consistent relationship between high CSR and high profitability was witnessed with the model.

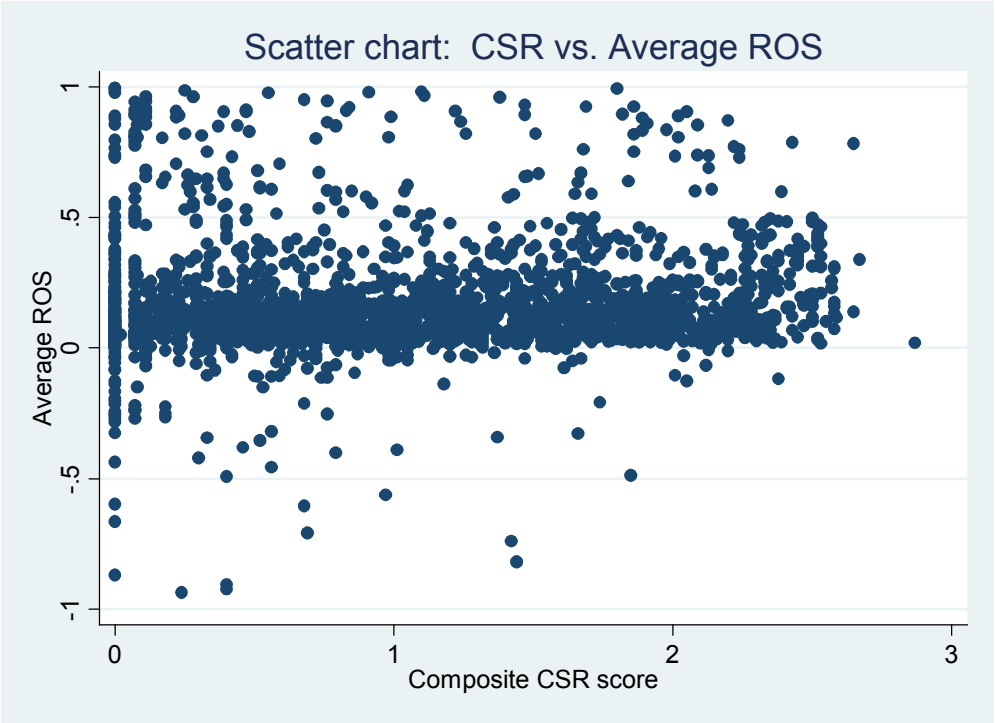
An alternative approach might provide evidence on this, assessing whether changes in CSR are associated with subsequent changes in financial performance, unfortunately the data set available is only five years long and given the degree of inertia in CSR this is not likely to be long enough. A short run study however was carried out, this regressed changes in the three measures of financial performance separately onto changes in corporate social responsibility and changes in controls. The results are in tables 3.7a and b; changes in CSR were not significantly related to changes in financial performance although changes in company size were a relevant factor. Unfortunately the time run is insufficient to draw a reliable conclusion from this except to note that over short periods of time it is not possible to witness changes in social responsibility affecting financial performance.

The second specification in section 3.6.2 above included interaction effects with size and industry. Before the inclusion of an interaction term the coefficient on the CSR variable will show its relationship with financial performance averaged over all levels of the other variables. Once an interaction term is included the slope of the CSR variable will then only show the effect on the dependent variable for the mean of the CSR variable rather than the previous omnibus unconditioned position.

The model was run including interactions between CSR and company size and CSR and industry type, the results are given with average return on assets and average return on sales in tables 3.5 parts a and b respectively using staff numbers as the measure of size. When average return on sales was used as the measure of financial performance no interaction effects were significant. In contrast when average return on assets was used as the profitability measure in table 3.5A a significant interaction between company size and social responsibility was recorded. From this it appears that CSR is positively associated with the return on assets and that furthermore that this effect is not only additive but also multiplicative; it is stronger for larger companies.

The third specification described in section 3.6.3 above is motivated by Barnett and Saloman (2012), who present the case that there is a curvilinear relation between social responsibility and financial performance. To initially test this on the EIRIS UK data, CSR scores were charted onto average return on assets and average return on sales in order to visually inspect any possible relationship. These are noted below:





Unlike in the Barnett and Saloman (2012) paper no obvious curve was witnessed. The regression results including the square of the CSR variable are given in tables 3.6 and b. This variable was not significant across the three different specifications indicating that the relationship between CSR and financial performance is not curvilinear in nature for this data set.

As noted above the final specification is a short run examination of changes in corporate social responsibility affecting subsequent changes in corporate financial performance shown in tables 3.7 a and b. The results do not witness an effect, although this is as expected, the data run is five years producing four years of changes. Corporate social responsibility does not vary a great deal each year and therefore a substantially longer run is needed to adequately test this. The results do however indicate that there is a positive relationship between changes in company size as measured by the number of staff leading to changes in financial performance. This is probably simply a momentum effect where successful companies continue to grow.

3.8 Conclusion

There are good reasons to expect that corporate social responsibility will positively affect financial performance. Chapter 1 has a long section on the business case for social responsibility; in addition the section on CSR in action included case studies of the successful application of these social responsibility initiatives. It is therefore surprising that empirical work has failed to unequivocally witness this positive link between social responsibility and financial performance.

The results in this chapter note that corporate social responsibility does appear to be positively associated with subsequent return on assets but not with return on sales. In addition this effect is more pronounced in larger companies. There are a number of alternative possible interpretations; firstly social responsibility has a positive effect on the utilisation of internal assets but no significant effect on the external margins made from customers. Secondly corporate social responsibility has only a weak and inconsistent effect on financial performance perhaps on average the costs and benefits of CSR are approximately similar meaning that CSR does not contribute in any consistent way to profitability across all firms. Thirdly the model may not be able to witness an effect even if it exists. There are differences between the situation and condition of firms that affect their profitability not all of which can be controlled for, in this case any link between high CSR and better profits may not appear because other omitted variables intervene.

The difficulty of witnessing the influence of CSR on profitability by using a cross sectional approach is apparent. There are few serious long term barriers to adopting a socially responsible approach meaning that any remaining profit differentials are likely to be due to unusual situations where perhaps because of fixed attitudes or technology there is a barrier to fully reaping these rewards, or where a change is under way in the business environment such that that companies are in the process of adjusting their procedures to move closer to what is perceived as the optimal amount and type of social responsibility.

Given these difficulties an alternative approach would be to conduct an event study, where some tangible change in CSR policy can be examined for subsequent changes in profitability. Unfortunately this is even more intractable because it is difficult to identify any event or point in time that can be genuinely described as a watershed or step change in the social responsibility performance of a company. Corporate social responsibility is a cultural, social as well as economic process; it is not the same as buying a piece of equipment or merging with another company. It takes a number of years to build the attitudes, competencies and programmes that are necessary for a firm to be described as taking their environmental and social responsibilities seriously and more years for this to be consistently recognised. Case studies are a better vehicle for describing and analysing these activities and processes within a company.

An attempt to address the difficulty was undertaken by using changes in CSR and profitability in a time series analysis rather than using the level of CSR and profits in cross section. However as the data run was only five years there were only four years of changes. Given the degree of inertia within CSR there was little significant change over this period. The results did not show a significant effect.

In conclusion a wide variety of specifications and variables were employed to assess if CSR affects subsequent financial performance using UK data from EIRIS. Results recorded for two different measures of financial performance were positive for return on assets but generally not significant for return on sales, indicating that there is no strong and unambiguous link between social responsibility and financial performance or that existing methodologies were unable to witness such an effect. This broadly agrees with surveys of papers in this area that were conducted on mainly U.S. companies.

Table 3.1 Summary Statistics

	Mean	Median	Minimum	Maximum	Std Dev
Environment	0.90	0.75	0.00	3.00	0.89
Employee	0.70	0.60	0.00	2.60	0.62
Community	1.38	1.33	0.00	3.00	0.97
Composite	0.99	0.90	0.00	2.87	0.74
Average ROA	0.09	0.10	-0.96	0.82	0.11
Average ROS	0.17	0.12	-0.94	0.99	0.21
Debt gearing %	23.70	21.63	0.00	133.09	0.18
R&D Intensity	6.25	2.54	0.00	84.06	10.29
Ln Staff numbers	7.72	7.73	1.10	13.14	2.02
Ln Sales	12.77	12.76	1.10	18.99	1.98

The first four rows are the CSR scores, ROA is average of return on assets for the two years after the CSR score was observed calculated as net operating income divided by total assets, ROS is the average of return on sales for the two years after the CSR score was observed calculated as net operating income divided by sales, debt gearing is debt divided by total assets, research and development intensity is research and development expenditure divided by total assets, there are two measures of company size the natural logarithm of staff numbers and sales respectively.

Table 3.2 Correlation between CSR financial performance and control variables										
	Environ	Employ	Comm	Comp	AVROA	AVROS	Ln Sta	Gearing	Ln Sales	R&D
Environment	1.000									
Employee	0.672	1.000								
Community	0.687	0.781	1.000							
Composite	0.883	0.886	0.925	1.000						
Average ROA	0.110	0.068	0.098	0.105	1.000					
Average ROS	0.028	0.031	0.001	0.022	0.107	1.000				
Ln Staff Number	0.088	0.104	0.074	0.094	-0.020	-0.053	1.000			
Debt Gearing	0.152	0.103	0.083	0.121	0.098	0.080	0.056	1.000		
Ln Sales	0.537	0.416	0.501	0.548	0.323	-0.017	0.858	0.155	1.000	
R&D intensity	-0.261	-0.170	-0.175	-0.227	-0.300	-0.390	-0.479	-0.300	-0.307	1.000

TABLE 3.3A Regression of average return on assets on CSR and controls, staff numbers represents size

$$AVROA_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \beta_4 RDI_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_i$$

	Environment		Employee		Community		Composite	
CSR	0.007	*	0.006		0.008	**	0.009	*
	(0.004)		(0.006)		(0.004)		(0.005)	
Ln Staff numbers	0.000	***	0.000	***	0.000	***	0.000	***
	(0.000)		(0.000)		(0.000)		(0.000)	
Debt gearing	0.076	***	0.078	***	0.077	***	0.076	***
	(0.024)		(0.024)		(0.024)		(0.024)	
R&D intensity	-0.005	***	-0.005	***	-0.005	***	-0.005	***
	(0.001)		(0.000)		(0.001)		(0.001)	
Industry dummy	Y		Y		Y		Y	
Year dummies	Y		Y		Y		Y	
Intercept	0.112	***	0.116	***	0.111	***	0.111	***
	(0.022)		(0.021)		(0.021)		(0.022)	
Adj. R squared	0.282		0.280		0.283		0.282	

The dependent variable is the average return on assets calculated as net operating income divided by the average of total assets for the year t and t+1, the independent variables are: CSR the EIRIS score, SIZ size the natural log of the number of employees, DEB debt gearing calculated as total debt divided by total assets, RDI research and development expenditure divided by total assets and an industry dummy for each of the ICB industry sectors. Cell entries refer to the regression parameters, standard errors clustered by firm are shown in parentheses, *** indicates a p value less than 1%, ** indicates a p value less than 5% and * indicates a p value less than 10% for a two tailed test, data is for the five years 2003 to 2007.

TABLE 3.3B Regression of average return on assets on CSR and controls, sales represents size

$$AVROA_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \beta_4 RDI_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_i$$

	Environment		Employee		Community		Composite	
CSR	0.013	***	0.012	**	0.013	***	0.017	***
	(0.004)		(0.005)		(0.004)		(0.005)	
Ln Sales	-0.002	***	-0.002	***	-0.002	***	0.002	***
	(0.000)		(0.003)		(0.000)		(0.003)	
Debt gearing	0.086	***	0.087	***	0.087	***	0.086	***
	(0.023)		(0.023)		(0.023)		(0.023)	
R&D intensity	-0.005	***	-0.005	***	-0.005	***	-0.005	***
	(0.001)		(0.001)		(0.001)		(0.001)	
Industry dummies	Y		Y		Y		Y	
Year dummies	Y		Y		Y		Y	
Intercept	0.134	***	0.139	***	0.132	***	0.131	***
	(0.023)		(0.023)		(0.023)		(0.023)	
Adj. R squared	0.294		0.288		0.296		0.295	

Rubric as table 3.3A except that the natural logarithm of sales represents company size.

TABLE 3.4 Regression average return on sales on CSR and controls, staff numbers represents size

$$AVROS_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \beta_4 RDI_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta\gamma_{0j} YR + \varepsilon_i$$

	Environment		Employee		Community		Composite	
CSR	-0.004		-0.005		-0.002		-0.004	
	(0.007)		(0.009)		(0.006)		(0.008)	
Ln Staff numbers	0.000		0.000		0.000		0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
Debt gearing	0.216	***	0.215	***	0.215	***	0.216	***
	(0.040)		(0.041)		(0.041)		(0.041)	
R&D intensity	-0.004	***	-0.004	***	-0.004		-0.004	
	(0.001)		(0.001)		(0.001)		(0.001)	
Industry dummy	Y		Y		Y		Y	
Year dummy	Y		Y		Y		Y	
Intercept	0.353	***	0.352	***	0.350	***	0.352	***
	(0.060)		(0.060)		(0.060)		(0.060)	
Adj. R squared	0.531		0.531		0.531		0.531	

Rubric as table 3.3A above, except AVROS average return on sales calculated as net operating income divided by sales for year t and t+1 is the dependent variable.

TABLE 3.5A Regression of average return on assets on CSR and controls, with interaction between CSR and size and industry

$$AVROA_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \beta_4 RDI_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \beta_5 CSR_{it-1} * SIZ_{it-1} + \beta_6 CSR_{it-1} * \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit-1}\, \varepsilon_i$$

	Environment		Employee		Community		Composite	
CSR	0.026	**	0.022		0.024	**	0.031	**
	(0.010)		(0.016)		(0.010)		(0.013)	
SIZ Ln staff	0.003	***	0.000	***	0.000	***	0.000	***
	(0.000)		(0.000)		(0.000)		(0.000)	
Debt gearing	0.076	***	0.078	***	0.077	***	0.077	***
	(0.024)		(0.024)		(0.024)		(0.024)	
R&D intensity	-0.005	***	-0.005	***	-0.005	***	-0.005	***
	(0.001)		(0.001)		(0.001)		(0.001)	
CSR*SIZ	0.000	***	0.000	**	0.000	**	0.000	***
	(0.000)		(0.000)		(0.000)		(0.000)	
CSR*Industry	0.000		0.000		0.000		0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
Industry & year dummies	Y		Y		Y		Y	
Intercept	0.091	***	0.104	***	0.086	***	0.086	***
	(0.026)		(0.024)		(0.026)		(0.027)	
Adj. R squared	0.289		0.283		0.286		0.288	

The dependent variable is the average return on assets calculated as net operating income divided by the average of total assets for the year t and t+1, the independent variables are: CSR the EIRIS score, size the natural log of employees, debt gearing calculated as total debt divided by total asset, R&D intensity calculated as R&D expenditure divided by total assets, dummies for industry and year, interaction terms between CSR and size and CSR and industry. Cell entries refer to the regression parameters, standard errors clustered by firm are shown in parentheses, *** indicates a p value less than 1%, ** indicates a p value less than 5% and * indicates a p value less than 10% for a two tailed test, data is for the five years 2003 to 2007.

TABLE 3.5B Regression of average return on sales on CSR and controls, with interaction between CSR and size and industry

$$AVROS_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \beta_4 RDI_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \beta_5 CSR_{it-1} * SIZ_{it-1} + \beta_6 CSR_{it-1} * \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit-1} \varepsilon_i$$

	Environment		Employee		Community		Composite	
CSR	-0.024		-0.050		-0.016		-0.031	
	(0.021)		(0.030)		(0.018)		(0.026)	
SIZ Ln staff	0.000		0.000		0.000		0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
Debt gearing	0.215	***	0.215	***	0.215	***	0.215	***
	(0.041)		(0.041)		(0.041)		(0.041)	
R&D intensity	-0.004	***	-0.004	***	-0.004	***	-0.004	***
	(0.001)		(0.001)		(0.001)		(0.001)	
CSR*SIZ	0.000		0.000		0.000		0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
CSR*Industry	0.000		0.000		0.000		0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
Industry & year dummies	Y		Y		Y		Y	
Intercept	0.378	***	0.386	***	0.373	***	0.384	***
	(0.061)		(0.061)		(0.062)		(0.063)	
Adj. R squared	0.532		0.533		0.531		0.532	

Rubric as table 3.5A above, except the dependent variable is the average return on sales, calculated as net operating income divided by the average of sales for the year t and t +1.

TABLE 3.6A Regression of average return on assets on CSR and controls, with a square of the CSR term

$$AVROA_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \beta_4 RDI_{it-1} + \beta_5 CSR^2_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_i$$

	Environment		Employee		Community		Composite	
CSR	-0.001		0.003		0.003		0.005	
	(0.011)		(0.016)		(0.011)		(0.016)	
SIZ Ln staff	0.000	***	0.000	***	0.000	***	0.000	
	(0.003)		(0.003)		(0.003)		(0.010)	
Debt gearing	0.077	***	0.078	***	0.077	***	0.076	***
	(0.024)		(0.024)		(0.024)		(0.024)	
R&D intensity	-0.005	***	-0.005	***	-0.005	***	-0.005	***
	(0.001)		(0.001)		(0.001)		(0.001)	
CSR Squared	0.003		0.001		0.002		0.003	
	(0.005)		(0.010)		(0.004)		(0.008)	
Industry dummy	Y		Y		Y		Y	
Year dummies	Y		Y		Y		Y	
Intercept	0.111	***	0.117	***	0.111	***	0.111	***
	(0.022)		(0.021)		(0.021)		(0.022)	
Adj. R squared	0.282		0.280		0.283		0.282	

The dependent variable is the average return on assets calculated as net operating income divided by the average of total assets for the year t and t+1, the independent variables are: CSR the EIRIS score, size the natural log of employees, debt gearing calculated as total debt divided by total asset, R&D intensity calculated as R&D expenditure divided by total assets, the square of the CSR term and dummies for industry and year. Cell entries refer to the regression parameters, standard errors clustered by firm are shown in parentheses, *** indicates a p value less than 1%, ** indicates a p value less than 5% and * indicates a p value less than 10% for a two tailed test, data is for the five years 2003 to 2007.

TABLE 3.6B Regression of average return on sales on CSR and controls, with a square of the CSR term

$$AVROS_{it} = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 SIZ_{it-1} + \beta_3 DEB_{it-1} + \beta_4 RDI_{it-1} + \beta_5 CSR^2_{it-1} + \sum_{j=1}^{j=39} \gamma_{0j} \mathrm{IND}_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_i$$

	Environment		Employee		Community		Composite	
CSR	0.016		-0.008		-0.008		0.000	
	(0.017)		(0.026)		(0.015)		(0.022)	
SIZ Ln staff	0.000		0.000		0.000		0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
Debt gearing	0.216	***	0.216	***	0.215	***	0.216	***
	(0.041)		(0.041)		(0.041)		(0.041)	
R&D intensity	-0.004	***	-0.004	***	-0.004	***	-0.004	***
	(0.001)		(0.001)		(0.001)		(0.001)	
Industry dummy	Y		Y		Y		Y	
Year dummy	Y		Y		Y		Y	
CSR Squared	-0.008		0.002		0.002		-0.002	
	(0.007)		(0.014)		(0.005)		(0.010)	
Intercept	0.355		0.353		0.351		0.352	
	(0.058)		(0.060)		(0.060)		(0.060)	
Adj. R squared	0.531		0.531		0.531		0.530	

Rubric as table 3.6A above, except the dependent variable is AVROS average return on sales calculated as net operating income divided by sales for year t and t+1 and the natural logarithm of staff numbers represents size.

TABLE 3.7A Time series regression of the change in average return on assets on the change in CSR and change in controls

$$\Delta AVROA_{it} = \beta_0 + \beta_1 \Delta CSR_{it-1} + \beta_2 \Delta SIZ_{it-1} + \beta_3 \Delta DEB_{it-1} + \beta_4 \Delta RDI_{it-1} + \varepsilon_i$$

	Environment		Employee		Community		Composite	
ΔCSR	-0.001		-0.000		-0.000		-0.000	
	(0.001)		(0.001)		(0.001)		(0.001)	
Δ Siz Ln staff	0.000		0.000		0.000		0.000	
	(0.000)		(0.004)		(0.004)		(0.004)	
Δ Debt gearing	0.047	***	0.047	***	0.047	***	0.047	***
	(0.017)		(0.017)		(0.017)		(0.017)	
Δ R&D intensity	-0.000		-0.000		-0.000		-0.000	
	(0.001)		(0.001)		(0.001)		(0.001)	
Intercept	-0.003		-0.002		-0.002		-0.002	
	(0.002)		(0.001)		(0.001)		(0.002)	
Adj. R squared	0.011		0.011		0.011		0.011	

The dependent variable is the change in average return on assets calculated as net operating income divided by the average of total assets for the year t and t+1, the independent variables are: ΔCSR the change in the CSR score, ΔSIZ the change in the natural log of staff numbers, ΔDEB the change in the debt gearing calculated as total debt divided by total assets, ΔRDI the change in the R&D intensity, calculated as the research and development expenditure divided by total assets. Cell entries refer to the regression parameters, standard errors clustered by firm are shown in parentheses, *** indicates a p value less than 1%, ** indicates a p value less than 5% and * indicates a p value less than 10% for a two tailed test, data is for the five years 2003 to 2007.

TABLE 3.7B Time series regression of the change in average return on sales on the change in CSR and change in controls

$$\Delta AVROS_{it} = \beta_0 + \beta_1 \Delta CSR_{it-1} + \beta_2 \Delta SIZ_{it-1} + \beta_3 \Delta DEB_{it-1} + \beta_4 \Delta RDI_{it-1} + \varepsilon_i$$

	Environment		Employee		Community		Composite	
ΔCSR	-0.000		-0.000		-0.001		-0.000	
	(0.002)		(0.004)		(0.002)		(0.003)	
Δ Siz Ln staff	0.000		0.000		0.000		0.000	
	(0.000)		(0.000)		(0.000)		(0.000)	
Δ Debt gearing	0.020		0.020		0.020		0.020	
	(0.017)		(0.017)		(0.017)		(0.017)	
Δ R&D intensity	-0.003		-0.003		-0.003		-0.003	
	(0.003)		(0.003)		(0.003)		(0.003)	
Intercept	0.001		0.001		0.001		0.001	
	(0.002)		(0.002)		(0.002)		(0.002)	
Adj. R squared	0.008		0.008		0.008		0.008	

Rubric as table 3.7A except the dependent variable is the change in average return on sales, calculated as net operating income divided by the average of sales for the year t and t +1.

CHAPTER 4

DOES CORPORATE SOCIAL RESPONSIBILITY AFFECT COMPANY MARKET VALUE?

Abstract

Critics of corporate social responsibility argue that although CSR may be socially desirable it has an economic cost and reduces shareholder wealth. This chapter addresses that concern by examining the relationship between corporate social responsibility and market value, one of the first studies to do this in the U.K. Well established value relevance methodology using the residual income model was deployed where market value is expressed as a function of earnings, book value and corporate social responsibility performance, the CSR score is used as a proxy for other value relevant information. A positive association between market value and all dimensions of social responsibility was found indicating that corporate social responsibility is associated with enhanced shareholder wealth and therefore better investor cash flow and/ or lower risk.

4.1 Introduction

There has been a significant amount of research devoted to the impact of corporate social responsibility on stock returns. One strand argues that addressing the needs of other stakeholders necessarily leads to additional costs and hence poorer shareholder returns, alternatively CSR activities may be synergistic leading to operational efficiencies and better profits. Both effects however are only visible temporarily, once the share price has adjusted a new equilibrium will be obtained and the effect of corporate social responsibility will be 'in the price', socially responsible or irresponsible company stock returns will be same for given levels of risk. CSR is only evident in stock returns if the market is continuously surprised by its impact, tardy in updating share prices or suffering from some other form of market inefficiency.

Socially responsible activities tend to build gradually over a number of years; consequently there is rarely a major change in performance that would be the impetus for a noticeable change in share price in one year. Furthermore although one might expect CSR to have some influence on share prices there is quite a long list of other confounding factors that may be difficult to control that are likely to have a bigger impact. In these circumstances the financial effect of corporate social responsibility is unlikely to be identifiable in stock returns. This provides the motivation for examining the stock level rather than stock return; as long as CSR has some non trivial role in company cash flow or risk this should be valued by the market and be detectable in the level of the share price.

This chapter is devoted to examining the impact of CSR on share prices in the UK using a number of company valuation models. There are two parts; firstly an outline of the background and development of these models along with a discussion of the econometric and other difficulties of implementing this methodology and secondly an empirical study of the value relevance of corporate social responsibility in the United Kingdom.

4.2 Background to capital market accounting research

Surprisingly there was little recognition of the relevance of financial statements to share prices before work by Ball and Brown (1968), who mapped the reaction of stock prices to unexpected changes in annual profits in order to assess the informational content of financial statements. They found a positive relationship indicating that earnings information was relevant to investors, although interestingly most of that share price change occurred prior to the release of the accounts suggesting that shareholders also used other channels to predict the financial results.

Analysing the impact of accounting information on share prices has been a fertile area of research since this time and is usually categorised as capital market based accounting research (CMAR). This field now comprises a very substantial body of research not only on the value relevance of accounts and accounting disclosure but also on a variety of topics ranging from the role and impact of company analysts through to studies of market efficiency.

CMAR methodology was extended by Amir and Lev (1996) who produced a mixed model by including non financial metrics in their examination of the telecommunications industry. A large number of subsequent papers have confirmed the importance of this ‘non financial’ information. For example Deng (1999) studied high tech firms, Trueman et al. (2000) and Rajgopal et al. (2003) looked at internet stocks, Green et al. (1996) and Strong et al. (1996) studied R&D expenditure in the UK

whilst Barth et al. (1998) and Kallapur and Kwan (2004) took a particularly fruitful route by examining company brand value using value relevance methodology.

A useful taxonomy has been developed by Daniel and Titman (2006) who define ‘tangible’ information as accounting measures such as profits and cash flow, whilst ‘intangible’ information was other information not required to be disclosed in financial statements. In the spirit of other CMAR papers they found that stock returns were poorly related to ‘tangible’ information but when this information was augmented with ‘intangible’ information the relationship with stock prices was much more explicable. In a sense this mirrors the gap between company book value and company market value. Intangible assets not included in the balance sheet are an important component of company value and ‘intangible’ information about these assets is therefore important in explaining share price and company valuation.

It seems reasonable to describe information about social responsibility as additional ‘intangible' information that may be of relevance to investors in the tradition of CMAR. In fact many companies now produce CSR reports as an adjunct to the annual financial reports, presumably because they provide useful relevant information for shareholders as well as other stakeholders. In recent years these reports have been given more and more prominence and are evolving in a similar way to financial accounts, for example many are now audited by social responsibility auditors.

Using the value relevance methodology to assess the impact of CSR on company financial performance is however an almost entirely new development. Margolis and Walsh (2001) conducted one of the most comprehensive surveys of CSR methodology to date by using the ninety five studies extant at that time. The six most popular methodologies were as follows; ‘multivariate, event study, correlation, t test, mere reported relationship and ANOVA’. It is striking that value relevance had not been used at that stage.

More recently Hassel et al. (2005) and Semenova et al. (2009) have examined the association between environmental performance and share price of Swedish companies, using value relevant models, in both cases finding a negative relationship. In addition a very recent paper by Gregory and Whittaker (2012), used KLD data and value relevance methodology and found that that all dimensions of social responsibility had a positive effect on market value.

Although it is true that value relevance is a relatively novel way of examining the financial impact of CSR, it does have relatively strong theoretical and empirical underpinnings; these are outlined in the next section.

4.3 Development of value relevant models

John Burr Williams is said to have first noted that firm valuation should simply be the sum of future dividends discounted at the rate required by that investment, commonly called the dividend discount model:

$$MV_t = \sum_{\tau=1}^{\infty} E_t\,(D_{t+\tau})/(1+r)^{\tau} \qquad (4.1)$$

Here the market value MV is assumed to represent the value of the company and is equivalent to the expectation E (.) based on information at time t of dividends D at the end each year, discounted at the market required rate of return r.

Residual income (also known as abnormal income), first attributed to Preinrich (1938) is defined as the excess of income denoted X over the market required return on the opening net book value denoted B.

$$X_t^a \equiv X_t - r.B_{t-1} \qquad (4.2)$$

Ohlson (1995) demonstrated that with a few additional assumptions, the dividend discount model could be recast in the format of a residual income model. Firstly clean surplus accounting is required whereby the change in net book value is split into net income and or dividends D, enabling net book value and net income to be substituted for dividends:

$$B_t = B_{t-1} + X_t - D_t \qquad (4.3)$$

Secondly a regularity condition is necessary, namely that book value grows at a rate less than the required return:

$$E_t(B_t)/(1+r)^{\tau} \lim_{\tau\to\infty} 0 \qquad (4.4)$$

The residual income valuation is now given below:

$$MV_t = B_t + \sum_{\tau=1}^{\infty} E_t\,(X_{t+\tau}^a)/(1+r)^{\tau} \qquad (4.5)$$

Abnormal or residual income is denoted X^a; this formulation is sometimes referred to as the Edwards-Bell-Ohlson (EBO) model in recognition of the earlier work of Edwards and Bell (1961), and provides some important insights. In particular the focus is now on how wealth is created compared to the dividend discount model which describes how wealth is distributed.

Valuation includes two quite separate components, book value and the present value of expected residual income. A firm that is unable to obtain income in excess of the required return on assets is worth no more than these existing assets. An entrepreneur should only consider setting up or for that

matter continuing with a company if it is likely to be able generate and exploit situations that will create profits greater than the opportunity cost of capital; otherwise it would be better to dissolve the firm and redeploy that capital elsewhere. In addition the difference between market value and book value of a company can be characterised as an intangible asset representing opportunities to make abnormal profits. Traditionally this intangible has not been recorded on the balance sheet due to difficulties in measurement, reliability and the speed with which the value changes.

The focus then is firmly on future residual income as the determinant of company value; a reformulation similar to that in Cheng (2005:88) expands on this:

$$MV_t = B_t + \sum_{\tau=1}^{\infty} E_t \left(ROE^a_{t+\tau}.B_{t+\tau-1}\right)/(1+r)^{\tau} \qquad (4.6)$$

Return on equity (ROE) is net income divided by opening book value; therefore residual net income in EBO can be substituted for residual return on equity, denoted ROE^a multiplied by opening book value.

This shows that the return on equity and the discount rate are the most important influences on company value. In turn the major driver of return on equity is the competitive environment, in a situation of perfect competition abnormal profits will be driven down to zero. Neo classical economic theory suggests that industry factors and the place of a firm within an industry are vital here. An industry with high barriers to the entry can restrict competition; secondly industry concentration may lead to implicit or explicit collusion between major players creating an oligopoly. Within an industry there is a much wider array of factors affecting competitive advantage, including for example management talent, research patents through to brand value. Corporate social responsibility activities could be expected to affect this intra- industry competitiveness in a number of ways; staff productivity, public image and customer loyalty for example, and therefore affect the residual income valuation.

The EBO model is however silent on how firm value evolves through time. Certainly the initial capital invested and recorded as net book value has value but the whole purpose of an enterprise is to create wealth over and above this initial injection. A major innovation was made here by Ohlson (1995) in the form of 'information dynamics'; under this model new value relevant information introduces a shock which moves residual income in the following period, this new information is then incorporated through an AR (1) process, the formation of the new information also following an AR(1) process. The mechanism is shown below:

$$X^a_{t+1} = \omega X^a_t + \nu_t + \varepsilon_t \qquad (4.7)$$

$$\nu_{t+1} = \gamma \nu_t + \eta_{t+1} \qquad (4.8)$$

The new value relevant information is represented by υ; ω and γ are persistence parameters, whilst ε and η are zero mean disturbance terms. A boundary condition is required to achieve stationarity,

$0 \leq \omega, \gamma \prec 1$ (4.9)

Assuming market efficiency with market price being equal to value, gives a model that now includes the impact of new value relevant information priced by the market as follows:

$$MV_t = B_t + \alpha_1 X_t^a + \alpha_2 v_t \quad (4.10)$$

Where $\alpha_1 = \frac{\omega}{1+r-\omega}$; $\alpha_2 = (1+r)/((1+r-\omega)(1+r-\gamma))$ (4.11)

Ohlson (1995:668) 'ν, should be thought of as summarising value relevant events that have yet to have an impact on the financial statements' and 'one thinks of ν , as capturing all non accounting information used in the prediction of future abnormal earnings'.

Empirical testing for example by Dechow et al. (1999) find results 'that generally support Ohlson's information dynamics'. Moreover these models provide a further impetus to a variety of value relevant empirical work.

Collins et al. (1999) use two rearrangements to Ohlson's model, firstly substituting residual income for net income less the required return on opening book value yields:

$$MV_t = B_t + \alpha_1 NI_t - \alpha_1 r B_t + \alpha_2 v_t \quad (4.12)$$

Secondly, using the clean surplus relation to replace closing book value with opening book value plus net income less dividends:

$$MV_t = B_{t-1} + NI_t - D_t + \alpha_1 NI_t - \alpha_1 r B_{t-1} + \alpha_2 v_t \quad (4.13)$$

$$MV_t + D_t = (1+\alpha_1) NI_t + (1-\alpha_1 r) B_{t-1} + \alpha_2 v_t \quad (4.14)$$

This produces a possible empirical analogue as follows:

$$MV_t + D_t = \beta_0 + \beta_1 NI_t + \beta_2 B_{t-1} + \beta_3 v_t + \varepsilon_t \quad (4.15)$$

Here company valuation is the current market capitalisation plus dividends, in other words a *cum div* valuation. This is in contrast to the EBO model where dividends are assumed to be paid at the year-end, market value there is *ex div.* The EBO assumption is however not realistic, interim dividends if declared are paid during the year, whilst the final dividends are paid some time after the year end,

usually after the AGM. Therefore the market price at the year end is *ex div* for the interim and *cum div* for the final dividend, but is there a significant difference between market prices that are *ex* or *cum div* the final dividend? Empirically there is little difference; 'the correlation between the two variables in a sample of 7,151 cases where the necessary data is available is 0.9998', Rees (1997).

Although this departure from EBO by using a *cum div* specification is unlikely to have a major impact it does more closely represent business reality. In the residual income model book value and net income fully describe market value; however in practice it is likely that some other variables are value relevant, therefore an intercept is included here. If the constant is not relevant it will not be statistically significant and will not interfere with the results.

This is however only one possible value relevant format, within capital market accounting research there is presently no consensus on the precise form of the empirical model. Variations include the use of a scaling variable or not, the length of lag given for information to be incorporated as well as the use or absence of control variables. To some extent this is both a strength and weakness, the format is flexible and can fit the research question and empirical constraints easily but in doing so loses some theoretical validity.

Strong et al. (1995) investigated some of these concerns and found that the omission of book value (i.e. only including earnings) left the model seriously mispecified, the use of an intercept helped to compensate for omitted variables whilst deflation by book value unfortunately depressed the explanatory power of the model by increasing the standard error of the book value coefficient by reducing the earnings coefficient standard error. The data covered the period 1968 to 1992, pooled results were similar to year by year and company by company mean results suggesting that the pooled methodology was acceptable. O'Hanlon (1995) also looked at the validity of these models and concluded that simple operational models outperform other more complicated versions that more closely follow Olson's theoretical specifications. Given the above, a parsimonious approach will be followed as much as possible.

4.4 Corporate Social Responsibility value relevance model

$$V_{it} = \beta_0 + \beta_1 NI_{it} + \beta_2 NBV_{t-1} + \beta_3 CSR_{it} + \varepsilon_{it} \qquad (4.16)$$

The basic model above uses Collins et al. (1999) as a starting point, V is cum div market value i.e. market capitalisation plus dividends, NI net income, NBV net book value and CSR representing the corporate social responsibility performance of each company. The value relevance of social responsibility will depend on the significance of the β_3 coefficient, with the sign indicating whether CSR is wealth creating or wealth destroying.

This model is very close to a number of other value relevance models, for example Barth et al. (1998) and Kallapur and Kwan (2004) who examined brand value and Aboody et al. (1999) and Barth et al. (1992) studying pension costs. However this basic starting point needs additional specifications to accommodate the particular characteristics of corporate social responsibility.

Firstly industry affiliation will naturally affect profitability and valuation; this is dealt with by including 38 dummy variables representing the Industry Classification Benchmark (ICB) code for each company. Secondly the size of a firm may affect its financial performance for example through economies of scale, this should be controlled for. There are a large number of possible candidates for this variable but both sales and total assets are not appropriate for financial companies, whilst market value is already the dependent variable and book value is a regressor, therefore employee numbers appears to be the best available candidate. Thirdly as highlighted by Brammer et al. (2006), CSR is multi-faceted, with each different aspect likely to have a differential effect on market value. A disaggregated approach is therefore necessary where the individual dimensions of CSR, environment, employees and community are separately examined. The composite overall CSR score will also be used as a point of reference and matter of interest.

Finally there are a number of econometric and other issues that need to be addressed, in some cases necessitating additional model specifications, these are outlined below.

4.5 Econometric and other issues

The model above is grounded in an established stream of empirical work and provides an attractive platform from which to test the value relevance of corporate social responsibility activity. However as Green et al (1996:196) note ‘it is difficult to identify a cross-sectional valuation model that can be defended unequivocally from a theoretical point of view’. This section looks at the possible

difficulties of implementing this type of model as well as ensuring the robustness of the results and providing an additional perspective for assessing results.

4.5.1 Scale effects

Easton and Sommers (2003) define that a 'scale effect' exists when large firms exert an undue influence on estimated regression coefficients. They show that the average values of studentised residuals vary with the market value of firms with this heteroscedasticity producing biased standard errors and hence interfering with statistical inference. This is likely to be a concern here; the data used draws from the FTSE All Share and therefore has a wide variation in the size of company examined.

Deflation, i.e. dividing through by a size factor is the most common solution to this problem. This procedure can be illustrated by the following example, based on Barth and Kallapur (1996); a firm's valuation is given by:

$$MV_i = \beta_0 + \beta_1 NI_i + \beta_2 NBV_i + \varepsilon_i \quad (4.17)$$

These are the actual underlying variables and are related to the observed variables (denoted by a *) by the scale factor S, as follows:

$$MV_i^* = S_i MV_i \quad (4.18)$$

$$NI_i^* = S_i NI_i \quad (4.19)$$

$$NBV_i^* = S_i NBV_i \quad (4.20)$$

$$\varepsilon_i^* = S_i \varepsilon_i \quad (4.21)$$

The variance of the disturbance term is therefore proportional to the square of the size factor:

$$Var\,(\varepsilon_i^*) = \sigma^2 S_i^2 \quad (4.22)$$

This is heteroscedastic, the coefficients estimated will no longer have minimum variance in the class of estimators produced and may be biased. The obvious solution is to divide through by the factor that inflated the values in the first place, however it is not clear in a set of data what best represents this

scale influence or for that matter whether it is one factor or the confluence of a number of different factors.

Empirical work in recent year has employed a bewildering array of deflators, including; sales, Hirschey (1985), opening market value Lo and Lys (2000), closing market value, Easton (1998), Shen and Stark (2011) and number of shares Rees (1997), Hand and Landsman (1999).

An alternative approach is to use stock returns rather than the level of the share price. Here only the change in the response of firms is assessed which is likely to be small in magnitude (therefore ameliorating the scale effect), an additional advantage is that this also reduces the effect of any omitted variables because there is likely to be little change in their impact between years. Sadly this creates other problems; Kothari and Zimmerman (1995) for example claim that using the returns method causes the slope coefficients to be biased downwards. The share price is created out of all existing information to date but the stock return is created only from new unexpected information, if there is no new information, stock return will be zero. Accounting information disclosed by accounts however contains both expected and unexpected information. Using one of these accounting variables e.g. net income as a regressor for stock return is likely to produce a slope coefficient biased towards zero as unexpected information can be either positive or negative, whilst the expected information element will have a zero effect on stock return. This is not a problem in a stock level approach as all of the value relevant content of accounting variables has an impact on the price level; therefore the slope coefficients should reflect the relationship between these variables and stock price.

Rees (1997) compares the level and return methods and lists three reasons for using the levels approach and concludes that the explanatory power of a level model is reasonably high in comparison to the returns method which 'typically demonstrate poor explanatory power – often in the region of 5% to 15%'. Landsman and Magliolo (1988) argue that there is no definitive 'best' approach but that the decision depends on the data available, this is echoed by Barth et al (2001:95), 'the key distinction between value relevance studies examining price levels and those examining price changes, is that the former are interested in determining what is reflected in firm value and the latter are interested in determining what is reflected in changes in value over a specific period'.

Barth and Clinch (2009) carried out an extensive examination of this area using simulations to mimic Compustat data. Out of six strategies used to mitigate scale effects, deflation by number of shares was the most successful approach followed by no adjustment i.e. leaving the original specification alone. Alternatively Shen and Stark (2011) find that deflation by market value is in general a superior method in the UK. Unfortunately adopting this approach presents problems for our model given that

the dependent variable is market value. Regressing on a vector of one makes the use of dummy variables impossible which is crucial given the need to accommodate industry effects in the model.

Scale effects are a central issue in value relevance work and need to be dealt with thoroughly, two separate approaches were taken to do this. Firstly deflation by number of shares is principally used; this is appropriate given that market value and book value are already necessarily included in our model, in addition this deflator has extensive support from a number of studies, secondly as a robustness check deflation by book value is also deployed in one specification. Shen and Stark (2011) show that when other information is used book value makes a reasonable deflator never occupying less than second rank for any of their measures of error.

Deflation by book value however implies that the intercept term will be the reciprocal of book value. Different papers have dealt with this in different ways with many simply ignoring the reciprocal, the use or absence of an intercept however depends on the nature of the model being used and the research question asked and not simply convenience. It was decided to include this reciprocal on the basis that it was prudent to do so, although there is an argument that a close following of the theoretical residual income model indicates that it is not required.

4.5.2 Dividend anomaly

In general one would expect a one pound reduction in value for each one pound of dividend, i.e. $\delta P / \delta D = -1$, to represent money going out of an organisation. If this is the case the only accommodation needed in the model is to include dividends on the left hand side to equate the value of dividend paying and non paying firms, value is therefore cum div as noted in Collins et al. (1999) above.

Surprisingly rather than there being a displacement of value, Rees (1997) finds that in the UK dividends are positively associated with company value. These results are supported by work a few years later by Akbar and Stark (2003), whilst Hand and Landsman (2005) finds similar results in the US. This wealth creation is all the more unlikely given that dividends bear considerably more tax than the equivalent capital gain both in the UK and to a lesser extent in the US, capital gains have a substantial tax free allowance for individuals and are not taxable on non-tax paying bodies, whilst dividend tax credit is no longer reclaimable by non- tax paying bodies in the UK.

When dividends are included as a regressor in a valuation model the results are strong, positive and significant, in addition they substantially reduce the results on the earnings variable. From this it appears that dividends have a wide ranging role in influencing company valuations, four main explanations have been posited.

Firstly dividends represent a strong signal of management confidence regarding future financial performance which is particularly important where there is information asymmetry; Rees (1997) finds the dividend effect stronger in smaller firms, taken here as a proxy for information asymmetry. Secondly, dividends may be signalling the level of permanent earnings to investors, in contrast current earnings are partially transitory, explaining the low coefficient for earnings, Dedman et al. (2010). Thirdly the effect may be a result of pooling profit and loss making firms, Jiang and Stark (2009) find that when these two groups are separated the coefficient for earnings becomes much higher for profitable firms but is not significantly different from zero in loss making firms. The separation causes the coefficient for dividends to become much smaller although it remains significant. Presumably for profitable firms earnings carry information about future earnings whilst earnings are not informative for loss makers. The final explanation is provided by Hand and Landsman (2005), they conclude that dividend relevance is due to market inefficiency, investors misprice the true value of current earnings and book value.

Modigliani and Miller make an elegant theoretical case for dividend irrelevance but empirical evidence suggests otherwise, dividends do seem to have an important influence on company valuation. Including them on the left hand side wrongly constrains their coefficient to -1; therefore in this study the value relevance model includes dividends as an explanatory variable on the right hand side.

4.5.3 Dirty surplus accounting

The residual income model requires clean surplus accounting to enable net income and net assets to be substituted for the dividends used in the dividend discount model, this is also required in the Ohlson formulation. Unfortunately accounting standards do not mandate clean surplus accounting, and in practice some items are charged 'below the line' directly to reserves. These are typically fair value adjustments, some foreign exchange differences and actuarial pension changes. Dirty surplus accounting is fairly widespread; 'a full 14.4% of the company years have clean surplus relation violations that exceed 10% of comprehensive income' note Lo and Lys (2000) in their examination of US firms between 1962 and 1997.

Obviously this may cause a problem because residual income models assume comprehensive income, defined as the profit and loss account net income plus/ minus the adjustment to reserves. Market valuations are expected to depend on expectations of future comprehensive income, therefore using net income instead may be a noisy proxy.

Lo and Lys (2000) investigated this difficulty, denoting clean surplus income as x^a whilst net income included in the income statement is denoted y^a and the dirty surplus element is shown as z^a . If only y^a is included in empirical testing then this is a simple omitted variable problem, the variable z^a should be included in the regression but is not, this has well known implications. Firstly if the correlation between y^a and z^a is less than unity then the omission of z^a will give a lower R^2 result. Secondly and more importantly if there is some form of relationship or correlation between the variables included in the regression, y^a and the missing variable then the coefficients reported will be altered. Essentially part of the relationship between the missing variable and the dependent variable stock price is being loaded onto the coefficients of the regressors that are included. The actual size of this problem depends on the situation in each case but it is reasonable to assume that there is a high correlation between the clean surplus income x^a and the amount included in the income statement y^a , this being the case y^a is a good proxy for x^a . In essence bias will be introduced into the valuation only if the present expected value of the clean surplus violations do not net to zero. Stark (1997) has shown that providing the dirty surplus items are purely transitory, the Ohlson model will still hold. In a UK context testing by O'Hanlon and Pope (1996) show that even over a long period the dirty surplus component of earnings has virtually no information content for valuation purposes. Therefore use of net income instead of comprehensive income may not as a matter of course cause significant distortion to the results.

4.5.4 Other determinants of market value

Value relevant models have their theoretical foundations in the dividend discount model and Ohlson model; however this chapter is an empirical study and needs to have cognizance of prior empirical work which indicate that there are other value relevant variables that need to be controlled for.

Rees (1997:1133) tested an empirical model that included all the indicators that had been shown to be value relevant in earlier research. These included book value, dividends, retained earnings, capital expenditure and debt. The results show 'support for the hypotheses that dividends and capital expenditure indicate value in a model including earnings and book value', whilst debt was found to value relevant in some situations.

Akbar and Stark (2003) and Hand and Landsman (2005) noted that additional capital received or capital returned affects company valuations and that the amounts and frequency involved are non-trivial. This could be dealt with by adjusting market value on the left hand side, however as noted above with dividends these capital contributions may also have an informational role therefore it would be more appropriate to include these as a regressor on the right hand side.

Franzen and Radhakrishan (2009) assert that linear information dynamics do not play out equally for profit versus loss making firms. Other information in the Ohlson model can include intangible assets such as R&D expenditure, the authors note that 'the valuation multiplier on R&D expenditures is likely to be negative (positive) for profit (loss) firms. Earnings of profit firms are likely to contain information on the future benefits of R&D activities; however earnings of loss firms do not contain such information.' Corporate social responsibility can be regarded as an intangible asset; therefore the CSR scores may influence valuations in a different way if companies are profitable or loss making. Jiang and Stark (2009) also noted earlier that other information was likely to be regarded differently in these two situations. Therefore a further specification is needed to separate companies into profit making and loss making groups to control for this possibility.

Although these additional variables and specifications represent a departure from the Ohlson model and therefore appear to have less theoretical validity, this is not necessarily the case. In a situation where there is information asymmetry, capital contributions, dividends, capital expenditure and debt can convey additional value relevant information about the future prospects of a company to investors.

4.5.5 Matching data

Matching share prices with accounting data is problematic because share prices change (almost) continuously whilst audited annual accounts are released only once a year. All listed companies have to publish results within four months of their financial year end (before 2007 it was six months); although as a matter of convention larger companies usually publish results within three months of year end. In addition, for listed companies the ASB recommend that preliminary results should be issued within two months of the year end.

Taking a 'strong form' view of market efficiency would imply that share prices adjust immediately as events occur and expectations of future profits change. In this situation the publication of year-end financial statements is irrelevant as the accounts only contain stale news. However empirical evidence of earnings surprises and their impact on share prices show that the results of Ball and Brown (1968) are still relevant. Publication of annual accounts can sometimes surprise the market and materially affect stock prices indicating that the release date of the accounts is significant. Furthermore there is evidence of post announcement drift, results are not impounded into security prices immediately, see Lui et al. (2003) for a discussion of this phenomenon in the UK.

It is not clear from this whether there should be a lag between share prices and the accounting and other information they are matched to and if so what the length of the lag is. The variety of

information channels and the very strong motivation of investors to anticipate financial results indicate that no lag is necessary, whilst earnings surprises and post announcement drift indicate that a substantial lag would be appropriate.

A pragmatic compromise was adopted; stock prices were matched to what were estimated to be the most recently published annual accounts, for this purpose it was assumed that there would be a three month delay between the year- end date and the release of the accounts. This should provide enough time for the great majority of companies to produce and publish their results, for the remainder a lot of information would have already been released through other channels in particular preliminary results and analyst guidance.

EIRIS hold corporate social responsibility information on their 'Portfolio Manager' database; this is available only to paying subscribers. Although some of the information comes from private dialogue with company management and the response to questionnaires sent by EIRIS most of the information is derived from publicly available sources. It seems reasonable to assume that all of this information will have filtered into the public domain within six month of EIRIS releasing it to their subscribers.

Share prices at 30th June are selected as this is one of the most information rich points in the calendar. In 2007 for example December year ends accounted for 52% of the FTSE All Share companies, whilst March year ends totalled a further19%. Certainly all of the calendar year end companies will have released their results by June as well as the great majority of March year end firms. Importantly this accounting information will be fresh; the obvious problem with using a longer lag is that 'older' accounts may be used in the model when this data has been supplanted by new information, for example from half yearly or even annual accounts.

The model therefore matches share prices at 30th June with CSR information taken on 31st December prior and accounting information drawn from annual accounts with year ends up to 31st March prior. In practice this amounts to a fairly wide window with accounts from 30th April the year before i.e. fifteen months earlier up to three months before being used. However given the big skew towards December and March year ends most information will be relatively fresh.

4.6 Data

This thesis focuses on the UK experience of corporate social responsibility because there is a relative paucity of work in this area. The CSR data for all four empirical chapters comes from EIRIS, the

premier UK corporate social responsibility agency. This is regarded as the most reliable information available on the social responsibility for UK companies and covers the whole range of CSR issues. A comprehensive description of the data is given in chapter two.

4.7 Methodology

Ohlson's extension to the residual income model is used to assess the value relevance of corporate social responsibility. CSR here takes the role of other information, i.e. news that may have been impounded into share prices but which does not yet appear in financial statements.

Although this model expresses company value solely as a function of book value, residual income and other information, prior empirical work has indicated that some other financial variables may influence market value. These variables are included in various alternative specifications to ensure that results are robust to these effects. This has necessitated six different specifications; these are outlined below with the results from these models given in separate tables later on.

4.7.1 Regression of share price on CSR scores and financial variables from Hand and Landsman (2005) model

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 NCC_{it}$$

$$+ \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{Oj} YR + \varepsilon_{it} \qquad (4.23)$$

Where P is the share price, CSR is the score for the environment, employee, community and composite dimensions of social responsibility, NBV is the net book value, EPS is earnings per share DPS is the dividend per share, NCC is net capital contributions received per share and IND is a dummy for the 38 ICB industry sub sectors. As noted in chapter 2 the experience of CSR is quite different in different industries therefore a control for this has also been included in this model. A dummy for year is also included due to the possibility that observations are differently affected by the situation in each year. The standard errors are clustered by firm to deal with the possibility that there is serial correlation between the residuals of individual firms across years.

The share price is taken at 30th June each year, the CSR variables are captured at 31st December prior to this date and the accounting variables relate to year ends up to 31st March prior to the 30th June. Financial variables were downloaded from Datastream.

4.7.2 Regression of share price on CSR scores and financial variables from Rees (1997) model

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 TLI_{it} + \beta_6 INV_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{Oj} YR + \varepsilon_{it} \quad (4.24)$$

Variables are as above except INV investment in capital expenditure per share and TLI total liabilities per share which was used rather than the total debt used in Rees (1997) because the debt in that paper was derived from Extel which allows negative debt but the Datastream definition is bounded at zero therefore liabilities were used here which may have a wider influence on market value.

4.7.3 Regression of share price on CSR scores and financial variables from both Hand and Landsman (2005) and Rees (1997) models with size control

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 NCC_{it} + \beta_6 TLI_{it} + \beta_7 INV + \beta_8 SIZ_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{Oj} YR + \varepsilon_{it} \quad (4.25)$$

This is a comprehensive specification including the variables in the two previous models. In addition company size is controlled for measured as the natural logarithm of staff numbers; book and market value cannot be used as a measure of size because they are already in use.

It may be of interest to assess if an alternative measurement of size produces different results because it is difficult for one dimension of size to capture all the different facets of what it is to be a larger company. To this end an additional regression was run where the natural logarithm of company sales was included to represent size instead of staff numbers.

4.7.4 Regression of share price on CSR scores and financial variables from both Hand and Landsman (2005) and Rees (1997) models with size control and deflated by book value

$$P_{it}/NBV_{it} = \beta_0 + \beta_1 CSR_{it}/NBV_{it} + \beta_0 1/NBV_{it} + \beta_2 EPS_{it}/NBV_{it} + \beta_3 DPS_{it}/NBV_{it} + \beta_4 NCC_{it}/NBV_{it} + \beta_5 TLI_{it}/NBV_{it} + \beta_6 INV_{it}/NBV_{it} + \beta_7 SIZ_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{Oj} YR \ \varepsilon_{it} \quad (4.26)$$

As noted in section 4.5.1 scale effects are a pervasive concern in this type of capital market accounting research. The inclusion in a cross section of a wide range of different size companies may lead to heteroscedasticity and bias, therefore an additional specification is run using another popular deflator, net book value.

This deflation turns the intercept into a reciprocal of net book value, it was decided to retain this as well as include a new intercept. This is regarded as the most prudent and conservative approach and guards against the possibility that the results will be distorted unnecessarily by omitted variables.

4.7.5 Regression of share price on CSR scores and financial variables from both Rees (1997) and Hand and Landsman (2005) models with size control divided into profitable companies and loss making companies

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 NCC_{it} + \beta_6 TLI_{it} + \beta_7 INV_{it} + \beta_8 SIZ_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{Oj} YR + \varepsilon_{it} \quad (4.27)$$

There is a suggestion that the value relevance of CSR plays out differently for profit making as opposed to loss making companies. The specification above is the 'comprehensive' specification noted above in 4.7.3 above, but is run only for companies that are profitable. This gives a comparison to the previous specification to assess if there is an obvious affect arising from the loss making firms.

An additional approach is to test for differences in the slope coefficients of the various CSR dimensions between profit and loss making companies. The test essentially assesses if there is a significant interaction between the situation of being loss making as compared to being profit making. A dummy variable was set up with a value of 1 if a firm was loss making and 0 if it was profit making,

this was value was multiplied by the CSR score to create a new regressor called LOS*CSR which was separately added to the regression and shown in table 4.9. If the situation of being loss making is relevant to the market price it is expected that the slope coefficient of this interaction term will be statistically significant. Although it should be noted that being loss making may also affect the other variables, so strictly interaction terms for them would also entered. This would produce the same slopes as the loss making specification above and so is not repeated.

4.8 Results

4.8.1 Descriptive statistics

Table 4.1 gives the summary statistics and table 4.2 the correlation matrix between CSR and the financial variables. This provides a check against the possibility of near multicollinearity but more importantly enables an initial assessment of the relevance of including certain variables. As noted before there is a high positive correlation between the different dimensions of CSR, firms either engage with CSR or not, as well as a strong positive correlation with company size measured by either staff numbers or sales, suggesting that care should be taken in controlling for this factor. There is also a reasonably strong correlation between dividends and CSR scores providing another reason for including dividends as an explanatory variable.

4.8.2 Value relevance results

Tables 4.3 to 4.8 contain the regression results starting with the simplest model and then adding additional variables and specifications to test the robustness of the results to different variables and situations.

There are a number of interesting results. In general corporate social responsibility has a statistically and economically significant impact on company valuation and is therefore priced by the market with this result being broadly consistent throughout the various different specifications. All dimensions give positive results although the employee dimension is frequently not statistically significant. The models provide high R squared results and appear to adequately explain firm valuations.

The anomalous role of earnings is also apparent; in general earnings per share have only a very small coefficient in comparison to dividends per share. Other papers also show a much diminished role for earnings once dividends are included, for example Dedman et al. (2010) but the results here are more extreme. This seems to be a product of using a sample from 2003 to 2007. One of the major financial stories during this time was the collapse of defined benefit company pension schemes under the weight of increasing longevity and sharply lower investment returns, for example Mercer (2011) a firm of global pension consultants report that between 2005 and 2009 life expectancy increased on average by 2.5 years. Under FRS 17 these actuarial adjustments are written off to reserves rather than going through the profit and loss account, an informal review indicates that these charges were substantial in this period. This makes the earnings figures a poor guide to financial value but increases the explanatory power of book value, the results seem to agree with this. In regressions where dividends were dropped (that are not reported here) earnings coefficients became much stronger with regard to market value, as noted earlier dividends appear to give a stronger signal gives regarding future cash flow than earnings.

Turning to the individual tables, table 4.3 includes net capital contributions following Hand and Landsman (2005) contribute to market value although this is not significant. Table 4.4 uses the value relevant variables identified in Rees (1997), investment in capital expenditure a positive contribution to value whilst total liabilities are not significant, these results are similar to that paper although there is a decline in the explanatory power of earnings and capital expenditure and an apparent increase in the coefficient on net book value.

Table 4.5 includes all the previous variables as well as introducing separately a control for firm size based on the natural logarithm of sales in table 4.5B. This shows that book value, earnings, dividends, capital contributions and investment in capital expenditure are relevant to market value. Importantly corporate social responsibility is still generally relevant to market valuation over and above these factors. The results are not substantially different using the two alternative measures of firm size.

4.8.3 The impact of deflation

In general the models are expressed on a per share basis; market value has therefore been deflated by the number of shares in issue, which accords with the work by Barth and Clinch (2009). An additional further deflation by net book value is carried out; the results are disclosed in table 4.6.

All four dimensions remain a positive contributor to market naturally the coefficients are much small due to the deflation, however only the employee dimension remains significant. It appears that additional second deflation by net book value has weakened the influence of CSR on market value.

Alternatively net book value has such a strong relationship with share price that effectively including an interaction term with this has swamped the weaker relationship between share price and CSR. The results for the controls give broadly similar results to earlier specifications, with the exception that investment in capital expenditure becomes insignificant.

In a number of value relevance papers the intercept term is dropped once the model is deflated, although the reason for this is rarely discussed. An intercept was included here as well as retaining the reciprocal of the deflator on the basis of prudency. It is interesting to note that the intercept is usually significant and also that if it is dropped the explanatory power of the social responsibility variables is increased, which indicates that the inclusion of the intercept has a conservative effect on results.

4.8.4 The impact of loss making companies

There are legitimate concerns that information dynamics play out differently for profitable compared to loss making companies, these groups are therefore segregated and separately reported in tables 4.7 and 4.8. Franzen and Radhakrishan (2009) make the suggestion that profitable companies enter a steady state where current earnings indicate future earnings and are therefore an important guide to valuation. In contrast loss making firms are by definition in a state of flux; here other factors especially intangible assets expenditures are important contributors to market value, which is typified by young growth companies that are expected to profitable at a later date.

A reputation for corporate social responsibility has been likened by some commentators to an intangible asset that enhances the resilience and long term growth of a company. Therefore this coupled with the anomalous role of earnings already noted motivates an effort to assess if this applies here.

Unsurprisingly the results for profitable firms noted in table 4.7 retain similar relationships to those noted before, although the capital expenditure becomes insignificant. The focus is however on the loss making companies reported in table 4.8, earnings becomes negative indicating that losses are associated with more market value. Importantly all CSR dimensions remain positive, although the employee score is not significant. Table 4.9 includes an interaction term between a dummy for being loss making and the CSR score to assess if there is a significant difference between the CSR slopes when firms are loss making as compared to profit making. This variable was not significant indicating that there is no significant difference between these two states.

The overall conclusion is that corporate social responsibility is value relevant in a wide range of different specifications. The employee dimension however has a smaller coefficient and is usually not significant, indicating that employee orientated activities add less to company value and are not as consistently associated with higher market value.

Five questions are used to produce the employee score; equal opportunities, health and safety, job security, trade union participation and training. It is possible to see how perceived generosity in these areas would not be so well regarded by shareholders. In addition there is a general perception that director salaries and perquisites are overly generous, although the questions above do not refer directly to directors there may be a suspicion that a generous deal for staff also means over generosity for the board.

It is difficult to compare this to other literature firstly because most prior studies have used a general 'social' category which would include our community and employee dimensions, secondly there are only two other studies on stock value rather than stock return and thirdly there is an extreme paucity of work on the UK experience compared to the U.S. This result is therefore new.

4.9 Conclusion

This chapter starts by noting that the use of value relevance methodology is expected to be a more promising approach in assessing the effect of corporate social responsibility on financial performance than stock returns. This approach has a strong theoretical background as well as an established body of empirical work. A number of econometric and other issues were identified, including; scale effects, the dividend anomaly, dirty surplus accounting and the practicalities of matching data. These concerns indicated that it would be sensible to entertain a number of different specifications in order to assess if the effect was robust to these factors, in total seven alternative models were used.

The results consistently show that high CSR is positively associated with market value and hence shareholder wealth with all four dimensions of social responsibility although in three of the seven tables the employee measure is not statistically significant.

The previous chapter examined the relationship between CSR and return on assets and return on sales, finding in general a positive significant relationship with ROA and an insignificant relationship with ROS, therefore not providing a consistently unambiguous link between CSR and profitability. There are obvious differences between actual profits and market value, market value is based on

expectations of all future profits as well as expectations of risk. Expectations may not give an unbiased guide to future profits if market inefficiencies operate (in particular behavioural biases) whilst risk is examined in the next chapter. A comparison of all the chapters is carried out in the final chapter 6, part 6.3.2.

TABLE 4.1. Summary statistics

	Mean	Median	Minimum	Maximum	Std Dev
Environment	0.90	0.75	0.00	3.00	0.89
Employee	0.70	0.60	0.00	2.60	0.62
Community	1.38	1.33	0.00	3.00	0.97
Composite	0.99	0.90	0.00	2.87	0.74
Price	419.89	268.00	0.43	9066.6	581.22
Net Book Value (NBV)	209.66	107.90	0.20	9579.80	473.63
Earnings Per Share (EPS)	24.66	14.30	-810.00	2302.00	87.63
Dividend Per Share (DPS)	11.71	6.50	0.00	332.00	18.28
Net Capital Contribution (NCC)	7.19	0.46	-159.13	2708.06	59.65
Investment in Capital Expenditure (INV)	28.85	8.68	0.00	2489.58	92.93
Total Liabilities (TLI)	8.95	1.77	0.00	763.31	39.24
Staff numbers in thousands	12.96	2.22	0.00	507.48	37.27
Ln Sales (Ln SAL)	12.81	12.77	2.56	18.99	1.97

The first four rows are the EIRIS scores for the three CSR dimensions plus the composite. The next six financial variables are expressed as pence per share, finally the staff numbers in thousands and the natural log of sales. Data covers the five years 2003-2007, the financial variables were downloaded from Datastream.

TABLE 4.2 Correlation between CSR and financial variables

	Envir	Employ	Comm	Comp	Price	NBV	EPS	DPS	NCC	INV	STA	TLI	Ln SAL
Environment	1.000												
Employee	0.672	1.000											
Community	0.687	0.781	1.000										
Composite	0.883	0.886	0.925	1.000									
Price	0.229	0.151	0.178	0.211	1.000								
NBV	0.117	0.077	0.063	0.095	0.689	1.000							
EPS	0.136	0.093	0.102	0.124	0.342	0.394	1.000						
DPS	0.294	0.224	0.235	0.281	0.579	0.465	0.358	1.000					
NCC	-0.005	-0.012	-0.030	-0.018	0.146	0.105	-0.020	0.109	1.000				
INV	0.114	0.080	0.053	0.091	0.320	0.361	0.157	0.297	0.136	1.000			
STA	0.320	0.308	0.324	0.354	0.154	0.097	0.097	0.186	-0.012	0.038	1.000		
TLI	0.081	0.154	0.121	0.128	0.164	0.393	0.277	0.377	0.043	0.099	0.088	1.000	
Ln Sales	0.565	0.442	0.532	0.579	0.271	0.179	0.282	0.376	-0.01	0.07	0.468	0.292	1.000

The first four variables are the CSR dimensions, other variables are: share price (Price) , net book value (NBV), earnings per share (EPS), dividend per share (DPS), net capital contribution (NCC), investment in capital expenditure (INV), staff in thousands (STA), total liabilities per share (TLI) and natural logarithm of sales (Ln SAL).

TABLE 4.3 Regression of share price on CSR scores and financial variables from Hand and Landsman (2005) model

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 NCC_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_{it}$$

	Environment		Employee		Community		Composite	
Environment	34.977	***						
	(12.254)							
Employee			27.154	**				
			(13.619)					
Community					32.397	***		
					(7.920)			
Composite							42.346	***
							(12.543)	
Net Book Value	0.461	***	0.465	***	0.462	***	0.461	***
	(0.119)		(0.120)		(0.120)		(0.120)	
Earnings Per Share	1.151	***	1.150	***	1.153	***	1.151	***
	(0.404)		(0.406)		(0.405)		(0.405)	
Dividend Per Share	12.982	***	13.247	***	13.020	***	12.982	***
	(2.001)		(2.027)		(2.013)		(2.015)	
Net Capital Contribution	0.548		0.497		0.568		0.565	
	(0.558)		(0.562)		(0.555)		(0.557)	
Industry dummy	Y		Y		Y		Y	
Year dummy	Y		Y		Y		Y	
Intercept	96.650		114.878		93.395		92.122	
	(120.589)		(121.962)		(121.565)		(121.291)	
Adjusted R- squared	0.583		0.581		0.583		0.583	

The financial variables are in pence per share, industry a dummy for each of the ICB industry sectors, a dummy for each year. Standard errors clustered by firm are shown in parentheses, *** indicates a p value less than 1%, ** indicates a p value less than 5% and * indicates a p value less than 10% for a two tailed test, data is for the five years 2003 to 2007.

TABLE 4.4 Regression of share price on CSR scores and financial variables from Rees (1997) model

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 TLI_{it} + \beta_6 INV_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_{it}$$

	Environment		Employee		Community		Composite	
Environment	35.578	**						
	(11.504)							
Employee			24.490	*				
			(14.008)					
Community					31.054	***		
					(7.686)			
Composite							41.462	***
							(12.537)	
Net Book Value	0.432	***	0.434	***	0.433	***	0.433	***
	(0.113)		(0.114)		(0.114)		(0.114)	
Earnings Per Share	1.141	***	1.145	***	1.141	***	1.140	***
	(0.424)		(0.425)		(0.425)		(0.426)	
Dividend Per Share	13.326	***	13.601	***	13.388	***	13.341	***
	(2.068)		(2.094)		(2.079)		(2.077)	
Total Liabilities	-0.001		0.005		-0.001	***	-0.001	
	(0.007)		(0.009)		(0.009)		(0.008)	
Investment Capital Expenditure	1.315	***	1.308	***	1.311	***	0.197	***
	(0.274)		(0.276)		0.278		(0.327)	
Industry dummies	Y		Y		Y		Y	
Year dummies	Y		Y		Y		Y	
Intercept	129.493		142.598		128.322		127.024	
	(92.724)		(93.118)		(93.035)		(93.031)	
Adjusted R- squared	0.615		0.613		0.615		0.615	

Rubric as table 4.3, except total liabilities and investment in capital expenditure expressed in pence per share is included.

TABLE 4.5A Regression of share price on CSR scores and financial variables from both Rees (1997) and Hand and Landsman (2005) models, with size control using staff numbers

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 NCC_{it} + \beta_6 LnTLI_{it} + \beta_7 INV_{it} + \beta_8 SIZ_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_{it}$$

	Environment		Employee		Community		Composite	
Environment	37.051	**						
	(12.321)							
Employee			25.481	*				
			(14.377)					
Community					33.331	***		
					(7.498)			
Composite							44.365	***
							(12.478)	
Net Book Value	0.383	***	0.387	***	0.384	***	0.384	***
	(0.111)		(0.113)		(0.112)		(0.112)	
Earnings Per Share	1.325	***	1.322	***	1.325	***	1.325	***
	(0.395)		(0.398)		(0.396)		(0.396)	
Dividends Per Share	13.147	***	13.401	***	13.204	***	13.161	***
	(2.061)		(2.085)		(2.071)		(2.069)	
Net Capital Contribution	1.307	***	1.277	***	1.319	***	1.319	***
	(0.420)		(0.420)		(0.422)		(0.421)	
Total Liabilities	0.003		0.007		0.003		0.002	
	(0.008)		(0.009)		(0.008)		(0.008)	
Investment in capital expenditure	1.284	***	1.278	***	1.278	***	1.275	***
	(0.277)		(0.279)		(0.280)		(0.278)	
SIZ Staff numbers	0.013		0.090		-0.006		-0.019	
	(0.193)		(0.223)		(0.206)		(0.201)	
Industry dummies	Y		Y		Y		Y	
Year dummies	Y		Y		Y		Y	
Intercept	124.844		138.667		122.829		121.490	
	(93.153)		(93.731)		(93.508)		(93.598)	
Adjusted R- squared	0.616		0.614		0.617		0.616	

Rubric as tables 4.3 and 4.4. , except staff numbers in thousands included.

TABLE 4.6 Regression of share price on CSR scores and financial variables from both Rees (1997) and Hand and Landsman (2005) models, with size control and deflated by book value

$P_{it}/NBV_{it} = \beta_0 + \beta_1 CSR_{it}/NBV_{it} + \beta_2 1/NBV_{it} + \beta_3 EPS_{it}/NBV_{it} + \beta_4 DPS_{it}/NBV_{it} + \beta_5 NCC_{it}/NBV_{it} + \beta_6 TLI_{it}/NBV_{it} + \beta_7 INV_{it}/NBV_{it} + \beta_8 SIZ_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_{it}$

	Envir		Employee		Community		Composite	
Environment	0.028							
	(0.030)							
Employee			0.048	*				
			(0.269)					
Community					2.025			
					(2.642)			
Composite							3.419	
							(2.796)	
1/ NBV	0.463	***	0.450	***	0.461	***	0.459	***
	(0.029)		(0.031)		(0.030)		(0.030)	
Earnings Per Share/ NBV	0.220	***	0.289	***	0.286	***	0.286	***
	(0.0245)		(0.022)		(0.022)		(0.022)	
Dividends Per Share/ NBV	0.249	***	0.248	***	0.253	***	0.252	***
	(0.029)		(0.028)		(0.028)		(0.028)	
Net Capital Contribution / NBV	4.543	***	4.537	***	4.379	***	4.305	***
	(0.908)		(0.911)		(0.932)		(0.930)	
Total Liabilities/ NBV	0.020		-0.002		0.003		0.002	
	(0.020)		(0.020)		(0.020)		(0.020)	
Investment in capital expenditure/ NBV	0.987		0.944		0.903		0.842	
	(0.523)		(0.527)		(0.554)		(0.554)	
SIZ Staff numbers	-0.049		-0.055		-0.040		-0.034	
	(0.336)		(0.341)		(0.337)		(0.336)	
Industry dummies	Y		Y		Y		Y	
Year dummies	Y		Y		Y		Y	
Intercept	207.371	**	217.691	**	166.293		143.586	
	(98.770)		(98.750)		(108.465)		(108.110)	
Adjusted R- squared	0.432		0.432		0.431		0.431	

Rubric as table 4.5A except that the variables are deflated by net book value.

TABLE 4.7 Regression of share price on CSR scores and financial variables from both Rees (1997) and Hand and Landsman (2005) models, with size control, for firms with EPS>0

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 NCC_{it} + \beta_6 TLI_{it} + \beta_7 INV_{it} + \beta_8 SIZ_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_{it}$$

	Environment		Employee		Community		Composite	
Environment	29.610	**						
	(12.393)							
Employee			18.017					
			(13.983)					
Community					25.733	***		
					(7.750)			
Composite							34.467	***
							(12.373)	
Net Book Value	0.252	**	0.255	**	0.256	**	0.254	**
	(0.120)		(0.120)		(0.120)		(0.120)	
Earnings Per Share	2.657	***	2.655	***	2.638	***	2.652	***
	(0.722)		(0.729)		(0.726)		(0.726)	
Dividends Per Share	10.892	***	11.081	***	10.970	***	10.919	***
	(2.096)		(2.114)		(2.102)		(2.103)	
Net Capital Contribution	0.485		0.457		0.495		0.493	
	(0.562)		(0.562)		(0.563)		(0.562)	
Total Liabilities	0.052	***	1.215	***	0.052	***	0.052	***
	(0.015)		(0.282)		(0.015)		(0.015)	
Investment in capital expenditure	1.255	***	1.214	***	1.218	***	1.216	***
	(0.282)		(0.282)		(0.283)		(0.282)	
SIZ Staff numbers	-0.039		0.032		-0.045		-0.058	
	(0.178)		(0.200)		(0.187)		(0.185)	
Industry dummies	Y		Y		Y		Y	
Year dummies	Y		Y		Y		Y	
Intercept	89.220		103.795		88.217		86.759	
	(95.010)		(95.774)		(96.013)		(95.830)	
Adjusted R- squared	0.611		0.610		0.611		0.611	

Rubric as table 4.5A, with 2,186 observations.

TABLE 4.8 Regression of share price on CSR scores and financial variables from both Rees (1997) and Hand and Landsman (2005) models, with size control, for firms with EPS<0

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 NCC_{it} + \beta_6 TLI_{it} + \beta_7 INV_{it} + \beta_8 SIZ_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \varepsilon_{it}$$

	Environment		Employee		Community		Composite	
Environment	18.234	**						
	(13.845)							
Employee			21.366					
			(12.994)					
Community					20.256	**		
					(8.029)			
Composite							27.067	**
							(11.515)	
Net Book Value	0.365	***	0.386	***	0.357	***	0.358	***
	(0.047)		(0.047)		(0.047)		(0.047)	
Earnings Per Share	-0.764	***	-0.787	**	-0.758	***	-0.772	**
	(0.163)		(0.163)		(0.162)		(0.162)	
Dividends Per Share	13.525	***	13.654	***	13.659	***	13.604	***
	(0.945)		(0.944)		(0.940)		(0.941)	
Net Capital Contribution	1.381	***	1.370	***	1.393	***	1.386	***
	(0.222)		(0.222)		(0.221)		(0.221)	
Total Liabilities	0.194	***	0.198	**	0.187	***	0.180	**
	(0.067)		(0.067)		(0.065)		(0.067)	
Investment in capital expenditure	0.961	***	0.974	***	0.978	***	0.964	**
	(0.251)		(0.251)		(0.250)		(0.250)	
SIZ Staff numbers	-0.068		-0.058		-0.189		-0.157	
	(0.415)		(0.415)		(0.419)		(0.418)	
Industry dummies	Y		Y		Y		Y	
Year dummies	Y		Y		Y		Y	
Intercept	270.337	***	274.127	***	267.400	**	268.461	**
	(84.694)		(64.648)		(64.440)		(64.496)	
Adjusted R- squared	0.765		0.765		0.767		0.769	

Rubric as table 4.7

TABLE 4.9 Regression of share price on CSR scores and financial variables from both Rees (1997) and Hand and Landsman (2005) models, with size control and interaction term between loss making firms and CSR

$$P_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 NBV_{it} + \beta_3 EPS_{it} + \beta_4 DPS_{it} + \beta_5 NCC_{it} + \beta_6 TLI_{it} + \beta_7 INV_{it} + \beta_8 SIZ_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jit} + \sum_{2003}^{2007} \delta_{0j} YR + \beta_9 LOS * CSR_{it} + \varepsilon_{it}$$

	Environment		Employee		Community		Composite	
Environment	31.048	**						
	(12.240)							
Employee			20.792					
			(13.930)					
Community					29.177	***		
					(7.863)			
Composite							37.557	***
							(12.474)	
Net Book Value	0.374	***	0.379	***	0.379	***	0.378	***
	(0.105)		(0.107)		(0.106)		(0.105)	
Earnings Per Share	1.279	***	1.262	***	1.243	***	1.248	***
	(0.407)		(0.401)		(0.414)		(0.415)	
Dividends Per Share	12.846	***	13.019	***	12.889	***	12.860	***
	(1.953)		(1.961)		(1.954)		(1.956)	
Net Capital Contribution	1.357	***	1.320	***	1.354	***	1.353	***
	(0.431)		(0.430)		(0.429)		(0.430)	
Total Liabilities	-0.012	***	0.046	***	0.041	***	-0.041	***
	(0.011)		(0.011)		(0.011)		(0.011)	
Investment in capital expenditure	1.257	***	1.251	***	1.253	***	1.251	***
	(0.258)		(0.195)		(0.259)		(0.258)	
SIZ Staff numbers	-0.470		-0.252		-0.066		-0.072	
	(0.176)		(0.195)		(0.185)		(0.183)	
Loss dummy*CSR	-27.180		-37.669		-16.778		-22.606	
	(19.556)		(25.479)		(13.337)		(18.765)	
Industry & Year dummies	Y		Y		Y		Y	
Intercept	104.508		118.727		102.920		102.258	
	(89.327)		(89.695)		(89.7672)		(89.832)	
Adjusted R- squared	0.620		0.619		0.621		0.621	

Rubric as table 4.5A except the inclusion of an interaction term between a dummy for loss making firms and the CSR score.

CHAPTER 5

DOES CORPORATE SOCIAL RESPONSIBILITY AFFECT STOCK RETURNS?

Abstract

Socially responsible investing has been one of the biggest growth stories in financial services in the last twenty years; the impact of corporate social responsibility on stock returns has therefore become an increasingly important issue. The effect of corporate social responsibility on stock return and risk is examined using three different approaches; realised returns, factor models and required returns. The methodologies employed were quite different; each having particular strengths and weaknesses, the results are however generally consistent, showing no substantial difference between the stock returns of companies with high compared to low social responsibility.

5.1 Introduction

Socially responsible investing has changed the face of financial services in the last twenty years, for example the Social Investment Foundation in its 2010 report notes that over 10% of total funds under management in the US are now held by ethical funds, compared to less than 1% fifteen years before, there has been a similar rate of growth in Europe.

A central question for these investors and the economy in general is whether social responsibility affects the share performance of companies; a case can be put for positive, negative and neutral effects. The beneficial operational effects of introducing socially responsible activities noted in the previous chapter could produce better stock returns if these effects were gradually incorporated over time into share prices. Demand from ethical investors may push up the share price of responsible companies, giving a positive short term stock return but also causing lower long term returns. In contrast if the market is efficient, has sufficient information to appraise the effects of social responsibility and acts swiftly on this information prices will quickly reach an equilibrium where returns to responsible and other companies will be the same for given levels of risk.

Social responsibility may also have an impact on the risk of a share, which will be reflected in the return required and therefore stock returns, the assumption being that investors demand higher expected returns as compensation for holding shares that are perceived to be riskier. The impact of social responsibility on the risk of a company can either add to or subtract from any cash flow benefits that CSR might confer on a firm. In addition this impact on risk itself is of practical concern, ethical fund managers need to assess any new investment by the extent to which it moves an existing portfolio towards the targeted risk / return profile; therefore expected risk and return are both separately important.

This chapter starts by discussing the likely impact of social responsibility on realised and required stock returns. The empirical section takes three approaches; firstly the realised returns of portfolios of high and low CSR performing companies were examined for any differences. Secondly these returns were 'broken down' using the Fama French three factor and Carhart four factor model, in order to assess if these returns are due to any risk factors in particular. Thirdly, the implied cost of capital was estimated for companies, this was then used to assess if social responsibility had any effect on risk and hence the required returns for these shares.

5.2 Corporate Social Responsibility and realised returns

Ethical funds usually construct their portfolios by using positive and negative screening, favouring pro social companies and eliminating 'sin' stocks. This screening process removes stocks, industries or possibly whole countries from the investable universe, constraining the available investments they can put into their portfolios. This may produce a sub optimal mean-variance result for three reasons; greater volatility through less diversification, the possibility of missing out on mispriced high return/ low risk shares and the dilution of compound geometric returns. This dilution is caused by greater volatility; the compound return of a portfolio is approximately the average arithmetic return less half the variance of the constituents' arithmetic returns. Therefore less diversification leads to greater volatility of constituent returns and a poorer portfolio compound return.

There have been a number of studies in this area and surprisingly most of the papers indicate that any impairment in financial performance is quite mild. Mallin et al. (1995) in an early paper developed a matched pair methodology to overcome the benchmarking problem. They studied 29 ethical and 29 non ethical funds in the UK between 1986 and 1993, finding that ethical fund performance was 'weakly superior'. Statman (2000) examined the performance of the Domini 400, an index of the largest socially responsible companies. Interestingly this has enjoyed significantly better returns than the S&P 500 since it was instituted in 1990; however he noted that after adjustment for risk this outperformance turned into a slight underperformance. Geczy et al. (2003) benchmarked US funds by

constructing optimal portfolios with and without socially responsible objectives, for passive investors the ethical screen had little effect on results. Bauer et al. (2002) using a multifactor performance model noted that American and German ethical funds produced results lower than the broad market whilst UK funds out performed, although in all cases the differences were small. Gregory and Whittaker (2007) in a study of UK companies found little performance difference and conclude that their results 'do not suggest that ethical investors lose out compared to ordinary investors'.

Portfolio results however depend not only on the behaviour of the individual shares purchased but also on the respective weight of each investment in the portfolio, the co-variances between these investments along with the amount of charges levied. Ethical fund performance is therefore a poor guide to the performance of the 'average' share in that fund or socially responsible shares in general.

In order to avoid these confounding effects the focus of this chapter is on individual shares rather than ethical funds with a view to assessing the direct effect of social responsibility on stock returns. Prior literature has tended to either focus on the impact of particular social responsibility events on the share prices of particular companies or alternatively use a cross sectional study of the relationship between CSR and stock returns for large groups for companies. Event studies include work by Shane and Spicer (1983), Hamilton (1995), Klassen and McLaughlin (1996) and Karpoff et al. (2005), which find that share prices increase following positive responsibility news. Interestingly the reaction to negative news is greater, Karpoff et al. (2005) suggest that this is related to the size of a possible regulatory fine. In a cross sectional study Feldman et al. (1997) find that pro environmental policies reduces firms' market beta, leading to a rise in share price. Whilst Brammer et al. (2006) adopt a more sophisticated approach using the Carhart four factor model as a benchmark for assessing risk adjusted performance and find a negative relationship between stock returns and CSR performance.

Early researchers have used realised ex post returns as a proxy for expected ex ante returns on the basis that the market for risk is efficient and therefore the price of risk i.e. the equity premium will equate supply and demand in a reasonably predictable manner. Blume and Friend (1973), Sharpe (1978) , Froot and Frankel (1989) and Elton (1999) however are a few of the studies that point out that this is not the case in the real world, realised returns have on average only a weak relationship to expected returns.

Campbell and Shiller (1988) and later Vuolteenahoo (2002) decompose realised returns into the sum of expected returns plus cash flow shocks and discount rate shocks. If these shocks are random they would sum to approximately zero either cross sectionally or longitudinally, making realised returns an unbiased estimate of expected returns. However Elton (1999:1199) examines this in depth and concludes that the 'belief that information surprises cancel out over the period of the study....is misplaced'. Some of the shocks are systematic, the business cycle changes a company's operating

situation, and also alters optimism and therefore the compensation required to hold risk market wide. This effect is reinforced because risk taking is also wealth dependent; a recession reduces the appetite for risk which is then compounded by real falls in wealth, one rational reason for the bull-bear cycle in the stock market. Importantly these movements in required returns produce the opposite result in realised returns. For example a fall in the required return from 10% to 9% with unchanged dividend expectations will cause a rise in share price of 10% in the period of transition. In this case the short term ex post realised return gives a completely false indication of the long term ex ante required return.

The Japanese stock market has produced negative returns for over fifteen years but this is unlikely to indicate that the discount rate was negative during this period, whilst the converse may be true of the American market, with the equity premium puzzle (unjustifiably high returns to equity risk) being simply due to a long stretch of unexpected good luck. Unusually benign conditions and increasing tolerance for risk may have induced a gradual decline in the required return, creating a string of positive stock returns until the price of risk became unsustainably low at the turn of the millennium precipitating the subsequent bear market in the first decade of the 21st Century.

The influence of social responsibility on the return required by investors is the relevant point here rather than the noisy realised return which is influenced by a number of extraneous factors. The cost of capital is a major input cost for every company having a big influence on its operations and ability to prosper and expand. The drivers of the cost of capital/ required return for socially responsible firms are discussed in the next section.

5.3 Corporate Social Responsibility and required return

Investors may accept a lower return either because the expected risk is lower or the shares are preferred for another reason, social responsibility can affect both risk and investor preference for a number of reasons.

Social responsibility may reduce the volatility of company cash flows. For example a firm that implemented tight health and safety policies might exchange the regular costs of implementing these procedures for the sporadic costs of court action and compensation, (the BP Gulf of Mexico explosion is an unfortunate recent example). Hong and Kacperczyk (2009) using the example of tobacco companies argue that firms that are less responsible face a greater possibility of litigation. Low CSR performance may also portend adverse media attention, a customer boycott as well as poor industrial relations and the risk of strike action.

Corporate social responsibility has been described as creating moral capital and goodwill, with this providing a valuable safety net for a company, Godfrey et al (2009). Customers and other stakeholders are more loyal to a company once a socially positive image is created, conferring insurance type benefits which smooth company cash flows. In addition Luo and Bhattacharya (2006) argue that once a positive image is created belief inertia can insulate an enterprise from the adverse financial consequences that arise from occasional negative events that inevitably occur in any organisation's operations.

Companies with high social responsibility may in some ways be of better 'quality', their managers are more skilled, innovative and in tune with current zeitgeist. Sharfman and Fernando (2008) argue that strategic management, awareness of social issues and risk management are highly complementary and represent an area that high CSR companies have expertise in. Goss and Roberts (2007) examine the cost of bank loans and find firms with poor social responsibility scores pay higher charges. Banks and lenders may prefer to deal with companies with a good public image; they build a more durable relationship which ensures that funding is still available during economic downturns with this reducing distress risk.

Corporate social responsibility is also associated with a substantial amount of additional disclosure of company activities to the shareholders and the public in general. Many companies produce social responsibility reports as well as publicising their pro social activities in the wider media. Easley et al. (1991) argue that this additional disclosure reassures investors by reducing information asymmetry. Social responsibility reports also reduce monitoring costs and the risk inherent in estimating the distribution of future returns, Clarkson et al. (2002). This may lead to a broadening of the investor clientele which aids market liquidity and reduces transaction costs, all of which increases the demand for the firm's securities, Diamond and Verrecchia (1991).

The points above outline how CSR may reduce firm specific (idiosyncratic) risk, however this may be a pointless and potentially costly procedure if the risk reduction can be achieved through diversification which is almost cost free. For example a firm with a high exposure to environmental costs could be matched in a portfolio with a firm that has low exposure to environmental costs; as these effects cancel the investor now has little concern regarding environmental risk. Investors will not be prepared to pay for risk reduction that can be carried out at no cost through diversification.

Some risks are common to all firms because they operate in the same economic and political environment, with these shared influences representing a risk that is not diversifiable. This type of risk is characterised as macro- economic and includes the threat of recession, interest rate increases, political instability, industrial unrest and inflation. These common risks can be proxied by measuring the sensitivity of a firm's share price to movements in a broad index of shares, this measure is called market beta. Lower beta is a risk reduction that investors should be prepared to pay for, therefore

increases in share prices and positive stock return could be engendered by lower market beta as well as better cash flow prospects.

It is likely that social responsibility activities simultaneously reduce firm specific as well as market risk. A good public image may increase profits but it also provides a buffer if the economy enters a recession. A company that enjoys good staff relations may benefit from more productivity but is also less vulnerable in a period of widespread industrial unrest. Corporate social responsibility can provide greater resilience in the face of macro- economic shocks and therefore reduce market beta. Furthermore Ang et al (2006) find that idiosyncratic risk is relevant and priced, most investors are not widely diversified and do not like volatility in any guise. Therefore corporate social responsibility may reduce both idiosyncratic and market risk with both of these being relevant and priced by the market.

Socially responsible companies are likely to be preferred by investors on other grounds as well, how does this affect the required return? In neo-classical economics, assets are homogenous and perfectly substitutable, in the words of Scholes (1972) they are 'not unique works of art'. One firm's risk/ return payoff can be swopped for another, assets with similar risk will be priced so that their expected returns are equal; there is only one price for risk which is set on a market wide basis. Although the overall market for assets responds to demand and supply shifts, the demand curve for an individual share is horizontal so that the price is not responsive to an increase in demand, as soon as the price rises an investor can obtain the same risk at a lower price by buying an alternative share, this moves price back to its original level. In practice however empirical work has challenged this notion, a good example is the S&P inclusion effect; new entries to the S&P experience a sudden and persistent jump in share price, Shleifer (1986). This is presumably due to buying pressure because it was noted that shares lacking a close substitute experienced higher jumps than those that were more substitutable.

There is an obvious lack of substitutability between socially responsible and 'sin' stocks; they operate in segregated markets in a similar way to Merton's (1987) model. Investors demand for social responsibility pushes up the share price and reduces the expected return, equally lack of demand reduces the pool of willing investors in 'sin' stocks, and the anticipated return has to rise to attract buyers resulting in a fall in share prices. If there are a limited number of socially responsible companies and a large enough demand for this ethicality the demand curve for these stocks will be downward sloping rather than perfectly elastic. Examples of other investor preferences that affect returns include; home bias, people favouring local and domestic companies, French and Porterba (1991), employees disproportionately holding their employers stock, Cohen (2003), preference for growth and large companies, Daniel and Titman (1997), although some might argue that these preferences can be construed as a risk story.

Socially responsible investors may not be fully aware of these arguments but it appears that they are resigned to their ethical investments producing an inferior return. Mackenzie and Lewis (1999) interviewed a number of ethical investors, although their predictions of the returns they would receive from socially responsible funds were quite diverse they were all lower than the predicted return from their other investments. It seems that this was accepted as the price of altruism; interestingly in all cases these ethical funds only comprised a relatively limited part of their total investment portfolio, presumably because of this lower expected return.

In summary, there are a number of good reasons why corporate social responsibility may affect risk and investor preferences, firstly by smoothing company cash flows, secondly belief inertia making the financial benefits of social responsibility more durable, thirdly skilled management may be adept at managing operational and distress risk, fourthly better disclosure could reduce perceived risk and information asymmetries, fifthly segregated markets mean that demand from investors increases prices and reduces returns and sixthly lower returns are accepted by altruistic shareholders. All of these explanations point towards lower stock returns for socially responsible companies, the only alternative viewpoint is the argument that because ethical funds suffer impaired performance due to restrictions in their investment opportunities, socially responsible shares have to compensate for this by offering superior risk/ return payoffs, otherwise they would be unable to attract buyers.

Although there are a very large number of studies of the impact of social responsibility on profitability, there are relatively fewer papers on CSR and risk. Orlitsky and Benjamin (2001) conducted a meta study of 18 papers and conclude that there is an inverse relationship between social responsibility and risk, with a much stronger correlation between market based versus accounting measures of risk. Even fewer papers have considered the difference between idiosyncratic and systematic risk. Boutin-Dufresne and Savaria (2004) find a negative relationship between firm specific risk and CSR performance in Canada, a finding that is echoed by Lee and Faff (2009) in America. Two recent papers examined systematic risk (market beta), Oikonomou et al. (2010) and Salama et al. (2011), they note a negative association in the US and UK respectively. The last paper is of particular interest because it is the only published research found that has looked at CSR and risk in the UK. The authors used data from 'Management Today' Britain's most admired companies 1994-2006 survey which rates companies in terms of their reputation for community and environment responsibility, (CER). They find an inverse relationship between CER and market beta, however the impact is very weak, 'an increase of 1.0 in the CER score is associated with only a 0.028 reduction in its beta', the CER scores ranged from 2.7 to 8.5, in other words a maximum reduction in beta of only 0.16 between the top and bottom performing companies.

5.4 Calculating required return

5.4.1 Factor models

Many asset pricing models use the structure provided by the arbitrage pricing theory (APT) of Ross (1976):

$$r_i = \alpha_i + \sum_{j=1}^{N} \beta_i F_i + \varepsilon_i \quad (5.1)$$

Where r_i is the realised return on asset i, F_i, j=1...N are orthogonal zero mean systematic risk factors, β_{ij} is the asset i's factor loading with respect to factor F_j (i.e. factor beta), ε_i is the zero mean idiosyncratic error term. Assuming no risk free arbitrage the expected return will be:

$$E(r_i) = \lambda_0 + \sum_{j=1}^{N} \beta_{ij} \lambda_j \quad (5.2)$$

Where λ_0 is the expected return on a zero beta portfolio and λ_j is the factor risk premium corresponding to factor j, the expected return is the sum of the return on the zero beta portfolio and the products of the factor loadings and factor premia. The model is flexible in that the factors are not specified; they could be for example risk factors like leverage or industry affiliation or alternatively a shortcut can be taken by directly using firm characteristics like company size as proxies for underlying risk factors.

The first obvious candidate for a risk factor would be market beta, the sensitivity of a share to movements in the broad market. Under the capital asset pricing model (CAPM) this is regarded as the only risk that is un-diversifiable and therefore the only risk compensated and priced by the market. Empirical testing however does not support this conjecture; Basu (1977) notes that firms with high earnings to price ratios enjoy returns in excess of that merited by their market beta, Stattman (1980) documents that companies with higher than average book to market ratios receive superior returns, Bantz (1981) finds that smaller capitalisation stocks produce better returns, whilst Bhandari (1988) show that high debt to equity ratios are also associated with higher returns. The common theme is that share prices have information about future returns over and above their market beta. This information is however not readily apparent because of differences in the absolute size of the share price. Dividing the share price by another variable is a way of revealing this information, the resulting share price ratios can then be used as a first step to identifying any systematic patterns in expected returns.

Fama and French (1992, 1993) use a multifactor model in the vein of APT and regress ex post portfolio mean returns directly onto the firm characteristics that were earlier identified as likely exceptions to the CAPM. Two factors in particular stood out; small market capitalisation and the ratio of book value to market price of assets both of which enjoyed superior returns over and above that expected from their market beta. To isolate these factor returns zero investment portfolios were

constructed by equal long / short investments in portfolios that were high or low in these attributes. These portfolios were named SMB, the smallest capitalisation firms minus the largest capitalisation firms and HML those companies in the highest 30th percentile minus companies in the lowest 30th percentile ranked on book to market ratio. Empirical testing indicated that these factors (plus market beta) explained over 90% of diversified portfolio returns in the US as well as producing strong results in other countries. From an efficient market perspective this indicates that these factors are proxies for priced risk factors which receive compensation from the market. It was hypothesised that small stocks are more vulnerable to adverse economic conditions and the risks that come with this, whilst a high book to market ratio may be a result of a company having suffered sharp falls in share price because the market is anticipating a heightened possibility of financial distress or liquidation.

A few years later however an article by Fama and French (1996) found that the original model did not account for the short term persistence of stock returns. Carhart (1997) examined the returns of US mutual funds and proposed the addition of another factor UMD, up minus down representing stock return momentum calculated as the excess return of a portfolio of share price risers in the last 12 months less a portfolio of share price fallers over the same period. (In passing it should be noted that there is no consensus on the causes of the returns to momentum, but for simplicity it is also described as a 'risk' factor here). The inclusion of a momentum factor with the original Fama French factors produces the Carhart four factor model as follows:

$$R_{pt} - R_{ft} = \alpha_{pt} + \beta_p\left(R_{mt} - R_{ft}\right) + s_p SMB_t + h_p HML_t + u_p UMD_t + \varepsilon_{pt} \qquad (5.3)$$

Where the portfolio return is R_p, the risk free rate is R_f and $R_m - R_f$ is the market premium factor, SMB the size factor, HML the book to price factor and UMD the momentum factor, the respective factor loadings are β, s, h and u.

By regressing a portfolio's return onto these factors one can assess the extent to which its return follows or mimics the returns of each of the factors, a slope coefficient of one indicates the same pattern of returns and presumably the same sensitivity to the particular risk that the factor is a proxy for. In addition any alpha would indicate exposure to another risk factor over and above the four in the model or alternatively portfolio manager skill/ luck.

This approach is followed later on in this chapter as a way of firstly estimating the expected returns from a portfolio of firms with high versus low CSR performance, and secondly divining the source of this return. If a CSR portfolio has a strong loading on one or other of the factors it could be assumed that it is also exposed to the risk that the factor is a proxy for.

Unfortunately there are difficulties with this approach, the authors themselves note three problems; identifying the correct theoretical model, imprecision in estimating the factor loadings and thirdly

imprecision in estimating the factor risk premia, they conclude that the results from their model are 'unavoidably imprecise', Fama and French (1997).

Therefore another methodology is also employed in this chapter to provide an alternative perspective and set of results. By inverting a stock valuation model an estimate of the cost of capital implied by the market price can be produced; this procedure is outlined in the next section.

5.4.2 Implied cost of capital

The implied cost of capital (ICC) can be defined as the internal rate of return that equates expected future dividends to the current share price using an accounting based valuation model. The models used include the dividend capitalisation model, Botosan (1997), the abnormal growth in earnings model, Gode and Mohanram (2003) and the residual income model, O'Hanlon and Steele (2000), and Easton et al. (2002) amongst others.

It should be noted that the ICC is no more than a proxy for the required return. It assumes a constant discount rate, in other words a horizontal yield curve. The bond market certainly does not have a horizontal yield curve and due to arbitrage this is also unlikely to be true of the stock market. Of course this proxy is also dependent on the accounting model being a reasonable approximation of actual price formation in the market, whereas asset pricing at present is probably best described as an enigma comprising a witch's brew of noise, behavioural bias and 'rational' mean-variance optimisation.

However these caveats are not necessarily fatal and the methodology does have some clear advantages over factor models. Firstly this approach does not rely on historical factor loadings and factor premia derived from realised returns, secondly the inputs required of forecast earnings and forecast growth are readily produced by company analysts and thirdly the accounting models employed are more flexible, in particular they are able to isolate and accommodate growth in earnings whereas the Fama French procedure subsumes growth into the factor premia. Pastor et al. (2008) provides evidence that implied cost of capital models can produce reasonable approximations of expected returns.

The literature on the ICC is fairly extensive and has been used amongst other things to assess the impact of disclosure quality, dividend taxes, cross listing and the adoption of IFRS on the cost of capital. Unfortunately the estimates of future earnings provided by sell side analysts are too optimistic and therefore result in biased estimates of the implied cost of capital. Michaely and Womack (1999)

for example show that analysts overwhelmingly make more 'strong buy' and 'buy' recommendations than 'hold' or 'sell' recommendations, but presumably in a reasonably efficient market the great majority of recommendations should be a neutral 'hold' recommendation.

The impact of this optimism is usually measured by comparing analysts' forecasts of earnings to the subsequent actual results. This is translated into an estimate of the bias of the ex ante implied cost of capital by calculating and comparing the ICC using the forecast and actual data. Easton and Sommers (2007) perform this procedure and estimate that earnings optimism produces an over estimate of the implied cost of capital of some 2.8% p.a. This is not a trivial difference given that estimates of the equity premium using analyst forecast implied cost of capital range from 3% to 4.8% p.a.

The implication of analyst optimism depends on the viewpoint one takes of the information efficiency of the market. If one assumes that the market is informationally efficient then prices are formed with the best estimate of future cash flow, therefore calculations using biased analyst forecasts would produce estimates that are different from the true ex ante required return demanded by the market. Alternatively if the market uses the analysts' information then prices will adjust with this information ensuring that the ex ante cost of capital using these optimistic forecasts will reflect the true required return. The difference between the analysts earnings forecast and the subsequently lower earnings in this case will manifest themselves as part of the following ex post cash flow surprise such that the ex post realised return will consistently differ from the ex ante expected return but the ex ante estimate will be correct.

It appears that the market does 'see through' the optimism of the analysts, the forecast error i.e. the difference between forecast earnings and actual earnings decreases almost monotonically over the twelve months prior to the release of the actual earnings, Richardson et al. (2004).Therefore using analyst forecasts does result in a bias in estimates of ex ante ICC.

The causes of these biases have been widely researched and include the following; analysts are sluggish in updating their forecasts because their estimates are overly correlated with past returns, Arbarbanell (1991), analyst errors are smaller for larger capitalisation companies and firms that have more analysts following their performance, Brown (1997), whilst Easton and Monahan (2005) show that the bias is positively correlated to the analysts' estimates of the long term earnings growth, in other words high growth estimates are too optimistic.

A number of papers have suggested ways of correcting analyst bias, although none are particularly straightforward. Guay et al. (2005) looks at three possible remedies. A 'broad-brush' correction by using a similar portfolio of firms to the ones under consideration, calculate the median error using past returns and subtract this from estimates of the ICC for the portfolio under consideration. This however rests on the assumption that the bias is similar for the two portfolios and would only be useful for

portfolios not individual firms. Secondly correct for the sluggishness of analysts forecast by using prices that are earlier than the release date of the analysts' forecast to compensate for the delay in which they respond to new information. This of course relies on the availability of an accurate estimate of the average delay in analysts responding to new information which is unfortunately hard to obtain. The third method regresses forecast errors onto various firm characteristics and then subtracts the total estimated error for each firm (based on its characteristics) from the published analyst forecast before calculating the ICC. Although this method is complicated and assumes that previous errors are indicative of future errors it does seem to be the most promising approach and has been used by Frankel and Lee (1998) as well as Guay et al. (2005).

Fortunately we are concerned with the relative cost of capital of high and low CSR firms. Certainly analyst bias exists but in large part this will cancel when comparing portfolios of companies if the characteristics of CSR firms are uncorrelated to the causes of this bias. In this case both high and low CSR firms will be subject to the same bias and the effect will therefore disappear when comparing the two groups. In chapter 2 it was noted that high CSR firms tended to be larger, with a higher public profile and from the details above it appears that analyst bias is more pronounced in smaller growth firms. This is a mixed picture but may indicate a small negative correlation between CSR characteristics and forecast bias, however any net bias would depend both on the presence of a significant correlation as well as a strong skew in each group and this does not appear to be the case. Broadly there is unlikely to be a substantial difference in estimates of implied cost of capital between high and low performing CSR companies due to analyst bias.

A recent paper by El Ghoul et al. (2010) pioneered the use of implied cost of capital models to assess if corporate social responsibility had an effect on the ex ante return required from stocks. This involved a two stage procedure whereby the cost of equity was firstly estimated using the average calculated from four different implied cost of capital models, the risk free rate was then deducted from this average and regressed onto the KLD social responsibility scores for firms along with controls for factors that have previously been found to affect the cost of capital, viz. size given as total assets, debt leverage, book to market ratio, market beta and industry affiliation. They find that high performance in three out of the six CSR dimensions (employee, environmental and product strategies) had a lower cost of capital, whilst the other three (community, diversity and human rights) had no effect. There is general agreement here with Gregory, Whittaker and Tharyan (2011) which show environment and product as having lower implied cost of capital, although in contrast to El Ghoul (2010) diversity is negative. This ICC methodology will be used in assessing the required cost of capital for UK companies as one of the three techniques to examine the effect of corporate social responsibility on stock returns.

5.5 Data

This thesis focuses on the UK experience of corporate social responsibility because there is a relative paucity of work in this area. The CSR data for all four empirical chapters comes from EIRIS, the premier UK corporate social responsibility agency. This is regarded as the most reliable information available on the social responsibility for UK companies and covers the whole range of CSR issues. A comprehensive description of the data is given in chapter 2.

5.6 Methodology

This section outlines the three different methodologies employed in this chapter; realised returns, factor models and required returns.

5.6.1 Realised returns

Portfolio returns are assessed rather than individual shares following Fama and MacBeth (1973) on the basis that there is likely to be measurement error in assessing individual CSR performance. These errors should be reasonably uncorrelated and would therefore offset each other in a portfolio, leading to better mean estimates. Groups should be formed so that the within group variation is minimised and the variation between groups is maximised, essentially one is looking to place the dividing line at a natural break point.

As noted in chapter 2 the EIRIS data is skewed towards lower scores. A large number of firms score zero, a reasonable number have middling scores and only a few score at the upper end. More importantly this distribution is not uniform over the three dimensions of CSR, the scores on staff are substantially worse than those on the community dimension. This is relevant because the dimensions need to be examined separately due to their possibly contradictory influence. The first portfolio was formed from those firms scoring zero, these companies have little engagement in social responsibility and may be qualitatively distinct from other firms. Three other groups were then created by dividing the remaining firms into portfolios with equal numbers of firms starting at the bottom, creating low, medium and high CSR portfolios, i.e. terciles. This decision requires justification because the obvious route would be to create portfolios with scores 0 to 1, 1 to 2 and 2 to 3, 3 being the top score. The former approach is adopted because there are almost no firms scoring over 2 in the staff dimension and very few in the environment dimension but many in community dimension. Assessing the performance of firms that scored highly on the environment would therefore be difficult and would not be comparable to other dimensions, we are interested in the differences between firms not the actual scores therefore this approach is better. In addition using four portfolios appears to achieve a

reasonable trade-off between having a sufficient numbers of firms in each portfolio and creating a broad enough range between portfolios. This method was also used in the only comparable paper, Brammer et al (2006).

The total investment return i.e. stock return plus dividend over the following 12 months from the beginning of January was obtained for each firm. These returns were then put into the 16 portfolios (3 dimensions and the composite split into 4 levels of performance) on the basis of the firms CSR score at the end of December prior to the year the investment return was observed. This procedure was repeated for five years, i.e. fresh portfolios were formed each 31st December and the subsequent 12 monthly returns noted.

Testing for any difference in the realised returns was carried out by using two sample paired t tests; firstly the high score portfolios are compared to the zero score portfolios and secondly high and low score portfolios were compared. Obviously the biggest spread of CSR score occurs between the high and zero scores, however EIRIS state that a zero score indicates no evidence of social responsibility; this is slightly ambiguous in that it may simply indicate a lack of disclosure of socially responsible activity. Therefore comparison is also made between the high and low CSR score portfolios as another check on the difference.

5.6.2 Factor models

These raw returns however may be due to a range of factors not just the social responsible performance, for example a portfolio may have better returns because it has on average higher market beta. The Fama French three factor and Carhart four factor models were used as a way of decomposing these realised returns, the respective factor loadings produced will give an indication of how closely the returns of each CSR portfolio tracks the returns of the factor portfolios. This is useful for two reasons; it may indicate whether social responsibility is related to the commonly identified risk factors, in other words if there is a CSR effect on returns it may point towards which risk factor is responsible for this effect and secondly show whether social responsibility is able to generate positive alpha over and above these factors.

These factor returns were obtained using Gregory, Tharyan and Huang (2009) and downloaded from http://xfi.exeter.ac.uk/researchandpublications/portfoliosandfactors/. Here firms were drawn from the UK main market, with the exception of financial companies and those with negative book to market ratio who were excluded because their characteristics do not sensibly fit the model. The procedure used to construct these factors is similar to that on Ken French's website but necessarily has to be flexed to accommodate the vagaries of the UK market. The market in the UK has a long tail of small illiquid shares, restricting the practical tradable universe for most investors to the FTSE 350.Therefore the breakpoint for the size factor was taken as the median firm in the FTSE 350, similarly the

breakpoints for the book to market factor were at the 30th and 70th percentile again using the largest 350 firms. This produced six intersecting portfolios which were used to calculate the factors. The SMB return is the mean return for the three small portfolios minus the mean return of the three big portfolios, the HML return is the mean return of the two high value portfolios minus the mean return of two low value portfolios.

Stock momentum was ranked monthly by examining the return over the previous 12 months less the previous 2 months; the latest month is missed to avoid the typical one month reversal of trend and the bid-offer bounce. Break points at the 70th and 30th percentile were used to create three portfolios which were then intersected with the two size portfolios; this again used the median capitalisation as a break point. The momentum factor is the mean return of the two up portfolios less the mean return of the two down portfolios. The market return is the total return on the FT All Share index whilst the risk free rate is the one month return on Treasury bills. Equally weighted factors were used as the CSR portfolios are set up on this basis with this equal weighting giving an indication of the average performance of a share in a portfolio.

For the market portfolio i.e. all shares, one would expect a factor coefficient of one for the market factor, however as the other factors are based on a zero cost investment these factor coefficients would tend towards zero. Deviations from these values indicate a greater or lesser propensity towards market movements, small capitalisation, high book to market ratio or momentum and a different exposure to the underlying risks that are associated with these aspects.

The sixteen portfolios formed earlier, i.e. four CSR dimensions split into four CSR performance levels were used. The return to these portfolios in excess of the risk free rate was regressed firstly onto the Fama French three factors and then the Carhart four factors to obtain the loadings on these factors. The difference between high and low CSR performance however is the important point, to this end two sets of arbitrage portfolios were formed. Firstly long of the high CSR performers and short of those scoring zero and secondly long the high performers and short those in the low portfolio. The returns from these arbitrage portfolios were then regressed onto the Carhart four factors to assess what is driving any excess returns.

5.6.3 Implied cost of capital

The two methods above use ex post realised returns, however realised returns can be a noisy proxy for the required return. The implied cost of capital methodology is therefore deployed to examine ex ante required returns, specifically whether there are differences in the discount rate between high and low CSR companies.

The procedure in El Ghoul et al. (2010) was followed to firstly calculate the implied cost of capital for companies and then assess if this is affected by the degree of social responsibility of that firm. Four different methods of calculating the ICC were used in El Ghoul et al. (2010), it appears that out of the four methods the technique developed by Easton (2004) was the most reliable, it gave both the lowest standard deviation of results as well as the second highest correlation with the average return of the group and is widely used in the implied cost of capital literature, therefore this approach was used to estimate the ICC for companies. The model has its genesis in Ohlson and Juettner-Nauroth (2005); the explicit forecast horizon is set to two years ahead after which abnormal earnings grow at a constant rate in perpetuity. This requires that the forecast has both positive earnings as well as a positive change in earnings; companies are excluded where this was not the case. The required return is derived as follows:

$$r_t^2 = (FEPS_{t+2} - FEPS_{t+1}) / P_t \qquad (5.4)$$

Where r is the required return, FEPS is the forecast earnings per share and P is the share price.

The share price at the 30th June each year for each firm was obtained from Datastream, along with the one and two year ahead forecast of earnings per share from I/B/E/S. The required return less the risk free rate obtained from Gregory et al. (2009) was then regressed onto the CSR scores for each of the four dimensions as well as controls specified in El Ghoul et al. (2010), i.e. market beta, book to market ratio, natural logarithm of total assets, debt leverage taken as debt divided by total assets, and a dummy for each of the 39 ICB industry classifications, these variables were downloaded from Datastream. This regression was carried out firstly using the 16 portfolios drawn up earlier by grouping the CSR performance into four categories, zero, low, medium and high and four dimensions, to assess if these results from estimated required returns are similar to those found earlier for realised returns and then secondly in a pooled regression using all firms to assess if CSR affects required return on average.

5.7 Results

5.7.1 Descriptive statistics

Tables 5.1and 5.2 show the descriptive statistics and the correlation between the social responsibility scores and the various risk factors. The CSR data was discussed in detail in chapter 2, the only points worth reiterating here is that the community dimension enjoys consistently higher scores on average, secondly there is a high degree of correlation between the scores of each dimension, thirdly there is a strong positive correlation between the size of a firm and its CSR score and finally that there is a small positive correlation between gearing and CSR scores.

Table 5.3 describes the inter-temporal correlation between the scores in one year and the year following, this starts in 2003 and records the correlation of a firm with its score in the following year, obviously if there is no observation in the following year no correlation is noted, this procedure is then repeated for 2004 through to 2006. A high degree of continuity between years of approximately 90% is noted. Setting up a program of social initiatives takes time and money, once instituted it is usually continued. This is understandable given the normal inertia in human affairs as well as being more credible, a company that stopped and started different initiatives would not appear to take social responsibility seriously. This agrees with a paper by Eccles et al. (2012) who argues that CSR is a 'sticky' institutionalized feature of an organization. However, the business environment does change over time, so some degree of variation is inevitable. It is reassuring that the scores given by EIRIS each year have some degree of variation indicating that they are alive to the underlying year by year changes that must be occurring. This continuity is important because changes in share prices are caused by changes in the prospects of a firm, if there are no significant changes in CSR the corollary is that there will be no significant changes in share price due to CSR.
A high CSR performing portfolio would contain both firms that that had risen from the medium portfolio in the last year along with some that had no change in their score, equally the zero portfolios contain fallers as well as those with no change in score. Only if there is a large preponderance in each group of firms changing portfolio will the high and zero portfolios represent firms with a positive or negative change, but given the high inter- temporal correlation this is unlikely. The two intermediate CSR groups 'low' and 'medium' will contain both risers and fallers and these two effects will tend to cancel each other out. Overall table 5.3 indicates that the influence of social responsibility will be difficult to detect in realised stock returns because of this lack of movement.

5.7.2 Realised returns

Table 5.4 presents the monthly total investment return for the 16 different CSR portfolios for 5 separate years as well as the total monthly return for all the firms in each year. It is apparent that the returns for 2007 and 2008 were poor, 2008 was also particularly volatile which is not particularly surprising given that this was the start of the credit crunch. There is no obvious pattern between the different social responsibility portfolios; this is tested for statistically in the next table.

Table 5.5 compares the differences between the stock returns for the sixty months to December 2008 between the high and zero and high and low portfolio groups, this was carried out by way of a paired t test for the difference of the means. There is a significant difference at 10% when comparing the environment and employee high and zero portfolio returns. This indicates that these two dimensions enjoyed higher realised stock returns on average albeit only at a weakly significant level. The community and composite dimensions did not produce significant results. Previous literature, Feldman et al. (1997) and Derwall et al. (2004) has noted a positive relation between environmental

performance and stock returns but not with other dimensions of social responsibility, there seems to be an echo here. However the lack of consistency between dimensions and the increased likelihood of a type 1 error occurring when a test is repeated a number of times suggests that there is no reliable difference between the stock returns of firms with different social responsible performance.

5.7.3 Factor returns

Table 5.6 provides the results using the Fama French three factor technique. There are a number of interesting results; firstly the R squared values are high indicating that the model is well able to explain the variation of returns to these portfolios, furthermore alpha is consistently close to zero indicating that social responsibility does not increase or decrease stock return over and above these factors. Secondly there are high loadings on market and size, in other words these portfolios can be characterised as broadly diversified and small. These results confirm that that the CSR portfolios are on average diversified and small having been drawn from the FTSE All Share, in comparison as noted earlier the size factor was calculated using the median of the FTSE 350 as its breakpoint which is larger than the typical company being examined in these portfolios as they are drawn from the FTSE All Share. In some cases the portfolios that have low social responsibility performance tend to show evidence of being aligned to the value factor. It is hard to draw a conclusion here because that result is not consistent and does not extend to the zero CSR performance portfolios.

Table 5.7 introduces the additional momentum factor using the Carhart four factor model. This highlights the trend for higher levels of social responsibility to be negatively associated with the momentum factor. This factor was calculated using firms with the top 30% of stock returns minus the 30% of firms with the lowest stock returns over the last 12 months. Using an arbitrage technique has considerable strengths and weaknesses; it eliminates extraneous influences but does require a consistent driver affecting both the high and low performance quantiles. Although the momentum effect when charted is monotonic, there is no consensus in the literature both on the causes of momentum and whether they are the same for positive and negative momentum. Stock momentum is usually attributed either to delays in impounding new information or alternatively to risks that are not picked up by the other factors. One would expect the greater disclosure given by socially responsible firms to mean that they suffer less under or over news reaction so the information explanation is not appropriate, however the second explanation does fit the general hypothesis that social responsibility generally leads to lower risk. One explanation of momentum as a rationally priced risk factor is that it is a proxy for liquidity risk, Liu (2004), if this explanation is correct a possible interpretation of the negative loading on this factor is that high CSR firms are larger and have less liquidity risk, the loading on the SMB and the general finding that CSR and size are positively correlated is in accord with this.

The important point is the difference between social responsibility portfolios; a possible arbitrage strategy of going long a portfolio of high scoring CSR firms and shorting a low performing portfolio is disclosed in table 5.8. The results are interesting and confirm the impression given by the earlier two tables; high social responsibility is associated negatively with the small factor and the momentum factor, whilst there is little connection with the value factor and the market factor, this final result is not surprising given that this is an arbitrage portfolio and should therefore have no connection to the market factor.

The small and momentum factors have in the past been associated with higher stock returns which is assumed to be due to greater riskiness. A negative association therefore suggests lower stock returns due to lower risk. The overall effect on stock returns however is likely to be quite small, only two factors are affected and the size factor in any case has declined in importance in the last twenty years.

5.7.4 Implied cost of capital / required returns

Table 5.9 shows the results of using the implied cost of capital methodology, the excess required return for portfolios of firms was regressed onto their CSR scores and a variety of risk controls. The control variables enter the model with a sign consistent with prior literature, in particular Gode and Mohanram (2003) and Dhaliwal et al. (2006); there are positive coefficients for beta, book to market and gearing and a negative sign for size. This test is set up on a portfolio basis as a way of assessing the effect of differences in the social responsibility performance, however there was no particular pattern of either larger or smaller coefficients on the risk variables depending on amount of CSR carried out.

It is not possible to carry out an arbitrage test because the risk variables are firm specific. Therefore a pooled regression for all firms was carried out and reported in table 5.10, here the excess required return is regressed onto the firm CSR performance score and the firm risk controls separately for each of the four CSR dimensions. No significant effect on required return was recorded for any of the dimensions. Prior literature indicates a weak influence on required return; however the methodology employed here necessarily has to go through a two stage process which makes it more difficult to detect an effect. In general therefore the results of using the implied cost of capital methodology support the notion that the effect of social responsibility on stock required return is small at most.

5.8 Conclusion

There is a quite a long and persuasive list of reasons why social responsibility would be expected to be associated with lower stock returns. Empirical work also suggests that social responsibility reduces risk and in turn the required return, with the meta study by Orlitsky and Benjamin (2001) supporting

this conjecture. There is however relatively little work on social responsibility and market beta, the most important form of risk for a diversified investor, perhaps with the exception of Oikonomou et al. (2010) and Salama et al. (2011), who both found that social responsibility activity was associated with very slightly lower beta.

Three different approaches were used in this chapter to test if social responsibility had an effect on stock returns in the UK. The first method, an examination of realised stock returns requires both a reasonable amount of change in CSR activity as well as a degree of market inefficiency to allow the impact of this change to be spread over a period of time and therefore be visible. No consistent effect on stock returns could be discerned, indicating either that CSR does not affect stock results or that the conditions for it to be detected are not met. Given the small amount of inter temporal change in social responsibility scores it seems that the latter holds.

The other two methods employed do not have these limitations because they depend on explanatory factors that have a continuing effect, although there are other methodological difficulties. The Fama French three factor and Carhart four factor model to some extent come closest to confirming the prior expectation that highly responsible companies have lower stock returns. High CSR performing firms tend to be larger and have lower than average stock momentum, two reasons for a lower stock return. Although social responsibility does not cause a firm to be larger it may be responsible for reducing the types of risk picked up by the momentum factor.

The effect of social responsibility on risk and therefore stock return is also examined using the implied cost of capital methodology. This procedure goes through two stages, firstly estimating required returns using market value and forecast earnings and secondly regressing this onto CSR scores after controlling for known risk factors. No significant impact either positive or negative by CSR on required returns was found, although it should be emphasised that a two step approach exacerbates the noise to signal ratio, making estimation less precise and results less visible.

In conclusion although there may be an expectation that social responsibility reduces company risk and therefore leads to lower stock returns there is little empirical evidence of this. It is likely that any impact by corporate social responsibility on stock return is small and difficult to detect by existing methodologies.

Table 5.1 Summary statistics

	Mean	Median	Minimum	Maximum	Std Dev
Environment	0.90	0.75	0.00	3.00	0.89
Employee	0.70	0.60	0.00	2.60	0.62
Community	1.38	1.33	0.00	3.00	0.97
Composite	0.99	0.90	0.00	2.87	0.74
Market Beta	1.12	0.97	-0.92	4.99	0.71
Book to market	0.50	0.40	-7.20	10.18	0.57
Ln Total Assets	6.47	6.21	1.85	14.46	1.94
Debt gearing	0.49	0.23	0	14.10	1.09

The first four rows are the CSR scores the others are risk factors obtained from Datastream.

TABLE 5.2 Correlation of CSR and risk factors

	Environ	Employ	Comm.	Comp.	Beta	BTM	Ln TA	Gear
Environment	1.00							
Employee	0.67	1.00						
Community	0.69	0.78	1.00					
Composite	0.88	0.89	0.93	1.00				
Market Beta	-0.07	-0.08	-0.02	-0.06	1.00			
BTM	-0.06	-0.06	-0.09	-0.09	-0.04	1.00		
Ln TA	0.53	0.45	0.35	0.56	-0.07	0.04	1.00	
Gearing	0.13	0.17	0.09	0.15	-0.06	0.14	0.39	1.00

The first four rows are the CSR dimensions followed by the stock return risk factors; market beta, book to market, the natural log of total assets and the debt gearing ratio.

Table 5.3 Inter-temporal correlation of CSR scores

	2003 to 2004	2004 to 2005	2005 to 2006	2006 to 2007	Mean
Environment	0.90	0.94	0.92	0.90	0.92
Employee	0.87	0.92	0.91	0.89	0.90
Community	0.87	0.93	0.94	0.87	0.90
Composite	0.92	0.96	0.95	0.92	0.94

Cell entries are the Spearman rank correlation between years of CSR scores.

Table 5.4 Monthly returns for CSR portfolios

Cell entries are portfolio equally weighted mean monthly total investment percentage returns for the 12 months after the CSR scores are released each year. The portfolios are formed firstly by selecting firms scoring zero and then dividing the remaining firms into equally numbered triciles.

		2004	2005	2006	2007	2008	All years
Environment zero:	Return	1.243	1.43	1.76	-1.25	-3.76	0.12
	Std. dev.	3.84	3.28	3.21	4.46	7.23	
	Number	253	250	209	197	119	
Environment low:	Return	1.55	1.58	2.21	-1.08	-3.77	0.10
	Std. dev.	3.24	3.09	2.58	4.47	6.82	
	Number	123	132	130	124	130	
Environment medium:	Return	2.35	1.78	1.84	-1.01	-4.69	0.05
	Std.dev.	2.87	3.58	2.01	4.54	9.38	
	Number	123	132	130	124	130	
Environment high:	Return	1.79	2.03	2.07	-0.04	-3.73	0.42
	Std. dev.	2.08	2.94	2.43	3.64	7.94	
	Number	123	132	130	124	131	
Employee zero:	Return	1.16	1.32	1.48	-1.50	-3.81	-0.27
	Std. dev.	3.83	3.08	2.78	4.08	7.90	
	Number	189	173	145	90	74	
Employee low:	Return	1.56	1.72	2.30	-1.19	-4.10	0.06
	Std.dev.	3.35	3.84	3.15	4.55	7.69	
	Number	145	157	151	143	147	
Employee medium:	Return	1.24	1.66	2.26	-0.52	-4.14	0.10
	Std.dev.	2.95	3.26	2.71	4.81	7.77	
	Number	145	157	151	143	147	
Employee high:	Return	1.91	1.94	1.73	-0.45	-3.80	0.27
	Std.dev.	2.30	2.85	2.07	3.41	8.11	
	Number	145	157	151	143	147	
Community zero:	Return	1.36	1.23	1.85	-1.36	-4.11	-0.21
	Std.dev.	3.84	3.42	3.40	5.06	8.44	
	Number	150	148	116	59	57	
Community low:	Return	1.41	1.84	2.18	-1.38	-4.67	-0.12
	Std.dev.	3.09	3.36	2.54	4.22	7.63	
	Number	163	163	163	154	153	
Community medium:	Return	1.72	1.59	1.85	-0.90	-3.70	0.15
	Std.dev.	3.19	3.18	2.34	4.51	7.92	
	Number	163	163	163	154	154	
Community high:	Return	1.28	1.93	1.86	-0.11	-3.40	0.25
	Std.dev.	2.22	3.21	2.56	3.79	7.72	
	Number	163	164	163	154	154	
Composite zero:	Return	1.18	1.09	1.21	-0.11	-2.56	0.21
	Std.dev.	4.11	3.39	3.69	5.11	7.03	

	Number	107	94	70	31	26	
Composite low:	Return	1.34	1.63	2.16	-1.51	-4.14	-0.12
	Std.dev.	3.61	3.33	3.10	4.44	7.16	
	Number	173	182	179	165	166	
Composite medium:	Return	1.47	1.87	1.98	-1.06	-4.50	-0.05
	Std.dev	3.13	3.26	2.22	4.49	8.29	
	Number	173	182	179	165	166	
Composite high:	Return	1.16	1.80	2.00	-0.17	-3.41	0.38
	Std.dev.	2.22	3.06	2.35	3.79	8.08	
	Number	173	183	178	166	166	
All firms:	Return	1.47	1.65	1.92	-0.85	-3.90	0.06
	Std.dev.	3.06	3.14	2.64	4.22	7.55	
	Number	626	641	606	527	524	

Table 5.5 Test for differences in the mean realised returns between CSR sorted portfolios

	Environment	Employee	Community	Composite
High vs. Zero	1.80*	2.00*	-0.79	0.56
	(0.08)	(0.05)	(0.43)	(0.58)
High vs. Low	1.31	0.73	-0.95	1.59
	(0.20)	(0.47)	(0.34)	(0.12)

Cell entries are *t*- tests statistics with p values in parentheses of a paired *t*- test for the difference between the means of equally weighted portfolios sorted by CSR score. High and low comprise the top and bottom triciles of CSR scores; zero comprises firms with a zero score. Portfolio returns for sixty months from January 2004 to December 2008 were used, a total of 60 observations.

TABLE 5.6 Regression of CSR portfolio excess returns on Fama French three factors

$$R_{pt} - Rf_t = \alpha + \beta_1(Rm - Rf)_{pt} + \beta_2 SMB_{pt} + \beta_3 HML_{pt} + \varepsilon_t$$

	α	Rm-Rf	SMB	HML	Adj. R^2
Environment: Zero	-0.06	87.07***	78.60***	7.50	0.91
	(0.20)	(6.50)	(8.19)	(12.89)	
Low	0.19	73.36***	80.95***	24.55**	0.93
	(0.17)	(5.61)	(6.94)	(11.77)	
Medium	-0.04	100.58***	70.19***	23.54	0.86
	(0.28)	(9.12)	(9.19)	(17.76)	
High	0.35	86.81***	47.89***	21.70	0.78
	(0.29)	(9.94)	(9.57)	(18.48)	
Employee: Zero	-0.23	87.77***	79.08***	2.41	0.89
	(0.22)	(5.69)	(9.48)	(13.36)	
Low	0.16	88.77***	81.56***	24.77**	0.94
	(0.18)	(5.14)	(6.61)	(10.08)	
Medium	0.15	85.88***	70.11***	27.46**	0.87
	(0.23)	(6.34)	(10.13)	(13.40)	
High	0.21	83.79***	53.53***	20.64	0.79
	(0.27)	(8.22)	(12.52)	(16.46)	
Community: Zero	-0.08	87.38***	92.91***	7.59	0.86
	(0.26)	(7.13)	(10.56)	(14.46)	
Low	-0.04	88.52***	81.09***	17.68	0.95
	(0.15)	(3.99)	(6.10)	(11.05)	
Medium	0.20	82.39***	67.63***	30.27**	0.88
	(0.22)	(6.78)	(10.81)	(12.57)	
High	0.17	88.16***	49.83***	14.50	0.79
	(0.28)	(8.79)	(12.40)	(15.61)	
Composite: Zero	0.12	85.78***	72.09***	-22.57	0.75
	(0.34)	(11.62)	(11.84)	(25.39)	
Low	0.02	80.20***	84.12***	26.44**	0.94
	(0.17)	(4.76)	(6.66)	(10.02)	
Medium	0.02	90.51***	72.87***	26.73*	0.89
	(0.22)	(5.90)	(10.34)	(13.50)	
High	0.31	86.65***	50.61***	17.51	0.79
	(0.27)	(8.59)	(12.02)	(15.82)	

The dependent variable is realised monthly portfolio excess return, sixteen portfolios were formed from the three dimensions plus composite split into zero through to high CSR score. The independent variables are the Fama French three factors obtained from Gregory et al. (2011). Cell entries refer to the regression parameters with White's (1980) heteroscedastic consistent standard errors in parentheses, *, ** and *** denote significance at 10%, 5% and 1% respectively. Observations were drawn from 2004 to 2008, a total of sixty months.

TABLE 5.7 Regression of CSR portfolio excess returns on Carhart four factors

$$R_{pt} - Rf_t = \alpha + \beta_1(Rm - Rf)_{pt} + \beta_2 SMB_{pt} + \beta_3 HML_{pt} + \beta_4 UMD_{pt} + \varepsilon_t$$

	α	Rm-Rf	SMB	HML	UMD	Adj. R^2
Environment: Zero	-0.06	87.11***	78.52***	7.30	-0.32	0.92
	(0.00)	(7.01)	(8.61)	(14.68)	(7.49)	
Low	0.31*	74.70***	78.49***	18.21*	-10.32*	0.94
	(0.16)	(5.88)	(7.53)	(10.65)	(5.54)	
Medium	0.18	103.17***	65.42***	11.28	-19.95**	0.88
	(0.23)	(8.44)	(12.36)	(11.87)	(7.91)	
High	0.65	90.28***	41.52***	5.28	-26.70***	0.83
	(0.24)	(8.07)	(11.85)	(12.10)	(7.47)	
Employee: Zero	-0.23	87.77***	79.08***	2.42**	0.02	0.89
	(0.20)	(5.95)	(9.80)	(15.30)	(5.86)	
Low	0.20	89.25***	80.68***	22.52**	-3.67	0.94
	(0.18)	(5.54)	(7.25)	(10.50)	(5.97)	
Medium	0.33	87.97***	66.27***	17.57	-16.08**	0.88
	(0.21)	(6.99)	(10.73)	(11.45)	(7.93)	
High	0.53	87.42**	46.84***	3.41***	-28.02***	0.83
	(0.23)	(8.32)	(12.30)	(12.97)	(8.41)	
Community: Zero	-0.34	86.83***	94.11***	10.68**	5.03	0.86
	(0.27)	(7.24)	(10.49)	(17.22)	(7.28)	
Low	0.06	89.68***	78.96***	12.19**	-8.94	0.95
	(0.16)	(4.34)	(6.30)	(10.57)	(5.38)	
Medium	0.35*	84.19***	64.33***	21.78*	-13.81	0.89
	(0.20)	(7.93)	(11.41)	(12.46)	(9.41)	
High	0.47*	91.54***	43.62***	-1.49	-26.02***	0.82
	(0.26)	(8.71)	(12.49)	(12.37)	(8.69)	
Composite: Zero	0.04	84.92***	73.68***	-18.46	6.68	0.75
	(0.04)	(11.66)	(11.56)	(32.57)	(13.44)	
Low	0.01	80.13***	84.25***	26.78**	0.56	0.94
	(0.02)	(5.04)	(6.69)	(10.43)	(0.15)	
Medium	0.02	92.82***	68.61***	15.78**	-17.82**	0.91
	(0.02)	(6.54)	(10.86)	(11.68)	(7.66)	
High	0.61**	90.06***	44.33***	1.35**	-26.29***	0.82
	(0.25)	(8.71)	(12.04)	(12.68)	(8.90)	

The dependent variable is realised monthly portfolio excess return, sixteen portfolios were formed from the three dimensions plus composite split into zero through to high CSR score. The independent variables are the Carhart four factors obtained from Gregory et al. (2011). Cell entries refer to the regression parameters with White's (1980) heteroscedastic consistent standard errors in parentheses, *, ** and *** denote significance at 10%, 5% and 1% respectively. Observations were drawn from 2004 to 2008, a total of sixty months.

TABLE 5.8 Regression of CSR arbitrage portfolio excess returns on Carhart four factors

$$R^{a}_{pt} - Rf_t = \alpha + \beta_1(Rm - Rf)_{pt} + \beta_2 SMB_{pt} + \beta_3 HML_{pt} + \beta_4 UMD_{pt} + \varepsilon_t$$

	Constant	Rm-Rf	SMB	HML	UMD	Adj. R Sq.
Environment:						
High less zero score	0.33	3.11**	-37.23***	-1.54	-26.11***	0.31
	(0.26)	(10.00)	(11.30)	(17.52)	(7.57)	
High less low score	-0.04	15.52**	-37.20***	-12.44	-16.11***	0.36
	(0.20)	(6.36)	(7.37)	(11.59)	(5.06)	
Employee:						
High less Zero Score	-0.37	-0.40	-32.47***	1.47	-27.76***	0.35
	(0.21)	(7.75)	(9.11)	(14.29)	(7.08)	
High less Low Score	0.06	-1.88	-34.06***	-18.62	-24.07***	0.34
	(0.21)	(6.83)	(8.37)	(12.35)	(5.53)	
Community:						
High less Zero Score	-0.56**	-36.52*	-51.12**	7.00	-44.17*	0.22
	(0.68)	(20.70)	(20.23)	(32.90)	(17.59)	
High less Low Score	-0.76	-39.48*	-35.96**	5.49	-30.21**	0.17
	(0.65)	(18.29)	(8.69)	(31.34)	(15.92)	
Composite:						
High less Zero Score	0.18	5.09	-29.57**	20.29	-32.69**	0.22
	(0.39)	(10.73)	(12.95)	(29.58)	(13.75)	
High less Low Score	0.21	9.87	-40.14***	-24.94	-26.57***	0.36
	(0.25)	(8.72)	(9.50)	(15.10)	(6.86)	

Arbitrage portfolio excess returns were created by deducting the returns of the zero and separately the low scoring portfolios from the high scoring portfolio excess return for the three dimensions plus composite. The independent variables are the Carhart four factors, cell entries refer to the regression parameters with White's (1980) heteroscedastic consistent standard errors in parentheses, *, ** and *** denote significance at 10%, 5% and 1% respectively. Observations were drawn from 2004 to 2008, a total of sixty months.

TABLE 5.9 Regression of portfolio required excess returns on risk factors following El Ghoul et al. (2010)

$$RR_{pt} - Rf_t = \alpha + \beta_1 BETA_{pt} + \beta_2 BTM_{pt} + \beta_3 LnTA_{pt} + \beta_4 GEAR_{pt} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jt} + \varepsilon_t$$

	α	BETA	BTM	LnTA	GEAR	IND	Adj. R^2
Environ: Zero	22.55***	0.01	3.17***	-1.35***	0.20	Var.	0.11
	(4.21)	(0.01)	(0.82)	(0.46)	(0.39)		
Low	10.49	3.42*	11.88*	-1.88	21.13	Var.	0.19
	(9.51)	(2.00)	(7.13)	(1.63)	(19.01)		
Medium	20.70***	1.37	2.70	-1.48***	4.26**	Var.	0.26
	(4.55)	(1.01)	(2.20)	(0.33)	(2.04)		
High	10.50**	0.77	1.53***	-0.76***	1.15***	Var.	0.35
	(4.13)	(0.68)	(0.44)	(0.25)	(0.16)		
Employ: Zero	20.25***	0.03*	2.92*	-1.12	1.70*	Var.	0.15
	(5.37)	(0.02)	(1.68)	(0.82)	(1.02)		
Low	22.97***	0.27	5.77***	-1.51***	0.75	Var.	0.21
	(3.71)	(0.84)	(1.17)	(0.41)	(1.25)		
Medium	17.50***	0.02	9.66	-2.28*	14.83	Var.	0.17
	(6.65)	(0.02)	(8.85)	(1.20)	(10.65)		
High	9.88***	1.09**	2.12***	-0.84***	0.70**	Var.	0.36
	(3.08)	(0.55)	(0.41)	(0.13)	(0.28)		
Comm: Zero	23.04***	1.15	2.96***	-1.47***	1.00*	Var.	0.11
	(3.71)	(1.38)	(0.56)	(0.34)	(0.53)		
Low	23.04***	1.15	2.96***	-1.47***	1.00*	Var.	0.11
	(3.72)	(1.38)	(0.56)	(0.34)	(0.53)		
Medium	11.21***	0.01*	-0.61	-1.07***	2.16*	Var.	0.25
	(1.97)	(0.01)	(2.69)	(0.40)	(1.19)		
High	-1.40	7.41	21.22	-1.03	10.68	Var.	0.21
	(9.54)	(7.24)	(17.06)	(0.67)	(8.59)		
Comp: Zero	24.15**	1.95	1.77*	-1.39	1.61	Var.	0.08
	(9.75)	(1.45)	(0.91)	(1.48)	(1.61)		
Low	20.95***	0.01	5.27***	-1.29***	0.39	Var.	0.18
	(5.05)	(0.01)	(1.22)	(0.22)	(0.57)		
Medium	15.30***	3.08	5.12	-1.40**	11.12	Var.	0.13
	(5.21)	(2.66)	(4.14)	(0.61)	(11.16)		
High	9.16***	1.15**	1.69***	-0.72***	1.11***	Var.	0.34
	(2.81)	(0.46)	(0.56)	(0.21)	(0.17)		

The dependent variable is portfolio required return calculated using Easton (2004) less the risk free rate taken from Gregory et al. (2011) for each portfolio. The independent variables are beta, book to market ratio, the natural log of total assets in thousands, gearing ratio calculated as total debt divided by total assets and a dummy for each of the ICB industry sectors. Cell entries refer to the regression parameters with two way clustered standard errors shown in parentheses, *** indicates a p value less than 1%, ** indicates a p value less than 5% and * indicates a p value less than 10% for a two tailed test, data is for the five years 2003 to 2007.

TABLE 5.10 Regression of firm required excess return on CSR scores and risk factors following El Ghoul et al. (2010)

$$RR_{it} - Rf_t = \alpha + \beta_1 CSR_{it} + \beta_2 BETA_{it} + \beta_3 BTM_{it} + \beta_4 LnTA_{it} + \beta_5 GEAR_{it} + \sum_{j=1}^{j=39} \gamma_{0j} IND_{jt} + \varepsilon_t$$

	Environment	Employee	Community	Composite
Intercept	16.66***	16.46***	16.52***	16.69***
	(4.11)	(4.11)	(3.91)	(3.88)
CSR dimension	0.40	0.58	0.32	0.74
	(0.27)	(1.30)	(0.87)	(1.17)
Beta	0.02	0.02	0.02	0.02
	(0.01)	(0.01)	(0.01)	(0.01)
Book to Market	3.94**	3.93*	3.95*	4.00*
	(2.00)	(2.07)	(2.13)	(2.14)
Ln Total Assets	-1.41***	-1.37***	-1.37***	-1.47***
	(0.22)	(0.22)	(0.25)	(0.33)
Debt Gearing	3.96	3.95	3.96	3.97
	(3.08)	(3.08)	(3.10)	(3.10)
Industry	various	various	various	various
Adj. R squared	0.07	0.07	0.07	0.07

The dependent variable is firm required return calculated using Easton (2004) less the risk free rate taken from Gregory et al. (2011). The independent variables are the EIRIS CSR score for each dimension, beta, the book to market ratio, the natural log of the total assets, gearing ratio calculated as total debt divided by total assets and a dummy for each of the ICB industry sectors. Cell entries refer to the regression parameters with two way clustered standard errors shown in parentheses, *** indicates a p value less than 1%, ** indicates a p value less than 5% and * indicates a p value less than 10% for a two tailed test, data is for the five years 2003 to 2007.

CHAPTER 6

SUMMARY, CONCLUSION & FUTURE RESEARCH

Abstract

This final chapter summarises the main points of this thesis, in particular the motivation for conducting the research, the principal findings and the contribution of this study. The final section outlines gaps in existing research and suggests future lines of enquiry.

6.1 The importance of this study

The purpose of this thesis is to examine the financial consequences of corporations engaging in socially responsible activities in the UK.

The corporate sector is large, well resourced and plays a central role in both the economy and wider society. Its support, knowledge and help are vital in addressing and ameliorating the broad range of pressing concerns that are facing the globe. This is especially apparent in the environmental arena where global warming and lack of sustainability threaten the future welfare of the whole world.

Most countries have market based economies which use financial signals and incentives to direct resources. Therefore assessing the size and extent of the financial return from adopting a socially responsible stance is central to understanding the behaviour of firms and their commitment to these social issues. If there is no financial incentive to engage with corporate social responsibility alternative methods of motivation or regulation may be necessary to ensure that the activities of the corporate sector are congruent with society's needs.

6.2 Research to date

The importance of corporate social responsibility is not in doubt and has received substantial attention from many different quarters, not least academia. One early viewpoint was that corporations benefit from being part of society and therefore have social responsibilities because of their implied social contract with society. Consequently discussion and research initially focussed on the possibility of dovetailing these social obligations with the existing fiduciary duties managers and companies have towards the owners of corporations.

In recent decades this line of enquiry has become less important and has given way to a search for the existence and possible sources of synergy between social responsibility and financial performance. It was realised that social responsibility rather than being a burden could in certain situations enhance firms' public image and commercial operations leading to enhanced profitability. It is not clear if this change of emphasis was prompted by the realisation that companies were voluntarily engaging with CSR and so might have a financial motive or whether media attention, research and a change in culture encouraged firms to embrace social responsibility, the process was probably simultaneous.

After an initial wave of research on the relationship between CSR and corporate financial performance (CFP) some survey papers were published that provided a review of the field and assessed progress so far, the results were disappointing. They highlighted not only the lack of consistent conclusions but also fundamental differences in data collection, methodology and above all results. Much of this research concentrated on the so called business case for social responsibility, basically whether profitability is enhanced by CSR. This appears to be a straight forward enquiry but surprisingly the results were ambiguous; positive, negative as well as insignificant results arrived in no particular pattern. Academic efforts were redoubled but by the time Margolis et al. (2009) published their latest and largest survey a degree of research fatigue was evident. After reviewing 231 papers and finding only a 0.13 correlation between corporate social performance and corporate financial performance the authors conclude by asking 'whether researchers have grounds for continuing to look for an empirical link between CSP and CFP'. This is unduly pessimistic, corporate social responsibility is important and further progress is possible.

6.3 Principal findings

6.3.1 Empirical findings

The core of this thesis comprises four empirical studies on the determinants of social responsibility and its impact on profits, market value and stock return on UK companies and is contained in chapters two, three, four and five.

Chapter two is motivated by the observation of a wide variety of engagement in social responsibility by listed companies in the UK. This was assumed to be a rational response to both the economic and social forces acting on these companies. A comparison between the degree of engagement with social responsibility and the characteristics of these companies provided an insight into what these influences might be. Using data on UK companies from EIRIS a large range in CSR scores between industries was noted, for example utilities scored 1.95 out of a maximum of 3 whilst technology companies achieved a score of only 0.66, a substantial difference. It was also evident that larger companies engaged in more social responsibility, perhaps because they enjoyed economies of scale in implementing and managing CSR projects as well as being more visible to the public and so were under greater scrutiny. Firms that are regulated like utilities, companies that deal directly with the public rather than with other companies and companies in extractive industries like mining and oil and gas were all found to be associated with higher levels of corporate social responsibility. Interestingly higher debt gearing was also positively related social responsibility, it has been suggested before that these companies are using CSR to reduce operational risk as a form of compensation for heighted financial risk. Alternatively it may simply be that some companies are following a particular management strategy that is associated both with higher gearing and a bigger commitment to corporate social responsibility.

In accordance with most literature it was not possible to identify financial performance as a determinant of social responsibility. It appears that higher than average financial performance as measured by return on assets was not significantly related to the subsequent amount of social responsibility carried out, indicating that financial performance is not a prerequisite or a particular spur to increased levels of social responsibility over and above that motivated by company size, industry characteristics or gearing.

The system GMM methodology was also deployed to deal with the possibility of unobserved firm heterogeneity and endogeneity of financial performance. In respect of financial performance the results were consistent with OLS, although using this latter approach fewer of the other industry characteristics were significant.

Chapter three focused on the effect of corporate social responsibility on profitability, starting with a detailed exploration of the relationship between social responsibility and financial performance. This was found to be complicated, therefore a range of different specifications were used to accommodate this, in particular interaction effects as well as the possibility of a curvilinear relationship. A positive significant association between CSR and subsequent return on assets was noted however an insignificant association with both negative and positive coefficients was noted with return on sales. It is not clear why these results are inconsistent but perhaps indicates that the link between CSR and profitability is weak or difficult to detect. A short run time series regression of changes in CSR and

financial performance was run using the five years of data, this did not reveal a significant connection, however five years is probably not long enough to observe an effect given the inertia in corporate social responsibility.

Chapter four is concerned with the relationship between corporate social responsibility and company market value. This is motivated both by the central importance of shareholder wealth as well as the possibility of using market value to examine the results of the previous chapters from a different perspective. Value relevance methodology was used, where the market value is expressed as a function of earnings, book value and CSR performance, with the social responsibility score being a proxy for other value relevant information. A positive association between market value and all dimensions of social responsibility was found indicating that corporate social responsibility was associated with improved investor wealth and therefore expectations of more investor cash flow and/ or a lower discount rate.

This result motivated the study of social responsibility, risk and stock returns in chapter five. No effect was observed in realised returns presumably because there were only small changes in responsibility performance each year which was an insufficient spur to a material move in share price. Therefore factors that have a continuing impact on stock returns in particular risk factors were examined.

The Carhart model includes factors that have in the past been shown to be associated with stock returns and which are assumed to represent risks that will continue to affect stock returns in the future. Social responsibility was found to be negatively related to both the size and momentum factors, indicating that responsible firms on average would have lower stock returns due to a lower exposure to these risks that are assumed to be related to these factors. However no significant relation with the other two factors, market beta and value was found, indicating that the overall difference would be relatively small. This was confirmed by the third methodology an examination of required returns, where no significant difference between the required return of high and low CSR performing firms was found. Unfortunately this methodology necessarily employed a two stage procedure, firstly estimating required return by inverting a stock valuation model and then regressing these estimates onto the social responsibility score and known risk controls. Inevitably this increases the noise to signal ratio making it more difficult to identify small differences. It was concluded that although corporate social responsibility could be expected to reduce stock returns the empirical evidence indicates that the effect is small.

6.3.2 Inter- relation between the findings

Chapter two indicated that most companies in the UK engaged in some form of social responsibility activity, with larger companies, those dealing directly with the public or those in the extractive and regulated industries typically carrying out a greater amount of CSR. In general financial performance was not linked to differences in social responsibility. Chapter three examined the relationship between social responsibility and subsequent financial performance. A generally positive but weak connection was found; in general corporate social responsibility was significantly associated with a better return on assets but not with return on sales. Another aspect of financial performance, market value was examined in chapter four. This witnessed a generally positive significant link between corporate social responsibility and market value; the employee dimension although producing a positive result was in most cases not significant. Chapter five examined the relationship between corporate social responsibility, risk and stock returns. The results indicate that the risk differential between high and low CSR companies is likely to be small at the most.

A variety of different methodologies were employed in the various chapters, the results generally showing a positive significant relationship between corporate social responsibility and financial performance whilst in others a positive but not significant result was witnessed. Market value is affected by expectations of future profits and future risk which is obviously different from the current profits being earned. Chapter five indicates that the effect of CSR on risk is small; therefore the positive relationship between CSR and market value is more likely to be due to a positive connection with profitability. Certainly expectations of profits are only an unbiased guide to future profits if a number of market efficiency assumptions are met.

Overall it appears that there is some evidence of a positive association between corporate social responsibility and profitability but that it is too weak to be consistently found with existing methodologies.

6.3.3 Empirical limitations

If the relation between social responsibility and financial results were straight forward there would be no catalyst for the debate and disagreement that characterises this area. Equally there would be no need to convince or cajole companies to implement CSR if it automatically led to additional profits. Unsurprisingly the results in this thesis are not straight forward and reflect these problems.

The causes of this difficulty become apparent when the actual process of social responsibility is considered. It is complex - involving social and economic factors acting both internally and externally that are contingent on the specific situation of each company. Modelling this is the main empirical limitation; both mediating and moderating influences are important and potentially swamp the size of

the social responsibility effect. In addition the range of engagement with social responsibility from nothing through to all encompassing where CSR represents the identity of a company is powerful evidence of the degree of conditionality in this relationship.

Almost all prior statistical studies have been cross sectional, examining different companies at the same point in time rather than the same firm at different points in time, the studies in this thesis have also followed this approach. However cross sectional methodology depends on being able to control for or neutralise differences between firms in order that the variable of interest can be examined without these extraneous influences. Complications in the CSR/ CFP relationship and constraints on the availability of measurable data make this perhaps more problematic than many researchers acknowledge.

A longitudinal study would be a useful addition where changes in the quantity and type of social responsibility activities a company undertakes each year are mapped onto subsequent changes in financial performance. Social responsibility however changes quite slowly, it is evolutionary rather than revolutionary which makes this difficult to achieve. A very long run of data therefore is a prerequisite to obtaining sufficient change in CSR performance, perhaps requiring twenty years of observations. Unfortunately EIRIS only released five years of data for the research in this thesis and so undertaking this type of study was not possible. A small scale time series was performed using the five years available but this did not produce a significant result, the R squared statistics were also very small.

The other major potential limitation is the nature of the data. Although the EIRIS data is regarded as the best available in the UK, it is qualitative, depending on the opinion of the employees in the ratings agency. It may be measuring the appearance of social responsibility and not the reality of CSR performance. However the EIRIS employees are professional, well qualified and knowledgeable which means there should be no particular bias in the data and sample sizes are sufficient to deal with measurement error. The purpose of the agency is to promote social responsibility therefore deception by companies over the true extent of their social responsibility is naturally regarded with anathema, preventing and detecting this type of fraud is a major priority, this type of distortion is therefore expected to be limited.

6.3.4 The contribution of this thesis

The study of the CSR in the U.K. has been substantially neglected compared to the U.S. experience. Papers based on the U.K. experience are a tiny percentage of those using U.S. data. Corporate social responsibility is a social as well as economic phenomenon; it is grounded in the cultural, legal and

historical environment in which it operates. Therefore it is expected that there will be differences between the U.K. and U.S., it is not sufficient to rely on this U.S. research to gain an understanding the U.K. experience, making U.K. based research valuable.

This thesis also provides a comprehensive assessment of financial aspects encompassing accounting and market orientated indicators using a common data base, this facilitates comparison and cross checking of results. Most papers have to concentrate on one aspect of CSR and do not enjoy the comparability that comes from a more comprehensive treatment.

Factors like company ethos and manager skill are relevant but have usually been ignored in prior literature because they are unobserved but the application in this thesis of the GMM technique was able reveal their impact. Value relevance is another methodology that is almost novel in the CSR field, producing the important result that social responsibility is positively related to company value. One of the central conundrums of social responsibility research is that although there are a number of good reasons why CSR may increase profits empirical studies have consistently failed to observe this in action.

Overall the conclusion of the four empirical chapters indicates that while engaging in corporate social responsibility does not appear to harm financial performance there is only weak inconsistent evidence that it is associated with better financial performance.

6.4 The future of Corporate Social Responsibility research

'Corporate social responsibility is a tortured concept within the academic literature, sparked by a relatively simple idea - corporations have obligations to society that extend beyond mere profit making activities, scholars have struggled to achieve a clear paradigm, let alone a common language to guide the conversation', Godfrey and Hatch (2007:1).

The paradox is apparent; corporate social responsibility is a concept that has nearly universal support but even the most basic questions such as what is corporate social responsibility and how companies should undertake social responsibility have not been resolved.

It seems to me that the first step is to improve focus and clarity by separating the disparate elements that presently come under the corporate social responsibility umbrella. There are two broad themes; firstly the concept of what a corporation is and what role it should take in society is increasingly being questioned given that the economy is entering a post industrial era as well as rapidly becoming globalised. Secondly what is the best way for social responsibility to be operationalised and

incorporated into a firm's processes? Visser (2011) has called the present state of understanding CSR 2.0, it has broadly been accepted that enterprises should engage with CSR but there is much less knowledge of the best way to integrated this into day to day operations. It is accepted that bolting on a few responsible projects will not change the tenor of an organisation or have any significant effect, a more fundamental realignment is required.

Both these themes are important and need to be researched and developed but this is better achieved separately using different approaches, styles and methodologies. The whole research project suffers when it is not even possible to define what corporate social responsibility is. There are presently no labels in use for these two areas but a working definition would be to describe them as macro and micro CSR. This thesis has unashamedly focused on 'micro' CSR, because I do not have sufficient knowledge to comment on the state of the 'macro' field the rest of this section is devoted to the micro perspective.

There is a trend towards the professionalization of corporate social responsibility led by practitioners and companies who are naturally impatient to achieve tangible results; CSR is becoming a specific management competency. Non financial activities and risk assessment are being incorporated into management systems, whilst compliance and assurance techniques have been developed to deal with issues ranging from the carbon footprint to working practices in the supply chain. Disclosure of social performance in annual CSR reports is evolving along with the audit and measurement of these activities. All of these practical steps need to continue, there is a great deal of scope for their further development. A number of companies chose to be pioneers in these fields, interestingly for some the spur was an episode of severe negative publicity. Nike and McDonalds for example have developed sophisticated ways of incorporating CSR into their operations and so have moved from being reviled to respected for these efforts.

A recent paper by Aguinis and Glavas (2012) overviews the whole field of corporate social responsibility with the aim of identifying knowledge gaps and so informing future research. One of their principal findings is the need to drill down and understand underlying mechanisms, what they call the micro-foundations. Individuals and teams deliver social responsibility but almost all work has been conducted at the firm rather than team level.

Within the field there is an unfortunate disconnect between case studies that look at social responsibility from the grass roots where the action lies and statistical work usually involving large cross sections. These case studies benefit from examining the actual process of CSR whilst the statistical studies tend to use a black box comparing inputs and outcomes to divine the process. Case studies necessarily have small samples making it difficult to draw general conclusions, whilst statistical work can lose the context of a research question and rely on connections between a few observable variables.

Both techniques need to make progress if corporate social responsibility is to be better understood. In the same way that the measurement of CSR was systematised by using stakeholder theory so the study of the process of social responsibility needs to be better defined, organised and categorised. This will enable these studies to be compared, collated and benchmarked so that general results can be found leading to a better understanding of the most salient factors in the process. It is possible to conceive of case studies being augmented by new experimental designs where the conditions and situations of small teams are contrived in order to produce controlled experiments providing another way of analysing social responsibility in action.

The measurement of corporate social responsibility is in its infancy, more attention should be focused on alternative as well as multi channel ways of measuring corporate social performance. There has been almost no work on the relationship between spending on CSR and the amount of CSR 'produced'. The corporate social responsibility ratings industry is young; improvements are needed in procedures, quality control and comparability. Very little research has been directed towards assessing the accuracy of these CSR ratings, whether they are focused on the most salient aspects of social responsibility and if they are able to distinguish between the quantity and quality of CSR carried out.

Greater care and attention should be paid to 'soft' variables that tend to be unmeasured like firm ethos but which are central to CSR. The role of leadership and the attitudes of the CEO need to be more extensively considered; whether enthusiasm for CSR is shared throughout an organisation or whether it just comes from the top and the effect of these differences. Cultural influences no doubt have an important role to play but the size and incidence of this has been under researched, sociological studies have in the main been conducted at some distance from the large scale quantitative enquiries.

Conditionality also seems to have been neglected, studies within industries and between industries are useful in highlighting differences both between the leaders and laggards but also the different way in which CSR is conceptualised and achieved in different circumstances. This can be extended by comparing similar companies and industries in different countries. In general more equivocal results should be expected, rather than becoming a dead end these disparate results should be dissected and become the start of a more penetrating analysis.

Much longer run studies are needed which map changes in CSR to changes in the activities of companies and hence to changes in financial performance. Longitudinal studies are required, where the lags are much longer and tailored to the actual time taken for a process to occur rather than the typical one year default. Most studies have effectively used averages, but it would be better to measure the marginal effects of CSR activities with a view to estimating the optimal level of social responsibility from the firm's point of view. Overall a more ambitious approach should be taken that explicitly seeks to establish causation rather than just an association between two averages.

REFERENCES

Aboody, D., Barth, M. and Kasnik, R. (1999), 'Revaluations of fixed assets and future firm performance: Evidence from the UK', *Journal of Accounting and Economics*, 26(1), 149-178

Abrams, F. (1951), 'Management's responsibilities in a complex world', Harvard Business Review, 29(3), May, 29-34

Aguinis, H. and Glavas, A. (2012), 'What we know and don't know about corporate social responsibility: a review and research agenda', *Journal of Management*, Vol. 38 Issue 4, 932-968

Akbar, S., and Stark, A. (2003), 'Deflators, Net Shareholder Cash Flows, Dividends, Capital Contributions and Estimated Models of Corporate Valuation', *Journal of Business Finance and Accounting*, 30 (9-10), 1211-1233

Aldag, R., and Bartol, K. (1978), 'Empirical studies of corporate social performance and policy: A survey of problems and results', *Research in Corporate Social Performance and Policy*, 1: 165-199

Alexander, G. and Buchholz, R. (1978), 'Corporate Social Responsibility and stock market performance, *Academy of Management Journal* 21(3), 479-486

Allouche J, and Laroche P. (2005), 'A meta-analytical investigation of the relationship between corporate social and financial performance, *Revue de Gestion des Resources Humaines 57* (July–September): 18-41

Alsop, R. (2002), 'Perils of corporate philanthropy', *Wall Street Journal*, January 16:1-2

Altman, B. and Vidaver-Cohen, D., (2000), 'Corporate Citizenship in the New Millennium: Foundation for an Architecture of Excellence' *Business and Society Review*, 105(1) 145-169

Amato, L. and Amato, C. (2007), 'The effects of firm size and industry on corporate giving', *Journal of Business Ethics*, 72, 229-241

Ang, A., Hodrick, R., Xing, Y. and Zhang, X. (2006), 'The Cross-Section of Volatility and Expected Returns', *Journal of Finance*, 61 (1), 259-99

Arellano, M. and Bond, S. (1991), 'Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations, *Review of Economic Studies*, 58, 277-297

Arellano, M. and Bover, O. (1995), 'Another look at the instrumental variables estimation of error components models', *Journal of Econometrics,* Vol. 68, 29-51

Aristotle (2000), 'Nicomachean Ethics,' in Sterba, J. (Ed), *Ethics: Classical Western Texts in Feminist and Multicultural Perspectives*, Oxford University Press, New York, 55-70

Armel, L., Gbadji, G. and Gailly, B. (2009), *'Corporate venture capital among large corporations: Does industry sector matter?*' Working paper 09/22, University of Louvain

Baird, C.W. (1996), "I have a right!," in Spangler, M. (Ed), '*Cliches of Politics'*, The Foundation for Economic Education, Irvington-on-Hudson, New York

Baginski, S., and Wahlen, J. (2003), 'Residual income risk, intrinsic value and share prices', *The accounting review,* Vol.78, No1, 327-351

Bagnoli, M. and Watts, S. (2003), 'Selling to socially responsible customers, competition and the private provision of public goods', *Journal of economics and management strategy*, 12, 419-445

Ball, R. and Brown, P. (1968), **'**An Empirical Evaluation of Accounting Income Numbers', *Journal of Accounting Research*, 6, 159-178

Baltagi, B. (2008), '*Econometric analysis of panel data'*, John Wiley & Sons: Chichester

Bansal, P., and Roth, K. (2000), 'Why companies go green: A model of ecological responsiveness', *Academy of Management Journal*, 43: 717-736

Barnea, A., and Rubin, A. (2010), 'Corporate social responsibility as a conflict between shareholders', *Journal of Business Ethics*, 97, 71-86

Barnett, M. (2007), 'Stakeholder influence capacity and the variability of financial returns to corporate social responsibility', *Academy of Management Review*, 32(3), 794-816

Barnett, M. and Saloman, R. (2006), 'Beyond dichotomy: The curvilinear relationship between social responsibility and financial performance', *Strategic Management Journal*, 27(11), 1101-1122

Barnett, M. and Saloman, R. (2012), 'Does it pay to be *really* good, addressing the shape of the relationship between social and financial performance,' *Strategic Management Journal forthcoming*

Barney, J. (1991), 'Firm resources and sustainable competitive advantage', *Journal of Managemen*t, 17, 99-120

Baron, D. (2001), 'Private politics, corporate social responsibility and integrated strategy, *Journal of Economics and Management Strategy*, 10: 7-45

Barth, M., Beaver, W. and Landsman, W. (1992), 'The market valuation implications of net periodic pension cost components' *Journal of accounting and Economics*, 15(1), 27-62

Barth, M., Clement, M., Foster, G. and Kasznik, R. (1998), 'Brand Values and capital market valuation', *Review of Accounting Studies,* 3, 41-68

Basu, S, (1983), 'The relationship between earnings yield, market value and market value and return for NYSE common stocks: further evidence', *Journal of financial economics* 12, 129-156

Bauer, R., Koedijk, K. and Otten, R. (2005), 'International Evidence on Ethical Mutual Fund Performance and Investment Style, *Journal of Banking and Finance* 29, 1751-1767

Becchetti, L., Giacomo, S., and Pinnacchio, D, (2008), 'Corporate social responsibility and corporate performance: evidence from a panel of us listed companies' *Applied Economics*, 40(5), 541-567

Beisland, L. (2010), 'Is the value relevance of accounting information consistently underestimated?' *The Open Business Journal* 3, 1-17

Becker-Olsen, K., Cudmore, A. and Hill, R. (2005), 'The impact of perceived corporate social responsibility on consumer behaviour', *Journal of Business Research Volume 59, Issue 1, 46-53*

Bentham, J. (1815), 'A Table of the Springs of Action', Oxford University Press, Oxford

Berger, I., Cunningham, P. and Drumwright M. (2007), 'Mainstreaming Corporate Social Responsibility: Developing Markets for Virtue,' *California Management Review*, 49 (4), 132-57

Berle, A. and Means, G. (1932), *'The modern corporation and private property'*, Harcourt, Brace and World, New York

Bernstein, A. (2000), 'Too much corporate power', *Business Week*, 11 September, page 149

Bertelsmann Foundation (2006), *'Who is who in corporate social responsibility rating?'* Stuttgart University working paper

Best, J. and Lowney, K. (2009), 'The disadvantage of a good reputation: Disney as a target for social problems Claims' *The Sociological Quarterly,* vol. 50 (3) 431-449

Bhandari, L. (1988), 'Debt/equity ratio and expected common stock returns: Empirical evidence', *Journal of Finance* 43, 507-528

Biddle, G., Bowen, R., and Wallace, J. (1997), 'Does EVAR beat earnings? Evidence on associations with stock returns and firm values', *Journal of Accounting & Economics,* 24(3), 301-336

Blowfield, M. And Murray, A. (2008), *'Corporate responsibility, a critical introduction'*, Oxford University Press, Oxford

Blume, M. and Friend, I. (1973), 'A new look at the capital asset pricing model', *Journal of Finance* 28, 19-33

Blundell, R. and Bond, S. (1998), 'Initial conditions and moment restrictions in dynamic panel data models, *Journal of Econometrics*, 87(1), 115-143

Blundell, R. and Bond, S. (2000), 'GMM estimation with persistent panel data: An application to production functions, *Econometric Reviews*, 19(3), 321-340

Botosan, C. (1997), 'Disclosure level and the cost of equity capital', *The accounting review* 72, 323-349

Boulouta, I. (2012), 'Hidden connections: The link between board gender diversity and corporate social performance', *Journal of Business Ethics,* 92, 1293-97

Boutin-Dufresne, F. and P. Savaria: 2004, 'Corporate Social Responsibility and Financial Risk', *The Journal of Investing* 13, 57-66

Bowman, C. and Ambrosini, V. (2003), 'How the resource based and dynamic capability views of the firm inform corporate level strategy', *British Journal of Management*, 14, 289-303

Bowman, E. and Haire, M. (1975), 'A strategic posture towards CSR', *California Manager Review*, 18(2), 49-58

Bowen, H. (1953), '*Social responsibilities of the businessman'*, Harper & Row, New York

Bragdon, J. and Marlin, J. (1972), 'Is pollution profitable?' *Risk Management* 19 (4), 9-18

Brammer, S., Brooks, C., and S. Pavelin (2006), 'Corporate Social Performance and Stock Returns: UK Evidence from Disaggregate Measures,' *Financial Management*, autumn, 5-25

Brammer, S. and Millington, A. (2003), 'The evolution of corporate charitable contributions in the UK between 1989 and 1999: industry structure and stakeholder influences', *Business Ethics: European Review*, 12:3, 216-228

Brammer, S. and Millington, A. (2008), 'Does it pay to be different, an analysis of the relationship between corporate social and financial performance', *Strategic Management Journal*, 29 (12), 1325-1343

Brammer, S. and Pavelin, S. (2005), 'Corporate community contributions in the United Kingdom and the United States', *Journal of Business Ethics*, 56, 15-26

Brenkert, G. (1996), 'Private corporations and public welfare," in Larmer, R. (Ed), *Ethics in the Workplace: Selected Readings in Business Ethics*, West Publishing Company, Minneapolis/St. Paul

Brooks, C. (2008), *'Introductory econometrics for finance'*, Cambridge University Press, Cambridge, UK

Brown, L. (1997), 'Earnings surprise research synthesis and perspectives', *Financial Analysts Journal*, 53, 13-19

Burke, L., Logsdon, J., Mitchell, W., Reiner, M. and Vogel, D. (1986), 'Corporate community involvement in the San Francisco bay area', *California Management Review*, XXVIII, 122-141

Campbell, J. (2006), 'Institutional analysis and the paradox of corporate social responsibility', *American Behavioural Scientist*, Vol. 49, 925-938

Campbell, J. (2007), 'Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility', *Academy of Management Review*, 32, 946-967

Campbell, J. (2011), 'The US Financial Crisis: Lessons for Theories of Institutional Complementarity', *Socio-Economic Review*, 9, 211–234

Campbell, J. and Shiller, R. (1988), 'The dividend price ratio and expectations of future dividends and discount factors', *Review of financial studies*, 1, 195-228

Carhart, M. (1997), 'On persistence in mutual fund performance', *Journal of Finance* 52, 57-82

Carroll, A. (1979), 'A Three-Dimensional Conceptual Model of Corporate Social Performance,*' Academy of Management Review*, 4, 497-505

Carroll, A. (1991), 'The pyramid of corporate social responsibility: Towards the moral management of organisational stakeholders', *Business Horizons*, 34, 39-48

Carroll, A. (1999), 'Corporate social responsibility, evolution of a definitional construct', *Business and Society*, 38 93), 268-295

CCPA (2000), '*Corporate Community Involvement: Establishing a Business Case'*, Centre for Corporate Public Affairs: Melbourne

Cheng, B., Ioannou, I. and Serafeim, G. (2012), 'Corporate social responsibility and access the finance', SSRN 1847085

Chen, S., and Dodd, J. (2001), 'Operating Income, Residual Income and EVA(TM): Which Metric Is More Value Relevant?' *Journal of Managerial Issues*, 13(1), 65-86

Cheng, Q., (2005), 'What determines residual income?' *The accounting review* Vol. 80, 85-112

Chih, H., Chih, H. and Chen, T. (2010), 'On the Determinants of Corporate Social Responsibility: International Evidence on the Financial Industry' *Journal of Business Ethics,* vol. 93, 115- 135

Clarke, J. and Gibson-Sweet, M. (1990), 'The use of corporate social disclosures in the management of reputation and legitimacy: A cross sectoral analysis of UK Top 100 companies', *Business Ethics European Review* 8(1), 5-13

Claus, J., and Thomas, J., (2001), 'Equity premia as low as three percent? Evidence from analysts' earnings forecasts for domestic and international stock markets', *Journal of Finance* 56 (October), 1629-1666

Cohen, L. (2003), *'Loyalty based portfolio choice'*, Manuscript, University of Chicago GSB

Collier, J., and Esteban, R. (2007), 'Corporate social responsibility and employee commitment, *Business Ethics: A European Review*, 16, 19-33

Collins, D., Maydew, E. and Weiss, L, (1997), 'Changes in the value-relevance of earnings and book values over the past forty years', *Journal of Accounting and Economics,* 24, 39-67

Collins, D., Pincus, W., and Xie, H. (1999), 'Equity valuation and negative earnings: the role of book value of equity', *The Accounting Review*, 74(1), 29-61

Collins, J. and Porras, J. (1997), '*Built to last, successful habits of visionary companies'*, Harper Business, New York

Confucius (2000), 'The Analects,' in Sterba, J. (Ed), *Ethics: Classical Western Texts in Feminist and Multicultural Perspectives*, Oxford University Press, New York, 45-49

Cox, P., Brammer, S. and Millington, A. (2004), 'An empirical examination of institutional investor preferences for corporate social performance', *Journal of Business Ethics* 52, 27-43

Daniel, K. and Titman S. (2006), 'Market reactions to tangible and intangible information', *The Journal of Finance*, LXI (4), 1605-1643

Das, S., Levine, B. and Sivaramakrishnan, K. (1995), 'Earnings predictability and bias in analysts' earnings forecasts', *The Accounting Review* 73, 277-294

Daske, H., Halteren, J., and Maug, E. (2010), 'Evaluating methods to estimate the implied cost of equity capital: A simulation study', SSRN 1477298

Davis, K. (1973), 'The case for and against business assumption of social responsibilities', *Academy of Management Journal*, June, 312-322

Davis, K. and Blomstrom, R. (1975), '*Business and Society: Environment and Responsibility'*, McGraw-Hill, New York

Dechow, P., Hutton, A. and Sloan, A., (1999), 'An empirical assessment of the residual income model', *Journal of accounting and economics* 26, 1-34

Dedman, E., Kungwal, T. and Stark. A. (2010), 'Dividend Displacement, Market Value, Regular and Special Dividends, and Share Buybacks in the UK', SSRN 1574770

Demacarty, P. (2009), 'Financial returns of corporate social responsibility, and moral freedom and responsibility of business leaders', *Business and Society Review*, 114:3, 393-433

Deng, Z., Lev, B. and Narin, F., (1999), 'Science and technology as predictors of stock performance', *Financial Analysts Journal*, 55(3), 20-32

Derwall, J., Gunster, N. Bauer, R. and Koedijk, K. (2004), *'The eco-efficiency premium puzzle'*, Rotterdam school of management, Erasmus University working paper

Dhaliwal, D., Li, O., Tsang, A. and Yang, Y. (2009), *'Voluntary Non-Financial Disclosure and the Cost of Equity Capital: The Case of Corporate Social Responsibility Reporting',* Working Paper, University of Arizona

Diamond, D. and Verrecchia, R. (1991), 'Disclosure, liquidity and the cost of capital', *Journal of Finance* 46, 1325-1359

Dierickx, I. and Cool, K. (1989), 'Asset stock accumulation and sustainability of competitive advantage', *Management Science*, 35, 1504-1511

DiMaggio, P. and Powell, W. (1983), 'The iron cage revisited: Institutional isomorphism and collective rationality in organisational fields', *American Sociological Review*, 48, 47-160

Donaldson, T. and Dunfree, T. (1999), *'Ties that bind: A social contracts approach to business ethics*', Harvard Business School: Boston

Drucker, Peter F. (1955), '*The Practice of Management',* Heinemann, London

Dutta, P., Lach, S. and Rustichini, A. (1995), 'Better late than early: Vertical differentiation in the adoption of a new technology,' *Journal of Economics and Management Strategy*, 4: 563-589

Dyer, J. and Singh, H. (1998), 'The relational view: Cooperative strategy and sources of inter-organisational competitive advantage', *Academy of Management Review*, 23, 660-697

Easley, D. and O'Hara, M. (1991), 'Order, form and information in securities markets', *Journal of Finance* 46, 905-927

Easton, P. (2004), 'PE ratios, PEG ratios and estimating the implied expected rate of return on equity capital', *The Accounting Review* 79, 73-96

Easton, P. and Monahan, S. (2005), 'An evaluation of accounting based measures of expected returns', *The Accounting Review* 80, 501-538

Easton, P. and Sommers, G. (2007), 'Effects of analysts' optimism in estimates of expected rate of return implied by earnings forecasts', *Journal of Accounting Research* 45, 983-1015

Easton, P., Taylor, G., Shroff, P. and Sougiannis, T. (2002), 'Using forecasts of earnings to simultaneously estimate growth and the rate of return on equity investment', *Journal of Accounting Research* 40: 657-676

Eccles, R., Ioannou, I., and Serafeim, G. (2012), *'The Impact of a Corporate Culture of Sustainability on Corporate Behaviour and Performance'* Harvard Business School Working Paper

Edwards, E., and Bell, P., (1961), '*The Theory and Measurement of Business Income',* Berkeley, CA: University of California Press

EIRIS (2013), retrieved from http/eiris.org, on 10th April 2013

El Ghoul, S., Guedhami, O., Kwok, C. and Misha, D. (2010), 'Does corporate social responsibilities affect the cost of capital?' SSRN 1546755

Elkington, J. (1998), '*Cannibals with Forks: The Triple Bottom Line of 21st Century Business',* New Society Publishers: Gabriola Island, Canada.

Elton, J. (1999), 'Expected return, realised return and asset pricing tests', *Journal of Finance,* 54, 1199-1220

Epstein M, and Roy M. (2001), 'Sustainability in action: identifying and measuring the key performance drivers' *Long Range Planning* 34(5): 585-604

Etzioni, A., (1993), '*The Spirit of Community: Rights, Responsibilities and the Communitarian Agenda',* Crown Books, New York

Fama, K. (1970), 'Efficient capital markets: A review of theory and empirical work', J*ournal of Finance* 25, 383-417

Fama, E. and French, (1992), 'The cross section of expected stock returns, *Journal of Finance* 47, 427-465

Fama, E. and French, K. (1993), 'The common risk factors on the returns on stocks and bonds', *Journal of Financial Economics* 33, 3-56

Fama, E. and French, K. (1996), 'Multifactor explanations of asset pricing anomalies', *Journal of Finance* 51, 55-84

Fama, E. and French, K. (1997), 'Industry costs of Equity', *Journal of Financial Economics*, 43 153-193

Fama, E. and MacBeth, J. (1973), 'Risk, return and equilibrium: Empirical tests', *Journal of Political Economy*, 71, 607-636

Feldman, S., Soyka, P., and Ameer, P. (1997), 'Does improving a firm's environmental management system and environmental performance result in a higher stock price?' *Journal of Investing* 6, 87-97

Finger, C., (1994), 'The Ability of Earnings to Predict Future Earnings and Cash Flow', *Journal of Accounting Research*, 32(2), 210-223

Flannery, M. and Hankins, K. (2011), 'Estimating dynamic panel models in corporate finance', SSRN 1108684

Folkes, V. and Kamins, M. (1999), 'Effects of information about firms' ethical and unethical actions on consumer attitudes', *Journal of Consumer Psychology* 8(3), 243-259

Fombrun, C. and Shanley, M. (1990), 'What's in a name? Reputation building and corporate Strategy', *Academy of Management Journal*, 33, 233-258

Fougere, M., and Solitander, N. (2009), 'Against corporate responsibility: Critical reflections on thinking, practice, content and consequences', *Corporate Social Responsibility & Environmental Management*, *16*(4), 217-227

Frankel, R. and Lee, C. (1998), 'Accounting valuation, market expectation and cross-sectional stock returns', *Journal of Accounting and Economics* 35, 283-319

Franzen, L. and Radhakrishnan, S. (2009), 'The value relevance of R&D across profit and loss firms', *Journal of Accounting and Public Policy*, Vol.29, 16-32

Freeman, R. and Liedtka, J. (1991), 'Corporate social responsibility: A critical approach. *Business Horizons*, *34*(4), 92-98

Frederick, W. (1986), 'Toward CSR 3: why ethical analysis is indispensable and unavoidable incorporate affairs, *California Management Review* 28 (2), 126-141

Frederick, W. (2006), '*Corporation, be good! The story of corporate social responsibility'*, Dog Ear Publishing: Indianapolis

Freedman, M. and Stagliano, O. (1991), 'Differences in Social-Cost Disclosures: A Market Test of Investor Reactions', *Accounting, Auditing & Accountability Journal*, Vol. 4, No 1, 68-83

Freeman, R. (1984), '*Strategic Management: A stakeholder approach,* Pitman: Boston

French, K. and Porterba, A. (1991), 'Investor diversification and international equity markets', *American Economic Review* 81, 222-226

Friedman, M. (1970), 'The strategic Responsibility of Business is to increase its Profits', *New York Times Magazine*

Frombrun, C. (1996), *'Reputation: Realised value from the corporate Image'*, Harvard Business School Press: Boston

Froot, K. and Frankel, J. (1989), 'Forward discount bias, is it an exchange risk premium?' *Quarterly Journal of Economics*, 104, 139-161

Galbraith, J. (1952), *'American Capitalism: The Concept of Countervailing Power'*, Houghton Mifflin, Boston

Galema, R., Plantinga, A., and Scholtens, B. (2008), 'The stocks at stake: Return and risk in socially responsible investment, *Journal of Banking and Finance*, 32, 2646-2654

Garriga, E. and Mele, D. (2004), 'Corporate social responsibility theories: Mapping the territory', *Journal of Business Ethics* 53, 51-71

Gebhardt, W., Lee, C. and Swaminathan, B. (2001), 'Towards an ex ante cost of capital', *Journal of Accounting Research* 39: 135-176

Geczy, C., Stambaugh, R. and Leven, D. (2003), *'Investing in socially responsible mutual funds'*, Wharton School Finance working paper

Gibson, K. (2000), 'The moral basis of stakeholder theory', *Journal of Business Ethics*, 26 (3), 245-257

Gil-Alana, L. Iniguez-Sanchez, G. and Lopez Espinosa, G. (2010), 'Endogenous problems in cross sectional valuation models based on accounting information', *Review of quantitative finance and accounting* 37:245-265

Gode, D. and Mohanram, P. (2003), 'What affects the implied cost of equity capital?' *Review of Accounting Studies* 8 (3), December, 399-431

Godfrey, P. and Hatch, N. (2007), 'Researching corporate social responsibility: an agenda for the 21st century', *Journal of Business Ethics* 70(1), 87-98

Godfrey, P., Merrill, C. and Hansen, J. (2011), 'The relationship between CSR and shareholder value: An empirical test of the risk management hypothesis', *Strategic Management Journal* 30: 425-445

Gordon, M., (1959), 'Dividends, Earnings, and Stock Prices' *The Review of Economic Studies* 41, 99-105

Gordon, M. and Shapiro, E., (1956), 'Capital Equipment Analysis: The Required Rate of profit', *Management Science*, 3, 102-110

Goss, A. and Roberts, G. (2007), *'Corporate social responsibility and the cost of debt financing'*, Working paper, York University

Goyal, A., and Santa-Clara, P. (2003), 'Idiosyncratic Risk Matters!' *Journal of Finance*, 58 (3), 975-1008

Gow, I., Ormazabal, G, and Taylor, D., (2010), 'Correcting for Cross-Sectional and Time-Series Dependence in Accounting Research', *The Accounting Review,* Vol. 85, No. 2, 483-512

Granger, C. (1969), 'Investigating causal relations by econometric models and cross-spectral methods', *Econometrica* 37 (3), 424-438

Gray, E. and Balmer, J. (1998), 'Managing corporate image and corporate reputation', *Long Range Planning*, 31(5), 695-702

Greene, W. (2012*), Econometric Analysis*, 7th Ed. Prentice Hall: Upper Saddle River, NJ

Green, J., Stark, A. and Thomas, H., (1996), 'UK evidence on the market valuation of research and development expenditures', *Journal of Business Finance and Accounting,* 23 191-216

Greening, D. and Turban, D. (2000), 'Corporate social performance as a competitive advantage in attracting a quality workforce', *Business and Society*, 39, 254-280

Gregory, A., Tharyan, R. and Huang, A. (2009), '*The Fama French and momentum portfolios and factors in the UK*', Xfi working paper University of Exeter

Gregory, A., Matatko, J. and Luther, R. (1997), 'Ethical unit trust financial performance: Small company effects and fund size effects,' *Journal of Business Finance and Accounting* 24(5), 705-724

Gregory, A. and Whittaker, J. (2007), 'Performance and performance persistence of ethical unit trusts in the U.K.', *Journal of Business Finance and Accounting* 34 (7/8), 1327-1344

Gregory, A., and Whittaker, J. (2012), 'Exploring the Valuation of Corporate Social Responsibility-A Comparison of Research Methods', *Journal of Business Ethics*, 1-20

Gregory, A., Whittaker, J. and Tharyan, R. (2011), *'Corporate social responsibility and the valuation of firms'*, Xfi working paper University of Exeter

Grubb, D. and Symons, J. (1987), 'Bias in Regressions with a lagged dependent variable, *Econometric Theory*, 3, 371-386

Guay, W., Kothari, S. and Shu, S. (2003), *'Properties of the implied cost of capital using analysts forecasts'*, MIT working paper

Guenster, N., Bauer, R., Derwall, J., and K. Koedijk (2011), 'The Economic Value of Corporate Eco-Efficiency,' *European Financial Management* 17(4), 679-704

Gunningham, N., Kagan, R. and Thornton, D., (2004), 'Social Licence and Environmental Protection: Why Businesses Go Beyond Compliance', *Law and Social Inquiry*, Vol. 29, 307-341

Guthrie, J., and Parker, L. (1989), 'Corporate social reporting: A rebuttal of legitimacy theory, *Accounting & Business Research*, 19(76), 343-352

Hackston, D. and Milne, M. (1996), 'Some determinants of social and environmental disclosures in New Zealand companies', *Accounting, auditing and accountability journal*, Vol. 9, No 1, 77-108

Halfon, (2008), *'Corporate irresponsibility: Is business appeasing anti-business activists?* , Social affairs unit, London

Hamilton, J. (2005), 'Pollution as news: media and stock market reactions to the toxics release inventory data', *Journal of Environmental Economics and Management*, Vol. 28, 98-113

Hand, J., Landsman, M. and Wayne, R. (2005), 'The Pricing of Dividends in Equity Valuation', *Journal of Business Finance and Accounting*, 32(3/4), 435-469

Hansen, L. (1982), 'Large Sample Properties of Generalized Method of Moments Estimators', *Econometrica* 50, 1029-1054

Hansen, G. and Wernerfelt, B. (1989), 'Determinants of firm performance; the relative importance of economic and organisational factors', *Strategic Management Journal*, 10, 399-411

Hart, S. (1995), 'A natural resource based view of the firm', *Academy of Management Review*, 20(4), 986-1014

Hassel, L., Nilsson, H. and Nyquist, S. (2005), 'The value relevance of environmental performance', *European Accounting Review*, 14(1), 41-61

Hayek, F.A. (1969), 'The corporation in a democratic society: in whose interest ought it and will it be run? In Ansoff, H. (ed.), *Business Strategy,* Penguin Books: Harmondsworth

Henderson, D. (2009), 'Misguided corporate virtue: the case against CSR and the true role of business today', *Economic Affairs*, Vol. 29, No. 4, 11-15

Hillman, A. and Keim, G. (2001), 'Shareholder value, stakeholder management, and social issues: What's the bottom line?' *Strategic Management Journal,* 22: 125-139

Hockerts, K., (2007), *'Managerial perceptions of the business case for corporate social responsibility*', Copenhagen Business School, Working paper 03, 2007

Holmes, S. (1976), 'Executive perceptions of corporate social responsibility', *Business Horizons*, 19, 34-40

Hong, H. and Kacperczyk, M. (2009), 'The price of sin: The effect of social norms on markets', *Journal of Financial Economics* 93, 15-36

Hospers, J. (1996), 'Don't I have a right to a job?,' in Spangler, M. (Ed), *Cliches of Politics*, The Foundation for Economic Education, Irvington-on-Hudson, New York

Hoppe, H. and Lehmann-Grube, U. (2001), 'Second-mover advantages in dynamic quality competition', *Journal of Economics and Management Strategy*, 10: 419-433

Hume, D. (2000), 'A Treatise on Human Nature," in Sterba, J. (Ed), *Ethics: Classical Western Texts in Feminist and Multicultural Perspectives*, Oxford University Press, New York

Husted, B., and Salazar, J. (2006), 'Taking Friedman Seriously: Maximizing Profits and Social Performance', *Journal of Management Studies,* January 2006, Vol. 43, 75-91

International Standards Organization. (2010). ISO 26000 project overview Retrieved March 12, 2011 from, www.iso.org/iso/iso-26000-project overview.pdf

Jenkins, R. (2005), 'Globalization, Corporate Social Responsibility and Poverty', *International Affairs* 81 (3), 525-540

Jenkins, H. and Yakovleva, N. (2006), 'Corporate social responsibility in the mining industry: Exploring trends in social and environmental disclosure', *Journal of Cleaner Production*, 14 (3), 271-284

Jensen, M., and Meckling, W. (1976), 'Theory of the Firm: Managerial Behaviour, Agency Cost, and Capital Structure', *Journal of Financial Economics*, 3, 305-360

Jensen, M. (2002), 'Value maximization, stakeholder theory, and the corporate objective function', *Business Ethics Quarterly*, 12, 2, 235-56

Jiang, W. and Stark, A. (2009), *'Factors Affecting the Valuation of Loss-Relative to Profit-Making Firms in the UK'*, Working paper, Warwick University Business School

Jo, H. and Harjoto, M. (2012), 'The causal effect of corporate governance on corporate social responsibility', *Journal of Business Ethics* 106, 53-72

Jones, T. (1995), 'Instrumental stakeholder theory: A synthesis of ethics and economics' *Academy of Management Review*, *20*, 404-437

Kallapur, S. and Kwan, S., (2004), 'The value relevance and reliability of brand assets recognized by U.K. firms', *The Accounting Review*, 79(1), 151-172

Kant, I. (2000), 'Fundamental principles of the metaphysics of morals,' in Sterba, J. (Ed), *Ethics: Classical Western Texts in Feminist and Multicultural Perspectives*, Oxford University Press, New York

Karnani, A. (2010), 'The case against corporate social responsibility', *MIT Sloan Management Review*

Karpoff, J., Lott, J. and Wehrly, E., (2005), 'The reputational penalties for environmental violations: empirical evidence', *Journal of Law and Economics*, Vol. 48, 653-75

Kay, J. (1993), '*Foundations of corporate success'*, Oxford University Press: Oxford

Khan, M., Kogan, L. and Serafeim, G. (2012), 'Mutual Fund Trading Pressure: Firm-Level Stock Price Impact and Timing of SEOs', *Journal of Finance*, 67, 1371-1395

Kim, Y., and Statman, M. (2012), 'Do corporations invest enough in environmental responsibility?' *Journal of Business Ethics*, 105, 115-129

King, A., (1995), 'Avoiding Ecological Surprise: Lessons from Long Standing Communities' *Academy of Management Review* 20, 961-985

Klassen, R. and McLaughlin, C. (1996), 'The impact of environmental management on firm performance', *Management Science* 42, 1199-1214

Klassen, R. and Whybark, D. (1999), 'The impact of environmental technologies on manufacturing performance', *Academy of Management Journal*, 42, 599-615

Kotler, P. and Lee, N. (2005), '*Corporate social responsibility, doing the most good for your company and your cause'*, John Wiley & Sons, New Jersey

Kramer, M. and Kania, J. (2006), 'Changing the Game', *Stanford Social Innovations Review,* Vol. 4, No. 1, 20-27

Kristoffersen I, Gerrans P and Clark-Murphy M, (2005), 'The Corporate Social Responsibility and The Theory of the Firm', *School of Accounting, Finance and Economics & FIMARC Working paper Series, Edith Cowan University Working Paper 0505*

Lee, M. (2008), 'A review of the theories of corporate social responsibility: its evolutionary path and the road ahead', *International Journal of Management Reviews,* 10. 53-73

Lamont, O. and Polk, C. (2001), 'Does diversification destroy value? Evidence from the industry shocks.' *Journal of Financial Economics*, 63: 51-77

Lee, D. and Faff, R. (2009), 'Corporate sustainability performance and idiosyncratic risk: a global perspective, *The Financial Review*, 44, 213-237

Levitt, T. (1979), 'The dangers of social responsibility, in Beauchamp, T. and Bowie, N. (Eds.), '*Ethical theory and business',* Prentice-Hall, Englewood Cliffs, New Jersey

Liebermann, Y. and Flint-Goor, A. (1996), 'Message strategy by product-class type: A marching model', *Journal of research in marketing*, 13, 237-249

Lin, S. and Walker, M., (2000), 'FRS3 earnings, headline earnings, and accounting-based valuation models', *Accounting and Business Research*, 30, 299-306

Line, M., Hawley, H. and Krut, R. (2002), 'Development in global environment and social reporting', *Corporate Environmental Strategy*, 9(1), 69-78

Lippke, R. (1996), 'Setting the terms of the business responsibility debate,' in Larmer, R. (Ed), '*Ethics in the Workplace: Selected Readings in Business Ethics'*, West Publishing Company, Minneapolis/St. Paul

Lipschutz, R. , and Rowe, J. (2005), '*Globalization, governmentality, and global politics: Regulation for the rest of us?*' Routledge, London and New York

Litchenberg, F. and Siegel, D. (1991) 'The impact of R&D investment on productivity: New evidence using linked R&D-LRD data', *Economic enquiry* 29, 203-228

Liu, W. (2006), 'A liquidity augmented capital asset pricing model', Journal of financial economics, vol.82, 631-671

Lo, K. and Lys, T., (2000), 'The Ohlson model: contribution to valuation theory, limitations, and empirical applications', *Journal of Accounting, Auditing and Finance,* Vol. 15, (summer), 337-67

Lui, W., Strong, S. and Xu, X. (2003),'Post earnings announcement drift in the UK', *European Financial Management,* Vol. 9 No. 1, 89-111

Luo, X. and Bhattacharya, C. (2006), 'Corporate social responsibility, customer satisfaction and market value', *Journal of Marketing*, 70, 1-18

Mackenzie, C. and Lewis, A. (1999), 'Morals and markets: The case of ethical investing', *Business Ethics Quarterly*, Volume 9 issue 3, 439-52

Maeshiro, A. (1996), 'Teaching regressions with lagged dependent variable and auto correlated disturbances', The Journal of Economic Education, Vol. 27, No1., 72-84

Maignan, I., and Ferrell, O., (2003), 'Nature of Corporate Responsibilities: Perspectives from American, French, and German Consumers,' *Journal of Business Research*, 56(1), 55-67

Maignan, L. and Ralston, D. (2002), 'Corporate social responsibility in Europe and the U.S.: Insight from businesses' self presentations', *Journal of International Business Studies*, 33, 497-515

Majumdar, S. and Marcus, A. (2001), 'Rules versus discretion: The productivity consequences of flexible regulators', *Academy of Management Journal* 44: 170-179

Mallin, C. (2009), *'Corporate social responsibility, a case study approach'*, Edward Elgar Publishing, Cheltenham, UK

Mallin, C., Saadouni,B, and Briston, R. (1995), 'The Financial Performance of Ethical Investment Trusts', *Journal of Business Finance & Accounting*, Vol. 22, 483-96

Manner, M. (2010), 'The Impact of CEO characteristics on corporate social performance',*Journal of Business Ethics*, 93: 53-72

Marcoux, A. (2003), 'A fiduciary argument against stakeholder theory', *Business Ethics Quarterly*, 13(1), 1-24

Margolis, J., Elfenbein, H. and Walsh, J. (2007), *'Does it pay to be good? A meta analysis and redirection of research on the relationship between corporate social and financial performance'*, Harvard Business School Working Paper

Margolis, J. and Walsh, J. (2001), *People and profits? The search for a link between a company's social and financial performance*, Lawrence Erlbaum and associates: Mahwah, NJ

Mattingly, J. and Berman, S. (2006), 'Measurement of corporate social action: Discovering taxonomy in the Kinder Lydenberg Domini ratings data', *Business & Society,* 45(1), 20-46

McGuire, J., Sundgren, A., and Schneeweis, T. (1988), 'Corporate Social Responsibility and Firm Financial Performance', *The Academy of Management Journal*, Vol. 31, (4) 854-872

McShane, L. and Cunningham, P. (2012), 'To Thine Own Self Be True? Employees' Judgments of the Authenticity of their Organization's CSR Program,' *Journal of Business Ethics*, 108 (1), 81-100

McWilliams, A. and Siegel, D. (2000), 'Corporate social responsibility and Financial Performance: Correlation or Misspecification?' *Strategic Management Journal*, 21: 603-609

McWilliams, A. and Siegel, D. (2001), 'Corporate social responsibility: A theory of the firm perspective', *Academy of Management Review*, 26: 117-127

McWilliams, A., Siegel, D., and Wright, P. (2006), 'Corporate social responsibility: Strategic implications', *Journal of Management Studies, 43*(1), 1-18

Mercer (2011), '*FTSE 100 pension scheme assumptions increase for the fifth consecutive year'*, http://uk.mercer.com/press releases downloaded 6/1/2012

Merton, R. (1987), 'A simple model of capital market equilibrium with incomplete information', *Journal of Finance* 43, 483-510

Meyer, A. (1991), 'What is strategy's distinctive competence', *Journal of Management*, 17(4), 821-833

Michaely, R. and Womack, K. (1999), 'Conflict of interest and the credibility of underwriter analyst recommendations', *Review of Financial Studies*, 12, 653- 686

Miles, R. (1987), '*Managing the corporate social environment: A grounded theory'*, Prentice Hall: Englewood Cliffs, N.J

Miles, M. and Covin, J. (2000), 'Environmental marketing: A source of reputational, competitive and financial advantage', *Journal of Business Ethics*, 23, 1199-1214

Mintzberg, H. (1987), 'Crafting strategy', *Harvard Business Review,* July-August, 66-75

Mitchell, R., Agle, B., and Wood, D. (1997), 'Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts', *The Academy of Management Review*, 22(4), 853-886

Moon, J. (2004), 'The institutionalision of business social responsibility: Evidence from Australia and the UK', *The Anahuac Journal*, Vol. 5(1), 40-53

Moon, J. (2007), 'The Contribution of Corporate Social Responsibility to Sustainable Development', *Sustainable Development*, 15, 296-306

Morimoto, R., Ash, J. and Hope, C. (2005), 'Corporate social responsibility audit: from theory to practice', *Journal of Business Ethics* 62, 315-325

Moskowitz, M. (1972), 'Choosing socially responsible stocks', *Business and Society*, 1, 71-75

Murray, K. and Vogel, C. (1997), 'Using a hierarchy of effects approach to gauge the effectiveness of corporate social responsibility to generate goodwill towards the firm: Financial versus non financial inputs', *Journal of Business Research* 38, 141-159

Nelson, P. (1974), 'Advertising as information', *Journal of Political Economy*, 82(4), 729-754

Ness, K. and Mirza, A. (1991), 'Corporate social disclosure: A note on the test of agency theory', *The British Accounting Review*, 23, 211-217

Nickell, S. (1981), 'Biases in dynamic models with fixed effects', *Econometrica* 49, 1417-1426

O'Hanlon, J. and Pope, P., (1996), *'Does Dirty Surplus Earnings Conceal the Facts?'* Lancaster University, Working paper (October)

Ohlson, J. (1995), 'Earnings, book value, and dividends in equity valuation', *Contemporary Accounting Research*, 11(2), 661-687

Ohlson, J. and Juettner-Nauroth, B. (2001), *'Expected EPS and EPS growth as determinants of value'*, Working paper, New York University

Oikonomou, I., Brooks, C. and Pavelin, S. (2010), *'The impact of corporate social performance on financial risk and utility: a longitudinal analysis'*, ICMA centre discussion papers in finance DP2010-12, University of Reading

Orlitsky, M. And Benjamin, J. (2001), 'Corporate social performance and firm risk: a meta analytic review', *Business and society*, 40, 369-396

Orlitzky, M., Schmidt, F., and Rynes, S. (2003), 'Corporate Social and Financial Performance: A Meta-analysis,' *Organization Studies* Vol.24, 403-441

Orts, E. and Strudler, A. (2009), 'Putting a stake in stakeholder theory', *Journal of business ethics*, 88, 605-615

Pastor, L., Sinha, M. and Swaminathan B. (2008), 'Estimating the inter temporal risk-return trade-off using implied cost of capital', *Journal of Finance* 63, 2859-2897

Pearson, K. (1895), 'Contributions to the mathematical theory of evolution, II: Skew variation in homogenous material', *Philosophical Transactions of the Royal Society of London*

Penrose, E. (1959), *'The theory of the growth of the firm'*, Wiley: New York

Petersen, M. A. (2009), 'Estimating standard errors in finance panel data sets: Comparing approaches,' *Review of Financial Studies,* Vol.22, No.1, 435-480

Petrovits, C. (2006), 'Corporate sponsored foundations and earnings management', *Journal of Accounting and Economics*, 41, 335-362

Plato (2000), 'The Republic' in Sterba, J. (Ed), *Ethics: Classical Western Texts in Feminist and Multicultural Perspectives*, Oxford University Press, New York, 9-36

Porter, M. (1980), 'C*ompetitive strategy: Techniques for analysing industries and competitors'*, Free Press: New York

Porter M, and Kramer M. (2006), 'Strategy & society: the link between competitive advantage and corporate social responsibility', *Harvard Business Review* 84(12): 78-92

Porter, M. and Van der Linde, C. (1995), 'Towards a new conception of the environment-competitiveness relationship', *Journal of economic perspectives*, 9(4), 97-118

Rae, S. and Wong, K. (Eds), '*Beyond Integrity: A Judeo-Christian Approach',* Zondervan Publishing House, Grand Rapids, MI

Rajgopal, S., Venkatachalam, M. and Kotha, S. (2003), 'The value relevance of network advantages: the case of E-commerce firms', *Journal of Accounting Research*, 41(1), 135-162

Rawls, J. (1971), '*A theory of justice'*, Belknap Press: Cambridge, MA

Rees, W. (1997), 'The impact of dividends, debt and investment on valuation models', *Journal of Business Finance and Accounting,* 24, 1,111-1,140

Reichheld, F. (1996), *'The loyalty effect; the hidden force behind growth, profits, and lasting value*', Boston: Harvard Business School Press

Reinhardt, F. (1998), 'Environmental product differentiation', *California Management Review*, 40: 43-73

Richardson, S., Teoh, S. and Wysocki, P. (2004), 'The walk down to beatable analyst forecasts: the role of equity issuance and insider trader incentives', *Contemporary Accounting Research*, 21,885-921

Rivoli, P. (1996), 'Ethical aspects of investor behavior,' in Rae, S. , and Wong, K. (Eds), *Beyond Integrity: A Judeo-Christian Approach to Business Ethics*., Zondervan Publishing House, Grand Rapids, MI

Roberts, R. (1992), 'Determinants of corporate social responsibility disclosure: An application of stakeholder theory', *Accounting Organisations and Society*, 17(6), 595-612

Robinson, M., Kleffner, A., and Bertels, S., (2008), *'The Value of a Reputation for Corporate Social Responsibility: Empirical Evidence'*, Working Paper, University of Michigan

Roman, R., Hayibor, S., and Agle, B., (1999), 'The relationship between social and financial Performance, *Business and Society,* 38: 109-125

Roodman, D. (2006), *'How to do xtabond2: An introduction to difference and system GMM in Stata'*, Center for Global Development Working Paper No. 103

Ross, S. (1973), 'The Economy Theory of the Agency: the Principal's Problem', *American Economic Review*, 63: 134-139

Ross, S. (1976), 'The arbitrage theory of capital asset pricing model (CAPM)', *Journal of economic theory,* 341-6

Ross, W. (2000), 'Intuitionism,' in Pojman, L. (Ed), '*The Moral Life: An Introductory Reader in Ethics and Literature'*, Oxford University Press, New York

Rowley, T. and Berman, S. (2000), 'A brand new brand of corporate social performance' *Business and Society*, 39(4), 397-418

Russo, M. and Fouts, P. (1997), 'A resource based perspective on corporate environmental performance and profitability', *Academy of Management Journal*, 40(3), 534-559

Saiia, D. (2001), 'Philanthropy and corporate citizenship: strategic philanthropy is good corporate citizenship', *Journal of Corporate Citizenship*, 12, 57-73

Salama, A., Anderson, K. and Toms, S. (2011), 'Does community and environmental responsibility affect risk: Evidence from UK panel data 1994-2006', *Business Ethics: A European review*, 20, 192-204

Saloner, G., Shepard, A. and Podolny, J. (2001), *Strategic Management,* John Wiley & Sons, New York

Sandberg, J., Juavle, C., Hedesström, T. and Hamilton, I. (2009), 'The heterogeneity of socially responsible investment, *Journal of Business Ethics*, 87 (4), 519-33

Scholes, M. (1972), 'The market for securities: Substitution versus price pressure and the effect of information on share prices', *Journal of Business* 45(2) 179-211

Schmidt, P. Arx, U. and Scrimpf, A. (2011*),'On the construction of common size, value and momentum futures in international stock markets'*, National Centre of Competence in Research in Financial Valuation and Risk Management, Working Paper 670

Scott, W. (1992), '*Organisations: Rational, natural and open systems'*, Prentice Hall: Englewood Cliffs, NJ

Semenova, N., Hassel, L. and Nilsson, H. (2009), 'The value relevance of environmental and social performance: Evidence from Swedish Six 300 Companies', *Sustainable Research Platform,* number 4, 265-292

Sen, S. and Bhattacharya, C. (2001), 'Does doing good always lead to doing better? Consumer reactions to corporate social responsibility', *Journal of Marketing Research*, 38(2), 225-243

Shane, P. and Spicer, B. (1983), 'Market response to environmental information produced outside the firm', *Accounting Review*, Vol. 58, 521-38

Sharma, S. and Vredenburg, H. (1998), 'Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities, *Strategic Management Journal* 19(8) 729-753

Sharpe, W. (1978), *Investments*, Prentice Hall, Englewood Cliffs, NJ

Shen, Y. and Stark, A. (2011), 'Evaluating the Effectiveness of Model Specifications and Estimation Approaches for Empirical Accounting-Based Valuation Models', SSRN Working Paper no. 1888386

Shleifer, A. (1986), 'Do demand curves for stocks slope down?' *Journal of Finance* 41(3), 579-590

Siegel, D. and Vitaliano, D. (2007), 'An empirical analysis of the strategic use of corporate social responsibility', *Journal of Economics and Management Strategy*, Vol. 16(3), 773-792

Smith, N. (1990), '*Morality and the market'*, Rutledge, New York

Smith, N. (2003), 'Corporate social responsibility: Whether or how? *California Management Review*, *45*(4), 52-76

Stark, A., (1997), 'Linear information dynamics, dividend irrelevance, corporate valuation and the clean surplus relationship', *Accounting and Business Research*, 27(3), 219-228

Starks, L., (2009), 'EFA Keynote Speech: Corporate Governance and Corporate Social Responsibility: What Do Investors Care about? What Should Investors Care about?' *Financial Review* 44, 461-468

Statman, M. (2000), 'Socially Responsible Mutual Funds', *Financial Analysts Journal* 56, 30-39

Stattman, D. (1980), 'Book values and stock returns', *The Chicago MBA: a journal of selected papers,* 4, 25-45

Strong, N., Walker, M. and Harding Z. (1995), *'Price models and earnings response coefficients',* Manchester University working paper

Sturdivant, F. and Ginter, J. (1977), 'Corporate social responsiveness: Management attitudes and economic performance', *California Management Review*, 19(3), 30-39

Suchman, M. (1995), 'Managing legitimacy: Strategic and institutional approaches', *Academy of Management Review* 20, 571-610

Surroca, J., Tribo, J. and Waddock, S. (2010), 'Corporate Responsibility and Financial Performance: The Role of Intangible Resources', *Strategic Management Journal,* Vol.31, 463-490

Teece, P. (1998), 'Capturing value from knowledge assets: The new economy, markets for know-how and intangible assets', *California Management Review*, 40 (3), 55-79

Trueman, B., Wong, F. and Zhang, X. (2000), 'The eyeballs have it: searching for the value in internet stocks', *Journal of Accounting Research*, 38, 137-162

Turban, D. and Greening, D. (1996), 'Corporate social performance and organizational attractiveness to potential employees', *Academy of Management Journal* 40, 658-72

Ullmann, A. (1985), 'Data in search of a theory: A critical examination of the relationships among social performance, social disclosure and economic performance of U.S. firms', *Academy of Management Review*, 10(3), 540-557

Useem, M. (1988), 'Market and Institutional Factors in Corporate Contributions', *California Management Review* 30(2), 77-88

Vandermerve, S. and Oliff, M. (1990), 'Customers drive corporations green', *Long Range Planning*, 23(6), 3-9

Van de Ven, B., Nijhof, A. and Jeurissen, R, (2009), '*Sticking to core values: the case of The Body Shop'*. In C.Mallin, *Corporate Social Responsibility: A case study approach*, Edward Elgar Publishing: Cheltenham, England

Velasquez, M. (1998), '*Business Ethics: Concepts and Cases'*, Fourth Edition, Prentice Hall, Upper Saddle River, New Jersey

Verschoor, C. (2003), 'More evidence of better financial performance', *Strategic Finance*, 5, 18-20

Vilanova, M., Lozano, J. and Arenas, D. (2009), 'Exploring the Nature of the Relationship between CSR and Competitiveness,' *Journal of Business Ethics,* 87: 57-69

Visser, W. (2011), '*The age of responsibility: CSR 2.0 and the new DNA of business'*, Wiley, West Sussex, UK

Vogel, D. (2005), '*The Market for Virtue: The Potential and Limits of Corporate Social Responsibility',* Brookings Institution Press: Washington, DC

Voulteenaho, T. (2002), 'What drives firm level stock returns?' *Journal of Finance*, 57, 233-264

Waddock, S. and Graves, S. (1997), 'The corporate social performance - financial performance link', *Strategic Management Journal*, 18(4), 303-319

Walley, N., and Whitehead, B. (1994), 'It's not easy being green', *Harvard Business Review*, 72: 46-52

Wallich, H. and McGowan, J. (1970), 'Stockholder interest and the corporation's role in social policy. In Baumol, W.J. (ed.), *A New Rationale for Corporate Social Policy*. New York: Committee for Economic Development

Wartick, S. and Cochran, P. (1985), 'The evolution of the corporate social performance model' *Academy of Management Review*, 10, 758-769

Weintraub, R. (2007), 'Neoclassical Economics, The Concise Encyclopaedia of Economics Retrieved April 22nd, 2012 from http://www.econlib.org/library/Enc1/NeoclassicalEconomics.html

Wells, C. (2002), 'Cycles of corporate social responsibility: An historical retrospective for the twenty-first century', *University of Kansas Law Review*, 77

Wernerfelt, B. (1984), 'The Resource-Based View of the Firm', *Strategic Management Journal*; 5, (2), 171-180

Wicks, A., Berman, S. and Jones, T. (1999), 'The structure of optimal trust: Moral and strategic implications', *Academy of Management Review*, 24(1), 99-116

Windmeijer, F. (2005), 'A finite sample correction for the variance of linear efficient two-step GMM estimators', *Journal of Econometrics*, No. 126, 25-51

Windsor, D. (2001), 'Corporate Citizenship: Evolution and Interpretation', In J. Andriof, & M. McIntosh (Eds.), *Perspectives in Corporate Citizenship*: 39-52, Greenleaf: Sheffield, UK

Wintoki, B., Linck, J., Netter, J., (2012), 'Endogeneity and the dynamics of corporate governance', *Journal of Financial Economics,* September 581-606

Wood, D. (1991), 'Corporate Social Performance Revisited', *Academy of Management Review* 16 (4), 691-718

World Bank, (2003), 'Public policy for corporate social responsibility', *WBI series in corporate social responsibility, accountability and sustainable competitiveness,* Eds. Petkoski, D. and Twose, N., World Bank: New York

World Economic Forum (2002), '*Global Corporate Citizenship: The Leadership Challenge for CEOs and Board's'* Geneva: World Economic Forum and the Prince of Wales Business Leaders Forum

Wu, M. (2006), 'Corporate social performance, corporate financial performance and firm size: A meta analysis, *Journal of American Academy of Business*, (8) 1, 163-171

Zingales, L. (2000), 'In search of new foundations', *Journal of Finance* 55(4), 1623-1653

Zyglidopoulos, S. (2002), 'The social and environmental responsibilities of multinationals: Evidence from the Brent Spar case', Journal of Business Ethics, Vol. 36, 141-151