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Engaging on Corporate Social Responsibility: The Impact of FTSE4Good on Environmental Management, Countering Bribery and Mitigating Climate Change

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Abstract

This thesis examines the effect of a responsible investment index (FTSE4Good) on corporate social responsibility (CSR). In the first study I investigate the impact of the FTSE engagement reinforced by the threat of exclusion from the index on companies' improvements in environmental management. The results show that FTSE involvement doubles the probability that a company will meet stricter environmental management requirements within the three-year period 2002 to 2005. Both the dialogue and the exclusion threat stimulate compliance but the dialogue appears to be more effective where the perceived threat of exclusion is higher. The engagement effect persists for at least five years and is positively related to low concentrated ownership and to domicile in a coordinated market economy.

In the second study I examine FTSE4Good's effect on the probability that a company will implement strong countering bribery practices within the two-year time period 2007 to 2009. The results demonstrate that the combined effect of engagement and exclusion threat is significant in promoting compliance and the two act independently. Stronger anti-bribery provisions are positively associated with companies based in liberal market economies, with better internal governance and higher reputational concerns related to ethical controversies.

In the third study I investigate FTSE4Good's impact on companies' compliance with climate change criteria. The results show that the index is able to stimulate compliance and the dialogue appears to contribute more than the exclusion threat. I also find that the likelihood of the company adopting the required practices is negatively associated with concentrated ownership and with strong internal governance. Finally, the results offer some evidence that compliance is related to subsequent reduction in greenhouse gas emissions.

These studies contribute to the understanding as to how different CSR areas are promoted or discouraged by the managers and the owners, and how the institutional environment influences this. The results are consistent with engagement via a responsible investment index being an effective means of large-scale collective monitoring by institutional investors. The findings are also relevant for policy makers who wish to promote active ownership.

Contents

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Declaration

This thesis has been composed by the author. The third chapter of the thesis is associated with an article "Do Responsible Investment Indices Improve Corporate Social Responsibility? FTSE4Good's Impact on Environmental Management" published in 2013 in Corporate Governance: An International Review, 11(5): 495-512 in co-authorship with my supervisors Prof Bill Rees and Dr Craig Mackenzie. Otherwise, the work in this thesis is the original contribution of the author. The work presented here has not been submitted for any other degree or professional qualification.

Tatiana Rodionova

Chapter 1 Introduction

This thesis investigates whether a responsible investment index can be effective in instigating improvements in corporate social responsibility (CSR) among internationally diverse corporations. The engagement is performed by the index data provider but is influenced by different stakeholders including investment institutions. Institutional investors are putting increasing emphasis on companies' environmental, social and governance performance (Cox et al., 2004; Kim & Lyon, 2007; O'Rourke, 2003; Reid & Toffel, 2009). However, direct evidence of the effect of institutional engagement is limited and is more focused on corporate governance and operational improvements (e.g. Becht et al., 2009; Brav et al., 2008; Carleton et al., 1998; Thomas & Cotter, 2007; Klein & Zur, 2009) than corporate social responsibility (Dimson et al., 2012). Further, most evidence concerns publicly observable activism via shareholder proposals and voting rather than direct dialogue with management. In some instances private engagement by investment institutions is shown to be successful (Dimson et al., 2012; Gjessing & Syse, 2007), yet on the whole institutional ownership is not associated with enhanced CSR practices (Rees & Rodionova, 2012). Shleifer and Vishny (1986) argue that large blockholders have the incentives and the means to monitor management. Conversely, effective monitoring by institutions is shown to be constrained by a number of factors: the diversified character of their portfolios, agency problems including free-riding, noninvestor business ties with the portfolio firms, short-term investment focus, political motives, and the resulting costs (Becht et al., 2009; Brickley et al., 1988; Ryan & Schneider, 2002). However, with the growth of institutional ownership (Aguilera et al., 2007; Ryan & Schneider, 2002) their capacity to challenge corporate practice has increased, and establishing effective activism on CSR has become a crucial issue.

The thesis addresses this question by examining a particular strategy of private engagement by a responsible investment index that could be utilised by investment institutions. I use the case of FTSE4Good which engages in direct dialogue with companies regarding compliance with CSR criteria necessary for index membership. FTSE4Good is a stock-market index series introduced in 2001 and operated by FTSE Group Ltd. FTSE assesses all firms from its All-World Developed Indices for

potential membership as to whether they satisfy a set of established CSR criteria aiming to reflect good practice recognised by non-governmental organisations (NGOs), CSR professionals and investors (FTSE, 2010). The criteria are finalised by an independent Policy Committee which consists of responsible investors, CSR and industry experts, and academics (FTSE, 2005). Every six months the committee assesses companies' compliance with the criteria based on the research provided by a specialised non-profit research agency, the Ethical Investment Research Services (EIRIS). On the basis of these reviews, FTSE announces the names of the companies that have joined the index and those that have been deleted from it.

Over the decade of its existence FTSE has developed and refined the inclusion criteria covering environmental management, human rights, countering bribery, supply chain labour standards and climate change (FTSE, 2010). The introduction of new themes and the upgrade of the existing criteria presented an interesting natural experiment. When the new or tightened criteria were introduced, FTSE informed member companies no longer meeting the new requirements of the changes and gave them a grace period to implement the needed practices. Over the whole period, FTSE engaged in extensive dialogue with management to facilitate improvements. The companies were also alerted about the potential public expulsion from the index at the end of the grace period if they failed to comply with the criteria. At the same time, companies that were not in the index had to meet the new criteria in full in order to be included. They did not receive any communication from FTSE nor did they face exclusion. This experimental setting offered the opportunity to assess whether the engagement reinforced by the threat of delisting from the index motivated management to adopt the required CSR practices and the way institutional environment and governance context affected compliance and the engagement.

The empirical chapters of the thesis focus on three different CSR themes covered by the index: environmental management, controlling bribery and responding to climate change. According to agency theory, shareholder attitudes towards CSR proficiency ultimately depend on the net financial benefits from these activities (Clark & Hebb, 2005; McWilliams & Siegel, 2001). These benefits are shown to vary across

different themes (Godfrey et al., 2009; Jo & Harjoto, 2011; Sullivan & Mackenzie, 2008). Environmental management, as a theme separate from climate change, has elements which are related to product innovation and operational efficiency (Melnyk et al., 2003) and issues benefitting the community rather than the firm such as pollution prevention. Here large undiversified investors are likely to resist excessive investment given that some activities are not aligned with their financial interests. More stakeholder-oriented institutional context may promote better environmental performance and the influence of strong internal governance will depend on the extent to which managers believe that environmental proficiency can be used to mitigate potential conflicts with different stakeholders including investors (Jo & Harjoto, 2011).

Next, introducing practices to combat bribery is thought to enhance the relationship and trust between the firm and its business contacts including suppliers, employees and investors (Campbell, 2007; Gjessing & Syse, 2007; Rees & Mackenzie, 2011). Here the owners gain from the resulting business opportunities and the lower risks associated with higher transparency of the management's activities, but they bear the costs related to contracts lost to an unethical competitor. Although owners do not bear the reputational risk from dishonest behaviour that managers do, they are affected by the financial risks associated with illegal activities and may therefore promote or discourage the anti-bribery initiatives depending on the net benefit (Ramdani & van Witteloostujn, 2012). The national environment which protects shareholder rights and exposes corruption by government officials is likely to promote countering bribery practices by firms (Treisman, 2000).

Finally, developing strategies to reduce carbon footprint and mitigate the impact on climate change is largely an 'external' issue for the firm as these activities benefit the community (and the firm as a part of it) while the costs are borne by the owners (Rees & Rodionova, 2012). Managers may pursue these investments for ethical or strategic reasons, but owners are unlikely to favour expenditure on these projects. If the governance system is such that it ensures that managers are accountable to shareholders, climate change-related projects are unlikely to be a priority in

corporate strategy. However, if the institutional environment puts emphasis on the other stakeholders, management may respond more to their demands.

Each of the empirical chapters is based on a different dataset. The case of environmental management offers the largest sample of 1,029 companies since all firms had to meet the criteria with the requirements varying according to the environmental risk. This setting is therefore used to establish the methodology which is then applied in subsequent studies. In particular, the quasi-experimental setting requires controlling for the differences between the treatment and the control group that would lead to sample selection bias and render the results regarding the effect of the engagement unreliable. I use two methods to address this issue. Firstly, in line with the general logic of Heckman's two-stage estimation approach (Heckman, 1976) I construct a measure reflecting the prior probability of the firm complying with the criteria. The rationale here is that firms in the treatment group would be more likely to meet the criteria since they had strong CSR commitment recognised by their initial membership in the index. Including this metric as an independent variable allows the additional testing of the impact of this probability on the efficiency of engagement. Secondly, following the same approach I model the prior probability of being included in the index. If a firm with certain characteristics is likely to be a member, it is presumably because there are net benefits, be they financial, reputational or strategic. Additionally, this would create stakeholder expectation of strong CSR as the norm (Campbell, 2007). In this case exclusion from the index would be associated with costs. To the extent that this prior probability reflects the potential costs, this measure helps to disentangle the effect of the dialogue and the threat of exclusion from the index. Again, by including the interaction term between the engagement variable and the prior probability of being in the index I assess how the elements contributed to the effect of the index on CSR.

To test the robustness of the findings, I use the propensity score matching approach which has been developed to assess the impact of treatment on the outcome in a non-randomised experimental setting (Rosenbaum & Rubin, 1983). The idea behind the method is that, given that the counterfactual outcome for the participant group in the

absence of treatment is unobservable, one can use a control group of non-participants whose pre-characteristics are similar to the treated cases. To do so, treatment and control cases are matched on their propensity to receive treatment based on those relevant characteristics (Caliendo & Kopeinig, 2008). Following this approach, I model the probability of the firm receiving engagement from FTSE as a function of the control variables used in the main regression analysis. This method allows me to test the robustness of the results of the regression approach and offers further evidence in the case of inconclusive findings.

In short, the aim of the first study is to examine the impact of a responsible investment index on corporate environmental management practices, the combined effect of the engagement and the threat of exclusion from the index, the influence of both elements separately and the impact of concentrated equity ownership, institutional context and corporate governance. The study also investigates whether the FTSE effect was transitory or led to consistently higher improvements among engaged firms. The results show that, for a sample of 1,029 firms from 21 countries, the engagement allied to the threat of exclusion from the index has doubled the probability that a company failing to comply with the enhanced environmental management requirements in 2002 would meet the criteria by 2005. Both the dialogue and the threat of expulsion contribute to this effect but there is evidence to suggest that engagement works more efficiently when supported by the higher threat of exclusion. Additionally, the findings demonstrate that the higher compliance rate for the treated firms persisted for at least five years. Finally, the results suggest that compliance is positively related to lower levels of closely-held ownership and to firms residing in coordinated market economies.

The aim of the second study is to investigate the impact of the FTSE engagement combined with the deletion threat on the companies' adoption of a set of practices targeting prevention of bribery. The criteria applied to companies identified as having the highest exposure to illegal transactions based on the business sector, the country of operation and the reliance on government licences and contracts. For a sample of 340 such firms, the results suggest that the index was effective in

motivating these companies to implement the required practices over the period 2007 to 2009. The two drivers – engagement and the threat of exclusion – contributed to the outcome independently. Further, compliance is positively related to a high level of internal governance, domicile in a liberal market economy and reputational concerns associated with having experienced a prior ethical controversy. Finally, the findings offer some evidence that, while the dialogue is more effective in promoting compliance, peer pressure to be included in the index is also positively associated with FTSE's assessment of best practice.

The aim of the third study is to analyse the impact of index engagement reinforced by the threat of exclusion on corporate practices mitigating climate change. For a sample of 470 firms assessed as having a medium or high climate footprint, the results suggest that the index significantly increased the probability that a firm would develop the required climate change mitigating strategies within the two-year period 2008 to 2010. The engagement tends to work particularly well where the expected index membership is lower. Further, compliance is negatively associated with strategic ownership and a strong corporate governance system. Finally, compliance with the FTSE4Good climate change criteria appears to correspond to enhanced efforts by the companies in subsequent emissions reduction.

Taken together, the studies contribute to the governance theory and practice in several ways. Firstly, the findings add to the literature on what drives corporate social responsibility of firms. Prior work addressed this question mostly from an institutional (Campbell, 2007; Ioannou & Serafeim, 2010; McWilliams & Siegel, 2001; Neumayer & Perkins, 2004) or a resource perspective (Arora & Dharwadkar, 2011; Hart, 1995; Stephan, 2002) rather than from an investor perspective. Investor influence on CSR is a growing but still an under-researched area (Cox et al., 2004; Sjöström, 2008). More specifically, environmental responsibility has previously been linked to industrial and financial characteristics of firms or institutional pressures from the government and NGOs (Bansal & Roth, 2000). Next, prior work on the drivers of ethical behaviour has predominantly established legal and cultural determinants or organisational factors such as financial performance and slack

resources (Arora & Dharwadkar, 2011; Chen et al., 2008; Hess & Ford, 2011; Ramdani & Witteloostuijn, 2012). Finally, much of the management literature on climate change focused on how proactive response to climate change can be beneficial for the company from the technological perspective (Lash & Wellington, 2007). Yet there is sparse evidence of what drives management changes with regards to emission reduction strategies and the role of investors in particular (Reid & Toffel, 2009).

Consequently, this thesis adds to the limited knowledge on the investor influence on CSR practices in firms. More specifically, the findings further the understanding of the complex system of governance whereby equity investors, the firm's internal governance structure, the institutional environment and the collective engagement by institutional investors all affect management's decisions. The empirical results provide evidence of both agency and institutional matters influencing decision-making regarding CSR performance. The focus of this thesis is predominantly on institutional investors who may want to promote enhanced CSR practices in firms. Agency theory implies that shareholders have to monitor and get actively involved in firm governance to influence management as managers may act in their own interests rather than in the interests of the owners (Jensen & Meckling, 1976; Shleifer & Vishny, 1986). Presumably not all financial institutions favour CSR investments because of pressure for short-term financial returns or lack of a clear 'business case' (Cox et al., 2004). However, those institutional investors who are motivated to promote CSR issues in companies are likely to be constrained by lack of power as a stakeholder (Mitchell et al., 1997) due to the often dispersed nature of their holdings, lack of technological expertise regarding CSR issues, e.g. environmental management, and costs of individual engagement (Gifford, 2010). Direct engagement has been promoted as a governance tool but has so far remained an under-researched topic (Dimson et al., 2012; Sjöström, 2008). While prior evidence suggests that management will tend to be prepared to discuss a CSR issue with investors, the effect of this engagement has not been established (Vandekerckhove et al., 2007). Consequently, the findings of this thesis make a contribution by highlighting the effect of a particular engagement vehicle, i.e. engagements via a

responsible investment index reinforced by the threat of exclusion from the index. As the index incorporates stakeholder views on sound CSR practices and membership has thus reputational implications, this engagement strategy combines an investor monitoring mechanism advocated by the agency theory and the institutional forces that drive CSR improvements.

Secondly, the three empirical studies add to the emerging arguments in the literature on the differences in CSR areas and the implications of such differences for investors' and management's behaviour (Cox et al., 2004). While the index engagement is found to be effective in all three CSR dimensions (environmental management, countering bribery and climate change), the findings show how the mediating impact on compliance and engagement of internal governance, ownership and institutional context varies across the three themes. The results therefore both highlight the importance of a finer differentiation between different CSR issues and demonstrate how investors can contribute to improvements in each of the themes. The results are consistent with higher governance levels and shareholder focus being related to better control over bribery. Where the benefits for the managers are personal or strategic, they will pursue such projects while blockholders will tend to obstruct these activities. Stronger alignment of the interests of managers and shareholders through the governance system is found to lead to lower investment in CSR where the benefits fall to society rather than the firm but the institutional context promoting the interests of stakeholders and the society is shown to encourage companies' commitment to environment protection.

Thirdly, the evidence presented in this thesis furthers the understanding as to how social activists can elicit social changes (den Hond & de Bakker, 2007; Reid & Toffel, 2009; Dimson et al., 2012). While the theoretical framework of social activism has been developed (den Hond & de Bakker, 2007), the evidence of the use of such mechanisms by investors is scarce and is mostly related to shareholder resolutions (Reid & Toffel, 2009). Consequently, the thesis adds to this literature by demonstrating how engagement by a responsible investment index can be an effective social activism vehicle and can bring about improvements in management's

approach to social issues. Consistent with the social activism framework, the dialogue between FTSE and the company raises awareness of the CSR issue in question and encourages its reconsideration in the firm while the threat of expulsion from the responsible investment index prompts changes in corporate behaviour by challenging the firm's reputation and consequently its financial sustainability.

Finally, the findings add to the governance literature discussing potential convergence of governance mechanisms across different countries (Yoshikawa & Rasheed. 2009). In particular, in the cases of all three CSR issues examined, FTSE engagement was conducted with internationally diverse samples of firms (e.g. 21 countries in environmental management study). Consequently, the results highlight that such engagement strategy could be effective internationally. Although being domiciled in a liberal market economy or coordinated market economy is found to impact on compliance with the FTSE4Good criteria, the main effect of the index engagement remains both statistically and economically significant. Such approach to engagement is thus found to be an effective governance instrument for investors to monitor internationally diverse companies on their social and environmental performance.

With regards to practice, the findings suggest that engagement via a responsible investment index reinforced by the threat of public exclusion from the index provides an effective route for large-scale collaborative investor activism on corporate social responsibility. Diversified institutions can consider such engagement as it allows the targeting of internationally and culturally diverse companies and consequently lowers the costs of individual monitoring and agency problems of free riding. Policy makers can also promote engagement of this type to achieve social benefits. Further, the findings demonstrate that, whether in individual or collaborative engagement, the investors may wish to distinguish between different CSR issues and adjust their strategy accordingly. For example, in the case of environmental management they could explicitly promote a company's membership in the index while in the case of controlling bribery they could particularly target companies from coordinated market economies. Finally, the results may be of interest to other international voluntary

initiatives such as the United Nations Principles for Responsible Investment that also aims to bring about improvements in corporate social responsibility via direct engagement with corporations.

The structure of the thesis is as follows. Firstly, I review the literature on the impact of active ownership on corporate performance and on corporate social responsibility in particular. Three empirical chapters follow examining the effect of the responsible investment index on environmental management, countering bribery and mitigating climate change respectively. I then review the findings to demonstrate the different influences of CSR proficiency and engagement across the three examined CSR themes. The thesis finishes with a conclusion.

In the third empirical chapter I use the term ‘we’ instead of ‘I’. The rationale is that the third chapter is associated with a journal article published in 2013 in Corporate Governance: An International Review, 11(5): 495-512. This article is co-authored with my supervisors Prof Bill Rees and Dr Craig Mackenzie. In the two subsequent chapters I return to the term ‘I’ as my supervisors offered me guidance and insights but the work conducted is my own. These chapters will shortly be developed as articles which will also be co-authored with my supervisors.

Chapter 2 Literature Review

2.1 Introduction

In this chapter I review existing evidence on the role of the institutional investors in corporate governance and corporate social performance. Active ownership constitutes a major driver of corporate behaviour and as such is increasingly becoming the subject of interest for both academics and the investment community. Shareholder activism can be defined as *"various actions undertaken by investors to influence corporate management and boards in order to make corporations change in corporate social responsibility (CSR) or improve their financial outcomes"* (Chung & Talaulicar, 2010). Through active involvement with companies, investors aim to ensure that in a situation of agency conflicts management will make strategic decisions that deliver superior returns to shareholders, under the implicit assumption that an outperforming company ultimately benefits not only the owners but also the society at large.

Shareholders have been shown to be targeting various aspects of corporate performance, e.g. business structure, accounting practices and corporate governance (Becht et al., 2009; Chung et al., 2002; Del Guercio & Hawkins, 1999; Gillan & Starks, 2007; Prevost & Rao, 2000; Starks, 2009; Thomas & Cotter, 2007). Another area of growing importance is corporate social responsibility which includes *"actions that appear to further some social good, beyond the interests of the firm and that which is required by law"* (McWilliams & Siegel, 2001). The extent to which the roles in addressing social and environmental matters should be shared between governments and corporations has long been a subject of a heated debate. Yet what is undeniable is that these issues require action. While the implications of social and environmental problems for political and economic stability and consequently business environment should make the materiality of CSR apparent for investors, there is a large heterogeneity among them with regards to the costs and benefits of social and environmental investment and the strategies to influence management. Furthermore, because of its ethical implications, CSR can be used strategically by management for the 'warm-glow' effect and personal benefits and

may therefore be viewed as an agency cost (Barnea & Rubin, 2010; Bénabou & Tirole, 2010). Finally, corporate responsibility in itself is a broad amalgamation of specific issues which may trigger different reaction from the owners (Barnett, 2007; Rees & Mackenzie, 2011).

Investment institutions are thought to be key actors in addressing corporate performance and corporate social responsibility in particular given their growing ownership (Johnson & Greening, 1999; Ryan & Schneider, 2002), large portfolios of 'universal owners' (Gjessing & Syse, 2007) and their fiduciary duty to deliver not only competitive but also robust long-term returns (Kiernan, 2007). In the following review I find that some shareholders engage in active monitoring, both via private negotiations and public means such as voting on shareholder proposals. In some instances such engagement can be efficient in promoting improvements in accounting practices and corporate governance, yet on the whole the efficiency of the engagement to date is limited (Gillan & Starks, 2007). Conversely, large entrenched blockholders are shown to influence management decisions (Shleifer & Vishny, 1986). More research on activism focuses on corporate governance and business operations rather than corporate social responsibility, and the limited evidence on CSR that does exist demonstrates a neutral impact of institutional investors. Consequently, the review furthers the understanding of the incentives and constraints in institutional monitoring by distinguishing between different CSR activities based on their costs and benefits and discussing the possibilities of collaboration in engagement among institutional investors.

The chapter proceeds as follows. First, management's personal, strategic and long-term motives regarding CSR in general are presented, and differences among CSR themes are outlined. This is followed by the discussion of active ownership including evidence on the general relation between large shareholders and CSR and a more detailed comparison of two major groups of large shareholders, institutional investors and families. Next, evidence on investor engagement is presented including shareholder resolutions and private negotiations with the management. The review

then outlines the limitations of the institutional investor engagement and finishes with a conclusion.

2.2. CSR in Management Strategy

A voluminous body of literature addressed the potential benefits for corporations of enhanced social and environmental performance, and the overall evidence may seem appealing to the management. Outstanding CSR is argued to be a source of competitive advantage (Aguilera et al., 2006; Bansal & Roth, 2000; Berry & Rondinelli, 1998; Jones, 1995; Lash & Wellington, 2007; McWilliams & Siegel, 2001; Porter & van der Linde, 1995). This advantage can come from distinguishing the brand, signalling quality and appealing to conscious consumers (Becker-Olsen et al., 2005; Fisman et al., 2006; McWilliams & Siegel, 2001; Siegel & Vitaliano, 2007), employees (Bénabou & Tirole, 2010; Brekke & Nyborg, 2008; Turban & Greening, 1997) and responsible investors (Cox et al., 2004; Dimson et al., 2012).

Apart from the likely link between the above competitive advantage and value creation, strong corporate social performance is shown to be associated with more favourable financing terms (Cheng et al., 2011). Furthermore, good relations with the bondholders and creditors and the resulting effect on the cost of capital are arguably directly relevant for long-term investors with large stakes who have to borrow substantial resources on the debt market (Jensen & Meckling, 1976). The positive association between strong CSR and better access to finance may come from strong CSR being related to better overall management competence (Berry & Rondinelli, 1998; Hart, 1995; Karkkainen, 2001; Solomon et al., 2004; Stephan, 2002), stronger governance and hence lower information asymmetry (Renneboog et al., 2008) and lower risks of the costs associated with potential conflicts with stakeholders (Godfrey et al., 2009; Jo & Harjoto, 2011). For example, evidence shows that companies with a poor environmental rating become exposed to sanctions by regulators or are put under increased scrutiny by activist groups and NGOs who may use aggressive campaigns (Eesley & Lenox, 2006; Fineman & Clarke, 1996; Henriques & Sadorsky, 1999; Guay et al., 2004; Lenox & Eesley, 2009; Spar &

Mure, 2003; Stephan, 2002). Whether or not such campaigns are successful, they send a signal regarding potential operation costs and long-term wealth loss for shareholders (Barnea & Rubin, 2010; Hamilton, 1995; Renneboog et al., 2008).

The scope for discretion regarding expenditures on various social and environmental projects may link them to managerial entrenchment and a source of agency conflict (Cespa & Cestone, 2007; Orlitzky et al., 2003). Bénabou and Tirole (2010) argue that managers regard CSR as a source of long-term value creation, a strategic tool to balance interests of various stakeholders or a way to pursue their own ethical position and personal agenda. Barnea and Rubin (2010) refer to the latter as the 'warm-glow' effect. For a sample of US firms they find that managers tend to over-invest resources in CSR beyond value-maximising projects. Conversely, CSR is shown to strengthen positive impact of strong governance on firm value as a source of better relations with stakeholders (Jo & Harjoto, 2011, 2012). Finally, there are cases where management's investment in CSR brings about observable financial returns (Dimson et al., 2012). Therefore, all three motivations have found some empirical support.

However, prior evidence remains inconclusive as to whether superior social performance results in superior financial performance (Barnett & Salomon, 2006; Margolis et al., 2007; McWilliams & Siegel, 2000; Renneboog et al., 2008). Firstly, this comes from a lack of consensus as to which social and financial performance metrics should be used. Secondly, McWilliams and Siegel (2001) argue that, provided that managers pursue firm value maximisation, they will invest in CSR projects according to the costs and benefits, and therefore the relation between CSR and financial performance will be neutral. Most importantly, investors do not necessarily equate shareholder welfare with stock price maximisation. According to a survey conducted by McCahery et al. (2009) it is the long-term corporate strategy rather than firm's stock performance that is more likely to make active institutional investors interfere.

2.3 Differences among CSR Areas

Putting their far-reaching social implications aside, as investment projects CSR activities exhibit substantial heterogeneity, and aggregating them together may be a priori uninformative (Johnson & Greening, 1999; Hillman & Keim, 2001; Cox et al., 2004; Godfrey et al., 2009; Dam & Scholtens, 2012). Different classifications have been proposed which helped explain motivations of enhanced CSR. For example, Johnson and Greening (1999) distinguished between the 'people' aspect of corporate social performance concerned with communities and employees, and the 'product quality' aspect related to production and environmental strategy. Similarly, Dam and Scholtens (2012) analysed separately stakeholder, ethical and environmental issues. Nevertheless, Barnea and Rubin (2010) along with numerous studies on social versus financial performance simply distinguished between socially responsible firms with increased investment in CSR from 'socially irresponsible' ones, under the assumption that any investment in CSR would imply long-term, strategic or personal interests of managers without certainty about the financial returns.

In this thesis I focus on a classification which would most precisely incorporate shareholders' view, i.e. reflect the distribution of the costs and benefits for corporations. From this perspective, social, environmental and governance developments are classified into largely 'external', or 'social', such as climate change or human rights, and 'internal', or 'financial', such as corporate governance or product innovation and operational efficiency (Barnett, 2007; Judge et al., 2010; Rees & Mackenzie, 2011). Issues such as bribery prevention are thought to be more related to business contacts of the firm with employees, suppliers and customers, and constitute an intermediate 'contacts' category (Rees & Rodionova, 2012). Some empirical evidence reflected the impact of these differences on firm value with projects enhancing operational activities being related to higher value and 'social' CSR developments showing inconclusive results (Jo & Harjoto, 2012). Conversely, in the case of a negative event 'external' CSR has been shown to help preserve the value through goodwill while 'instrumental' CSR did not (Godfrey et al., 2009).

Consequently, from the owners' perspective, these differences will have implications for the motivation to actively promote or oppose such CSR developments.

2.4 Motivations for Active Ownership

2.4.1 Large Shareholdings and CSR

Institutional theory postulates that pressure from institutional factors such as state and industrial regulation, private monitoring initiatives from NGOs, institutional investors and other groups of stakeholders influence company responsiveness to CSR (Bansal & Roth, 2000; Campbell, 2007; Christmann, 2000; Delmas & Toffel, 2010; González-Benito & González-Benito, 2006; Hart, 1995; Sharma & Vredenburg, 1998). Whatever costs and benefits a corporation encounters from CSR activities, they are borne by the large equity owners (Cox et al., 2004). The cost-benefit balance influences corporate performance and attracts certain types of investors, i.e. they react by buying or selling their shares (Demsetz & Villalonga, 2001). Chung and Talaulicar (2010) call this a 'walk activism' and it has been shown to be efficient in improving governance, for example, by stimulating management to replace the CEO with an outsider (Parrino et al., 2003).

However, given the long-term nature of concentrated ownership (Cox et al., 2004) and resulting strategic rather than trading interests, large owners are shown to monitor management (Burkart et al., 1997; Demsetz & Lehn, 1985; Faccio et al., 2001; Jensen & Meckling, 1976; Johnson & Greening, 1999; La Porta et al., 2000; Shleifer & Vishny, 1997). The question as to whether this affects firm value and in which direction has attracted substantial academic attention but the results have been mixed (e.g. McConnell & Servaes, 1990; Loderer & Martin, 1997). Demsetz and Lehn (1985) examined a linear regression model of accounting profit rate and the holdings of the five largest shareholders controlling for the endogenous character of the ownership variable. They found no relation between ownership structure and corporate performance. Conversely, Morck et al. (1988) used Tobin's Q and insider ownership which they treated as an exogenous variable and reported a non-

monotonic relation where the market value increased with insider ownership below 5 percent or above 25 percent and declined when managers were holding between 5 percent and 25 percent of equity. These findings were later disputed by Demsetz and Villalonga (2001) who found the opposite and mostly insignificant signs using the same model.

Consequently, while large owners attempt to impact on firm value, the way they influence management's decisions is complex. With regards to CSR developments in particular, evidence of a direct relationship between closely held shares and CSR investment is, as may be expected, somewhat weak but is generally pointing towards a negative association (Ioannou & Serafeim, 2010; Rees & Mackenzie, 2011). To enhance the interpretation of causality, Rees and Rodionova (2012) apply propensity score matching to a large sample of over 3,000 companies worldwide and find that entrenched shareholders are indeed associated with lower CSR performance as assessed by an independent CSR data provider.

2.4.2 Families and Institutions as Blockholders

The main objective of large equity holders is the ultimate return on their investments (Clark & Hebb, 2005; Lydenberg, 2007). However, blockholders are an aggregation of different actors such as families, financial institutions, individuals, government-related bodies and industrial corporations (Andres, 2008). This review particularly focuses on two major groups of blockholders, families and financial institutions, and compares them based on prior evidence (Aguilera et al., 2006; Anderson et al., 2003; Andres, 2008; Brickley et al., 1988). The rationale here is that, while the focus of the thesis is on the institutional engagement, a comprehensive analysis as to how institutional investors can be effective as monitors requires an understanding of the incentives of undiversified blockholders such as families.

Table 2.1 outlines the main characteristics of these two groups of shareholders. As can be seen from the table, families invest their own funds and therefore have a complex nexus of economic and personal motives. As large blockholders, they have

power to pursue these objectives, whether at the expense of other shareholders or not. This has been shown to both benefit and jeopardise firm performance (Anderson & Reeb, 2003; Andres, 2008; Barontini & Caprio, 2006; Jara-Bertín et al., 2008). The latter comes, for example, from the negative corporate reputation due to agency problems related to the expropriation of interests of minority shareholders (Delgado-García et al., 2010). Financial institutions, on the other hand, tend to have diversified portfolios and invest on behalf of their clients. Therefore they perceive it as their fiduciary duty to deliver high returns on their clients' investments. Consequently, institutions are more likely to prioritise the financial performance of the firms they invest in. Institutional activism can be effective as they have accumulated expertise and have access to specific information. However, the diversified character of the portfolio may prevent them from monitoring which leads to separation of ownership and control and agency problems between these shareholders and management.

TABLE 2.1 Families and Institutions as Owners: Differences and Similarities

	Families	**Financial Institutions**
Capital invested	Personal funds	Clients'/trustees' funds
Portfolio	Not diversified or not well-diversified	Mostly well-diversified
Investment objectives	Firm survival Reputation Value maximisation	Financial performance
Potential risk of entrenchment	Are likely to pursue private agenda, focus on risk reduction and thus expropriate diversified minority investors	May wish to set their agenda
Incentive to monitor	Significant	Potentially significant but constrained by the diversified portfolio, potential business relations with the firm and free-riding problems
Power to monitor	Significant	
Monitoring ability	Are likely to have specific knowledge of the firm due to their long relations with it	Have experience and knowledge from monitoring different firms in the portfolio and may have access to specific information
Relations with managers	In many cases have family members on the executive board	Are subject to agency problems of separation of ownership and control
Relations with bondholders	Mitigate the conflict of interest between equity and debt claimants and thus have relatively lower cost of capital	Are likely to face divergence of interests and thus agency costs
Relations with employees	Are built on trust and implicit contracts	Not ambiguous but the dialogue is strongly encouraged
Investment horizon	Long-term	Are more pressured towards short-termism

This table describes the main characteristics of families and financial institutions as large owners. The features presented reflect the incentives and the power of the two groups of investors to monitor management given the nature of funds invested, the investment horizon and potential agency problems.

2.4.3 Families' and Institutions' Views on CSR

While large owners on the whole are thought to be able to internalise more benefits from long-term projects, such as CSR investments, there are differences in the extent to which they can achieve that. The above description of the owner characteristics of families and institutional blockholders helps understand their motivations regarding investments in social, environmental and governance endeavours.

Regarding 'internal' governance matters such as board composition, executive compensation and overall protection of shareholder rights, institutional investors on the whole are likely to favour these as they may offer benefits in terms of reduced information asymmetry and facilitate monitoring (Rees & Rodionova, 2012). In line with this reasoning, institutional ownership is shown to influence governance provisions such as board structure (Wu, 2004), CEO compensation (David et al., 1998) and CEO turnover (Parrino et al., 2003). Conversely, families are unlikely to particularly welcome balanced power and low scope for discretion implied by strong internal governance (Rees & Rodionova, 2012).

On the other hand, 'external', or 'social' CSR, such as emission reduction or human rights, may be opposed by both types of blockholders as it offers seemingly less in terms of measurable financial benefits (Starks, 2009). However, the diversified nature of the portfolios of institutional investors, ultimate focus on economic returns and their reliance on multiple markets relate them to 'universal owners' who may be affected by economic consequences of political and social instability or environmental damage (Gjessing & Syse, 2007). In this case the negative impact of institutions may be smaller or it may be benign to the extent that they regard such investments as preserving their long-term returns or returns from investments in different regions and markets (Sullivan & Mackenzie, 2008). Additionally, institutions are likely to have more reputational concerns and may favour the 'goodwill' role of social CSR (Godfrey et al., 2009).

2.4.4 Different Types of Institutional Investors

It is often stated that there is not enough understanding of the role that institutional investors play in corporate governance (Starks, 2009). Overall, they face a choice between monitoring and trading (Shleifer & Vishny, 1986). However, financial institutions do not form a homogenous group of investors, and their specific characteristics affect their investment strategy and the way they influence companies (Del Guercio & Hawkins, 1999). Table 2.2 presents a classification of institututional investors by Brickley et al. (1988). This classification has been widely employed in the corporate governance literature and distinguishes between institutions based on their relative independence from the company they invest in.

The classifications used by other researchers follow the same principle and differ mostly in terminology. For example, Almazan et al. (2005) uses the terms 'active monitors' for investment companies and advisors and 'passive monitors' for banks and insurance companies. Elyasiani et al. (2009) additionally identifies institutions which side with management to exploit small shareholders and 'passive indexers' who hold shares because the company is in a certain index. Other empirical evidence reveals some implications for the corporate performance of these different groups of institutions. Large long-term shareholdings by independent institutional investors who are more likely to monitor are associated with higher firm value (Ferreira & Matos, 2008; Ruiz-Mallorquí & Santana-Martín, 2010). Similarly, Becht et al. (2009) note that Hermes UK Focus Fund, an activist hedge fund, never relied on support from banks in its engagement on corporate governance matters while Marler and Faugère (2010) find that ownership by banks and insurance companies siding with management is negatively associated with the use of equity incentives for middle management.

TABLE 2.2 Classification of Institutional Investors by Brickley et al. (1988)

Types of Institutions	Examples of these Institutions	Description
Pressure-sensitive	Insurance companies Banks Trusts with a stake of at least 1 percent	These are likely to have actual or potential business relations with the company which they do not wish to spoil; thus, they are expected to either support management decisions or sell their stake
Pressure-resistant	Public pension funds Mutual funds Endowments Foundations with a stake of at least 1 percent	These are likely to be less sensitive to management pressure
Pressure-indeterminate	Corporate pension funds Brokerage houses Investment counsel firms Institutions with a stake of less than 1 percent	N/A
This table presents the classification of institutional investors by Brickley et al. (1988) which is widely utilised in the corporate governance literature. The authors distinguish between different types of investors based on their nonequity relations with the firms.		

Consequently, the above classification indicates that some institutions such as pension funds are more likely to be actively involved in governance focusing on the long-term shareholder wealth as they perceive it in their fiduciary duty to pursue not only high but also sustainable returns. Conversely, governance by banks is more 'insider-oriented' and prioritises favourable business arrangements as banks may indeed be more content with the short-term profitability of a company they invest in and provide credit to.

Another attribute of institutional ownership which has been shown to impact on firm value is their stability expressed as the proportion of equity held by institutions scaled by its standard deviation (Elyasiani et al., 2009). The findings suggest that stable institutional ownership has a positive effect on the company's performance which comes from reduced information asymmetry and implementation of the

executive incentive-compensation. Along the same lines, institutional investors which hold shares for longer than a year tend to have lower monitoring costs as they have a better knowledge of the company, its governance and can process new information about the company more efficiently (Chen et al., 2007). The above attributes demonstrate that institutional investors vary in terms of their preference for certain governance and business practices of the companies they invest in. For example, hedge funds seem to pay most attention to the managerial shareholdings while for insurance companies and pension funds the most important issue is free float; pension funds are mostly concerned with board independence and ownership concentration; finally, mutual funds prioritise managerial ownership and ownership of the largest shareholder (McCahery et al., 2009).

2.4.5 Institutional Investors and CSR

As mentioned earlier, the 'universal owner' hypothesis postulates that large institutional investors would directly benefit from the improvements in social and environmental practices by companies since their portfolios reflect the entire global economy (Gjessing & Syse, 2007). Similarly, poor environmental or social decisions by some companies would adversely affect the portfolio by deteriorating conditions and increasing risks for other companies (Kiernan, 2007), jeopardising fiduciary duty to deliver returns to the trustees (Sethi, 2005) and exposing investors to adverse consequences of legal actions, NGO campaigns and other forms of stakeholder pressure (Johnson & Greening, 1999). Accordingly, these investors regard company's commitment to preserve the environment and make social input as a necessary aspect of corporate strategy (Cox et al., 2004; Kim & Lyon, 2007; O'Rourke, 2003; Reid & Toffel, 2009; Renneboog et al., 2008; Sparkes & Cowton, 2004). Similarly, institutional investors are attracted to companies with enhanced CSR (Dhaliwal et al., 2011). In particular, long-term oriented institutions, pension funds and life insurance companies invest more in firms with higher CSR performance as opposed to short-term institutional investors, trusts and charities (Cox et al., 2004). Investments by long-term institutions then contribute to reduced stock volatility (Dimson et al., 2012).

2.5 Investor Engagement as a Means of Active Ownership

2.5.1 Active Ownership and Corporate Governance

Shareholders, in particular institutional investors, have been consistently encouraged to actively monitor companies they invest in to ensure efficient governance and value creation (Mallin, 2007; Starks, 2009) and many of them do so. For example, independent long-term investors are shown to attempt to withdraw from a bad bid rather than just sell shares after the merger announcement (Chen et al., 2007). Extensive literature focused on various strategies of shareholder engagement but so far remained inconclusive on the effectiveness of activism and its impact on performance (Anderson et al., 2003; Becht et al., 2009; Gillan & Starks, 2007). As already mentioned earlier, there is some evidence that institutional activism enhances corporate performance. For example, institutional monitoring is shown to positively impact on executive compensation practices (Almazan et al., 2005; Elyasiani & Jia, 2009; Hartzell & Starks, 2003) and M&A decisions (Chen et al., 2007), prevent opportunistic earnings management (Bange & DeBondt, 1998; Chung et al., 2002) and encourage R&D investment (Bushee, 1998). Further, it tends to be associated with higher credit ratings and lower bond yield spreads (Bhojraj & Sengupta, 2003; Elyasiani et al., 2010) although Anderson et al. (2003) find no association between blockholders and the cost of debt.

However, these studies do not directly address the question as to *how* specific actions of activism bring about corporate improvements through 'voice' engagement. Voice activism can take 'public' forms such as filing resolutions and building shareholder coalitions to augment voting rights (Chung & Talaulicar, 2010). On the other hand, engagement can also be performed via direct dialogues with management. In their survey, McCahery et al. (2009) find that about 80 percent of active institutional investors in different legal contexts act by selling their shares, however over 50 percent also consider using both forms of 'voice' activism.

2.5.2 The Effect of Public Shareholder Engagement

Extensive literature has focused on publicly observable tools of shareholder influence such as shareholder resolutions, proposals and voting (e.g. Bates & Hennessy, 2010; Bebchuk, 2005; Brickley et al., 1988; Del Guercio & Hawkins, 1999; Prevost et al., 2009; Reid & Toffel, 2009; Renneboog & Szilagyi, 2010). While initial evidence found shareholder proposals to be inefficient (Black, 1990; Karpoff, 2001), the situation is arguably changing (Del Guercio & Hawkins, 1999; Thomas & Cotter, 2007). Nevertheless, empirical evidence of the impact of shareholder activism on corporate value remains mixed (Bradley et al., 2006; Del Guercio & Hawkins, 1999; Gillan & Starks, 2007; Karpoff, 2001; Prevost & Rao, 2000; Romano, 2001; Sjostrom, 2008; Thomas & Cotter, 2007). For example, Del Guercio and Hawkins (1999) and Thomas and Cotter (2007) find that shareholder proposals have become more successful in eliciting requested changes in corporate governance practices but did not prompt significant market responses. In contrast, the results by Prevost and Rao (2000) support the view that shareholder proposals by public pension funds signal unwillingness or inability of the management to meet the demands of shareholders and trigger negative market reactions. Hedge funds on the whole seem to be more successful in their campaigns. For example, Brav et al. (2008) find that two-thirds of proposals by US activist hedge funds related to strategic, financial and operational improvements were successful and generated positive returns of 7 percent with no subsequent reversal for at least a year. Moreover, their results offer evidence of improvements in operating performance, higher CEO turnover and higher payout after the funds' intervention.

Similarly, Klein and Zur (2009) document significant positive stock returns of 10.2 percent for hedge funds and 5.1 percent for other investors around the time of filing of the resolution, and further returns of 11.4 percent for hedge funds and 17.8 percent for other activists in the following year. These campaigns again targeted various aspects of governance and corporate strategy such as changing board of directors' composition, preventing a merger and cutting CEO's salary. The success of resolutions on corporate social responsibility remains significantly more modest. For

example, Thomas and Cotter (2007) observe that in their dataset of Investor Responsibility Research Center (IRRC) data for over 1,600 proposals, none of the CSR proposals received more than 50 percent of the votes cast. Moreover, management is shown to use corporate resources to resist CSR-related proposals or demonstrate symbolic compliance with salient shareholders without effective changes (David et al., 2007). However, limited evidence suggests that shareholder proposals can be successful, for example, in encouraging corporate reporting on climate change strategies via Carbon Disclosure Project (Reid & Toffel, 2009).

2.5.4 The Effect of Private Shareholder Engagement

Compared to research on publicly observable activism, significantly fewer studies have focused on investor engagement via dialogues with management. Such dialogues are shown to be efficient. For example, 71 percent of the firms targeted by TIAA-CREF, one of the major US institutional investors, on corporate governance through private negotiations, settled the matter before filing of a formal resolution (Carleton et al., 1998). Further, those cases that did result in a resolution reached the agreement later even though the investor only got the majority vote in one instance. A more recent clinical study by Becht et al. (2009) demonstrates the effect of the direct communication between Hermes UK Focus Fund, an activist hedge fund, and the investee companies. The requested changes were related to the board structure, unprofitable business segments, capital structure and payouts. The engagement itself was an extensive work involving meetings and conversations with CEOs, CFOs, divisional managers and non-executive board members. The resulting dialogues could be collaborative, confrontational or mixed but all generated mean excess returns to the shareholders of 5.3 percent in the seven-day event window with the highest returns triggered by confrontational or mixed engagements.

Further examples of successful engagements include ABP, Government Pension Fund Global, CalPERS and other largest pension funds, and these address the issues of corporate social responsibility apart from other operational and financial improvements (Kiernan, 2007; Renneboog et al., 2008). Dimson et al. (2012)

observe significant positive returns of 1.8 percent to engagement on CSR by an activist asset manager with 4.4 percent for successful engagements. Further, after implementing the requested changes companies experience improvements in various aspects of performance measured by the return on assets, profit margin, asset turnover and sales over employees ratio.

The above evidence of successful engagement cases is consistent with the view that institutional investors do influence governance and more so from private means than public (Starks, 2009). Nevertheless, it remains unclear whether such practices can yet be regarded as mainstream. Increased institutional ownership on the whole seems to have benign impact on corporate social responsibility (Dam & Scholtens, 2012; Rees and Rodionova, 2012) which can perhaps be explained by the constraints in the institutional engagement.

2.5.5 Limitations to Institutional Investor Engagement

Agency problems, time constraints and the portfolio structure of diversified institutional investors often prevent shareholders from effectively engaging with all companies in their portfolios. For example, for the asset manager analysed by Dimson et al. (2012) it takes on average two to three engagements before success, and the time frame is about 1.5 years. Similarly, Becht et al. (2009) report 469 days for collaborative engagements and as many as 1,284 days for the confrontational ones.

While the largest institutional investors may well be ‘universal owners’ and as such have a mechanism of internalising the benefits from their active monitoring and engagement (Kiernan, 2007), this is not true for many smaller diversified investors (Becht et al., 2009). Further, institutions may be imperfect monitors because of their own internal agency problems and the resulting pressure for short-term solutions which they perceive to be in their fiduciary duty (Aguilera et al., 2006, 2007; Gorton & Kahl, 1999; Ryan & Schneider, 2002). Agency theory suggests that investors may not be efficient monitors since they may channel activism towards their political

benefits (Romano, 1993; Woidtke, 2002) and may pursue only those issues where potential benefits can be internalised (Sullivan & Mackenzie, 2008; Rees & Rodionova, 2012). This helps explain why the overall evidence of the impact of shareholder activism on the long-term performance remains inconclusive (Gillan & Starks, 2007).

2.6 FTSE4Good and Inclusion Criteria

2.6.1 FTSE4Good Overview

FTSE4Good is a stock-market index series introduced in 2001 and operated by FTSE Group Ltd., a UK-based index company. For the FTSE4Good Index Series, FTSE uses its All-World Developed (AWD) Indices as a starting point with the exception of companies from nuclear, tobacco and weaponry-related industries. Then FTSE excludes any companies that fail to satisfy FTSE4Good criteria. The criteria aim to reflect emerging standards of CSR best practice as embodied in various authoritative codes (e.g. OECD Guidelines for Multinational Enterprises) and in the practice of leading companies (FTSE, 2010). FTSE4Good inclusion criteria are selected and amended by independent Policy Committee comprising responsible investors, CSR experts and academics (FTSE, 2005). Research for FTSE4Good is conducted by a specialised non-profit research agency, the Ethical Investment Research Services (EIRIS), and its international partners, e.g. EthiFinance in France and Avanzi in Italy, who conduct an annual survey and make use of information published by companies on their websites and in CSR reports (FTSE, 2010). Each company's compliance with the FTSE4Good CSR criteria is assessed on a six monthly basis by the FTSE Policy Committee, based on recommendations supplied by EIRIS.

Companies that meet the criteria are informed about their inclusion in the index and receive a certificate. Evidence suggests that they often use the index membership (e.g. in CSR or annual reports) as a benchmark to communicate their CSR practices to the external community, including investors and other stakeholders, and to encourage internal data collection or plan investment projects (Slager et al., 2012). Similarly,

some researchers argue that ISO 14001 certification is partly regarded by companies as a tool to communicate their environmental position to stakeholders (Neumayer & Perkins, 2004).

2.6.2 FTSE4Good Criteria Development

The initial inclusion criteria covered three broad areas: environmental management, human rights and stakeholder relationships (FTSE, 2004). The criteria were fairly broad which resulted in their critical reception from some non-governmental organisations and responsible investors (Collison et al., 2009). However, since 2001 the Policy Committee has steadily increased the extent and rigour of the index criteria. FTSE has added several new topics, i.e. countering bribery, supply chain labour standards and mitigating climate change, and has also increased the strength and coverage of the existing human rights and environmental management criteria (FTSE, 2010). When the criteria were upgraded or new criteria were implemented, companies had to meet both the existing criteria and the new criteria in order to stay/be included in FTSE4Good. Tightening of the criteria increased the recognition of the FTSE4Good index among NGOs and CSR experts as an international CSR benchmark. For example, the FTSE4Good inclusion/exclusion was used in NGO activist campaigns (Slager et al., 2012).

2.6.2.1 Environmental Management Criteria

The FTSE methodology requires companies to meet different levels of environmental criteria according to company's environmental risk. The environmental risk of a particular company is identified based on the environmental impact of company's business sector. For the initial environmental management criteria, companies were classified into two groups, those with a high environmental footprint and those with low impact. Environmental criteria were then applied to the high-risk firms while low-risk companies were not subject to any environmental assessment.

In 2002 FTSE strengthened environmental management requirements. Companies were re-classified into those with high environmental risk (e.g. chemical, oil and gas or food industries), those with medium impact (e.g. electronics or banks) and those with low risk (e.g. software or telecommunications). The classification was based on the environmental footprint of the corresponding business sector. The three groups had to meet different levels of environmental criteria (FTSE, 2004) which ensured that companies causing more substantial pollution had to meet stricter requirements. The new environmental criteria were announced in 2002 and companies were assessed in 2005 as to whether they met the criteria and would be included/remain in the index or would be excluded from it.

The criteria cover three aspects of environmental management: environmental policy, management system and reporting. The underlying indicators reflect the main aspects of management which can help to enhance environmental performance (Berry & Rondinelli, 1998). For example, the environmental management system has been shown to enhance environmental and operations performance and to stimulate the implementation of a wider range of available environmental activities (Melnyk et al., 2003). Further, environmental management requirements may contribute to the refinement of environmental information and its disclosure (Stephan, 2002).

Policy. [1] The indicators require that responsibility for policy is at board or departmental level and that policy expresses company commitment to the use of targets, monitoring, audit and public reporting. Other indicators include commitment to stakeholder involvement, focus on product or service impact, and formulation of strategic moves towards sustainability. Companies must meet different combinations of these requirements based on the environmental risk, with high-risk firms having to comply with the most extensive range of environmental requirements.

Environmental Management Systems. The management requirements include presence of an environmental policy and documented objectives and targets in key areas, identification of significant impacts, use of internal audits against the

[1] The description of policy, management and reporting criteria for the three themes (environmental management, preventing bribery and mitigating climate change) is adapted from FTSE (2010).

requirements of the system, and internal reporting and management review. Presence of the ISO14001 certification or the European Eco-management and Audit Scheme (EMAS) registration is deemed to meet all environmental management requirements. High and medium-risk companies have to meet a corresponding number of indicators depending on how much of the company activity is covered by the environmental management system (EMS). Low-risk firms have no management requirements.

Reporting. Reporting requires inclusion of the text of the environmental policy, description of main impacts, quantitative data, and performance measured against targets. Further, companies are required to disclose an outline of the environmental management system, details of negative events (non-compliance, prosecution, fines and accidents), financial dimensions, independent verification, stakeholder dialogue, and coverage of sustainability issues. High-risk companies must have published a report within the last (from the time of assessment) three years. Medium and low-risk companies have no reporting requirements.

2.6.2.2 Countering Bribery Criteria

Following a long process of criteria development, the introduction of countering bribery criteria was finalised in 2007 and company compliance was assessed in 2009. The criteria were based on the provisions set by Transparency International Business Principles for Countering Bribery where bribery refers to "an offer or receipt of any gift, loan, fee, reward or other advantage to or from any person as an inducement to do something which is dishonest, illegal or a breach of trust in the conduct of the enterprise's business" (FTSE, 2010: 8). While FTSE recognised the potential risk of engaging in bribery by any company, the criteria started off as targeting companies from FTSE All-World Developed Index with the presumed highest exposure to corrupt practices. Companies were assessed by FTSE based on their business sector, country of operation and reliance on public contracts and government licences. If a company was identified as having high risk in all three dimensions, it was considered high risk regarding bribery and was subject to the countering bribery requirements. The high-risk industries include oil and gas production, services and distribution,

chemicals, industrial metals and mining, construction and materials, aerospace and defence, general industrials, electronic and electrical equipment, industrial engineering, utilities, pharmaceuticals, hotels, telecommunications, computer services and equipment. With regards to the country of operations, all countries scoring low (four or less) on Transparency International Corruption Perceptions Index or countries with zero or negative scores according to the World Bank Governance Indicators were considered high risk in bribery(FTSE, 2010). Finally, affected companies were working on government contracts or had to obtain government licences to perform their operations. The identified high risk companies were then subject to the set of criteria covering anti-bribery policy, management and reporting.

Policy. Companies are required to explicitly prohibit giving and receiving bribes in their policy and to state commitment to obeying all relevant laws. Further, policy must state commitment to restriction of facilitation payments and giving or receiving gifts. Finally, policy must be publicly available.

Management. Management practices include communication of the policy to employees and provision of training programmes, establishment of compliance mechanisms, e.g. via audits and board reports, and secure communication channels for employees such as hotlines, advice lines and whistle-blowing procedures and internal reporting mechanisms. Finally, management system must contain procedures to address non-compliance. If a significant bribery-related controversy is identified which involves the company itself, its suppliers and contractors, the company must present evidence of a thorough and effective investigation.

Reporting. Company is required to publicly disclose its policy and compliance mechanisms.

2.6.2.3 Climate Change Criteria

FTSE4Good climate change criteria were introduced in 2008 and companies were assessed for compliance in 2010. The criteria aimed to facilitate reduction by companies of their climate change impact. Given a constantly evolving character of climate change-related policies and practices, FTSE consulted a number of expert organisations regarding the criteria including The Climate Group, The Institutional Investors Group on Climate Change (IIGCC), The Carbon Trust and the World Wildlife Fund (FTSE, 2010).

The criteria targeted all companies from FTSE All-World Developed Index which were identified as having medium or high operational and/or product impact on climate change. The impact assessment was based primarily on business subsector and the corresponding magnitude of operational greenhouse gas (GHG) emissions (FTSE, 2010). In particular, high operational impact areas included exploration and production, oil and gas, mining, building materials and fixtures, airlines, electricity and delivery services. Medium operational impact included the following subsectors: aerospace and defence, automobiles, speciality chemicals, paper, heavy construction, commercial vehicles and trucks, waste and disposal services, brewers, tires, distillers and vintners, soft drinks, farming and fishing, food products, home construction, pharmaceuticals, travel and tourism and utilities. The criteria addressed policy and governance, management and strategy, disclosure and performance (FTSE, 2010).

Policy. For companies with both high and medium operational impact policy must present climate change-related issues as one of the key concerns and explicitly acknowledge responsibility for climate change issues at board or senior executive level. Management and strategy requirements applied only to high impact companies who had to state a long-term (over five years) strategic quantified target of significant reductions of operational GHG emissions. Further, companies had to state

medium and short-term (less than five years) targets for emission reduction. Medium impact companies did not have any management requirements.

Disclosure. High impact companies had to publicly disclose the total operational CO_2 or GHG emissions and an appropriate sector metric (e.g. kg CO_2 per tonne of cement for cement firms). Companies with medium operational impact had to disclose either total emissions or the corresponding sector metric.

Performance. Companies with a high operational impact were required to demonstrate either a five percent reduction in carbon intensity over two years, being in a top quartile of the firms in the corresponding subsector according to carbon efficiency measures or evidence of a strategic initiative with quantified targets in reduction of GHG emissions. The initiatives included switching fuel, development of low carbon technologies, product and service innovation, carbon capture and storage etc. These initiatives would then be assessed for their relevance by climate experts invited by FTSE.

2.7 Conclusion

Institutional investors are encouraged to become actively involved in engagement to enhance governance and promote corporate social responsibility. While other powerful blockholders such as families pursue both personal and economic objectives, financial institutions are guided by their fiduciary duty to deliver high returns on their clients' investments. This, however, also constraints their monitoring as they may be more prone to short-termism and more focused on financial performance. The classification of the financial institutions as pressure-resistant, i.e. with no noninvestor dealings with the firms, and pressure-sensitive, i.e. those having nonequity business ties, helps explain why there is heterogeneity among institutional investors with regards to CSR investments. Moreover, CSR itself is a broad amalgamation of activities with a different balance of costs and benefits. Financial CSR presents both social and financial gains and is likely to be favoured by all groups of large owners. Governance matters such as board composition and

executive compensation are beneficial for institutional investors as they reduce information asymmetry and facilitate monitoring while families may oppose these as they challenge their influence. Conversely, social CSR such as emission reduction, despite its society-wide implications, may be opposed by both types of blockholders but less so by the large institutions who are effectively 'universal owners' or may favour the 'goodwill' attribute of social CSR.

Consequently, although there is evidence to demonstrate the efficiency and value relevance of both private and public means of institutional investor activism related to accounting practices, capital structure, decisions on mergers and acquisitions, executive compensation and other provisions of corporate governance, on the whole the effectiveness of the institutional monitoring is limited. In particular, institutional engagement on CSR is challenged by a) undiversified owners such as families effectively obstructing CSR initiatives and b) institutions being constrained in their ability to monitor by the diversified character of the portfolio and agency problems of separation of ownership and control. Yet, institutional activism can be effective as they have accumulated expertise and knowledge and are shown to process information more efficiently.

Consequently, this thesis explores one way of engaging collaboratively by delegating the dialogue itself to a responsible investment index and navigating the agenda and the scope of the engagement. In the three studies that follow the engagement concerns companies' compliance with a set of requirements necessary for inclusion in the FTSE4Good index. For each of the themes (environmental management, controlling bribery and mitigating climate change), the criteria cover policy, management practice and reporting, and the scope of the requirements varies with the company risk. The assessment of the requirements themselves and their substance is not the focus of this thesis, however prior evidence suggests a positive association between FTSE4Good metrics and other reputable data providers such as ASSET4 (Rees & Mackenzie, 2011) which is consistent with different experts independently evaluating the same CSR and governance issues. Further, FTSE4Good criteria represent a set of requirements which are deemed to be sound CSR practices

by stakeholders including individual and institutional investors, CSR experts and NGOs (Slager et al., 2012). Whether engagement via an index is effective and how its effect varies in different governance and CSR contexts is the subject of the following three studies.

Chapter 3 Do Responsible Investment Indices Improve Corporate Social Responsibility? FTSE4Good's Impact on Environmental Management

3.1 Introduction

We examine whether a responsible investment index is able to effect substantial change in environmental management practices across a large sample of internationally diverse firms. There is some evidence from both the US and the UK that engagement by institutional investors can influence management, but this comes from small sample case studies and is not typically focused on corporate social responsibility (CSR) issues (Becht et al., 2009; Dimson et al., 2012; Gifford, 2010). There is also evidence that engagement by shareholders can be driven by considerations of financial or social performance and is conditioned by the institutional setting (Rees & Rodionova, 2012; Sullivan & Mackenzie, 2008; Young & Marais, 2012). Conversely, institutional shareholdings are typically associated with lower performance in the CSR rankings and, whilst this might be most strongly driven by entrenched shareholders, there is no evidence that diversified institutional investors impact beneficially on CSR practices (Rees & Rodionova, 2012; Starks, 2009). It is, therefore, unclear whether investors effectively engage with firms to improve CSR practices and which institutional or governance characteristics impact on the effectiveness of that engagement. Our analysis assesses the impact on environmental management of engagement by institutional investors via a responsible investment index combined with the threat of exclusion from that index.

Our analysis is based on a natural experiment provided by the enhancement of the environmental management requirements necessary for membership of the FTSE4Good index. In 2002 FTSE strengthened the criteria and engaged with index members that failed to meet the new standards. The engagement was designed to improve the environmental practices of the firms and was reinforced by the threat of exclusion from the FTSE4Good index if the new criteria were not met by 2005. All constituents of the FTSE All-World Developed Index were potential members of FTSE4Good and independent experts assessed their environmental management practices. FTSE4Good constituents failing to meet the criteria in 2002 form our

treatment group whilst non-members failing to meet the criteria form the control group. We examine the response of these two groups between 2002 and 2005 and whether an effect is temporary or persists until 2010. We also investigate the impact of ownership, governance and institutional environment on rates of compliance.

The results show that engagement allied to the threat of exclusion substantially increases the probability that a firm will meet the FTSE4Good environmental management criteria. To the extent that high levels of index membership among matched firms reflect benefits from inclusion, we separate the engagement and the incentive to stay in the index. We find that both engagement and the incentive to stay stimulate compliance but that engagement is most efficient when coupled with a high probability of index membership. We also show that compliance is negatively affected by concentrated ownership, and positively affected by the firm's location in a coordinated rather than a liberal market economy. These results demonstrate that management reacts to engagement but not that engagement necessarily improves environmental performance. The FTSE4Good criteria are demanding and it would be reasonable to assume that a firm meeting these criteria would tend to have better environmental management than one that does not. However, we only have evidence that management has undertaken the necessary action to comply with FTSE4Good criteria.

We believe these results to be of particular relevance to both the theory of corporate governance and to practitioners in the investment community. With regards to the theory, previous evidence has generally shown no robust link between institutional shareholdings and CSR practices. We demonstrate that engagement by a responsible investment index, combined with potential exclusion, can affect CSR-related management decisions and that this is conditional on factors consistent with both agency and institutional theories. With regards to practitioners, our results are of significance to investment institutions seeking to influence management, to regulators who may wish to encourage responsible investment, and to the responsible investment suppliers such as FTSE who are advocating engagement via responsible investment indices.

3.2 Prior Research and Hypotheses

3.2.1 CSR and Index Engagement

Whether or not a firm engages in CSR-enhancing projects depends on managerial decisions and the underlying motivations can be either profit-oriented or non-financial (Fisman et al., 2006). CSR may trigger a 'warm-glow' effect for the manager as a 'good citizen', signal competence and lead to a stronger reputation and enhanced job security (Barnea & Rubin, 2010; Renneboog et al., 2008; Solomon et al., 2004; Stephan, 2002). Personal benefits aside, strong CSR can potentially reduce conflicts with stakeholders and signal business value (Jo & Harjoto, 2011). It may also emphasise product quality (Becker-Olsen et al., 2006; Fisman et al., 2006; Jo & Harjoto, 2011; McWilliams & Siegel, 2001), improve the ability to raise capital (Cheng et al., 2011; Kiernan, 2007) and attract motivated employees (Brekke & Nyborg, 2008; Turban & Greening, 1997).

From the institutional theory perspective, the propensity to invest in CSR may be influenced by several factors: state and industrial regulation, the firm's financial and competitive situation, pressure groups such as NGOs, and dialogue with stakeholders (e.g. Bansal & Roth, 2000; Campbell, 2007; Christmann, 2000; Delmas & Toffel, 2010; González-Benito & González-Benito, 2006; Hart, 1995; Sharma & Vredenburg, 1998). In particular, evidence shows that companies facing a poor environmental rating may become exposed to sanctions by regulators or put under increased scrutiny by activist groups and NGOs (Lenox & Eesley, 2009; Stephan, 2002). This, in turn, can send a negative signal to shareholders concerning increased operational costs and long-term wealth loss (Barnea & Rubin, 2010; Hamilton, 1995; Renneboog et al., 2008).

One of the channels by which a company's efforts in CSR can be communicated to its stakeholders is via responsible investment indices and ratings. Chatterji and Toffel (2010:921) argue that "*the growing interest in corporate social responsibility and*

socially responsible investment has increased both the salience of independent rating agencies and companies' responsiveness to risks to their brand reputations". While there is an on-going, often critical, discussion about how well these indices and ratings capture the underlying socially responsible behaviour, some of them at least present a credible reflection of investor expectations regarding CSR and can increase the transparency of company reporting on its CSR activities. Rees and Mackenzie (2011) report that in 2011 the FTSE and ASSET4[2] metrics exhibit a significant positive correlation. Using a large sample of US companies in 2003-2008, Semenova (2010) shows that the environmental performance assessments provided by KLD, GES and ASSET4 correlate positively both for environmental performance and environmental risks[3]. Chatterji, Levine and Toffel (2009) also show that KLD's assessment of firms' environmental performance reflects environmental performance measures such as toxic emissions and environmental fines. However, they note that the assessment seems to provide a better estimation of past performance than future. At the same time, Chatterji and Toffel (2010) find that low KLD environmental scores stimulate companies to reduce their toxic emissions. The above evidence suggests that responsible investment indices and ratings consistently assess reported CSR practices.

Shareholders can also influence CSR decisions. Investment institutions on the whole attribute a growing importance to sound CSR practices (Cox et al., 2004; Kim & Lyon, 2007; O'Rourke, 2003; Reid & Toffel, 2009; Renneboog et al., 2008; Sparkes & Cowton, 2004). This is reflected in the growth of the responsible investment industry, which reached about 12.2 percent of the $25.2 trillion in total assets under management in the US in 2010 (US SIF, 2010). Many institutional investors aim to enhance CSR via active ownership (Gifford, 2010). Some of the largest pension and

[2] ASSET4 is an environmental, social and governance (ESG) data provider owned by Thomson Reuters. A detailed description can be found at http://thomsonreuters.com/products_services/financial/content_news/content_overview/content_az/content_esg/.

[3] Kinder, Lydenberg and Domini (KLD) were ESG data providers owned by KLD Research & Analytics, Inc., which covered all companies from S&P 500 Index and Domini Social 400 Index. The data provider was acquired by RiskMetrics in 2009 which was later acquired by MSCI Inc. More information can be found at http://www.msci.com. GES Investment Services is a Swedish consulting company specialising in ESG engagement. More information can be found at http://www.ges-invest.com/pages/?ID=250.

hedge funds successfully engage with companies to enhance corporate governance and social performance. For example, a clinical study by Becht et al. (2009) demonstrated the effect of direct engagement by the Hermes UK Focus Fund on the business structure, governance and financial policy of the investee companies. Carleton et al. (1998) analysed private engagement initiatives by TIAA-CREF, a major US institutional investor. Emerging evidence looks specifically at CSR-oriented private interventions by asset managers (Dimson et al., 2012; Gifford, 2010). Analysing investor involvement in 613 US companies, Dimson et al. (2012) find that engagement may be successful (17 percent of initiatives resulted in the company meeting the asset manager's request), and observe a positive market reaction to successful engagements of 4 percent. However, such studies are scarce and although large institutions such as 'universal owners' are thought to be motivated to monitor corporate social performance (Gjessing & Syse, 2007; Kiernan, 2007), there is still little evidence of them doing so as mainstream practice (Rees & Rodionova, 2012; Starks, 2009). Based on a large international sample of over 3,500 firms, Rees and Rodionova (2012) report no influence from investment institutions on CSR as assessed by ASSET4, suggesting that as yet institutional investors do not provide any widespread benefit in terms of CSR enhancement.

3.2.2 The FTSE Engagement Process

FTSE assesses all companies from the FTSE All-World Developed Index against a set of CSR criteria. The inclusion criteria are selected and amended by an independent Policy Committee comprising responsible investors, CSR experts and academics, and aim to reflect emerging standards of CSR best practice (FTSE, 2005). Research for FTSE is carried out by a specialised non-profit research agency, Ethical Investment Research Services (EIRIS). EIRIS conduct an annual survey and make use of information published by companies on their websites and in CSR reports (FTSE, 2010). The FTSE Policy Committee, based on recommendations supplied by EIRIS, assesses each company's compliance with the FTSE4Good criteria on a six-monthly basis. In its first ten years, FTSE has increased the strength and coverage of its criteria following investor consultation (FTSE, 2010). For

example, the introduction of the new environmental criteria was supported by a number of institutional investors, including those on the FTSE Policy Committee (Insight Investment, Jupiter, Legal and General) and those involved in the public consultation process. This consultation activity helped to establish environmental management criteria that would reflect the expectations of investors (Slager et al., 2012).

In each of its six-monthly reviews, FTSE announces the names of the index's newly joined companies and those that have been deleted. The publicity surrounding these announcements can be significant, particularly if a major company is deleted (Collison et al., 2009). For example, several Japanese newspapers ran stories when, in 2007, Toyota was excluded from the FTSE4Good index on labour rights grounds. Along the same lines, Hamilton (1995) found that higher levels of pollution reported to the Toxic Release Inventory resulted in increased media attention. Partly because of the potential negative publicity, if a member-company did not meet new or upgraded inclusion criteria, FTSE would engage with its management during a grace period before criteria changes are enforced. Slager et al. (2012) contend that engagement both demonstrates to companies that FTSE is monitoring their compliance with the index and enhances their recognition of the index and their view of its legitimacy. Engagement starts with notifying a no-longer complying company of criteria upgrades and sending subsequent reminders. This often gives rise to extensive discussions between the company and FTSE about the nature of criteria requirements and their rationale. Further engagement consists of a dialogue with company management via emails, letters, telephone conversations and meetings (FTSE, 2011). Thus, it takes a similar approach to the observed private individual engagement by activist institutional investors and hedge funds (Becht et al., 2009; Dimson et al., 2012).

Index engagement has two main additional characteristics. Firstly, it brings together the requirements of multiple stakeholder groups and transforms them into a set of achievable and precise requirements, thereby providing an international standard for certain CSR areas (Slager et al., 2012). It can, therefore, act as a collaborative

investor engagement mechanism, allowing engagement with and triggering changes in companies within various industries and countries. CSR matters may be too costly and complex for one investor to influence and may require the pooled expertise, influence and resources of various investment institutions (Gjessing & Syse, 2007).

Secondly, FTSE notifies affected member companies about the potential exclusion from the index if they fail to implement the requirements by the given date. In doing so, the index applies additional levers of normative power and urgency shown to be related to successful engagements by institutions (Gifford, 2010). Since companies use CSR benchmarks such as indices to mitigate potential conflicts with stakeholders and enhance their reputation (Young & Marais, 2012), non-compliance with a CSR standard could trigger negative reputational effects. Potentially it raises the question as to why the company did not report on its CSR practices sufficiently to be included in the index if it claims to have a strong CSR involvement. The threat of public deletion from the index, therefore, gives FTSE an additional lever through which to encourage companies to improve their CSR practices according to the index requirements and within the required time period.

3.2.3 The Effect of Index Membership and Engagement on Management

Recent research has begun to examine the influence of rankings, ratings and responsible investment indices on companies (Chatterji & Toffel, 2010; Collison et al., 2009). Interview-based evidence suggests that managers react positively to being included in the FTSE4Good index to the extent that they believe that it reflects CSR expectations of responsible investors and other stakeholders (Slager et al., 2012). In some instances, managers asserted that the CSR enhancement was not necessarily done 'for FTSE4Good' but rather resulted from the general management strategy (Collison et al., 2009). Nevertheless, index membership was used in CSR or annual reports to communicate company CSR practices to the external community (Slager et al., 2012). Similarly, ISO 14001 certification is shown to be used by management as a tool to communicate their environmental position to stakeholders (Neumayer & Perkins, 2004).

Managers may perceive public exclusion from a responsible investment index as a potential threat to corporate and personal reputation. This is particularly the case for large international corporations, which are more exposed to stakeholder pressures and social activism (Judge et al., 2010). Non-compliance with the index criteria and resulting delisting signals under-performance against a CSR standard. Conversely, if engagement by the index offers an opportunity to develop the necessary practices, managers could be expected to react positively for personal advantage, out of genuine interest in CSR or for the strategic use of CSR to mitigate conflicting interests of different stakeholders. We, therefore, predict the following relationship:

> *Hypothesis 1a. Firms will be more likely to meet the FTSE4Good environmental management criteria if they are subject to FTSE engagement and face FTSE4Good exclusion.*

Prior research suggests that addressing social demands (such as environmental management) requires diverting corporate resources from the short-term agenda towards long-term projects (Judge et al., 2010). The costs and benefits of compliance with environmental management criteria may be estimated by observing the propensity to comply among similar firms. If comparable firms have a high probability of complying with the FTSE4Good environmental criteria we assume that the cost to benefit trade-off for such firms is relatively favourable and that non-compliant firms would be more responsive to engagement by FTSE. Consequently, we postulate that the likelihood of the company meeting the upgraded environmental criteria positively moderates the engagement effect.

> *Hypothesis 1b. The impact of engagement and threatened exclusion on the probability that a firm will meet the FTSE4Good environmental management criteria will be higher where the probability of the firm complying with the criteria is higher.*

3.2.4 The Impact of Incentives and Constraints on Compliance

The response to engagement and threatened deletion from the index may be conditioned by the costs and benefits of exclusion and the strength with which stakeholders can advocate their particular interests. We therefore examine the influence of the benefit of index membership, the ownership structure of the firm, its internal governance practices and the governance of the economic system in which it operates.

3.2.4.1 Index Membership Benefits and Compliance

Prior research suggests that firms with stronger reputational concerns are more likely to implement CSR demands by activist asset managers (Dimson et al., 2012). Fisman et al. (2006) found that the more competitive the industry and the more intensive the advertising, the higher were the levels of CSR. We therefore postulate that the costs and benefits of index membership can be estimated from the proportion of comparable firms included in the index. If similar firms are likely to be included we presume that there is a net benefit whereas if they tend to be excluded then the benefits are assumed to be trivial or negative. Where there is a net benefit a firm will have an incentive to meet the criteria and stay in the index and will be more responsive to contact from FTSE.

> *Hypothesis 2a. Firms will be more likely to meet the FTSE4Good environmental management criteria where the expectation of the firm being included in the index is higher.*

> *Hypothesis 2b. The impact of engagement and threatened exclusion on the probability that a firm will meet the FTSE4Good environmental management criteria will be higher where the expectation of the firm being included in the index is higher.*

3.2.4.2 Ownership and Compliance

Prior research has established that ownership concentration can have a significant effect on the monitoring and governance of the company (Fama & Jensen, 1983; Shleifer & Vishny, 1986; Shleifer & Vishny, 1997). When the financial and social interests of shareholders are aligned, they will actively promote such projects (Sullivan & Mackenzie, 2008). However, Rees and Rodionova (2012) argue that environmental management includes financial CSR, for example for product innovation, and social CSR, for example for emission reduction. Social CSR implies that expenditures are borne by the owners while the benefits affect the society at large (Rees & Mackenzie, 2011). Undiversified or entrenched owners that hold equity for strategic reasons rather than for trading are thought to actively obstruct investment in social CSR projects. Given their incentive and power to closely monitor management decisions (Fama & Jensen, 1983), closely-held ownership reduces the incentive and scope for external social activism (Judge et al., 2010). We can, therefore, predict that owners with closely-held stock will tend to resist management decisions to invest resources in enhancing environmental performance and may respond negatively to engagement.

> *Hypothesis 3a. Firms with high levels of closely-held ownership are less likely to meet the enhanced FTSE4Good environmental management criteria.*

> *Hypothesis 3b. High levels of closely-held ownership will reduce the engagement effect.*

3.2.4.3 Institutional Environment and Compliance

Prior scholarship has documented the influence of the institutional setting on CSR proficiency (Campbell, 2007; Delmas & Toffel, 2010; Young & Marais, 2012). In particular, Kang and Moon (2012) suggest that coordinated market economies

(CME) have established a more society-oriented vision compared to liberal market economies (LME). In line with this proposition, CMEs exhibit better overall CSR reporting and focus more on social community-oriented areas such as the environment (Young & Marais, 2012). To the extent that CSR reporting and membership in a responsible investment index can be used by management in their dialogue with stakeholders, we can expect a positive response towards compliance with the index requirements to be more prevalent in CMEs than in LMEs and to positively affect the engagement process.

Hypothesis 4a. Companies from coordinated market economies are more likely to meet the FTSE4Good environmental requirements within the required time period.

Hypothesis 4b. The engagement effect will be stronger if the company comes from a coordinated market economy rather than a liberal market economy.

3.2.4.4 Governance and Compliance

According to agency theory, if managers are monitored and mechanisms are set in place to align their interests with those of shareholders, managers will favour decisions which create value for shareholders. The impact of strong governance on CSR proficiency can, therefore, follow two directions. On the one hand, managers may oppose social CSR as they may perceive it as destructive to shareholder value, but they may favour financial CSR where there may be direct financial gains for the company (Arora & Dharwadkar, 2011; Rees & Rodionova, 2012). On the other hand, institutional theory suggests that good governance can help balance interests of various stakeholders and as such can help sustain the firm's legitimacy and consequently its profitability. In this instance good governance may promote social CSR despite its negative impact on value. Therefore, internal governance may have a potential impact on compliance but the effect may be either positive or negative.

Hypothesis 5a. Firms with high governance ratings comply differently from firms with low governance ratings.

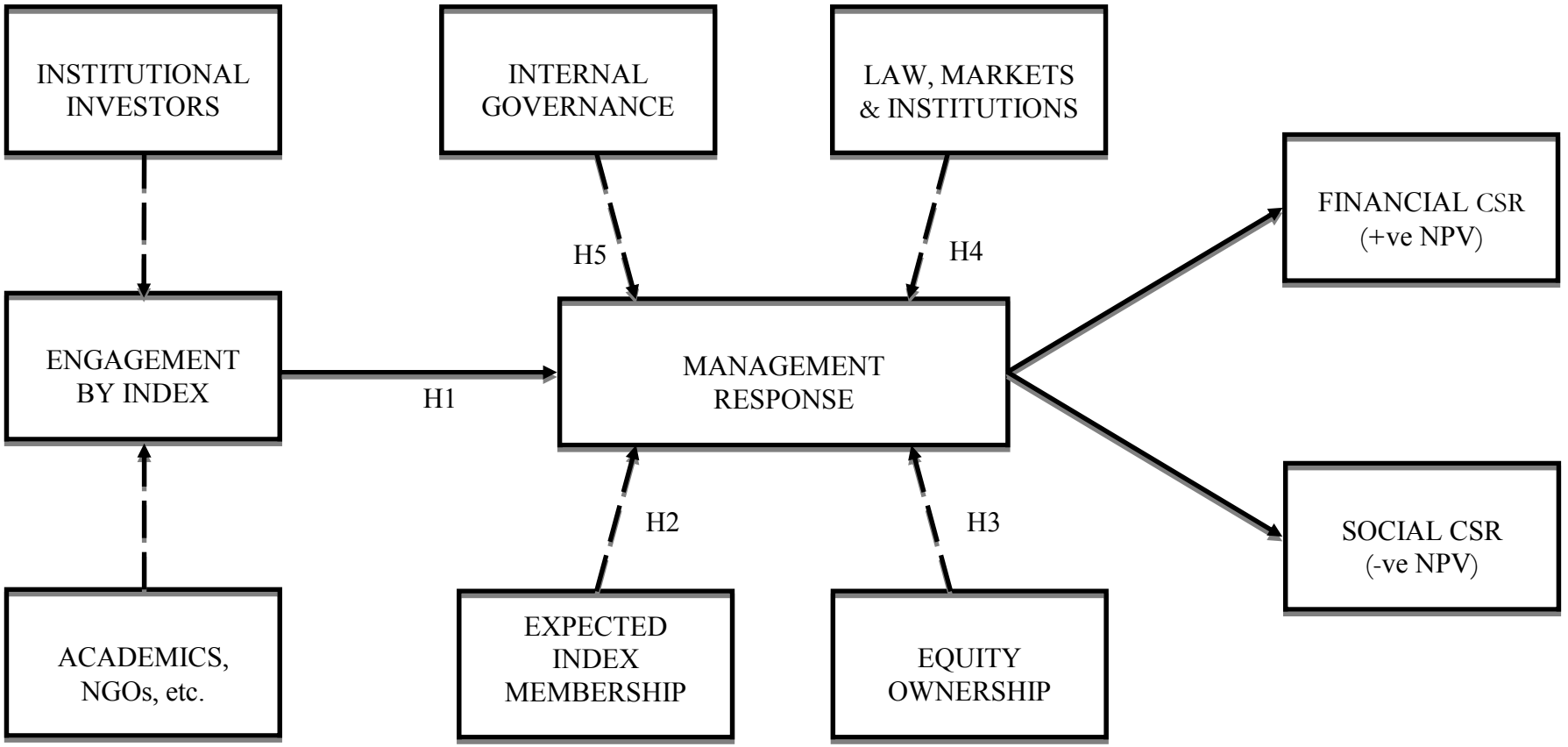
Hypothesis 5b. Firms with high governance ratings are influenced by engagement differently from firms with low governance ratings.

3.2.4.5 An Integrated Model of the Responsible Investment Index Engagement and CSR

Figure 3.1 depicts engagement as instigated by the index data provider, in this case FTSE, but also influenced in the index design and implementation by investment institutions, NGOs and academics. The engagement is further reinforced by the threat of public expulsion from the index. The research reviewed above suggests that CSR investment may be beneficial to managers and their firm. Membership of a responsible investment index makes that investment apparent and we hypothesise that engagement will therefore tend to induce increased compliance with the requirements of the index (H1a&b). We propose four moderating factors which may further impact on CSR commitment and on the managers' response to engagement by the responsible investment index: the probability of the firm being in the index and hence the implied costs of exclusion (H2a&b); the proportion of closely-held equity (H3a&b); the institutional environment (H4a&b); and the internal governance of the firm (H5a&b). Following Judge et al. (2010) and in line with Rees and Mackenzie (2011), we classify CSR investment into two categories: financial CSR, defined as positive NPV projects that are in the interests of the shareholders; and social CSR, defined as negative NPV projects that are in the interests of other stakeholders and will adversely affect equity holders' wealth.

FIGURE 3.1

Influences on Engagement and Management's Response to Engagement



3.3 Research Method

3.3.1 Sample and Experimental Setting

To assess the impact of the engagement/exclusion threat on environmental management practices we use the natural experiment resulting from the 2002 change to FTSE4Good environmental criteria and the implementation of the updated criteria in 2005. 1,602 firms in the FTSE All-World Developed Index were assessed in both 2002 and 2005[4] according to the FTSE4Good environmental management standards but 148 were disqualified from consideration for the FTSE4Good index membership as their business fell outside accepted industry criteria (e.g. weaponry or tobacco). A further 20 were excluded due to missing data leaving 1,434 firms. Of these, 1,029 companies from 21 different countries and 32 industries did not meet the new environmental criteria in 2002 and form our main sample[5]. In some models data requirements for explanatory or control variables reduce the sample further.

The treatment group consists of 377 companies that were included in the FTSE4Good index in 2002 but did not at that time meet the enhanced environmental management requirements. The control group contains the 652 companies that were

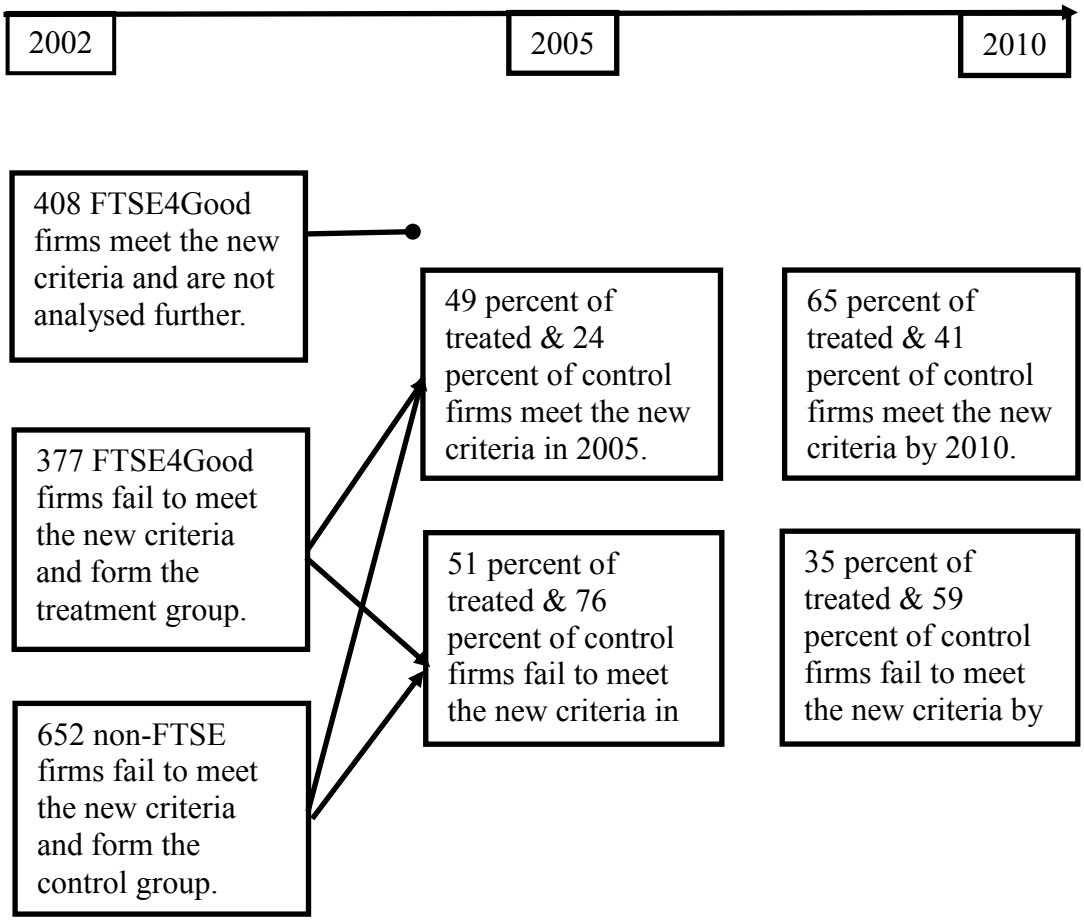
[4] During this period 2002 to 2005 a number of firms dropped out of FTSE All-World Index. However, given the small number of those companies we were able to check that, regardless of the potential compliance outcome for those companies, the results regarding the engagement impact and its magnitude would be qualitatively similar.

[5] The international classification is as follows (an asterix marks those countries classified as CME): Australia 42, Austria* 6, Belgium* 9, Canada 52, Denmark* 6, Finland* 1, France* 28, Germany* 12, Hong Kong 41, Italy* 22, Japan* 167, Netherlands* 10, New Zealand 16, Norway* 3, Portugal* 5, Singapore 30, Spain* 10, Sweden* 6, Switzerland* 6, UK 263, USA 294. Where prior research was available we followed the established classification and for countries for which extant evidence was not available the classification was based on stock market capitalisation to GDP (La Porta et al., 1997) and anti-self-dealing index (Djankov et al., 2008). This segments the sample into the British Commonwealth and the USA versus all others and also effectively segments common law versus code law.
The industrial classification is as follows: Automobiles & Parts 18, Banks 84, Beverages 15, Chemicals 28, Construction & Building Materials 56, Diversified Industrials 19, Electricity 10, Electronic & Electrical Equipment 30, Engineering & Machinery 27, Food & Drug Retailers 20, Food Producers & Processors 34, Forestry & Paper 6, General Retailers, 61, Health 30, Household Goods & Textiles 24, Information Technology Hardware 40, Insurance 33, Leisure & Hotels 38, Life Assurance 17, Media & Entertainment 59, Mining 10, Oil & Gas 37, Personal Care & Household Products 9, Pharmaceuticals & Biotechnology 35, Real Estate 36, Software & Computer Services 44, Speciality & Other Finance 59, Steel & Other Metals 9, Support Services 52, Telecommunication Services 27, Transport 52, Utilities & Other 10.

members of the All-World Developed Index but were not included in FTSE4Good in September 2002 and also failed to meet the requirements of the new environmental criteria. These companies did not face the threat of deletion from the index and the associated adverse publicity, nor did they receive any contact from FTSE explaining the requirements of the new criteria. We use this setting to investigate whether the companies in the treatment group were more or less likely than the control group to adopt the environmental management practices required for FTSE4Good inclusion within the necessary three-year time period. The structure of the experimental setting and the time line are illustrated in Figure 3.2.

FIGURE 3.2

Experimental Setting and Timeline



The sample includes the FTSE All-World Developed Index constituents (excluding prohibited firms, e.g. weaponry, tobacco), which are independently assessed by EIRIS for environmental policy, management and reporting with requirements varying by environmental risk. Enhanced environmental criteria were announced in 2002 and firms were given until 2005 to comply. Engagement was conducted with FTSE4Good member firms that had not complied in 2002.

Table 3.1 reveals a clear difference between the treatment and control firms with 49 percent of the former complying and only 24 percent of the latter. However, in order to contrast the response to the index requirements of the two groups we have to ensure that we control for other factors which may make the two groups inherently different. Firstly, in Table 3.1 we show that FTSE classify the treatment group as

having lower environmental risk and better dialogue with key stakeholders (defined as compliance with FTSE4Good stakeholder criteria[6]) than the control group.

TABLE 3.1
Comparison of Treatment Group and Control Group Using Key Variables: Compliance in 2005, Environmental Risk, Stakeholder Compliance, Predicted Compliance in 2002 and Predicted Index Membership in 2002

	Control (n=652)		Treatment (n=377)	
Abstain	498	76%	193	51%
Comply	154	24%	184	49%
Chi^2=73.63, p<0.001				
High	320	49%	20	5%
Medium	232	36%	253	67%
Low	100	15%	104	28%
Chi^2=213.53, p<0.001				
Stakeholder not met	423	65%	0	0%
Stakeholder met	229	35%	377	100%
Chi^2=423.79, p<0.001				
Predict Abstain	606	93%	324	86%
Predict Comply	46	7%	53	14%
Chi^2=18.27, p<0.001				
Predict Out	470	72%	70	19%
Predict In	182	28%	307	81%
Chi^2=274.35, p<0.001				

This table presents the distribution of compliance with new environmental criteria between treatment and control groups. The treatment group includes 377 firms from the main test sample (1,029 firms) that were in the index and did not comply in 2002. The control group includes 652 firms that were outside the index and did not comply in 2002. Abstain denotes not complying in 2005 and Comply denotes moving to meet the new environmental criteria in 2005. High, Medium and Low represent distribution of the firms with the corresponding environmental risk. Predict Abstain and Predict Comply present the number of firms that are predicted to comply/not comply with environmental management in 2002. The number of firms that are predicted to be included in or excluded from the index are given by Predict Out and Predict In. Stakeholder not met and Stakeholder met present compliance with stakeholder criteria. In each case, the significance of the differences is estimated using the Chi^2 test.

Secondly, for H1b we construct the probability of meeting the enhanced environmental requirements in 2002 when they were introduced, thereby measuring the ease with which a firm would move to meeting the criteria between 2002 and 2005. We do so by estimating the probability that firms would comply with the environmental criteria in 2002, even though they had not yet done so. The

[6] FTSE4Good stakeholder criteria aim to reflect company relations with key stakeholders. Requirements include existence of policies and management systems and processes related to the core labour standards, equal opportunities and diversity and relationships with suppliers and customers. These broad criteria were later replaced with more specific supply chain labour standards.

probability of complying with the FTSE environmental management criteria in 2002, designated P.Meet02, is estimated using a logit model based on the available sample of 1,434 firms, where the probability of compliance is based on country (Country) and industry (Industry) dummies, the FTSE assessment of the environmental risk of the firms (High or Medium) and the FTSE assessment of the firms' stakeholder policies (Stake):

$$Meet02_j = a_0 + a_1 High_j + a_2 Medium_j + a_3 Stake_j + \ldots$$
$$\Sigma C_{1\text{-}21} Country_j + \Sigma I_{1\text{-}32} Industry_j + e_j$$

Both country and industry are collectively statistically significant (Chi^2=152.09, $p<0.001$ and Chi^2=120.10, $p<0.001$ respectively) as are high environmental risk (Chi^2=4.73, $p<0.05$) and the stakeholder (Chi^2=74.16, $p<0.001$) dummies. The model has a pseudo-R^2 of 0.22 and correctly classifies 76 percent of cases. P.Meet02 is then the predicted value from the equation. Table 3.1 reveals that firms in the treatment group were more likely to meet the environmental criteria in 2002 than those in the control group.

For H2a and H2b we also estimate the probability that a firm would be a member of the FTSE4Good index. The probability of a firm being in the index, designated P.Ind02, is estimated using a logit model with the same sample as P.Meet02, country (Country) and industry (Industry) dummies, the log of market capitalisation (Size) and the closely-held ownership percentage (Close) as reported by Datastream:

$$Ind02_j = a_0 + a_1 Size_j + a_2 Close_j + \Sigma C_{1\text{-}21} Country_j + \Sigma I_{1\text{-}32} Industry_j + e_j$$

The country and industry dummies are collectively statistically significant (Chi^2=171.50, $p<0.001$ and Chi^2=136.89, $p<0.001$ respectively) as are the size (Chi^2=69.22, $p<0.001$) and ownership (Chi^2=13.91, $p<0.001$) variables. The model has a pseudo-R^2 of 0.28 and correctly classifies 76 percent of cases. P.Ind02 is the predicted value from the model. We assume that the observed propensity of firms to become included in the index is related to the balance of costs and benefits. Again,

Table 3.1 demonstrates that firms in the treatment group were more likely to be members of the index. In later tests this measure allows us to examine whether the incentive to remain in the index (due to potential exclusion costs) influences compliance separately from the engagement by FTSE.

3.3.2 Model Specification

Our main results are based on models that control for the probability of the firm meeting the new standards when they were introduced in 2002. We also introduce environmental risk and stakeholder relations as separate controls as they are parameters that have a role in the FTSE evaluation and may, therefore, affect compliance beyond their impact on the prior probability of meeting the new requirements. A firm cannot enter the FTSE4Good index without meeting the stakeholder criteria, and failing to meet these would reduce the firm's incentive to meet the environmental management criteria. Equally, the upgrading of the environmental management criteria had the greatest impact on those firms assessed as having medium risk and we might, therefore, expect such firms to have the most difficulty in meeting the new criteria. We also examine the sensitivity of our results to the inclusion of industry and country dummies in case their impact on subsequent compliance of firms originally failing to meet the new criteria differs from their impact on prior compliance.

The regression attempts to model external factors that will impact on the firms' probability of meeting the FTSE4Good environmental management requirements and allows us to separate the impact of the prior probability of compliance, the engagement allied to the exclusion threat, environmental risk and stakeholder relations, and the interaction between engagement and the prior probability of compliance. As a robustness test we also use propensity score matching (Caliendo & Kopeinig, 2008; Rosenbaum & Rubin, 1983), which controls for the sample selection bias. Here, we model the chance of a firm being selected for treatment as a function

of environmental risk, industry and country[7], on the implicit assumption that other factors which would affect compliance are randomly distributed. Our tests suggest that this assumption is valid and the propensity score approach provides reliable support for the regression approach. However, we maintain our focus on the regression models as they provide a straightforward method to examine the impact and interaction of various additional factors on firm compliance rates. Thus our initial logit model is:

$$Meet05_i = \beta_0 + \beta_1 Engage_i + \beta_2 P.Meet02_i + \beta_3 Engage_i * P.Meet02_i + \beta_4 Medium_i + ...$$
$$\beta_5 High_i + \beta_6 Stakeholder_i + \Sigma C_{1\text{-}21} Country_i + \Sigma I_{1\text{-}32} Industry_i + e_i$$

3.3.3 Variables

Dependent Variable. Our dependent variable (Meet05) is a zero-one dummy that indicates compliance with the FTSE4Good environmental management criteria for all firms in the All-World Developed Index regardless of the inclusion or exclusion from the FTSE4Good index. In our initial models we use compliance in 2005, the deadline set by FTSE when they upgraded the criteria in 2002. To examine the persistence of the engagement effect we also investigate compliance in 2006 to 2010.

Explanatory Variables. Our primary explanatory variable (Engage) is the combined effect of FTSE engagement and the threat of exclusion, which applied to all firms that were included in the FTSE4Good index in 2002 but were assessed, at that point, as failing to meet the upgraded environmental management criteria. In subsequent

[7] The model was tested for sensitivity to financial metrics (e.g. market-to-book, return on equity and equity returns) but none of these measures were statistically significant and were therefore excluded from the final model. Most importantly, as the discussion of the results in 3.4.2 reveals, matching balanced the treatment and the control groups with regards to the additional explanatory variables we investigated, i.e. ownership, predicted index membership and type of economy. However, difference in governance scores between the treatment and the control groups was still statistically significant (this is demonstrated in Table 3.4) so we re-estimated the propensity scores including governance in the sample selection model. The results of the engagement impact on compliance were consistent with the propensity scores estimation model where governance is not included, and we therefore kept the parsimonious model specification for the propensity scores based on environmental risk, industry and country.

models we additionally examine the impact of the incentive to stay in the index, the ownership of the firm, the firm's governance and the institutional environment.

The membership incentive (P.Ind02) is measured as the predicted probability of the FTSE4Good index membership in 2002 as discussed in the previous section. The ownership (Ownership) of the firm is the Datastream assessment of concentrated ownership in 2005. Concentrated ownership is defined as shares that are closely-held rather than traded, and includes shares held by family and employees, other corporations, governments, investment institutions and pension funds. The firm's governance (Governance) is the ASSET4 overall governance score in 2005, which is assessed using multiple criteria and standardised to a 0-100 score. We used ASSET4 scores to indicate this dimension in order to avoid any bias arising from taking both compliance and governance scores from FTSE. Finally, the institutional environment (Economy) is included as a dichotomous variable distinguishing liberal market economies and coordinated market economies[3]. For all the variables included as moderating factors we firstly use a single broad indicator as described above, but then examine the sensitivity of our results to more narrowly defined indicators.

Control Variables[8]. We first control for the prior probability of meeting the new criteria in 2002 (P.Meet02) and also interact that with the engagement variable (Engage). Further, in our model of compliance we include separately the FTSE environmental risk indicators (Medium and High) and the indicator of compliance with FTSE4Good stakeholder criteria (Stakeholder) plus 32 industry (Industry) and 21 country (Country) dummies.

3.4 Results

Table 3.2, panel A, reports the descriptive statistics for the full sample and for the treatment and control subsamples. Where we measure the probability of index inclusion, closely-held ownership or governance the samples are reduced due to

[8] The model was tested for sensitivity to firm financial characteristics (log of market capitalisation, log of total assets, market-to-book, price-to-earnings, return on equity and equity returns). None of these measures were statistically significant and were therefore excluded from the final model.

missing data. As all variables fall between zero and one our data includes no outliers. These descriptive statistics confirm the differences between the treatment and control firms given in Table 3.1. In comparison with the control firms the treatment firms are more likely to have met the criteria in 2002, have lower environmental risk as assessed by FTSE, necessarily comply with FTSE4Good stakeholder criteria whereas only 35 percent of the control group comply, and are more likely to be members of FTSE4Good. In addition Table 3.2 clarifies that treatment firms are less likely to be from CMEs, have higher levels of concentrated ownership and higher ASSET4 governance scores.

Panel B contains the correlation matrix for the dependent variable and explanatory variables. Both constructed variables, the probability of meeting the criteria in 2002 and the probability of being an index member in 2002, are positively correlated with the outcome (0.40 and 0.18 respectively) but have low correlation between the two measures (-0.03). High correlations (greater than 0.50) between explanatory variables include the expected positive relationship between the engagement variable and both the FTSE stakeholder measure (0.64) and the probability of index membership (0.60), the anticipated negative correlation between the indicators of high and medium risk (-0.66), and a negative correlation between the indicator of a coordinated market economy and both ownership (-0.51) and governance (-0.61). Most of these relationships are as expected but our data shows that concentrated ownership is higher in LMEs than in CMEs. This is driven by higher levels of ownership by financial institutions in the LMEs. Conversely family and corporate ownership is higher in CMEs than in LMEs[9]. We examine the sensitivity of our results to the inclusion or otherwise of various combinations of these variables in subsequent tables.

[9] Our results show that there is a consistent negative response to the three main categories of concentrated ownership – institutional, corporate and family. Following a suggestion by the journal reviewer we have also examined whether the results are consistent for both CME and LME countries and find that they are.

TABLE 3.2
Panel A. Descriptive Statistics

	Meet05	Engage	P.Meet02	Medium	High	Stakeholder	P.Ind02	Economy	Ownership	Governance
Full Sample										
Mean	0.33	0.37	0.21	0.47	0.33	0.59	0.43	0.29	0.43	0.54
Std. Dev	0.47	0.48	0.19	0.50	0.47	0.49	0.28	0.45	0.20	0.30
Max	1.00	1.00	0.88	1.00	1.00	1.00	0.99	1.00	0.92	0.98
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
N	1,029	1,029	1,029	1,029	1,029	1,029	976	1,029	992	752
Engagement										
Mean	0.49		0.25	0.68	0.05	1.00	0.65	0.19	46.48	65.02
Std. Dev	0.50		0.20	0.47	0.23	0.00	0.20	0.40	17.87	22.89
Max	1.00		0.83	1.00	1.00	1.00	0.99	1.00	82.33	97.41
Min	0.00		0.01	0.00	0.00	1.00	0.02	0.00	0.00	3.10
N	377		377	377	377	377	356	377	375	307
Control										
Mean	0.23		0.19	0.35	0.49	0.35	0.31	0.34	40.58	46.46
Std. Dev	0.42		0.18	0.48	0.50	0.48	0.24	0.47	20.14	31.64
Max	1.00		0.88	1.00	1.00	1.00	0.94	1.00	92.33	97.56
Min	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49
N	652		652	652	652	652	620	652	617	445

TABLE 3.2
Panel B. Correlation Matrix

	Meet05	Engage	P.Meet02	Medium	High	Stakeholder	P.Ind02	Economy	Ownership	Governance
Meet05	1.00									
Engage	0.26***	1.00								
P.Meet02	0.40***	0.13***	1.00							
Medium	-0.02	0.30***	-0.08**	1.00						
High	-0.10**	-0.45***	0.06*	-0.66***	1.00					
Stakeholder	0.19***	0.64***	0.30***	0.02	-0.02	1.00				
P.Ind02	0.18***	0.60***	-0.03	0.30***	-0.41***	0.38***	1.00			
Economy	0.22***	-0.17***	0.26***	-0.07*	0.14***	-0.19***	-0.23***	1.00		
Ownership	-0.14***	0.17***	-0.15***	0.03	-0.16***	0.15***	0.21***	-0.51***	1.00	
Governance	-0.03	0.31***	-0.17***	0.03	-0.06†	0.49***	0.49***	-0.61***	0.35***	1.00

Statistics and correlations are presented for the main test sample (1,029 observations) or where data on a specific variable is missing for the available sample. Meet05 denotes meeting new environmental standards in 2005 (=1); Engage denotes subject to FTSE Engagement (=1); P.Meet02 and P.Ind02 are our estimates of the probability of meeting the new environmental criteria and of being in the index in 2002 respectively (on a zero to one scale); Medium, High and Stakeholder denote environmental risk and meeting stakeholder governance requirements as assessed by FTSE in 2002 (all variables are zero-one). Economy equals one for CME, Ownership is the percentage of closely-held equity as assessed by Datastream and Governance is the firm's overall governance score as assessed by ASSET4 and calculated on a zero to one scale. Economy, Ownership and Governance are measured as at 2005. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

3.4.1 Test of the Joint Engagement and Exclusion Effect

In Table 3.3 we report the tests of the joint impact of engagement and threatened deletion (treatment) on compliance. In Models 1 and 2 we control only for the prior probability of meeting the criteria and in Models 3 and 4 we include the control variables identifying high and medium environmental risk, as assessed by FTSE, and whether or not the firm meets FTSE4Good stakeholder requirements. In Models 5 and 6 we interact the treatment variable with the prior probability to examine whether the impact of treatment is affected by the expected ease with which the firm can meet the criteria. We estimate the models without industry and country dummies (Models 1, 3 and 5) and secondly with these controls included (Models 2, 4 and 6).

The treatment coefficient is positive and significant in the simplest model (Model 1: $\beta=1.06$, $p<0.001$) and when industry and country dummies are included (Model 2: $\beta=1.79$, $p<0.001$). When the FTSE controls are included (Model 3: $\beta=1.39$, $p<0.001$), and also when industry and country dummies are included (Model 4: $\beta=1.57$, $p<0.001$), the results remain strongly positive and statistically significant. For all four models our results are consistent with H1a: treatment significantly increases the probability of compliance. The marginal effect estimated for these four models shows a significant impact of treatment (Model 1: 0.19, $p<0.001$, Model 2: 0.27, $p<0.001$, Model 3: 0.24, $p<0.001$ and Model 4: 0.23, $p<0.001$), indicating an increase in the probability of a firm complying after treatment of approximately 19 to 27 percent points.

The high environmental risk and stakeholder control variables are not statistically significant. However, the medium risk variable is negative and significant, which is consistent with the increased requirements imposed on medium risk firms by the new environmental management criteria making it particularly difficult for these firms to comply. The industry and country dummies are collectively significant but they make little difference to the coefficient estimated for the test variables. The significance of the prior probability variable declines when industry and country

dummies are included. This is expected, as prior probability is partly determined by industry and country variables.

TABLE 3.3
Tests of the Joint Engagement and Deletion Threat Effect

	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)
Intercept	-2.22***	-1.95**	-1.68***	-0.62	-1.78***	-0.78
	(5.89)	(3.04)	(3.73)	(0.92)	(4.18)	(1.14)
Engage	1.06***	1.79***	1.39***	1.57***	1.71*	2.10*
	(3.31)	(6.42)	(3.95)	(3.48)	(2.35)	(1.96)
P.Meet02	4.67***	2.81*	4.93***	-0.55	5.46***	0.62
	(3.82)	(2.44)	(3.97)	(0.20)	(4.26)	(0.16)
P.Meet02 * Engage					-1.20	-1.72
					(0.85)	(0.79)
Medium			-0.61*	-0.80*	-0.62*	-0.80*
			(2.50)	(2.03)	(2.42)	(2.02)
High			-0.42	-1.23	-0.43	-1.18
			(0.92)	(1.44)	(0.94)	(1.33)
Stakeholder			-0.49	1.10	-0.57	0.88
			(1.44)	(1.38)	(1.48)	(0.85)
Marginal effect						
Engage	0.19***	0.27***	0.24***	0.23***	0.30*	0.31*
P.Meet02 * Engage					-0.21	-0.25
Wald-Chi^2						
Full Model	144.42***	965.78***	291.64***	862.77***	401.38***	584.82***
All Engagement	10.93***	41.18***	15.58***	12.08**	20.76***	11.23**
Country/ Industry	Excluded	965.78***	Excluded	477.53***	Excluded	435.37***
Observations	1,029	1,023	1,029	1,023	1,029	1,023
Pseudo-R^2	0.16	0.29	0.17	0.29	0.18	0.29

This table presents the results of a logistic regression of compliance with upgraded environmental criteria in 2005. The independent variables are engagement from FTSE reinforced by the exclusion threat (Engage), the prior probability of complying with the new criteria (P.Meet02), medium environmental risk (Medium), high environmental risk (High), meeting stakeholder criteria (Stakeholder), and industry and country dummy variables. The absolute t-statistics are given underneath in parentheses. We also present Wald-Chi^2 estimates of the significance of a) the full model, b) the engagement variables plus any interaction term and c) the full set of country and industry dummies. All standard errors are robust and are clustered by country.
† p < .10, * p < .05, ** p < .01, *** p < .001

The inclusion of an interaction term between the treatment variable and the prior probability variable appears to increase the coefficient on treatment but suggests a decline in statistical significance (Model 5: β=1.71, $p<0.05$ and Model 6: β=2.10, $p<0.05$), whilst the coefficients on the treatment and prior probability of compliance interaction are individually insignificant (Model 5: β=-1.20, p=insig and Model 6: β=-1.72, p=insig). This is potentially misleading, as the joint statistical significance of both treatment related variables remains strongly significant (Model 5: Chi^2=20.76, $p<0.001$ and Model 6: Chi^2=11.23, $p<0.01$). The net marginal effect of treatment, estimated using the mean value for the prior probability of compliance of 0.21, remains in the same region estimated by Models 1 to 4 without interaction effects (Model 5: 0.30-(0.21*0.21)=0.25 and Model 6: 0.31-(0.25*0.21)=0.25). Although not individually significant, the negative coefficient on the interaction term suggests that treatment is less effective for firms that are expected to be close to compliance. This suggests that firms that find it easy to comply do not require the additional incentive of the FTSE engagement and is therefore inconsistent with H1b.

3.4.2 Propensity Score Matching Tests of the Joint Engagement and Exclusion Effect

In Table 3.4 we report the results of the propensity score matching approach. Here we have controlled for sample selection bias and contrast the results for firms that are equally likely to receive engagement but where the treatment firms receive engagement and the control firms do not. We report a number of different results based on varied matching procedures and statistical methods. Our results include matching our treatment firms with a) their nearest neighbour, b) the three nearest neighbours, c) the three nearest neighbours that fall within plus or minus 0.001 probability of treatment, d) all firms that fall within plus or minus 0.001 probability of treatment, and e) a kernel matching procedure that uses the weighted average of all control firms, depending on the propensity score, to construct the counterfactual outcome. We also re-estimate the statistical significance using bootstrapping techniques with 50 iterations. As each of the estimation techniques has different data

requirements, we also report sample size. This reveals that the matching technique leaves some treatment cases unmatched and, therefore, excluded from the analysis.

TABLE 3.4
Analysis of the Joint Engagement and Deletion Threat Effect Using Propensity Score Matching

Matching	Treatment	ATT Control	Diff.	t-statistic	Treatment	Control
Unmatched						
	0.49	0.22	0.27	8.79***		
Model 1: Nearest (n1)	0.49	0.20	0.29	4.48***	377	567
Bootstrapped			0.28	6.38***		
Model 2: Nearest (n3)	0.49	0.18	0.31	6.42***	377	567
Bootstrapped			0.30	8.43***		
Model 3: Nearest (n3) Caliper (0.001)	0.47	0.17	0.30	5.80***	290	567
Bootstrapped			0.29	6.14***		
Model 4: Radius, (0.001)	0.47	0.16	0.31	6.34***	290	567
Bootstrapped			0.30	6.65***		
Model 5: Kernel	0.49	0.17	0.32	7.16***	377	567
Bootstrapped			0.32	9.79***		

Impact of Matching on Incentive Variables						
		Treated	Control	%Bias	% Change	t-statistic
P.Ind02	Unmatched	0.65	0.36	139.00		20.26***
	Matched	0.64	0.64	-0.6	99.6	0.11
Ownership	Unmatched	0.47	0.41	32.4		4.76***
	Matched	0.47	0.46	3.4	89.4	0.50
Governance	Unmatched	0.65	0.44	77.7		9.96***
	Matched	0.65	0.58	25.1	67.7	3.32**
Economy	Unmatched	0.18	0.34	-37.0		5.49***
	Matched	0.17	0.16	3.7	90.1	0.59

This table presents the results of the test of the treatment using propensity score matching. We use nearest neighbour matching, radius matching and kernel matching methods to test whether the treatment (combined effect of FTSE engagement and the threat of expulsion from the index) has an effect on compliance with the enhanced environmental criteria. ATT denotes average treatment effect on the treated group regarding the outcome (compliance). T-statistic is the result for the average treatment effect. Treatment presents the number of companies subject to engagement and threatened with exclusion. Control denotes the matched companies that were not engaged with and did not face the deletion threat. The second panel reports the distribution of the incentive variables before and after the matching process. We report the means of treated and control sample unmatched and matched, the pre-matching and post-matching bias, the reduction in that bias achieved by matching and the t-test of difference in means before and after matching. † $p < .10$, * $p < .05$, ** $p < .01$,*** $p < .001$

However, in all cases the average treatment effect on the treated (ATT) is found to be strongly positive and significant, and thus the propensity score matching approach also supports H1a (Model 1: ATT=0.29, $p<0.001$, Model 2: ATT=0.31, $p<0.001$, Model 3: ATT=0.30, $p<0.001$, Model 4: ATT=0.31, $p<0.001$, Model 5: ATT=0.32, $p<0.001$). The ATT is comparable with the marginal effect from the logit models, and the propensity score matching approach suggests an increased probability of complying with the environmental management criteria of approximately 30 percent if a firm receives treatment.

Table 3.4 also reports the distribution of the expected index membership, closely-held ownership, governance rating and type of economy which are not used in the matching process but which, as we hypothesise, constitute incentives to comply with the FTSE4Good requirements. We expect that these variables may impact on the response to engagement and might affect the results of the matching process. We therefore have to ensure that after matching there are no significant differences between treated and control firms in these characteristics. The reported results are derived from the first approach, where we match each treated firm with its nearest neighbour, but are similar whichever matching process is used. This reveals that the probability of being in the index, closely-held ownership and the LME vs. CME distributions are significantly different for the unmatched treatment and control samples, but insignificantly different for the matched samples. However, the governance measure, whilst also moving towards equality for the matched sample, is still significantly different, with treatment firms recording higher governance scores than the control group (bias in matched samples 25.1 percent, t-statistic 3.32, $p<0.01$). We repeat the process but include governance in the propensity score calculation and find that it does have a statistically significant impact on the sample selection model. Firms with higher governance scores are more likely to receive treatment. Using governance in the matching balances the governance scores for the treatment and control group. The matching process now generates slightly smaller samples, but the results are consistent with those reported in Table 3.4 and the impact of engagement on compliance remains positive and statistically significant.

3.4.3 Tests of the Persistence of the Engagement Effect

In Table 3.5 we rerun the regression model estimating the effect of engagement and the associated threat of deletion but we simplify the specification to exclude the prior probability variable. Our rationale is that the prior probability of compliance estimated in 2002 will become increasingly irrelevant as we move from 2005 to 2010. In this version we simply use the medium and high-risk dummies and the stakeholder compliance dummy plus industry and country dummies. This also has the advantage of simplifying the relationship between the control variables and compliance but retains the full information set used in the estimation of Table 3.3 results. We have also estimated these relationships using the same model as in Table 3.3 and find the results to be robust.

We see that engagement remains significantly positive throughout the period (Model 1: $\beta=1.72$, $p<0.001$, Model 2: $\beta=1.62$, $p<0.001$, Model 3: $\beta=1.63$, $p<0.001$, Model 4: $\beta=1.35$, $p<0.001$, Model 5: $\beta=1.06$, $p<0.001$, Model 6: $\beta=1.04$, $p<0.001$). The environmental risk dummies are both negative and, apart from the results for 2006, significantly so and the stakeholder dummy is positive and significant. These results are consistent with engagement continuing to impact positively on compliance with the environmental management practices through to 2010. Thus, H1a holds even when we measure the impact of engagement up to five years after the implementation date. The marginal effect remains high until 2008 when it starts to diminish, although even in 2010 the estimated marginal effect is 18 percent (Model 6: 0.18, $p<0.001$).

TABLE 3.5
Tests of the Joint Engagement and Exclusion Threat Effect on Compliance in 2005-2010

	(Model 1) 2005	(Model 2) 2006	(Model 3) 2007	(Model 4) 2008	(Model 5) 2009	(Model 6) 2010
Intercept	-0.94	-0.75	-0.13	0.32	0.67	0.49
	(1.29)	(1.06)	(0.19)	(0.47)	(0.94)	(0.68)
Engage	1.72***	1.62***	1.63***	1.35***	1.06***	1.04***
	(5.46)	(5.42)	(5.54)	(4.55)	(3.50)	(3.36)
Medium	-0.62*	-0.36	-1.03***	-1.27***	-1.17***	-1.11***
	(2.30)	(1.27)	(3.54)	(4.06)	(3.61)	(3.31)
High	-1.09**	-0.65†	-1.22**	-1.23**	-1.38***	-1.33**
	(2.92)	(1.70)	(3.25)	(3.19)	(3.47)	(3.23)
Stakeholder	0.96***	0.89**	0.87**	1.02***	1.19***	1.07***
	(3.37)	(3.27)	(3.26)	(3.84)	(4.36)	(3.83)
Country effects	Included	Included	Included	Included	Included	Included
Industry effects	Included	Included	Included	Included	Included	Included
Marginal Effect						
Engage	0.25***	0.27***	0.27***	0.23***	0.18***	0.18***
Wald-Chi^2	224.81***	210.76***	216.88***	187.71***	182.87***	169.19***
Observations	1,008	916	877	818	756	714
Pseudo-R^2	0.30	0.26	0.26	0.26	0.25	0.24

This table presents the results of a logistic regression of compliance with upgraded environmental criteria in 2005-2010. The independent variables are engagement from FTSE reinforced by the exclusion threat (Engage), medium environmental risk (Medium), high environmental risk (High), meeting stakeholder criteria (Stakeholder), and industry and country dummy variables. The absolute t-statistics are given underneath in parentheses. All standard errors are robust and are clustered by country. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

3.4.4 Tests of Incentives and Constraints

In Table 3.6 we examine the effect of a) the probability of index membership, which we view as a surrogate for the net benefit of membership, b) ownership, c) governance and d) institutional environment on compliance both directly and via an interaction term with the engagement variable. The model is estimated for each construct separately (Models 1 to 8) and then for the four taken together (Models 9 and 10). We first report the results for a broadly representative indicator of the

construct under examination and then consider more narrowly defined measures as sensitivity tests. We also conduct propensity score matching tests (unreported) of the type reported in Table 3.4 but subsampled according to the incentive or constraint to identify where responses differ under different circumstances.

3.4.4.1 The Impact of Index Membership

Our results suggest that the prior probability of index membership is related to compliance when estimated using only the main effect (Model 1: β=1.33, p=<0.05). When jointly estimated with an interaction effect the main effect appears insignificant (Model 2: β=0.53, p=insig) and the interaction effect marginally significant (Model 2: β=2.31, p<0.10). However, when we also test whether the main effect and the interaction effect are jointly significant we find that they are (Model 2: Chi^2=18.95, p<0.001) and when we test whether the engagement variable and the interaction term are jointly significant, again they are (Model 2: Chi^2=10.57, p<0.01). Thus both engagement and the probability of membership are significantly related to compliance, and there is some evidence that engagement works more strongly when associated with firms that have a high probability of index membership[10]. It is worth

[10] Given that the test model is a logit model, the interpretation of the coefficients on the interaction terms should be treated with caution. Ai and Norton (2003) and Norton et al. (2004) derive the appropriate formulae for the interaction effect and the standard error, and show that both the sign and the statistical significance of the estimates may be miscalculated. More specifically, if to consider a probit model, the interaction effect will be as follows (Ai & Norton, 2003: 124):

$$\frac{\partial^2 \Phi(\cdot)}{\partial x_1 \partial x_2} = \beta_{12}\Phi'(\cdot) + (\beta_1 + \beta_{12}x_2)(\beta_2 + \beta_{12}x_1)\Phi''(\cdot)$$

where y is the dependent (dummy) variable, Φ is the standard normal cumulative distribution and x_1 and x_2 are continuous independent variables. Instead, the effect of the interaction term is often erroneously calculated as the marginal effect:

$$\frac{\partial^2 \Phi(\cdot)}{\partial (x_1 x_2)} = \beta_{12}\Phi'(\cdot).$$

This implies that the magnitude of the interaction effect and its statistical significance may differ for different levels of the predicted value of the dependent variable. If to plot the interaction effect graphically against the predicted probability of the dependent variable, the resulting curve would have an S-shaped pattern with the interaction effect being positive for some values of the predicted probability and negative for others. At the same time, the (incorrect) estimation of the interaction effect as the marginal effect of the interaction term would correspond only to the observations where the predicted probability is about 0.5. It may therefore be invalid for many cases in the sample. Given that the main focus of the thesis is on the engagement effect itself, the main findings are not affected by the issue discussed above. Further, the relative effect of the engagement in different governance contexts for cases which have an equal probability of meeting or not the FTSE4Good criteria is

reiterating that we view the probability of index membership as an indicator of the net benefit of being in the index. Firms will tend to comply with the index requirements when the net balance of costs and benefits is positive. Being excluded when matched firms have complied implies that there is a cost to exclusion. The results we present here are consistent with both engagement and the probability of index membership being important influences on compliance but engagement works best when coupled with a high probability of membership (implying a high cost of exclusion).

Our propensity score analysis clarifies the relationship. Matched cases show that engagement increases the probability of compliance from 32 percent to 52 percent for firms with a higher than average probability of being in the index compared to an increase from 16 percent to 46 percent for firms which are less likely to be in the index. Thus, although engagement has a lesser impact on the first group the net effect of engagement and expected index membership is higher for that group than for firms which are less likely to be in the index.

3.4.4.2 The Impact of Concentrated Ownership

We find a strong negative impact of concentrated shareholdings on compliance whether an interaction term with engagement is excluded (Model 3: β=-0.02, $p<0.001$) or included (Model 4: β=-0.02, $p<0.001$) and the interaction term is marginally positive (Model 4: β=0.01, $p<0.10$.). When both terms are included in the model their joint effect is statistically significant (Model 4: Chi^2=19.93, $p<0.001$). These results are consistent with H3a but not with H3b. We then decompose the total closely-held ownership into components held by families, corporations, investment institutions, the state, and pension funds. We also find that the impact of concentrated equity holdings is driven by holdings of investment institutions, families and corporations despite a positive impact where the state holds equity and an insignificant impact of pension fund holdings.

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already interesting. Nevertheless, a more precise examination of the interaction effect between the engagement variable and the governance contexts can offer interesting insights into the relative effect of the engagement in different governance contexts and merits further investigation.

3.4.4.3 The Impact of Institutional Differences

Firms in coordinated market economies are also shown to move to compliance more strongly than those in liberal market economies and this result is statistically significant (Model 5: β=1.10, $p<0.01$ and Model 6: β=1.12, $p<0.001$). However, the type of economy is independent of the engagement effect as the interaction term is insignificant (Model 6: β=-0.08, p=insig). Thus, our evidence supports H4a but not H4b. The propensity score matching tests confirm the first conclusion but also suggest that the engagement effect may be stronger for CME firms. For LME firms compliance moves from 17 percent to 43 percent on engagement but from 29 percent to 74 percent for CME firms. However, the sample for CME firms only includes 66 cases and this result, combined with the insignificant regression model result, should be treated with caution.

We enhance the institutional analysis by including market capitalisation scaled by GDP (La Porta et al., 1997) and the anti-self-dealing director index (Djankov et al., 2008) together with the LME-CME dichotomy. The first variable indicates the influence of equity markets and the second is argued to be an indicator of the extent to which company law protects the rights of shareholders against exploitation by insiders. As neither of these variables captures the LME versus CME differences in institutional arrangements, we retain the variable indicating the type of economy together with the two new measures. Market capitalisation is significantly negatively associated with compliance, the anti-self-dealing director index is significantly positively associated and the economy variable remains significantly positively associated with compliance.

3.4.4.4 The Impact of Corporate Governance

When we estimate the impact of governance on compliance we find no reliable main effect (Model 7: β=0.13, p=insig and Model 8: β=-0.61, $p<0.10$) but the engagement-governance interaction is significantly positive, which is consistent with engagement

being more effective for well-governed firms (Model 8: $\beta=2.20$, $p<0.01$). This result is consistent with H5b but not with H5a. The ASSET4 measure of governance is a broad amalgamation of various factors so we further analyse the impact of CEO-chair duality, the size of the board and the number of non-executive directors (Judge et al., 2010). CEO duality is insignificantly negative but both the size of the board and the number of non-executive directors are significantly positive. Taken together, the three indicators of governance appear statistically significant and indicate that characteristics associated with good governance are associated with better rates of compliance. However, we find that governance is sensitive to the inclusion of other incentive variables and our propensity score matching tests suggest that treatment has an almost identical significant impact for both high and low governance firms. Engagement increases compliance from 18 percent to 49 percent for high governance firms and from 17 percent to 46 percent for low governance firms.

TABLE 3.6
Tests of Incentives and Constraints

	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)	(Model 7)	(Model 8)	(Model 9)	(Model 10)
Intercept	-2.20***	-1.90**	-0.86*	-0.76†	-2.02***	-2.03***	-1.84***	-1.63***	-2.68***	-2.24***
	(4.41)	(3.26)	(2.09)	(1.79)	(3.62)	(3.79)	(5.91)	(5.16)	(3.74)	(3.84)
Engage	1.38***	0.04	1.43***	1.06*	1.35***	1.36**	1.40**	-0.05	1.32**	-0.99
	(3.64)	(0.08)	(3.83)	(2.36)	(3.45)	(3.01)	(3.24)	(0.11)	(2.85)	(0.89)
P.Meet02	5.49***	5.57***	4.67***	4.62***	4.21***	4.20***	5.55***	5.59***	5.35***	5.39***
	(4.36)	(4.50)	(4.56)	(4.51)	(4.68)	(4.63)	(5.26)	(5.32)	(5.42)	(5.18)
Medium	-0.74**	-0.81*	-0.72***	-0.70**	-0.69**	-0.69**	-0.42**	-0.43**	-0.67***	-0.67**
	(2.58)	(2.43)	(3.31)	(3.13)	(3.04)	(3.06)	(2.79)	(2.61)	(3.83)	(3.20)
High	-0.25	-0.40	-0.56	-0.55	-0.64	-0.64	-0.33	-0.34	-0.34	-0.40
	(0.61)	(0.94)	(1.18)	(1.15)	(1.24)	(1.24)	(0.78)	(0.78)	(0.77)	(0.88)
Stakeholder	-0.84*	-0.75*	-0.27	-0.24	-0.06	-0.06	-0.66	-0.40	-0.69	-0.43
	(2.43)	(2.44)	(0.85)	(0.75)	(0.19)	(0.19)	(1.57)	(1.02)	(1.64)	(1.10)
P.Ind02	1.33**	0.53							1.52*	1.10*
	(3.11)	(0.83)							(2.50)	(2.03)
Engage * P.Ind02		2.31†								1.28
		(1.94)								(1.07)
Ownership			-0.02***	-0.02***					-0.01*	-0.02**
			(3.85)	(4.27)					(2.24)	(2.70)

Engage * Ownership				0.01† (1.75)						0.01 (1.13)
Economy					1.10** (2.88)	1.12*** (4.26)			1.10* (2.00)	0.98* (1.99)
Engage * Economy						-0.08 (0.14)				0.17 (0.23)
Governance							0.13 (0.38)	-0.61† (1.75)	1.00* (2.22)	0.48 (0.76)
Engage * Governance								2.20** (2.98)		1.43 (1.39)
Wald-Chi^2										
Full Model	476.11***	425.57***	455.19***	484.30***	542.49***	563.82***	377.43***	436.29***	536.09***	1516.78***
All Engagement	13.25***	10.57**	14.68***	16.97***	11.92***	16.86***	10.47**	9.90**	8.11**	20.20**
All Incentives	9.70**	18.95***	14.79***	19.93***	8.29**	26.84***	0.14	9.65**	15.65**	128.40***
Observations	976	976	993	993	1,029	1,029	748	748	706	706
Pseudo-R^2	0.20	0.21	0.20	0.20	0.20	0.20	0.18	0.19	0.23	0.24

This table presents the results of a logistic regression of compliance with upgraded environmental criteria in 2005. The independent variables are engagement from FTSE (Engage), the prior probability of complying with the new criteria (P.Meet02), medium environmental risk (Medium), high environmental risk (High), meeting stakeholder criteria (Stakeholder), the prior probability of being included in the FTSE4Good index (P.Ind02), the percentage of closely-held equity (Ownership), domicile in a CME (Economy) and the ASSET4 assessment of corporate governance (Governance). We also present Wald-Chi^2 estimates of the significance of a) the full model, b) the engagement variables plus any interaction terms and c) all incentive variables plus any interaction terms. The absolute t-statistics are given underneath in parentheses. All standard errors are robust and are clustered by country. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

3.4.4.5 The Impact of All Incentives

In Models 9 and 10 we incorporate index membership, closely-held ownership, type of economy and firm governance together in a joint model. The results for the first three variables remain similar to those from the individual estimations. If we test the significance of all the variables including the engagement parameter, they are statistically significant when only the main effects are included (Model 9: Chi^2=8.11, p<0.01) and also when interaction effects are also included (Model 10: Chi^2=20.20, p<0.01). If we test the significance of all incentive variables they are jointly significant in both models (Model 9: Chi^2=15.65, p<0.01 and Model 10: Chi^2=128.40, p<0.001).

However, the impact of governance is less robust than for the economy, ownership or index membership variables. There is no robust evidence of a significant main effect when governance is estimated without the other incentives (Model 7: β=0.13, p=insig). However, a significant positive main effect is noted when included with other incentives but with no interaction terms (Model 9: β=1.00, p<0.05). The strong positive interaction effect when governance is the only incentive variable (Model 8: β=2.20, p<0.01) is weaker and insignificant when all incentives are included (Model 10: β=1.43, p=insig). This instability is driven by a strong correlation between the governance score and the economy variable (Table 2, ρ=-0.61). Overall, the results regarding the impact of governance are mixed and we would treat any conclusions with caution.

3.5 Discussion and Conclusion

Prior research has shown that, even if some institutional investors successfully engage with management on the matters of corporate governance and corporate social responsibility, investment institutions do not seem to generally impact beneficially on CSR practices. Using a sample of 1,029 internationally diverse companies, our study analyses the impact of a responsible investment index on CSR. We investigate the persistence of this influence and the governance characteristics

that may moderate the engagement impact and affect CSR compliance. Specifically, we used a quasi-experimental setting to evaluate the impact of engagement by FTSE on environmental management practices as assessed by compliance with the index requirements, allied to the threat of exclusion from that index.

The main results are strong and consistent, regardless of whether they are estimated by a logit analysis or propensity score matching. Firms subject to engagement and potential exclusion were considerably more likely to be assessed as having complied by 2005 with the FTSE4Good enhanced environmental management criteria introduced in 2002. This finding is consistent with prior research which suggested that managers on the whole were likely to favour CSR investment for selfish, selfless or strategic reasons (Barnea & Rubin, 2010; Jo & Harjoto, 2011; McWilliams & Siegel, 2001) and would recognise the benefits to themselves and the firm of compliance with an established standard (Slager et al., 2012; Young & Marais, 2012). Our results also show that through direct involvement with management, FTSE encouraged companies to improve their compliance regardless of how potentially easy it was for the company to comply. Furthermore, engagement had a significant impact on management for at least five years.

Part of the impact of FTSE may be driven by the threat of expulsion from the index and we estimate the strength of that threat as a function of the probability of a particular firm being a member. It is assumed that membership of matched firms indicates the net costs and benefits to such firms and can hence be used as a measure of the strength of the threat of expulsion. The actual engagement and the probability of membership are positively correlated (0.60) and as such it is difficult to disentangle their individual effect; however, both seem to influence compliance positively and compliance is highest when engagement is accompanied by a high probability of membership.

In line with prior evidence, we additionally find that the management decision regarding compliance with the CSR standard was influenced by national and firm governance characteristics (Arora & Dharwadkar, 2011; Rees & Rodionova, 2012;

Young & Marais, 2012). Firms in coordinated market economies were more likely to implement the environmental practices necessary for FTSE4Good membership. Entrenched owners, including investment institutions, hindered the CSR investment necessary for compliance. However, we found that the impact of firm governance is sensitive to the model specification and any conclusions should be treated with caution.

We cannot claim without caution that engagement leads to improved environmental performance - only that FTSE evaluated the firms' practices as meeting the index requirements. However, to meet the enhanced environmental management criteria management would have had to respond to the engagement and meet the reporting and organisational requirements. This is consistent with case study research that suggests that managers react to investor engagement (Becht et al., 2009; Dimson et al., 2012). Our analysis presents the first empirical evidence that direct involvement with firms by a responsible investment index is effective in inducing that reaction. Only if there were no positive link between the FTSE4Good criteria and effective environmental management would our results not suggest improved performance.

This study makes several important contributions to the current knowledge on corporate governance, corporate social responsibility and, in particular, active ownership. Agency theory postulates that in the absence of constraints managers will tend to use their position for their own benefit. Institutional theory helps to explain how managers' decision-making is influenced by external factors including entrenched shareholders, internal governance arrangements and institutional context. In line with prior research, our analysis emphasises that both theories are important in understanding the intricacies between managers' and owners' incentives and influences with regards to corporate social responsibility and, specifically, environmental management. Such issues may have a substantive impact on society and require large corporate investments, even though the immediate benefits for the firms are not obvious.

Most importantly, in this complex governance system, our findings contribute to the understanding of how active ownership and involvement with firms advocated by agency theory can be achieved through collective action, rather than by leaving the matter to the discretion of a few substantial equity holders. Our results imply that engagement through a responsible investment index could provide a route for social activism. The practical implications of our findings derive from the fact that investment institutions may control vast funds but they are widely diversified, hold a relatively small percentage of equity and may not be highly influential within the firm. Our results suggest that combining their influence via a responsible investment index may be an effective way for these investors to have a direct impact on management decision-making. This implication may also be of interest to regulators, who might consider encouraging this type of collective-investor engagement and who might have cause for concern regarding the negative impact of entrenched holdings on CSR activities.

Chapter 4 Fighting Bribery with Gentle Nudging: the Impact of a Responsible Investment Index

4.1 Introduction

This study investigates whether a responsible investment index effectively encouraged management of internationally diverse companies to introduce robust anti-bribery practices assessed by compliance with FTSE4Good countering bribery criteria. Engagement was performed by FTSE via extensive consultation and dialogue with company management and was reinforced by the threat of public deletion from the FTSE4Good index. Using a quasi-experimental setting, I contrast the response to meeting anti-bribery criteria by the companies in engagement and threatened with exclusion to a sample of otherwise similar companies which did not receive engagement nor were facing expulsion. I further analyse the influence of engagement and the index membership separately and whether the effect of engagement was dependent on companies' incentive to be included in the index. Next, I examine possible drivers of compliance and engagement related to the overall governance context: presence of influential blockholders, the institutional environment defining shareholder rights protection and emphasis on investors versus other stakeholders and the level of internal governance. I further assess whether reputational concerns associated with a publicly known ethical controversy instigate compliance and the response to the engagement. Finally, I test whether the index was effective in prompting companies to implement provisions consistent with FTSE's assessment of best practice of preventing bribery.

Despite the development of anti-bribery laws and policies in many countries, international bribery still proliferates (McKinney & Moore, 2008). For example, according to the survey of 350 international companies conducted by the Control Risks Group in 2006, 43 percent of respondents believe that they have at some point lost business to an unethical competitor, and this number has increased since a comparable survey in 2002 (Control Risks, 2006). This could be in part attributed to ineffective implementation of the laws (Global Corruption Report, 2009). However, even if the prosecution of corrupt practices is increasing (Karpoff et al., 2012), the effect of law enforcement is not enough to successfully combat bribery and

corruption (Hess & Ford, 2011; McKinney & Moore, 2008). Bribing also constitutes a product of corporate culture and as such leads to major corporations considering illegal payments a legitimate business practice hereby providing a supply of bribes (Gjessing & Syse, 2007; Martin et al., 2007). If the incident involves a major international company, such behaviour encourages this practice across the industry and stimulates an unethical environment. Consequently, these cultural and ethical norms are challenged by the voluntary initiatives such as the United Nations Global Compact, the United Nations Principles for Responsible Investment and activities by non-governmental organisations, e.g. Transparency International. The active involvement of the business community is thus one of the core strategies in countering bribery and corruption. For example, the UN Global Compact's tenth principle against corruption underlines the shared responsibility and willingness of the private sector to play its part in eliminating corruption (Global Corruption Report, 2009).

Various national and international regulatory initiatives are aimed at preventing corporate bribery, such as the UK Bribery Act and the US Foreign Corrupt Practices Act (FCPA). Increasing the scrutiny and toughening the level of convictions brought by these regulations is an important problem, yet exposure to bribery also represents a product of corporate culture and a system of incentives set up for employees. While it is commonly thought that bribery may be justified under some conditions, companies sometimes deliberately use corrupt practices as a source of competitive advantage and offer bribes themselves (Martin et al., 2007).

There is emerging evidence that direct involvement with companies by a responsible investment index can be effective in enhancing environmental performance (Mackenzie et al., 2013). Limited case studies suggest that private dialogue with companies by institutional investors can bring about positive changes to business practices (Becht et al., 2009; Carleton et al., 1998; Gjessing & Syse, 2007) and corporate social responsibility in particular (Dimson et al., 2012). Social activism is expanding (Judge et al., 2010), yet on the whole diversified institutions do not seem to effectively stimulate CSR development (Rees & Rodionova, 2012). This study

therefore sets out to expand the current knowledge on the topic and analyses whether collaborative investor involvement via a responsible investment index could be effective in addressing an ethical issue as crucial as bribery.

For a sample of 340 large companies, the findings demonstrate that engagement via a responsible investment index reinforced by the potential exclusion from the index has led to a sustained increase in compliance with countering bribery requirements covering policy, management systems and reporting. Both the dialogue and the index exclusion threat motivated compliance and the two contributed independently. Further, compliance is found to be negatively associated with concentrated ownership and positively related to strong internal governance and domicile in liberal market economies. The difference in compliance stimulated by the index engagement persisted for at least two years and, while the negotiations element has contributed to motivating good practice, the peer pressure from the index membership is shown to effectively promote best practice.

Consequently, the results further the understanding as to how international bribery can be combated by encouraging companies to adopt strict preventive measures. In particular, the findings demonstrate that both higher governance level and the institutional environment where shareholder rights are better protected against the expropriation by the State are positively associated with management's preference to restrict bribery. Further, the results show how in the context of costs associated with business lost in the unethical competition, the index can engage effectively by combining the dialogue and raising awareness of the issue and challenging organisational legitimacy with the risks of the exclusion threat. With regards to practice, the findings demonstrate that institutional investors could consider such engagement via an index to instigate sustained changes in management practice regarding ethical issues such as bribery.

4.2 Prior Research and Hypotheses

4.2.1 Investor Engagement to Counter Bribery

The 'universal owner' hypothesis suggests that for large diversified institutional investors the ultimate costs of bribery in investee firms may exceed potential benefits (Kiernan, 2007). This comes from the fact that while some companies in their portfolio will benefit from a business contract being awarded after an illegal payment, the deterioration of the business environment due to unethical behaviour would make it more difficult for well-performing firms to operate successfully. Indeed, extensive literature focuses on the detrimental effects of bribery and corruption in general on economic development (Guiso et al., 2009; Mauro, 1995; McKinney & Moore, 2008; Shleifer & Vishny, 1993, 1994). The harmful impact arises from the unstable and inefficient legal and economic environment created by corruption, and a higher cost of finance due to a deterioration in trust and reputation (Hess & Ford, 2011). Bribery increases the risks caused by less scrupulous businesses winning contracts, hinders productivity by de-motivating employees and curbs sustainable growth (Aidt, 2009; Gjessing & Syse, 2007; Lydenberg, 2007; Shleifer & Vishny, 1993). Moreover, evidence suggests that firms which are supposed to benefit from the contracts awarded through illegal payments, have a lower return on assets, asset turnover, operating and net profit margins compared to their peers, and this underperformance is shown to persist not only before the bribery incident but also for at least three years after the award of the contract (Cheung et al., 2011). This implies that the resources are shifted towards less efficient firms, which has negative implications for the long-term returns of institutional investors. Institutional investors are therefore encouraged to become actively involved with management to enhance ethical behaviour in business transactions (Kiernan, 2007; Lydenberg, 2007).

Indeed, there is evidence to suggest that investor engagement on environmental, social and governance matters is increasingly making its way into the business practice of institutional investors as a means to improve firm governance and social

responsibility (Gifford, 2010). For example, Dimson et al. (2012) analysed the involvement of an asset manager with US public firms on CSR issues and observed an average success rate of 17 percent together with a positive market reaction to overall engagement and particularly to successful engagement with no penalty for unsuccessful engagement. Regarding bribery in particular, there are examples of investor movements such as the Extractive Industry Transparency initiative which encourages companies to publish their payments to host countries for licences to extract natural resources.

Yet there is still little indication that institutional investors monitor anti-bribery provisions (Starks, 2009; Rees & Rodionova, 2012). Further, empirical evidence suggests that bribery per se does not deter investors, customers or suppliers from dealing with the firm (Karpoff et al., 2012). This is in line with the view that at least for some owners bribery may still be justified as the means to acquire private privileges and hence create firm value (Ramdani & Witteloostuijn, 2012). However, even though bribery itself may not trigger significant negative market reaction, the accompanying concerns over financial representation and potential financial fraud are shown to have caused significant stock price falls (Davidson & Worrell, 1988; Karpoff et al., 2012). Therefore, whether investors actively oppose illegal payments or not, they may associate bribery with higher risks and inefficient management. This is consistent with the view suggesting that strong CSR performance is regarded as a sign of the overall management competence and of the governance quality (Renneboog et al., 2008; Solomon et al., 2004).

4.2.2 FTSE4Good Countering Bribery Criteria

FTSE4Good anti-bribery criteria take as a starting point the provisions set by Transparency International Business Principles for Countering Bribery and follow the definition of bribery as *"an offer or receipt of any gift, loan, fee, reward or other advantage to or from any person as an inducement to do something which is dishonest, illegal or a breach of trust in the conduct of the enterprise's business"* (FTSE, 2010). While FTSE acknowledged the potential exposure to bribery of any

company, the criteria specifically targeted firms that have been assessed by FTSE as having the largest exposure to engaging in illegal payments. The identification of the affected companies was carried out by FTSE based on business sector, country of operation and involvement in public contracts or dealing with government licences.

The requirements cover three main areas: policy, management and reporting (FTSE, 2010). By combining three areas, the criteria target both a corporation's 'hardware' (formal policies and processes) and 'software' (related to the behavioural norms and culture). Hess and Ford (2011) argue that both means help reduce the exposure of engaging in bribery by employees. According to FTSE, policy must explicitly prohibit giving and receiving bribes and state commitment to obeying all relevant laws. Further, it must cover restriction of facilitation payments and giving or receiving gifts. Finally, policy must be publicly available. Management practices include communication of the policy to employees and provision of training programmes, establishment of compliance mechanisms, e.g. via audits and board reports, and secure communication channels for employees such as hotlines, advice lines and whistle-blowing procedures. Finally, management system must contain procedures to tackle non-compliance. Reporting requires the company to publicly disclose its policy and compliance mechanisms.

While these practices cannot guarantee that a given company will not engage in bribery, they constitute an important step towards preventing bribery and reflect the expectations of responsible investors and other stakeholders as to what 'good practice' against bribery and corruption would be. Specifically, countering bribery criteria were developed in collaboration with Transparency International and the development involved market consultations as well as focus groups with CSR and industry experts, investors and NGOs. Such process therefore increases the index legitimacy as a stakeholder (Mitchell et al., 1997). Further, having a written code of ethics is shown to be related to less tolerant attitude by management to bribing (McKinney & Moore, 2008). Additionally, Ioannou and Serafeim (2011) observe a positive association between mandatory sustainability reporting and ethical practices across a large multi-national sample of companies and a positive but weak

association between mandatory sustainability reporting and a reduction in bribery as well as corruption. Provided that FTSE assesses large global corporations from FTSE All-World Developed Indices, countering bribery practices of those companies could contribute to a deinstitutionalisation of the established norms of corruption in the host country and a reduction of the demand for bribes (Gjessing & Syse, 2007; Hess & Ford, 2011).

4.2.3 The Engagement Process

For the membership in the index, FTSE assesses all companies from FTSE All-World Developed Indices for environmental management, human rights, supply chain labour standards, countering bribery and mitigating climate change, based on independent research by a specialised data provider, Ethical Investment Research Services (EIRIS). Over the years FTSE4Good criteria have evolved and new criteria were implemented. In particular, countering bribery criteria were introduced in 2007 and compliance was enforced in 2009. At the moment of the criteria introduction, all companies from FTSE All-World Developed Indices were assessed for compliance. However, those companies that were in the index but did not immediately meet the new standards, were not immediately excluded from the index. Rather, FTSE gave these companies time until the criteria enforcement to implement the requirements. If at the end of the given period these non-complying member firms have not adopted the required practices to meet the criteria, they would be excluded from the index.

During the implementation period the Responsible Investment Unit at FTSE engaged with the affected member-companies. The engagement was conducted as a dialogue with company management via emails, telephone conversations and personal meetings (FTSE, 2011). FTSE held discussions with representatives from sustainability, investor relations, risk management and legal departments. Such process therefore mirrors the engagement by activist hedge funds and institutional investors (Becht et al., 2009; Dimson et al., 2012; Gifford, 2010). During the engagement process FTSE clarified the criteria and assisted companies in enhancing their existing practices according to the index requirements and in improving the

disclosure of those practices. For example, FTSE could provide consultation on the wording in the company's Code of Conduct regarding facilitation payments and gifts, or the necessary elements of employee training and whistleblowing. This is consistent with the findings by Gordon and Miyake (2001) suggesting that companies' own codes of conduct vary significantly in the way they disclose their anti-bribery provisions including the concepts and the language which may blur the line between establishing a long-term business relationship and engaging in corrupt behaviour.

Apart from direct dialogue and consultation, the index simultaneously challenged the reputation of the company by the potential exclusion. FTSE informs engaged companies about the potential public delisting from the index if they fail to meet the criteria by the given time. Given the growing importance of the ratings and indices as the means to communicate CSR endeavours to stakeholders (Chatterji & Toffel, 2010; Young & Marais, 2012) the index engagement possesses normative power and urgency which contribute to the influence of the engagement (Gifford, 2010; Mitchell et al., 1997). The threat of public deletion from the index therefore gives FTSE an additional lever through which to encourage companies to improve their anti-bribery practices according to the index requirements.

4.2.4 Hypotheses Development

Engagement by a responsible investment index reinforced by the potential exclusion threat is shown to double the probability that a firm would enhance its environmental management practices within the required time period (Mackenzie et al., 2013). The impact of engagement lasted for at least five years suggesting that it stretched beyond hastening companies to adopt stronger CSR practices faster. Similarly, Chatterji and Toffel (2010) found that KLD environmental ranking prompted more rapid improvements in environmental performance by poorly-rated companies than by better scoring companies or the ones that were not assessed.

However, it remains unclear whether the index would be effective in encouraging stronger anti-bribery management. Many researchers have argued that different areas of corporate social responsibility should be studied separately given their different nature and implications (Cox et al., 2004; Dam & Scholtens, 2012; Godfrey et al., 2009; Hillman & Keim, 2001; Johnson & Greening, 1999; Rees & Rodionova, 2012). As an element of corporate governance and corporate social responsibility, anti-bribery practices can be defined as a 'contact' CSR, i.e. impacting on company's relations with business partners, customers and suppliers (Mackenzie & Rees, 2011). Consistent with this view, the results of a Dow Jones survey reveal that company's control of bribery and corruption risks is an important part of gaining trust among business partners (Dow Jones, 2011). Similarly, over 40 percent of managers in Control Risks Group survey would stop working with a business partner involved in bribery (Control Risks, 2006).

Managers could favour compliance with countering bribery standards and membership in a responsible investment index for strategic or personal reasons. Compliance could send a favourable message to stakeholders and investors about company's anti-bribery provisions recognised by an independent assessment and help enhance the relationships with stakeholders (Bénabou & Tirole, 2010). This could include attracting customers (Hong & Kacperczyk, 2009) and improving employee morale and satisfaction which could result in better financial performance (Aguilera et al., 2007; Edmans, 2011). Further, managers may want to avoid negative reputational effects associated with the exclusion from the index on failing to meet anti-bribery requirements (Ramdani & van Witteloostujn, 2012). This is consistent with the observations by Carr and Outhwaite (2011) suggesting that companies regarded protection of the corporate reputation as the main driver of complying with a CSR initiative. Furthermore, negative business and social reputation may draw attention to the firm and make it a more likely target by activists (Bartley & Child, 2009). I therefore formulate the first hypothesis as follows:

Hypothesis 1a. Companies engaged with by FTSE and in danger of exclusion from the FTSE4Good index would be more likely to meet the FTSE4Good countering bribery criteria.

Mackenzie et al. (2013) additionally examined the impact on compliance of the probability that a company would meet the necessary environmental requirements at the moment the new criteria were announced. They found no evidence that prior likelihood of a company to have the necessary level of environmental management affects the efficiency of the FTSE engagement. In the case of controlling bribery, it could be expected that the engagement effect could be leveraged by a company's propensity to meet the FTSE requirements from the start.

Firstly, Dimson et al. (2012) find that business ethics (which included bribery and corruption) was the topic of many engagement activities by an activist fund but received a relatively low success rate, with proposed changes taking a longer time for implementation than in other CSR areas. Prior evidence suggests that firms with a greater capacity to improve their CSR performance are more likely to be targeted by activists and to succeed (Dimson et al., 2012). Similarly, Chatterji and Toffel (2010) find that firms which have more low-cost scope for improvement are more likely to improve their environmental efficiency. In line with this evidence, it can be expected that if a company is more likely to have countering bribery practices in place that are sufficient to meet the FTSE4Good criteria, it is because it has most likely invested resources to set up necessary policies, training programmes, communication channels and other management processes and reporting to prevent incidents of engaging in corrupt actions. Management may then be expected to communicate such activities to stakeholders to improve the key relationships and gain reputational benefits (Bénabou & Tirole, 2010). I therefore expect that the engagement effect will be stronger if the company is closer to complying before the start of the engagement.

Hypothesis 1b. The FTSE engagement/exclusion effect is stronger if the prior probability of the firm to comply with the FTSE4Good countering bribery criteria is higher.

4.2.5 Incentives and Constraints of Compliance and Engagement

4.2.5.1 The Effect of Expected Index Membership

I next attempt to disentangle the effect of the engagement from the effect of potential exclusion threat. Mackenzie et al. (2013) reported that both engagement and the expected index membership stimulated company's implementation of the required environmental practices but the engagement was particularly effective when the peer pressure of the index membership was higher. Similarly, Chatterji and Toffel (2010) observed that the improvements in environmental efficiency were more likely among the firms with highest potential benefits. Consistent with this view, I predict that if similar firms tend to be members of the index, this is because there are net benefits for them to do so and potential costs of being excluded. For example, the likelihood of competitors complying with a CSR initiative was listed by companies as one of the drivers of their compliance (Carr & Outhwaite, 2011). Given that engagement aims at facilitating a company's adoption of the required anti-bribery provisions, it may be further expected that companies with the highest peer and reputational pressure would wish to stay in the index and would be more responsive to contact from FTSE. I therefore formulate the following two hypotheses:

> *Hypothesis 2a. Firms are more likely to meet the FTSE4Good countering bribery criteria if the expectation of the company to be in the index is higher.*

> *Hypothesis 2b. The FTSE engagement/exclusion effect is stronger if the expectation of the company to be in the index is higher.*

4.2.5.2 The Effect of Concentrated Ownership

Jensen and Meckling (1976) suggested that in a situation of the separation of the ownership and control, managers have the capacity to spend resources according to

their best interests which may not be aligned with the interests of the shareholders. In the case of CSR, the motives may include shareholder value maximisation but may also be related to personal ethical position or strategic motives such as reputation and relationship with other stakeholders (Barnea & Rubin, 2010; Bénabou & Tirole, 2010). While diversified investors may not be effective monitors due to the costs involved, large shareholders have been shown to substantially impact on the governance of companies (Fama & Jensen, 1983). When a project presents clear financial benefits, influential owners are likely to actively encourage such investment (Rees & Mackenzie, 2011). Conversely, entrenched long-term owners are shown to effectively inhibit investment in those CSR projects where the benefits are seen as 'external' such as environment or human rights (Rees & Rodionova, 2012). Bribery may offer some benefits to the strategic owners related to the business opportunities acquired by the firm with the reputational risks falling mainly on the management (Ramdani & van Witteloostujn, 2012). On the other hand, as a 'contact' CSR, anti-bribery provisions may help improve the business relationships of the company and reduce the risks of the prosecution and potential negative reputation. Therefore the inclination of the owners to promote anti-bribery practices may depend on the net cost and benefit of bribery activities (Ramdani & van Witteloostujn, 2012). I therefore predict that concentrated ownership will influence compliance but can do so in either direction. In any case, however, as strategic owners tend to influence the company in their interests, they are unlikely to favour social activism (Judge et al., 2010). I therefore predict the following relationships:

Hypothesis 3a. Firms with high levels of closely-held ownership comply differently from firms without such shareholdings.

Hypothesis 3b. High levels of closely-held ownership will reduce the engagement effect.

4.2.5.3 The Effect of Institutional Setting

Prior literature suggests that the differences in the institutional environment have an impact on the emphasis that companies put on the interests of society and stakeholders (Campbell, 2007; Chen et al., 2008). While there are various attributes of the institutional environment and the classification of the institutional systems can be more refined (Kang & Moon, 2012), on the whole a common law system implies wider capital markets and thus less reliance on the state support (La Porta et al., 1997) and a higher likelihood of the exposure of corrupt practices (Treisman, 2000). Consistent with these views, Chen et al. (2008), using a survey-based dataset for 55 countries, find that British legal origin is negatively associated with the chances that a firm will pay a bribe. While coordinated market economies are generally associated with better overall CSR disclosure, liberal market economies tend to emphasise issues related to shareholder protection and transparency, and are likely to report more on issues related to governance and ethics (Campbell, 2007; Young & Marais, 2012). Consequently, even though abstaining from paying a bribe may at some point result in losing a contract to an unethical competitor, enhanced disclosure of the anti-bribery practices and membership in a responsible investment index could offer compensating reputational benefits of recognised stronger CSR commitment. Responding to FTSE engagement could further facilitate successful compliance. I therefore propose the following hypotheses:

> *Hypothesis 4a. Companies from liberal market economies are more likely to meet the FTSE4Good countering bribery requirements within the required time period.*

> *Hypothesis 4b. The engagement effect will be stronger if the company comes from a liberal market economy rather than a coordinated market economy.*

4.2.5.4 The Effect of Corporate Governance

Good governance implies that managers act in the interests of the shareholders and that the information asymmetry and the potential for agency conflicts is reduced.

With regards to the former, since owners may take a different view on bribery, the effect of strong governance on active anti-bribery activities is uncertain. However, with regards to the latter, as bribery is likely to involve financial misrepresentation (even if to cover up the bribe itself), transparency of the management's activity is likely to be lower increasing the risks for the shareholders. Consistent with this view, attributes of strong governance such as executive equity incentives and proportion of non-executive directors have been shown to reduce the chances of accounting fraud and financial misconduct (Beasley, 1996; Erickson et al., 2006). Moreover, since less efficient firms use bribes most and continue underperforming even after securing the contract (Cheung et al., 2011), this indicates that management in those firms is not maximising the shareholder value successfully. Conversely, through compliance with anti-bribery requirements, management may improve relationships with stakeholders, which has been shown to be linked to superior financial performance (Jo & Harjoto, 2011). For example, since employee satisfaction is shown to be associated with better financial performance (Edmans, 2011), it may be expected that where the company creates a corporate culture preventing bribes, the security of employees is improved and their satisfaction increases (Hess & Ford, 2011). If engagement can facilitate creating such corporate environment, management will tend to respond positively. I therefore formulate two hypotheses as follows:

Hypothesis 5a. Firms with high governance ratings comply differently from firms with low governance ratings.

Hypothesis 5b. Firms with high governance ratings are influenced by engagement differently from firms with low governance ratings.

4.2.5.5 The Effect of Ethical Controversies

Prior evidence suggests positive relationship between the number of lawsuits and the probability of success from the shareholder engagement on social and environmental issues (Dimson et al., 2012). Company visibility, for example through media coverage, may influence the amount of attention and pressure from the stakeholders

(Kiousis et al., 2007). Dawkins and Fraas (2011) observe that general visibility and in particular issue visibility is positively associated with disclosure on climate change strategies. Moreover, visibility is shown to moderate positively the effect of environmental performance on climate strategies reporting. This is consistent with companies with better business and social reputation attracting particular attention from activists and stakeholders as in the case of misconduct they may be seen as 'hypocritical' (Bartley & Child, 2010). Based on this evidence, having a public ethical controversy related to bribery and corruption is likely to instigate companies to implement stronger anti-bribery provisions required by the index and make them more responsive to engagement by FTSE. I therefore predict the following relationships:

Hypothesis 6a. Companies linked to ethical controversies are more likely to meet the FTSE4Good countering bribery requirements within the required time period.

Hypothesis 6b. The engagement effect will be stronger if the company is linked to an ethical controversy.

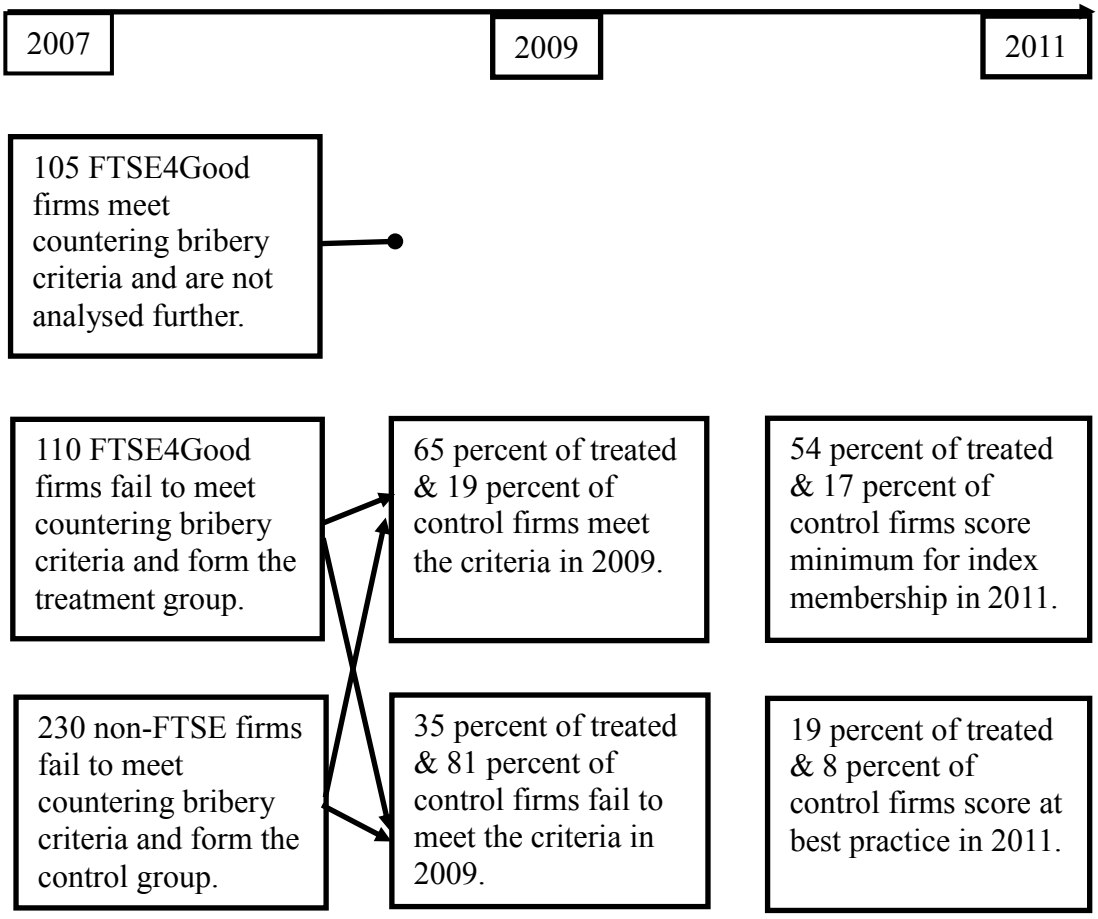
4.3 Research Method

4.3.1 Sample and Experimental Setting

To analyse the impact of the FTSE index and engagement on companies' compliance with the FTSE4Good anti-bribery requirements, I make use of a natural experiment which resulted from the introduction by FTSE of countering bribery criteria in 2007 and their implementation in 2009 (see Figure 4.1).

FIGURE 4.1

Experimental Setting and Timeline



Sample are FTSE All-World Developed constituents, excluding prohibited firms (e.g. weaponry, tobacco), identified by FTSE as having higher exposure to bribery. These companies are independently assessed by EIRIS for policy, management, reporting and performance. Countering bribery criteria were established in 2007, with firms given until 2009 to comply. Engagement was conducted with FTSE4Good members that had not complied in 2007.

Overall, 2,222 companies from FTSE All-World Developed Index were assessed by FTSE in both September 2007 and September 2009[11]. Of these, I excluded companies with business related to tobacco, weaponry or nuclear areas (not considered for the FTSE4Good membership according to FTSE process) and companies with missing data and arrived at 1,852 companies. Since the criteria were only applied to the companies considered as high risk in bribery, a subset of 485 companies had to meet the requirements. Of these, 340 companies from 18 countries and 9 industry groups did not meet the requirements and form the test sample[12]. Treatment group includes 110 companies that were members of the FTSE4Good index in 2007 and, therefore, received engagement[13] from FTSE and were in danger of public exclusion from the index if they failed to comply by 2009. The remaining 230 high-risk companies were not members of the index in 2007 and hence were not in danger of public exclusion. These companies did not receive any engagement from FTSE and formed the control group for the analysis. In the tests of incentives and constraints missing data for explanatory or control variables could reduce the sample further.

[11] During this period 2007 to 2009 a number of firms dropped out of FTSE All-World Index. However, none of those had been assessed as high risk in bribery and therefore were not subject to countering bribery requirements and did not affect the sample.

[12] The country distribution of the sample is as follows (an asterix identifies those countries classified as CME): Australia 21, Austria* 5, Belgium* 2, Canada 7, Denmark* 1, Finland* 4, France* 12, Germany* 9, Hong Kong 38, Italy* 1, Japan* 77, Netherlands* 2, Norway* 2, Spain* 7, Sweden* 6, Switzerland* 8, UK 53, USA 85. I followed prior evidence where available, otherwise I based the classification on stock market capitalisation to GDP (La Porta et al., 1997) and anti-self-dealing index (Djankov et al., 2008). This effectively reflects common law versus code law.
The industry distribution of the sample is as follows: Oil & Gas 59, Basic Materials 85, Industrials 77, Health Care 24, Consumer Service 19, Telecommunications 17, Utilities 14, Financials 21, Technology 24.

[13] It could be the case that companies were subject to simultaneous engagement regarding several FTSE4Good criteria or were previously in engagement regarding a different CSR theme. While this could provide a 'synergy' effect, different nature of the criteria and tight requirements in each theme meant that it would unlikely bias the results. Further, the analysis of semi-annual Policy Committee documents and conversations with the representatives from FTSE revealed that companies could struggle with a particular indicator, e.g. would not be willing to explicitly prohibit bribes in their policy or develop whistle-blowing channels or would make policy available internally but not publicly. Finally, the strongest incentive to comply would be in situations where previous (or simultaneous) engagement on a different issue resulted in companies moving to meet those criteria, to the extent that this implied spending resources on moving to comply. I therefore introduced a control variable of meeting environmental criteria in the analysis (these were the criteria that had been strengthened and applied to all companies) to account for this additional incentive.

In this quasi-experimental setting, the adoption of countering bribery practices sufficient for membership in the FTSE4Good index among the companies in the two groups was contrasted. If FTSE engagement simply coincided with the general trend towards enhanced corporate social responsibility or with the impact of other global anti-bribery initiatives, I would expect there to be no significant differences between the treatment and the control group, provided that the possible differences between the two groups are controlled for. I discuss the way comparability is ensured when presenting the model specification.

4.3.2 Variables

Dependent variable. The dependent variable measures compliance with the FTSE4Good anti-bribery standards in 2009. It is a dichotomous variable taking the value of one if a firm met the countering bribery criteria in 2009 and zero otherwise.

Explanatory variables. FTSE engagement, expected index membership, ownership, institutional context, internal governance and prior controversies are the explanatory variables. The main explanatory variable (Engage) is expressed as a zero-one dummy as all firms which were in dialogue with FTSE were subject to the same engagement process.

Expected index membership (P.Ind07) aims to capture the extent to which similar firms tend to be members of the index. As shown in prior literature, the behaviour of comparable firms regarding compliance with CSR initiatives and the ones related to bribery and corruption in particular influences the company's choice to implement those practices (Carr & Outhwaite, 2011). I therefore measure it as a predicted probability from a binary logistic regression of FTSE4Good index membership in 2007 based on country (Country) and industry (Industry) dummies, size as the log of market capitalisation (Size) and the percentage of closely-held shares (Close) (the latter two were collected from Datastream):

$$Ind07_j = a_0 + a_1 Size_j + a_2 Close_j + \ldots$$
$$\Sigma C_{1\text{-}21} Country_j + \Sigma I_{1\text{-}32} Industry_j + e_j$$

It is estimated on the whole population of 1,852 companies in the All-World Developed Index with available data (except tobacco, weaponry or nuclear businesses). In the model the country and industry dummies are jointly statistically significant (Chi^2=305.07, p<0.001 and Chi^2=134.37, p<0.001 respectively) and both size and ownership are significant (t-stat=11.22, p<0.001 and t-stat=-2.61, p<0.01). The model has a pseudo-R^2 of 0.23 and correctly classifies 74 percent of cases.

Next, ownership data (Ownership) is obtained from Datastream and the variable is specified as a dummy where one indicates closely-held shareholdings greater than 10 percent and zero if a company does not have such shareholdings. For sensitivity tests I also use strategic shareholdings and percentages instead of dummy variables. The results are qualitatively similar. For the measure of the internal governance (Governance) I collect corporate governance score in 2009 from ASSET4 which is assessed using multiple criteria and standardised to a 0-100 score. I therefore avoid potential bias of both corporate governance and countering bribery practices assessment coming from the same source. This is particularly relevant in the case of countering bribery provisions since controlling bribery may be regarded itself as a governance attribute (Ramdani & van Witteloostujn, 2012).

The institutional context (Economy) is expressed as a dichotomous variable with one indicating coordinated market economy (CME) and zero a liberal market economy (LME). Finally, to assess the effect of ethical controversies, I construct a variable (Controversy) using ASSET4 data. According to the ASSET4 definition, I code the variable one if a firm received media coverage regarding an ethical controversy in any year from 2005 to 2009. I choose such extended period since these matters and the potential related prosecution may take a long time and negative visibility is likely to affect company's reaction to the index and the engagement both prior to and during the engagement period. As a robustness test I use other time periods and the results are consistent.

Control variables. Following prior evidence suggesting that better environmental performance will stimulate better environmental disclosure as a way to communicate these practices to stakeholders (Dawkins & Fraas, 2011) a similar case for countering bribery compliance can be expected. Therefore I construct a control variable (P.Meet07) indicating the prior probability of meeting countering bribery criteria in 2007. Meeting anti-bribery criteria in 2007 is a function of industry (Industry) and country (Country) dummies and meeting other FTSE criteria, in particular the ones on environmental management[14] (Environment).

$$Meet07_j = a_0 + a_1 Environment_j + \Sigma C_{1\text{-}21} Country_j + \Sigma I_{1\text{-}32} Industry_j + e_j$$

Prior probability of compliance with FTSE4Good countering bribery criteria is estimated as a predicted probability from this binary logistic regression model for a sample of all 485 high-risk companies. In the model the country and industry dummies are collectively statistically significant (Chi^2=39.48, $p<0.01$ and Chi^2=19.24, $p<0.05$ respectively) and so is compliance with FTSE4Good environmental requirements (Chi^2=26.21, $p<0.001$). The model has a pseudo-R^2 of 0.20 and correctly classifies 82 percent of cases[15].

I also include compliance with the FTSE4Good environmental management criteria (Environment) as a separate control in the test model as its impact may differ from

[14] FTSE4Good environmental management criteria included policy requirements, environmental management systems and reporting (FTSE, 2010). These criteria were chosen as they were applied to all companies assessed by FTSE. Consequently, if a company did not meet FTSE4Good environmental management criteria, it would have less incentive to comply with countering bribery requirements.

[15] Following prior research, a number of additional factors was considered. In particular, additional analyses accounted for firm characteristics such as profitability (Arora & Dharwadkar, 2011; Cheung et al., 2011), e.g. return on equity; growth opportunities (Cheung et al., 2011), e.g. market-to-book; financing (Cheung et al., 2011), e.g. gearing; foreign ownership (Chen et al., 2008; Ramdani & van Witteloostuijn, 2012); exposure to foreign operations (Karpoff et al., 2012; Ramdani & van Witteloostuijn, 2012), e.g. foreign sales as a percentage of total sales. Finally, a number of country characteristics (Cheung et al., 2011; Karpoff et al., 2012; Ramdani & van Witteloostuijn, 2012) was examined, e.g. World Bank indicators of voice and accountability and Transparency International industry or country indices. Firm-specific variables were not significant, and including country dummies proved to capture country differences best, therefore the additional variables discussed above were not included in the final model.

the impact on the initial propensity to meet the countering bribery criteria. Finally, based on prior evidence regarding the differences in CSR disclosure among countries and industries (Deegan et al., 2000; Sottorío and Fernández Sánchez, 2008; Young & Marais, 2012), I control for the national and the industrial environment by including variables measuring mean compliance rates in a given country (Co.Meet) or industry (Ind.Meet) (Antonakis et al., 2010). The rationale to control for the country of residence in particular is that different anti-bribery regulation and its enforcement may or may not prevent large companies from 'exporting' bribery to the countries of operation (Karpoff et al., 2012).

4.3.3 Model Specification

Given the binary character of the dependent variable, I use a logit regression model to examine the effect of engagement allied to the threat of exclusion from the index on the company's compliance with the FTSE4Good countering bribery requirements:

$$\text{Meet09}_i = \beta_0 + \beta_1\text{Engage}_i + \beta_2\text{P.Meet07}_i + \beta_3\text{Engage}_i\text{*P.Meet07}_i + \ldots$$
$$\beta_4\text{Environment}_i + \beta_5\text{Ind.Meet}_i + \beta_6\text{Co.Meet}_i + e_i$$

In this model i indicates firms, Meet09 is compliance with FTSE4Good countering bribery criteria in 2009, Engage denotes treatment (index engagement reinforced by the exclusion threat), P.Meet07 is the likelihood of meeting the criteria in 2007, Environment is compliance with FTSE4Good environmental management criteria and Ind.Meet and Co.Meet are the mean compliance rates in a given industry or country.

For the tests of incentives and constraints of compliance and engagement I modify the above model and include the incentive variables plus interaction terms with the treatment variable:

$$\text{Meet09}_i = \beta_0 + \beta_1\text{Engage}_i + \beta_2\text{P.Meet07}_i + \beta_3\text{Environment}_i + \ldots$$
$$\beta_4\text{Incentive}_i + \beta_5\text{Engage}_i\text{*Incentive}_i + e_i$$

In this model Incentive includes expected index membership (P.Ind07), concentrated ownership (Ownership), institutional context (Economy), corporate governance (Governance) and ethical controversy (Controversy).

4.3.4 Propensity Score Matching Approach

The regression approach has the advantage of explicitly demonstrating the effect that the prior propensity to meet the criteria has on the ultimate compliance. In this case the other control variables may impact on this prior probability rather than the ultimate compliance. Inclusion of the prior probability in the regression model therefore allows controlling for pre-treatment differences between the engaged and control firms. As a robustness test I additionally use propensity score matching (Armstrong et al., 2010; Caliendo & Kopeinig, 2008) to control for the sample selection bias. According to this approach, I model the likelihood of a given firm to be in treatment group as a function of the variables used to estimate the prior probability of compliance, i.e. meeting environmental management standards, industry and country. Given that the incentive variables are hypothesised to influence compliance, I test whether the differences in those between the matched firms remain statistically significant. In the cases where they are, I repeat the procedure but include those incentive variables in the estimation of the propensity to be treated. The results remain qualitatively similar. Finally, propensity score matching is used to support the analysis of the incentives' impact on compliance and the engagement.

4.4 Results

Table 4.1, panel A, presents descriptive statistics for the full sample and treatment and control groups separately. Overall, 34 percent of affected companies met FTSE4Good countering bribery standards by 2009 with as many as 65 percent among engaged firms and only 19 percent of the control companies. The likelihood that a company would already have the required anti-bribery practices in place in 2007 is only 17 percent, however treated companies were almost twice as likely to be already complying in 2007 (even if they had not actually done so) than control

companies (25 percent and 13 percent respectively). Engaged firms were also more likely to be in the index, had lower probability of a strategic blockholding than the control firms and had comparable governance scores and likelihood of ethical controversies.

The correlation matrix in Panel B of Table 4.1 reveals a strong positive correlation between the treatment variable and compliance (0.46). Expected index membership correlates positively with compliance (0.40) and strongly with engagement (0.60). There is a strong negative correlation between the governance variable and residing in a coordinated market economy (-0.58) which is consistent with prior research (La Porta et al., 1997, 2000). There is also a positive correlation between governance and controversy (0.29) which is in line with the view suggesting that managers may justify ethically questionable practices by acquiring business and generating firm value for shareholders (Ramdani & van Witteloostujn, 2012).

TABLE 4.1

Panel A. Descriptive Statistics

	Meet09	Engage	P.Meet07	Environment	P.Ind07	Ownership	Economy	Governance	Controversy
Full Sample									
Mean	0.34	0.32	0.17	0.49	0.38	0.32	0.40	0.53	0.26
Std. Dev	0.47	0.47	0.15	0.50	0.28	0.47	0.49	0.31	0.44
Max	1.00	1.00	0.87	1.00	0.99	1.00	1.00	0.97	1.00
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
N	340	340	340	340	318	340	340	301	276
Engagement									
Mean	0.65	1.00	0.25	0.98	0.61	0.21	0.65	0.52	0.27
Std. Dev	0.48	0.00	0.15	0.13	0.22	0.41	0.48	0.32	0.44
Max	1.00	1.00	0.69	1.00	0.99	1.00	1.00	0.97	1.00
Min	0.00	1.00	0.06	0.00	0.05	0.00	0.00	0.03	0.00
N	110	110	110	110	106	110	110	102	101
Control									
Mean	0.19	0.00	0.13	0.25	0.26	0.37	0.28	0.54	0.25
Std. Dev	0.39	0.00	0.13	0.44	0.22	0.48	0.45	0.31	0.44
Max	1.00	0.00	0.87	1.00	0.91	1.00	1.00	0.97	1.00
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
N	230	230	230	230	212	230	230	199	175

Panel B. Correlation Matrix

	Meet09	Engage	P.Meet07	Environment	P.Ind07	Ownership	Economy	Governance	Controversy
Meet09	1								
Engage	0.46***	1							
P.Meet07	0.31***	0.38***	1						
Environment	0.40***	0.68***	0.48***	1					
P.Ind07	0.40***	0.60***	0.25***	0.54***	1				
Ownership	-0.21***	-0.16**	-0.10***	-0.08***	-0.14***	1			
Economy	0.10†	0.35***	-0.07**	0.25***	0.32***	0.16***	1		
Governance	0.21***	-0.02	0.37***	0.03	0.05*	-0.26***	-0.58***	1	
Controversy	0.20***	0.02	0.20***	0.10***	0.13***	-0.09***	-0.11***	0.29***	1

Statistics and correlations are presented for the main test sample (340 observations) or where data on a specific variable is missing for the available sample. Meet09 denotes meeting countering bribery criteria in 2009 (=1); Engage denotes subject to FTSE Engagement and threat of exclusion from FTSE4Good (=1); P.Meet07 and P.Ind07 are the estimate of the probability of meeting the countering bribery criteria and being in the index in 2007 respectively (on a zero to one scale); Environment denotes meeting environmental management requirements as assessed by FTSE in 2007 (=1). Ownership, Economy and Governance are the percentage of closely-held equity as assessed by Worldscope, indicators of LME vs. CME where one indicates CME, and the firms overall governance score as assessed by ASSET4 and calculated on a zero to one scale. Economy, Ownership and Governance are measured as at 2009. Controversy denotes ASSET4 indicator of having an ethical controversy exposed in the media (=1 if there is a controversy in 2005 to 2009).

4.4.1 Test of Engagement and Threat of Deletion from the Index

Table 4.2 presents the tests of the combined effect of FTSE engagement and deletion threat (treatment) on compliance in 2009. In Model 1 I include the treatment variable and a prior probability of meeting FTSE4Good anti-bribery standards in 2007, and I additionally control for industry and country in Model 2. In the next two models I incorporate compliance with FTSE environmental management requirements, first without industry and country controls (Model 3) and then with them (Model 4). Finally, I interact the treatment variable with the prior probability to assess whether the influence of treatment is dependent on how potentially easy it is for the firm to meet the requirements. This is again done without industry and country controls (Model 5) and with them included (Model 6).

Firstly, the coefficient on the treatment variable is positive and significant in the first model specification, both without and with industry and country controls (Model 1: $\beta=1.82$, $p<0.001$, Model 2: $\beta=1.71$, $p<0.001$). The coefficients remain positive and significant when I control for compliance with another FTSE requirement (Model 3: $\beta=1.48$, $p<0.001$, Model 4: $\beta=1.40$, $p<0.001$). These results suggest that firms which received engagement from FTSE and were in danger of public exclusion from the index were more likely to comply with the anti-bribery requirements by 2009. Therefore, H1a is supported. Estimated marginal effect (Model 1: 0.31, $p<0.001$, Model 2: 0.28, $p<0.001$, Model 3: 0.25, $p<0.001$, Model 4: 0.23, $p<0.001$) reveals that engagement reinforced by the threat of deletion increases the probability of compliance by 23 percent to 31 percent.

TABLE 4.2
Tests of the Joint Engagement and Deletion Threat Effect

	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)
Intercept	-1.83***	-4.06***	-1.93***	-4.15***	-1.82***	-4.04***
	(6.07)	(5.86)	(5.15)	(6.00)	(4.48)	(5.70)
Engage	1.82***	1.71***	1.48***	1.40***	0.94*	0.55
	(4.56)	(5.95)	(3.50)	(3.83)	(2.50)	(0.87)
P.Meet07	2.76*	2.01†	2.16	1.46	1.12	-0.28
	(2.17)	(1.90)	(1.43)	(1.28)	(0.65)	(0.17)
Environment			0.59	0.53	0.73	0.75†
			(1.03)	(1.29)	(1.32)	(1.70)
P.Meet07*Engage					2.31	3.80†
					(1.62)	(1.66)
Ind.Meet		2.04		2.08		1.82
		(1.52)		(1.57)		(1.34)
Co.Meet		4.83***		4.79***		5.27***
		(3.61)		(3.48)		(3.73)
Marginal effect						
Engage	0.31***	0.28***	0.25***	0.23***	0.16**	0.09
PMeet07*Engage					0.39	0.61†
Wald-Chi2						
Full Model	34.46***	70.96***	36.79***	75.32***	37.78***	73.83***
All Engagement	20.81***	35.38***	12.24***	14.64***	18.26***	17.56***
Observations	340	340	340	340	340	340
Pseudo-R^2	0.18	0.23	0.19	0.23	0.19	0.24

This table presents the results of a logistic regression of compliance with countering bribery criteria in 2009. The independent variables are engagement from FTSE reinforced by the exclusion threat (Engage), the prior probability of complying with the new criteria (P.Meet07), meeting FTSE4Good environmental management requirements (Environment), and mean compliance rates in the industry and country. The absolute t-statistics are given underneath in parentheses. I also present Wald-Chi^2 estimates of the significance of a) the full model and b) the engagement variables plus any interaction term. All standard errors are robust and are clustered by country.
† p < .10, * p < .05, ** p < .01, *** p < .001

I additionally find that the coefficient on the prior probability of meeting countering bribery criteria is positive and significant in the simplest models (Model 1: β=2.76, $p<0.05$, Model 2: β=2.01, $p<0.10$) but its significance declines when the FTSE environmental compliance is included. This is expected as the prior probability

estimate is partly determined by the firm meeting FTSE environmental requirements. The coefficient on compliance with environmental management standards is itself insignificant in all model specifications. These results are consistent with the view that introducing robust anti-bribery practices is a challenging task for the companies and meeting other FTSE requirements does not significantly impact company's performance regarding bribery. Finally, the inclusion of industry and country controls does not substantially affect coefficients on the treatment and only country control is statistically significant.

The interaction term causes the coefficient on the treatment variable and its significance to decline (Model 5: $\beta=0.94$, $p<0.05$, Model 6: $\beta=0.55$, p=insig). However, the joint effect of treatment and the interaction term is strongly significant (Model 5: $Chi^2=18.26$, $p<0.001$, Model 6: $Chi^2=17.56$, $p<0.001$). The net marginal effect of treatment, estimated using the mean value for the prior probability of compliance of 0.17, is slightly lower than the values estimated by Models 1 to 4 without interaction effects but still substantial (Model 5: 0.16+(0.39*0.17)=0.23 and Model 6: 0.09+(0.61*0.17)=0.19). Further, when I control for industry and country, the coefficient on the interaction term becomes marginally significant (Model 6: $\beta=3.80$, $p<0.10$) and has a substantial marginal effect of 0.61, albeit also marginally significant. I therefore find a weak support for H1b, in that engagement may be more efficient for firms which were closer to complying anyway. A possible explanation for that could be that if a company chooses to establish a strong anti-bribery environment, possibly at the expense of a business lost to unethical competition, it would want to communicate its efforts to stakeholders to gain most benefits from the index membership and compliance, and would therefore respond particularly well to FTSE's contact. However, given that the result is weak these conclusions should be treated with caution. Most importantly, the results show that treatment has a substantial positive impact on compliance.

4.4.2 Propensity Score Matching Tests of the Joint Engagement and Exclusion Effect

Table 4.3 presents results of the analysis of the impact of treatment on compliance using propensity score matching. This approach explicitly aims at overcoming sample selection bias, in that the treatment and control groups may have different characteristics apart from treatment itself and may therefore not be comparable. According to this method, I first estimate the propensity to receive treatment as a function of compliance with another FTSE requirement related to environmental management and industry and country controls. I then contrast compliance in 2009 using different matching techniques, i.e. nearest neighbour, three nearest neighbours, three nearest neighbours with propensity to treatment within plus or minus 0.001, all companies with propensity to treatment within plus or minus 0.001 and kernel matching procedure where the result for the control firms is averaged with the weights based on the propensity scores. I also re-estimate the statistical significance using bootstrapping techniques with 50 iterations and the results are consistent. Since matching approaches with stricter boundaries of the propensity score leave some treatment firms unmatched, I also report the sample sizes for each approach. This technique thus ensures that only those treated firms that I can construct the comparable counterfactual case for are analysed.

The results demonstrate that, with the exception of the matching with the nearest neighbour, the average treatment effect on the treated (ATT) is positive and significant providing support for H1a (Model 1: ATT=0.22, p=insig, Model 2: ATT=0.33, $p<0.01$, Model 3: ATT=0.42, $p<0.01$, Model 4: ATT=0.33, $p<0.01$, Model 5: ATT=0.32, $p<0.001$). When I compare the ATT with the marginal effects estimated from the regression analysis, I find that they are consistent, in that the treatment increases the probability of compliance by about 30 percent.

TABLE 4.3
Analysis of the Joint Engagement and Deletion Threat Effect Using Propensity Score Matching

Matching	ATT			t-statistic	Treatment	Control
	Treatment	Control	Diff.			
Unmatched	0.66	0.19	0.47	9.98***		
Model 1: Nearest (n1)	0.66	0.44	0.22	1.37	108	249
Bootstrapped			0.22	1.27		
Model 2: Nearest (n3)	0.66	0.33	0.33	3.05**	108	249
Bootstrapped			0.32	2.92**		
Model 3: Nearest (n3) Caliper (0.001)	0.67	0.25	0.42	3.10**	51	249
Bootstrapped			0.42	2.99**		
Model 4: Radius, (0.001)	0.67	0.34	0.33	3.03**	51	249
Bootstrapped			0.33	2.36*		
Model 5: Kernel	0.66	0.34	0.32	3.88***	108	249
Bootstrapped			0.33	3.28**		

Impact of Matching on Incentive Variables						
		Treated	Control	%Bias	% Change	t-statistic
P.Ind08	Unmatched	0.61	0.26	152.7		13.11***
	Matched	0.55	0.47	34.1	77.6	1.75†
Ownership	Unmatched	0.22	0.37	-33.7		-2.89***
	Matched	0.18	0.27	-19.7	41.4	-1.08
Governance	Unmatched	0.52	0.53	-2.7		-0.23
	Matched	0.42	0.39	10.5	-288.6	0.51
Economy	Unmatched	0.64	0.28	77.3		6.91***
	Matched	0.69	0.71	-4.7	94.0	-0.24

This table presents the results of the test of the treatment using propensity score matching. I use nearest neighbour matching, radius matching and kernel matching methods to test whether the treatment has an effect on compliance with the FTSE4Good countering bribery criteria. ATT denotes average treatment effect on the treated group regarding the outcome (compliance). T-statistic is the result for the average treatment effect. Treatment presents the number of companies subject to engagement and threatened with exclusion. Control denotes the matched companies that were not engaged with and did not face the deletion threat. The second panel reports the distribution of the incentive variables before and after the matching process using radius matching. I report the means of treated and control sample unmatched and matched, the pre-matching and post-matching bias, the reduction in that bias achieved by matching and the t-test of difference in means before and after matching. † $p < .10$, * $p < .05$, ** $p < .01$,*** $p < .001$

Given that in the incentive-related hypotheses I predict that both compliance and the response to engagement may be conditioned by the expected index membership, ownership, institutional setting of the economy and internal governance system, I check distribution of these characteristics in the two groups. In Table 4.3 I report these variables for radius matching, however they are consistent for all matching techniques. The results indeed suggest that there are significant differences between

matched firms. In the unreported analysis I re-estimate the propensity score including the incentive variables and repeat the matching process. This eliminates the differences in the incentives factors between the groups but the results remain consistent with the parsimonious approach. Finally, to shed some further light on the weak finding in the regression analysis regarding the coefficient on the interaction term between treatment and the prior probability of compliance, I perform propensity score matching separately for the firms with the prior probability of compliance above and below an average (i.e. 0.5). The results reveal that for the firms with the above average probability of compliance the difference in compliance rate is about 50 percent compared to about 30 percent for the firms with the lower than the average probability of compliance. However, given that there are only 8 treated firms with the higher prior probability of compliance out of 110, on the whole I can conclude that the engagement did not only work well for 'easier' cases of firms with the higher prior likelihood of meeting the anti-bribery criteria.

4.4.3 Tests of Incentives and Constraints

In Tables 4.4 and 4.5 I introduce a set of incentives and/or constraints which may have an impact on company's efforts to comply with FTSE4Good anti-bribery standards. In Table 4.4 I test the effect of a) expected index membership which reflects the net benefits from inclusion in the index, b) external governance by blockholders with equity closely held rather than used for trading, c) institutional environment and d) independent assessment of the internal governance. I first include each of the incentives separately in Models 1 to 10. For each of the incentives I also interact the main effect with the treatment variable to assess the impact of the incentives on the engagement efficiency. Finally, Models 9 and 10 present all incentives together, with and without interaction terms.

4.4.3.1 The Impact of Index Membership

The results suggest that expected index membership is positively related to compliance (Model 1: $\beta=1.55$, $p<0.05$) and where I also have the interaction of index

membership and engagement, the main effect is marginally significant (Model 2: β=1.36, p<0.10). In the latter case, however, the joint main and interaction effect of index membership is significant (Model 2: Chi^2=6.24, p<0.05). Inclusion of the interaction term causes a decline in the statistical significance of the treatment variable (Model 2: β=0.82, p=insig) but the joint effect of all engagement-related variables remains significant (Model 2: Chi^2=7.71, p<0.05). I interpret this result as indicating that, to the extent that the expected index membership estimate reflects the net benefits of inclusion in the index and associated potential costs of exclusion, both engagement and the threat of exclusion stimulate compliance and their influences are independent. I therefore find support for H2a but not H2b.

4.4.3.2 The Impact of Concentrated Ownership

Here I find that closely held ownership negatively influences compliance (Model 3: β=-0.81, p<0.05, Model 4: β=-1.07, p<0.05) but does not moderate the effect of treatment as the interaction term is not significant (Model 4: β=0.62, p=insig). The joint effect of the main ownership variable and the interaction term is marginally significant (Model 4: Chi^2=5.70, p<0.10) and in both models the main engagement coefficient is strongly positive and significant (Model 3: β=1.43, p<0.01, Model 4: β=1.29, p<0.01). When I examine blockholdings by corporations, institutions, families and the government separately, I find that concentrated corporate ownership is significantly negatively related to compliance as well as government ownership, albeit marginally so. Both family and institutional blockholdings have a tentative negative but insignificant association. I therefore find empirical support for H3a but not H3b. While presence of entrenched blockholders may hinder company's motivation to comply with FTSE4Good anti-bribery requirements, a constructive dialogue between FTSE and a company management may still lead to improvements in corporate anti-bribery standards.

TABLE 4.4
Tests of Incentives and Constraints

	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)	(Model 7)	(Model 8)	(Model 9)	(Model 10)
Intercept	-2.24***	-2.19***	-1.66***	-1.60***	-1.79***	-1.82***	-3.22***	-3.25***	-3.55***	-3.68***
	(4.45)	(4.41)	(5.43)	(5.16)	(4.36)	(4.21)	(6.05)	(4.44)	(5.80)	(5.18)
Engage	1.07**	0.82	1.43**	1.29***	1.55***	1.88***	1.42***	1.47*	1.12**	1.41†
	(2.65)	(1.43)	(3.22)	(3.37)	(3.67)	(3.46)	(3.89)	(2.19)	(2.83)	(1.85)
P.Meet07	2.10	2.08	1.92	1.92	1.61	1.49	-1.95	-1.93	-2.35	-2.32
	(1.22)	(1.20)	(1.46)	(1.46)	(1.10)	(0.96)	(1.19)	(1.12)	(1.24)	(1.18)
Environment	0.37	0.40	0.61	0.60	0.90	0.83	1.64***	1.65***	1.64**	1.63**
	(0.65)	(0.70)	(1.22)	(1.21)	(1.55)	(1.61)	(3.40)	(3.52)	(2.81)	(2.94)
P.Ind07	1.55*	1.36†							1.34*	1.19
	(2.54)	(1.86)							(2.09)	(1.19)
P.Ind07 * Engage		0.48								0.38
		(0.41)								(0.22)
Ownership			-0.81*	-1.07*					-0.01	-0.07
			(2.31)	(2.03)					(0.03)	(0.18)
Ownership * Engage				0.62						0.17
				(0.82)						(0.25)
Economy					-0.56†	-0.32			-0.20	-0.05
					(1.89)	(0.65)			(0.41)	(0.06)

Economy *						-0.54				-0.38
Engage						(0.82)				(0.37)
Governance							2.75***	2.79**	2.86***	3.08**
							(4.01)	(2.81)	(3.45)	(2.87)
Governance *								-0.09		-0.56
Engage								(0.09)		(0.50)
Wald-Chi^2										
Full Model	37.36***	50.34***	41.67***	46.80***	46.28***	62.98***	57.75***	57.59***	54.47***	1013.27***
All Engagement	7.02**	7.71*	10.34**	11.47**	13.44***	20.21***	15.12***	14.62***	8.01**	29.91***
All Incentives	6.46*	6.24*	5.32*	5.70†	3.56†	6.81*	16.08***	21.10***	38.62***	99.69***
Observations	318	318	340	340	340	340	301	301	288	288
Pseudo-R^2	0.20	0.20	0.20	0.21	0.19	0.20	0.24	0.24	0.26	0.26

This table presents the results of a logistic regression of compliance with countering bribery criteria in 2009. The independent variables are engagement from FTSE (Engage), the prior probability of complying with the new criteria (P.Meet07), meeting environmental management criteria (Environment), the prior probability of being included in the FTSE4Good index (P.Ind07), the percentage of closely-held equity (Ownership), domicile in a CME (Economy) and the ASSET4 assessment of corporate governance (Governance). I also present Wald-Chi^2 estimates of the significance of a) the full model, b) the engagement variables plus any interaction terms and c) all incentive variables plus any interaction terms. The absolute t-statistics are given underneath in parentheses. All standard errors are robust and are clustered by country. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

4.4.3.3 The Impact of Institutional Context

Model 5 suggests a negative relationship between being domiciled in a coordinated market economy and complying with FTSE4Good anti-bribery criteria but the coefficient is only marginally significant (Model 7: β=-0.56, $p<0.10$). When I test the effect of the economy on engagement, I find that the coefficient is insignificant but the two incentive variables are collectively significant (Model 6: Chi2=6.81, $p<0.05$). In an unreported analysis I follow Mackenzie et al. (2013) and include the ratio of market capitalisation to GDP (La Porta et al., 1997) and the anti-self-dealing index (Djankov et al., 2008) and find that both are positively related to compliance but the market capitalisation to GDP is insignificant. I then apply propensity score matching to clarify the relationship and find that for coordinated market economies treatment increased the probability of compliance from 0.32 to 0.62 and for liberal market economies from 0.38 to 0.73. Both differences are statistically significant supporting the tentative negative main effect of being domiciled in a CME revealed by the regression analysis. I therefore have some support for H4a. However, the results from both methods do not give evidence to accept H4b.

4.4.3.4 The Impact of Corporate Governance

The results suggest that governance is significantly positively associated with compliance when looking at the main effect only (Model 7: β=2.75, $p<0.001$, Model 8: β=2.79, $p<0.001$) and together with the interaction term with treatment (Model 8: Chi^2=21.10, $p<0.001$). I also find that good governance stimulates compliance independently from engagement as the engagement variable is positive and significant in both models (Model 7: β=1.42, $p<0.001$, Model 8: β=1.47, $p<0.05$) and the decline of statistical significance in Model 8 may be misleading as taken together the engagement variable and the interaction term are strongly significant (Model 8: Chi^2=14.62, $p<0.001$). Interestingly, the interaction term, although insignificant, has a negative coefficient suggesting that well-governed firms do not require additional encouragement regarding anti-bribery measures. When I study the effect of the governance attributes including CEO-Chairman separation, the number of outside

directors and the board size (Arora & Dharwadkar, 2011; Jo & Harjoto, 2011; Judge et al., 2010), I find that CEO-Chairman separation and the proportion of non-executive directors are both positively and significantly associated with compliance while the board size has a positive sign but is insignificant. Overall, the results support H5a but not H5b.

4.4.3.5 The Impact of All Incentives

In Models 9 and 10 I include all incentives together. The results for the main effects of expected index membership and internal governance remain consistent with individual estimations. Taken together, all engagement-related variables are jointly significant (Model 10: Chi^2=8.01, p<0.01) and so are all incentive-related variables (Model 9: Chi^2=38.62, p<0.001, Model 10: Chi^2=99.69, p<0.001). The other constraint related to the presence of powerful undiversified blockholders appears to lose significance when other incentives are included (Model 9: β=-0.01, p=insig, Model 10: β=-0.07, p=insig). I therefore cannot make robust conclusions regarding this particular constraint. The coefficient of the economy variable also becomes insignificant (Model 9: β=-0.20, p=insig, Model 10: β=-0.05, p=insig). This could be driven by the strong correlation between economy and governance variables (Table 4.1, ρ=-0.58). Therefore any conclusions regarding the impact of the economy should be viewed with caution. Most importantly, the results demonstrate that both engagement from the index and membership in the index itself contribute to stimulating compliance with countering bribery standards. Further, higher internal governance assessment is associated with better compliance which is in line with the view that countering bribery standards could be regarded as one of the attributes of robust corporate governance (Ramdani & van Witteloostujn, 2012).

4.4.4 Test of the Effect of Ethical Controversies

Table 4.5 reports the results of the test where I include presence of an ethical controversy reported in the media. In Model 1 I include controversy along with the main treatment variable and the controls and I additionally include the interaction

term between controversy and engagement in Model 2. I do the same in Models 3 and 4 but also include the other incentive variables.

The results suggest that being in the media spotlight because of an ethical controversy before or during the engagement process is significantly positively associated with compliance (Model 1: $\beta=0.96$, $p<0.01$). When the interaction term is introduced, the significance of the main effect declines (Model 2: $\beta=0.80$, $p<0.10$) and the coefficient of the interaction term is also positive and marginally significant (Model 2: $\beta=0.74$, $p<0.10$). These results give some support for H6a and weak support for H6b. Having an ethical controversy and the associated reputational concerns encourages compliance and stimulates the dialogue between management and FTSE.

When the other incentives are included, the main effect remains positive and significant (Model 3: $\beta=0.91$, $p<0.05$) but the interaction term becomes insignificant (Model 4: $\beta=0.47$, p=insig). I therefore do not find reliable support for H5b. The results for the other incentive variables are consistent with the previous test of incentives, and in all model specifications engagement is positive and significant (Model 1: $\beta=1.31$, $p<0.01$, Model 2: $\beta=1.30$, $p<0.01$, Model 3: $\beta=1.22$, $p<0.01$, Model 4: $\beta=1.13$, $p<0.05$). Overall, the results suggest that reputational concerns and potential negative stakeholder attention may motivate the company to comply more readily.

TABLE 4.5
Test of the Effect of Ethical Controversies

	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Intercept	-4.24***	-1.84***	-3.34***	-3.29***
	(5.94)	(6.28)	(5.57)	(5.30)
Engage	1.31**	1.30**	1.22**	1.13*
	(2.82)	(2.89)	(2.74)	(2.49)
P.Meet07	0.59	1.13	-2.04	-1.99
	(0.44)	(0.86)	(1.18)	(1.15)
Environment	0.77*	0.75	1.66**	1.63**
	(1.99)	(1.56)	(2.72)	(2.70)
Controversy	0.96**	0.80†	0.91*	0.77†
	(2.79)	(1.88)	(2.23)	(1.80)
Controversy*Engage		0.74†		0.47
		(1.70)		(1.05)
P.Ind07			1.16*	1.15*
			(2.09)	(2.06)
Ownership			0.01	0.00
			(0.02)	(0.01)
Economy			-0.42	-0.39
			(0.86)	(0.80)
Governance			2.20*	2.19*
			(2.52)	(2.50)
Industry/Country	Yes	No	No	No
Wald-Chi^2				
Full Model	66.05***	39.42***	209.85***	210.04***
All Engagement	7.98**	10.18**	7.53**	8.54*
All Incentives	7.78**	5.77†	56.24***	98.62***
Observations	276	276	263	263
Pseudo-R^2	0.24	0.20	0.25	0.26

This table presents the results of a logistic regression of meeting countering bribery criteria in 2009. The independent variables are engagement from FTSE (Engage), the prior probability of compliance (P.Meet07), meeting environmental management criteria (Environment), an ethical (Controversy), the prior probability of being included in the FTSE4Good index (P.Ind07), closely-held equity (Ownership), domicile in a CME (Economy) and corporate governance (Governance). I also present Wald-Chi^2 estimates of the significance of a) the full model, b) the engagement variables plus any interaction terms and c) all incentive variables plus any interaction terms. The absolute t-statistics are given underneath in parentheses. All standard errors are robust and are clustered by country. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

4.4.5 Test of the Engagement Effect on Good and Best Practice in Controlling Bribery

To test whether any FTSE engagement effect was substantial, I examine the impact of the treatment on the firm's countering bribery score. I collect the data on the scores from FTSE4Good ESG ratings (FTSE, 2011). These ratings were introduced by FTSE in 2011 in addition to the FTSE4Good index itself to provide a more detailed assessment of companies' risk and performance with regards to a range of environmental, social and governance issues. At the moment of ratings introduction (April 2011) only high risk companies were assessed for anti-bribery measures based on the FTSE4Good index criteria and a performance score of 0, 1, 2, 3, 4 or 5 was awarded. Membership in the index corresponded to the score 3 or higher. Using the scores allows to test a) whether treatment effect was persistent for at least two years or if it was transitory to stimulate faster compliance and b) whether treatment encouraged minimum compliance with the criteria to gain membership in the index or whether the changes were more substantive. For example, to achieve the score of 4 or 5 a company would not only have to make explicit commitment to prohibiting bribes and restricting facilitation payments but would also have to exhibit transparency of political donations and commitment at board level. In management systems best practice included a detailed sanctions procedure and the extent of reporting was also increased.

Here again I rely on the index criteria to represent strong anti-bribery standards. However, having a written code of ethics is shown to be associated with significantly less tolerance for bribery (McKinney & Moore, 2008). Further, the index criteria systematise various provisions related to policy, management systems and reporting such as codes being signed by executives, internal monitoring and training and reference to punitive actions in case of non-compliance, which are found to constitute proactive management's approach to combating bribery and corruption (Gordon & Miyake, 2001). The main reputational benefits however would come from the index membership so I expect compliance beyond that to be driven by the managements' ethical or strategic reasons (Benabou & Tirole, 2010).

TABLE 4.5
Tests of Engagement Effect on the FTSE4Good Countering Bribery Rating

	(Column 1) Good Practice	(Column 2) Best Practice	(Column 3) Good Practice	(Column 4) Best Practice
Intercept	-7.57***	-9.15***	-4.23***	-5.71***
	(4.34)	(5.01)	(12.87)	(11.27)
Engage	1.63***	0.32	1.83***	0.01
	(4.01)	(1.11)	(4.53)	(0.03)
Environment	0.79***	0.79***	0.72	0.72
	(2.79)	(2.79)	(1.41)	(1.41)
Ind.Practice	1.60	1.60		
	(1.42)	(1.42)		
Co.Practice	1.99***	1.99***		
	(6.97)	(6.97)		
P.Ind07			1.07*	1.07*
			(2.28)	(2.28)
Ownership			-0.21	-0.21
			(0.80)	(0.80)
Economy			0.63†	0.63†
			(1.77)	(1.77)
Governance			3.67***	3.67***
			(9.01)	(9.01)
Controversy			0.50*	0.50*
			(2.09)	(2.09)
Wald-Chi^2				
Full Model	437.86***	437.86***	303.27***	303.27***
All Incentives			207.20***	207.20***
Observations	234	234	234	234
Pseudo-R^2	0.19	0.19	0.25	0.25

This table presents the results of a generalised ordered logit model of treatment effect on anti-bribery practice in 2011. The dependent variable is the countering bribery practice (weak, good or best). The independent variables are engagement from FTSE (Engage), meeting FTSE4Good environmental management criteria (Environment), mean anti-bribery practice in the industry (Ind.Practice) and country (Co.Practice), the prior probability of being included in the FTSE4Good index (P.Ind07), the percentage of closely-held equity (Ownership), domicile in a CME (Economy), corporate governance (Governance) and ethical controversy (Controversy). I also present Wald-Chi^2 estimates of the significance of a) the full model and c) all incentive variables. The absolute t-statistics are given underneath in parentheses. All standard errors are robust and are clustered by country.
† p < .10, * p < .05, ** p < .01, *** p < .001

Due to a relatively small sample I aggregate the scores in three groups so the dependent variable, countering bribery practice, consists of three categories: weak

practices (scores 0 to 2), good practice (score 3) and best practice (score 4). I treat these three categories as ordinal, i.e. having an order (weak, good, best) with unknown distances between them (Dawkins & Fraas, 2011). I then apply generalised ordered logit model to test the impact of treatment on the firm's countering bribery practice in 2011. This model follows the logic of the ordinal regression analysis but allows the coefficients on the explanatory variables to differ among comparisons of the categories (Long & Freese, 2006; Williams, 2010). Crucially, using this model it is possible to test whether FTSE engagement was equally efficient in encouraging companies to meet the minimum requirements necessary to be included in FTSE4Good or whether it additionally stimulated companies to adopt anti-bribery measures consistent with FTSE's assessment of best practice in restricting bribery.

Table 4.5 reports the results. In columns 1 and 2 I use the model specification from the main test of the treatment effect on compliance and include the treatment variable, complying with environmental management requirements and industry and country controls. In a similar test for environmental management criteria Mackenzie et al. (2013) include the components used to estimate the prior probability rather than the probability itself. Their rationale is that propensity to comply in 2002 would have less and less impact on compliance up to 2010. I follow this approach and do not include prior probability of meeting countering bribery criteria in the model. However, when I test the sensitivity of the findings to inclusion of this variable, the results remain qualitatively similar.

The coefficient on the engagement variable is positive and significant when assessing meeting good practice (Column 1: $\beta=1.63$, $p<0.001$) but not when testing compliance with the best practice (Column 1: $\beta=0.32$, p=insig). This result is consistent with the view suggesting the importance for management of the reputational benefits from the index membership, either for personal reasons or to communicate their CSR activities to stakeholders. The strong influence of the country norm is in line with prior studies discussing the importance of the regulatory, cultural and institutional environment in a country (Chen et al., 2008; Martin et al., 2007).

When I include other incentives, I find that engagement is still effective in encouraging good practice (Column 3: β=1.83, $p<0.001$) but again becomes insignificant when I assess meeting best practice requirements (Column 4: β=0.01, p=insig). Here I find that the peer pressure reflected in the probability of comparable companies to be in the index is significant and positive for both good and best practice (Columns 3&4: β=1.07, $p<0.001$), concentrated ownership suggests negative influence but is insignificant, good governance is strongly positively related to both good and best practice (Columns 3&4: β=3.67, $p<0.001$) and prior controversy is also positively associated with implementing stronger anti-bribery practices (Columns 3&4: β=0.50, $p<0.05$). The positive though only marginally significant coefficient for the economy variable is not consistent with the findings from the test of incentives and compliance. However, recalling the correlation between economy and governance variables, I test whether the coefficient is sensitive to the inclusion of the governance variable and find that it is, and without the governance variable included the coefficient on the economy becomes negative and insignificant. I therefore do not make any conclusions regarding the explicit impact of the economy type. Taken together, the results suggest that overall the index is effective in promoting stronger policies, management systems and reporting preventing bribery. While the dialogue is efficient in encouraging companies to adopt practices in line with good international anti-bribery standards, the index itself and the peer pressure to be included stimulates both good compliance and best practice. Finally, the results suggest that the engagement effect persisted for at least two years.

4.5 Discussion and Conclusion

Prior research has demonstrated that institutional investors do not yet have a strong beneficial impact on corporate social responsibility although the trend of social activism by these owners is increasing and there is evidence of individual successful efforts. Among various CSR initiatives, instigating strong commitment to combating bribery is a particular challenge given the risks of losing contracts to unethical competition and the ever-present justification of the illegal payments as ‘necessary’. Using an experimental setting on a sample of 340 internationally and industrially

diverse companies, this study examines the impact of engagement by a responsible investment index on the probability that a company will implement controlling bribery policies, management systems and reporting within the two-year period. Additionally, this chapter analyses the possible drivers of compliance and engagement related to the competitive environment, influential ownership, institutional context, internal governance and prior ethical controversies. Finally, I investigate whether the index was effective in prompting good practice of countering bribery among companies or also best practice.

The results suggest that companies which received contact from the index and were in danger of public exclusion were considerably more likely to comply with the FTSE4Good countering bribery criteria. This is consistent with management on the whole supporting CSR investment due to potential personal or strategic benefits from both CSR enhancement itself and compliance with an international standard (Barnea & Rubin, 2010; McWilliams & Siegel, 2001; Slager et al., 2012; Young & Marais, 2012).

The results further demonstrate that the dialogue and the exclusion threat influenced compliance independently. Further, the findings suggest that entrenched owners negatively influence management decisions regarding restricting bribery. However, strategic ownership did not hinder the positive impact of the engagement. Companies were also more likely to comply if they came from liberal market economies and had stronger internal governance. This is consistent with anti-bribery provisions being associated with good overall governance, lower information asymmetry and better protection of property rights with higher exposure of illegal behaviour by the government officials. Finally, the results show that the positive effect of the index, whether the dialogue or the potential benefits of the index membership, lasted for at least two years and resulted in companies adopting a wider range of anti-bribery provisions than the minimum to keep index membership.

It is not possible to postulate that the index activity would compel any company to abstain from engaging in illegal transactions, however it is likely to shift companies

in the right direction with regards to corporate management practices to combat bribery as it requires enhanced policies, management systems and reporting. Most importantly, the results demonstrate that for the institutional investor engagement through an index could be an effective route to challenge corporate ethical practices.

Chapter 5 Stirring Response to Climate Change: the Impact of a Responsible Investment Index

5.1 Introduction

I investigate whether through engagement and the reputational threat of exclusion a responsible investment index can motivate companies to adopt a set of practices aimed at reducing corporate impact on climate change. Prior evidence suggests that the index is able to encourage companies to advance their environmental management and that these improvements are persistent (Mackenzie et al., 2013). However, climate change arguably constitutes the largest market failure with consequences affecting the world at large yet urgency not fully recognised (Sullivan & Mackenzie, 2008; Rees & Rodionova, 2012). Socially responsible investors as well as large 'universal owners' do encourage companies to reduce emissions and adopt proactive climate change strategies (Kiernan, 2007; Dimson et al., 2012). These investors also lobby for more stringent and efficient legislation on corporate emissions (Sullivan & Mackenzie, 2008). Yet evidence suggests that *"the campaign to improve CSR via institutional investment has some way to go before it is effective"* (Rees and Rodionova, 2012: 238). Meanwhile, undiversified owners such as families and corporations are likely to resist investments in climate change mitigating activities considering them predominantly a source of large costs with uncertain benefits and large scope for managerial discretion.

Since the issue of climate change consequences is by no means fading away and is becoming more pressing (Bloomberg, 2013; PWC, 2013; Stern Report, 2006), this study explores the effect of a particular engagement approach by institutional investors via a responsible investment index. Such a strategy brings together collective expertise by investors, NGOs, academics and CSR experts and simultaneously challenges corporate reputation via company's membership in the index. This study examines whether a) such engagement allied with exclusion threat is efficient in stimulating compliance with requested climate change criteria, b) whether the two elements have individual influence and how they interact and c) how

external and internal governance systems affect compliance and management's response to engagement.

I address these questions using a unique dataset of recorded assessment of all companies from FTSE All-World Developed Index at the introduction of the new climate change criteria by FTSE and the subsequent evaluation of compliance in 2010. This data offers a natural experiment where all companies with substantial climate footprint which were members of the FTSE4Good in 2008 and did not immediately meet the introduced climate change requirements received extensive engagement from FTSE. These companies therefore formed the treatment group. The engagement aimed to facilitate corporate development of the required strategies and challenged corporate reputation by the explicit notification of the potential exclusion from the index if a company fails to implement the necessary practices by 2010. Similarly, high impact firms from FTSE All-World Developed Index which were not members of the FTSE4Good in 2008 formed the control group. These companies did not face exclusion and did not receive engagement from FTSE. I contrast the response by treated and control firms to the criteria and further examine compliance in different governance contexts.

I use a sample of 470 companies from 24 countries and find that the index engagement reinforced by the threat of expulsion has substantially increased the probability that a firm will develop the required climate change mitigating strategies within the two-year period 2008 to 2010. When I attempt to separate the engagement effect from the pressure to stay in the index assuming that companies which were expected to be members a) had relative benefits to do so and b) faced peer pressure to keep/gain their membership, I find that the latter did not independently stimulate compliance. This is consistent with the dialogue playing a role in promoting compliance while the reputation threat associated with exclusion and competitive pressure did not. However, engagement was more efficient for companies which did not themselves have the incentive to keep their membership. This indicates that to a certain extent engagement and the competition pressure can be viewed as substituting forces. With regards to the governance effect, the results reveal the negative

influence of strategic ownership on compliance, positive though weak impact of companies coming from coordinated market economies and strong negative influence of internal governance. While one cannot state that meeting FTSE4Good climate change criteria would necessarily result in significant emission reduction by the companies, I do find a tentative correlation between compliance and positive changes in corporate emission reduction efforts.

These findings therefore contribute to the understanding as to how challenges in promoting 'social', or 'external', CSR in general and climate-related programmes in particular are embedded in the context reflected in agency theory. While the impact of the engagement combined with the reputational threat is consistent with institutional pressures influencing management decision making, agency theory helps explain how the owners are still viewing such CSR investments as a potential cost and how good governance does not reconcile 'external' CSR expenditures and shareholder interests. Nevertheless, the findings suggest that responsible investors may wish to consider advancing their engagement approach by using the index membership and the engagement by the index provider.

5.2 Prior Research and Hypotheses

5.2.1 Climate Change and Engagement

Despite climate change regulation facing as many challenges as ever (FT, 2013), the importance of the issue is indisputable (Stern, 2006). In turn, academic research has developed an extensive discussion of the implications for business of mismanagement of climate change-related risks. These involve damage caused by severe weather events such as floods and hurricanes which imply both direct costs and increased insurance premium (Lash & Wellington, 2007; Sullivan and Mackenzie, 2008). Other firm risks result from the new legislation related to emission reduction, pressure from CSR-conscious consumers, investors and employees, competition from more environmentally advanced manufacturers and, on a larger scale, political and social instability due to food shortages linked to the

climate change effects (Lash & Wellington, 2007; Reinhardt 1999). Different studies focus on some or all of the above and offer evidence as to how to turn these risks into opportunities. These range from innovation and hence lower costs of inputs, processes and products, to enhanced corporate reputation among consumers, responsible investors and other stakeholders (Boyd, 1998; King & Lenox, 2002; Kolk & Pinkse, 2004). The overall emerging consensus is that corporations should include governance of climate change risks in their management strategy.

However, given its long-term nature, imprecise estimates and risks being in the supply chain, climate change constitutes the largest market failure where the goals of corporations are not aligned with the interests of society at large (Stern, 2006; Sullivan & Mackenzie, 2008). What is undeniable though is that adjusting the business to the low-carbon reality requires substantial costs in the short term while potential benefits from emission reduction are not always straightforward (Hart & Ahuja, 1996; Mackenzie & Ascui, 2009). As such, climate change is an 'external', or 'social', CSR investment (Judge et al., 2010; Rees & Mackenzie, 2011; Rees & Rodionova, 2012).

Nevertheless, institutional investors increasingly want companies to address climate change-related risks and actively engage on this matter which is reflected, for example, in more and more institutions joining voluntary initiatives such as the United Nations Principles for Responsible Investment or the Carbon Disclosure Project. Some institutions, such as CalPERS and other largest pension funds, do so in their position as 'universal owners' where their portfolio represents the global economy and excessive greenhouse gas emissions in one part of the world may have consequences in another (Gjessing & Syse, 2007). These investors perceive managing climate change risks to be in line with their fiduciary duty to provide long-term returns. Other institutions may just take an ethical stand while others may hope to outperform (Barber, 2007; Dimson et al., 2012). In line with the discussions in management literature, most of the engagement is conducted based on the assumption that there is a 'business case' for companies with improved environmental performance (Sullivan & Mackenzie, 2008). While direct evidence of

the superior financial performance by socially responsible investments remains mixed (Barnett & Salomon, 2006; Renneboog et al., 2008), engagement on environmental, social and governance issues is shown to bring about returns to investors (Dimson et al., 2012).

From the shareholder perspective, requesting enhanced environmental performance is economically sound if it results in higher firm value or lower business risk (Reinhardt, 1999). Further, the choice of engagement strategy depends on the associated costs as indicated by some of the large US pension funds (Del Guercio & Hawkins, 1999). Among engagements on governance by Hermes UK Focus Fund, a UK activist hedge fund, a substantial proportion were confrontational and lasted over 1,200 days (Becht et al., 2009) which implicitly suggests non-trivial costs. In addition, climate change is a complex issue and conducting meaningful engagement may be expensive and not feasible due to particular expertise required and an extensive number of companies in the portfolios of the institutional investors (Gifford, 2010). Cases of the largest institutions such as ABP and CalPERS present successful engagement stories, yet on the whole institutions are shown to have little influence over corporate social and environmental practices (Rees & Rodionova, 2012) and it remains unclear to which extent they do monitor management (Starks, 2009). Meanwhile, undiversified influential investors such as families and corporations may effectively obstruct investment in 'external' CSR such as climate change practices.

Evidence on successful engagement has mostly been related to corporate governance matters. Pension funds are shown to effect changes in anti-takeover and board matters via shareholder proposals (Del Guercio & Hawkins, 1999). Further, hedge funds are shown to influence various corporate governance aspects of the target firms through shareholder resolutions (Brav et al., 2008; Klein & Zur, 2009; Thomas & Cotter, 2007) or dialogue with management (Becht et al., 2009). Regarding corporate social responsibility, there is some evidence to suggest that institutional investors may successfully engage with companies on climate change issues, both via shareholder resolutions (Reid & Toffel, 2009) and private negotiations (Dimson et al.,

2012). In the latter case, the authors find that successful engagements on CSR issues generated cumulative abnormal returns of 4.4 percent and the positive market response was most pronounced for climate change and corporate governance topics. However, on average CSR-related proposals may still be struggling to gain support from other shareholders or to result in management action (Thomas & Cotter, 2007).

Another way of engaging is via institutional mechanisms such as a responsible investment index. Emerging evidence suggests that management is increasingly taking into consideration CSR ratings in general (Chatterji & Toffel, 2010). With regards to the environmental management, Mackenzie et al. (2013) show that engagement by a responsible investment index reinforced by the threat of public expulsion from the index has doubled the propensity to adopt more stringent environmental management provisions within the two-year period. Investor collaboration is generally being promoted, although many institutions choose not to coordinate their activist campaigns mostly because of the legal considerations (McCahery et al., 2009). In the institutional context where responsible investors may still be struggling to have their voices heard by other investors and management, the index engagement offers a mechanism of collaborative investor action on CSR matters.

5.2.2 FTSE4Good Climate Change Criteria and the Engagement Process

FTSE4Good Climate Change criteria were introduced in 2008 and aimed to lead companies towards reducing their climate change impact. As with the other criteria, these were formulated by an independent Policy Committee involving responsible investors, academics, CSR and industry experts, and reflected wider consultation with asset managers, institutional and private investors, NGOs, governmental bodies and business associations (FTSE, 2010). Such a process is consistent with the argument that investor-driven CSR indices reflect investors' expectations and what they perceive to be important issues (Starks, 2009). The criteria addressed policy, management, disclosure and performance (FTSE, 2010). In recognition of the challenge for the management to implement a strategy of reducing carbon intensity,

the criteria had to be realistic; however, by targeting all key aspects of management they were arguably still more demanding than low-cost actions requested by investors individually, and could help attract management's attention to climate change risks (Sullivan & Mackenzie, 2008). Overall, the requirements set up by FTSE are consistent with what prior research has found to be a proactive management approach to climate change (Lash & Wellington, 2007; Sharma & Vredenburg, 1998; Sundin et al., 2009). Additionally, prior studies observe the association between companies' public disclosure of environmental information (Al-Tuwaijri et al., 2004; Patten, 2002) and more specifically climate change disclosure (Dawkins & Fraas, 2011) and environmental performance.

FTSE4Good climate change criteria targeted all companies from FTSE All-World Developed Index which were identified as having medium or high operational and/or product impact. The impact evaluation was performed based primarily on business subsector (FTSE, 2010). Underlying research of companies was carried out by an independent data provider, Ethical Investment Research Services (EIRIS) via an annual survey, an analysis of company websites and direct contact. This information was then used by the Policy Committee to assess every six months whether a company complied with the requirements. As a result of such reviews, FTSE announces those companies who become included in the index and those who are deleted from it. The latter may impact on a company's reputation and cause adverse publicity (Collison et al., 2009). Given the reputational implications and consequently potential costs, FTSE allowed a grace period until 2010. This meant that a non-complying member of the index would receive engagement from the index and would be privately notified about the potential exclusion at the assessment in 2010. Engagement involved intensive communication with management through emails, letters, phone calls and in person meetings and involved, for example, consultation on emissions measurement, benchmarking and disclosure and reporting climate change strategies of highly diversified businesses. This is consistent with the engagement by activist hedge funds, asset managers and pension funds (Becht et al., 2009; Carleton et al., 1998; Dimson et al., 2012). For example, an engagement

sequence by the activist asset manager lasted on average 1.5 years (Dimson et al., 2012).

Given their extensive involvement in setting up the criteria and navigating the index approach to the engagement, such an activism strategy offers an instrument of collaborative investor action on CSR matters. While the costs and benefits of CSR-related activism for smaller investors may make it not economically justified or even feasible, forming coalitions or using collective action may make them more efficient as monitors (Poulsen et al., 2010). Consistent with this view, Renneboog and Szilagyi (2010) observe that formation of coalitions did indeed successfully discipline managers. This evidence is primarily concerned with using the voting power but can arguably be applied to private engagement as well. For example, Becht et al. (2009) note that in more than 80 percent of cases the Hermes UK Focus Fund contacted other institutional owners though it led to collective actions only in three instances.

Apart from the dialogue itself, FTSE informed non-complying member firms about the potential deletion from the index if they do not adopt the requested practices by 2010. This levied up the dialogue via normative power and urgency (Gifford, 2010). Similarly, Del Guercio and Hawkins (1999) argue that the threat of publicity may give activist pension funds leverage with targeted companies and may even trigger a response from companies not directly targeted by activists, i.e. generate a spill-over effect. In particular, they observe that the major activists such as CalPERS and CalSTRS use publicity as part of the engagement strategy. Further evidence by Dimson et al. (2012) shows that in 40 percent of cases the engagement by the activist asset manager was triggered by public news. The alignment of the index engagement strategy with the ones observed in the institutional activism studies is not surprising given that the index and the engagement are largely influenced by the institutional investors.

5.2.3 The Effect of Index and Engagement on Managing Climate Change Risk

A low-carbon economy in some form or shape is inevitable. So the better and the earlier management responds by adjusting the business to emission constraints, the more likely the company can exploit potential competitive advantage (Lash & Wellington, 2007). Extant management literature equips managers with the knowledge as to how they could achieve this aim (Boyd, 1998; King & Lenox, 2002; Kolk & Pinkse, 2004). However, proactive climate change strategies would only present a competitive advantage if consumers and investors were aware of and rewarded such endeavours (Cox et al., 2004; Fisman et al., 2006; Kim & Lyon, 2007; McWilliams & Siegel, 2001; O'Rourke, 2003; Sparkes & Cowton, 2004). A responsible investment index along with other ratings may help promote this awareness (Chatterji & Toffel, 2010). Managers therefore could be inclined to respond to the engagement and adopt FTSE requirements to comply and remain or be included in the index to the extent that it would credibly recognise their efforts and promote their strategy among consumers, investors and other stakeholders. A positive market reaction of 10.6 percent to the engagement on climate change issues reported by Dimson et al. (2012) shows that this may be the case.

Further, companies use CSR indices and ratings to alleviate potential conflicts with stakeholders, and strong CSR, particularly 'social', rather than 'financial', may help preserve shareholder value through corporate reputation among stakeholders (Godfrey et al., 2009; Young & Marais, 2012). In this case non-compliance with a CSR standard could augment risks associated with damaged corporate reputation and consequently potential costs. Consistent with this view, Deegan et al. (2000) find that in case of an environmental disaster companies operating in related industries increased the disclosure of their environmental performance in their annual reports. Similarly, Dimson et al. (2012) observe a positive and significant relationship between the number of climate change-related lawsuits and both the probability of being targeted by an activist investor and the probability of the company implementing the required changes. Alternatively, managers may also pursue compliance beyond the legal obligations to boost their own reputation as a

responsible leader or follow their personal ethical values (Barnea & Rubin, 2010; Reinhardt, 1999). Considering either of these motivations or all of them taken together, I predict the following relationship:

> *Hypothesis 1: Firms will be more likely to meet the FTSE4Good climate change criteria if they are subject to FTSE engagement and face FTSE4Good exclusion.*

5.2.4 The Effect of Incentives and Constraints on Compliance and Engagement

Firm governance presents the setting which affects management's strategies, the relative balance of potential costs and benefits and the ability to use corporate resources to implement particular management decisions. Hence I examine the impact of governance characteristics of the firm such as expected index membership, ownership, institutional context and overall internal governance. These may both impact on corporate adoption of advanced climate change practices and the response to external engagement.

5.2.4.1 The Effect of Expected Index Membership

Prior research has emphasized the importance of a company's interactions with competitors and stakeholders (Reinhardt, 1999; Sharma & Vredenburg, 1998). Regarding the latter, management is especially keen on avoiding possible consequences of unexpected bad news (Dawkins & Fraas, 2011). Further, stakeholder's response to corporate decisions is likely to be influenced by the position of similar companies on this issue. Since membership in a responsible investment index provides a recognised benchmark of a good CSR practice, management's decision towards membership may be affected by the extent to which similar companies tend to be in the index. Management could also be concerned with possible negative implications of exclusion from the index if comparable companies are in. Whether or not membership in an index equates to strong corporate social performance, exclusion from it would signal underperformance relative to

competitors in the index and the lack of the necessary disclosure or management's commitment. In line with this view, Dimson et al. (2012) demonstrate that firms with stronger reputational concerns are more likely to implement CSR provisions requested through engagement. Similarly, firms tend to become targets of activism if they are more visible (Chung & Talaulicar, 2010). I therefore formulate the following hypothesis:

> *Hypothesis 2a. Firms will be more likely to meet the FTSE4Good climate change criteria if the expectation of the firm being included in the index based on the membership of similar firms is higher.*

> *Hypothesis 2b. The impact of engagement and threatened exclusion on the probability that a firm will meet the FTSE4Good climate change criteria will be higher where the expectation of the firm being included in the index is higher.*

5.2.4.2 The Effect of Ownership

From the owner's perspective, climate change is an external issue where the benefits are long-term and fall on society at large while costs are borne by the shareholders of the company (Sullivan & Mackenzie, 2008; Rees & Rodionova, 2012). The costs involved in rechanneling the business activity towards lower emissions are substantial (Mackenzie & Ascui, 2009) and the ability of a company to benefit directly from resulting changes beyond short-term 'low-hanging fruit' opportunities is uncertain (Hart & Ahuja, 1996). Strategic long-term owners with large shareholdings have both the incentive and the ability to closely monitor management's investment decisions (Fama & Jensen, 1983; Shleifer & Vishny, 1986, 1997). Given their power to influence management according to their interests, they may effectively prevent external social activism initiatives (Judge et al., 2010). Similarly, Carleton et al. (1998) find that firms with higher insider ownership were less likely to reach an agreement with TIAA-CREF, an activist pension fund, before proxy voting. They conclude that an insider-controlled company may not be as

concerned with the adverse publicity resulting from the proxy initiative by an activist shareholder. Along similar lines, Brav et al. (2008) note that activist hedge funds tend to target companies with higher institutional ownership rather than companies with dominant undiversified equity holders. I can, therefore, predict the following relationships:

Hypothesis 3a. Firms with high levels of strategic ownership are less likely to meet the FTSE4Good climate change criteria.

Hypothesis 3b. High levels of strategic ownership will reduce the engagement effect.

5.2.4.3 The Effect of Institutional Context

According to the institutional theory, institutional forces coming from the government, non-governmental organisations, investors and other stakeholders influence company's CSR responsiveness (Campbell, 2007). At the same time agency theory postulates that a country-wide governance system defines the extent to which the interests of different shareholders are protected, and thus moderates the spectrum of agency issues between managers and shareholders or majority and minority owners (La Porta et al., 2000). National governance system may therefore influence CSR proficiency and disclosure (Chen & Bouvain, 2009; Kolk & Pinkse, 2010). With regards to climate change, coordinated market economies (CME) are shown to have a generally more stakeholder-driven institutional environment than liberal market economies (LME) (Franks et al., 2006; Kang & Moon, 2012). Similarly, Young and Marais (2012) find that companies in CMEs report more on 'social' CSR including environmental issues. While there are variations within CMEs themselves with regards to CSR incentives (Kang & Moon, 2012), on the whole, companies in CMEs have been shown to use CSR disclosure to communicate with stakeholders (Morsing & Schultz, 2006). Based on this evidence, I state the following two hypotheses:

Hypothesis 4a. Companies from coordinated market economies are more likely to meet the FTSE4Good climate change criteria within the required time period.

Hypothesis 4b. The engagement effect will be stronger if the company comes from a coordinated market economy rather than a liberal market economy.

5.2.4.4 The Effect of Internal Governance

Shleifer and Vishny (1997) define corporate governance as *"ways in which suppliers of finance to corporations assure themselves of getting a return on their investment"* (Shleifer & Vishny, 1997: 737). This definition implicitly assumes that in a well-governed firm managers will consider economic benefits of any investment or strategic decisions they make. In this case spending resources on emission reduction and operations related to mitigation of the climate change may not seem appealing since it may be difficult to extract direct operational benefits in the short term (Hart & Ahuja, 1996). Similarly, Jo and Harjoto (2011) show that where management aspires to create value for shareholders via CSR enhancement, this is achieved through 'financial' CSR concerning employees or production rather than projects related to wider community or the environment. Conversely, Dimson et al. (2012) report the most positive market reaction to engagements on climate change and corporate governance which suggests that investors may be recognising the benefits or at least the necessity of proactive climate change practices though they do not see them as mainstream and thus reward outperforming companies. Given this evidence, I expect strong internal governance to have a negative effect on climate change compliance. However, I cannot predict precisely how internal governance will moderate the engagement effect on climate change issues and therefore state the following:

Hypothesis 5a. Firms with high governance ratings are less likely to implement FTSE4Good climate change requirements within the given time period.

Hypothesis 5b. Firms with high governance ratings are influenced by engagement differently from firms with low governance ratings.

5.3 Research Method

5.3.1 Experimental Setting and Sample

I test the hypotheses in the context of a natural experiment which resulted from the introduction by FTSE of the climate change criteria in 2008 and their implementation in 2010. The test sample consists of 470 companies from 24 countries and 8 industries. These companies are members of FTSE All-World Developed Index which a) were assessed by FTSE both in 2008 and 2010[16], b) had medium or high impact on climate change, c) were not in weaponry, tobacco or nuclear businesses (those were excluded from consideration for index membership according to the index rules), d) did not meet the FTSE4Good climate change criteria in 2008 and e) had complete data for the control variables. Of these, 160 companies were in the index in 2008 and form the treatment group. Engagement[17] was conducted with all

[16] During this period 2008 to 2010 a number of firms dropped out of FTSE All-World Index. However, none of those had been assessed as high or medium climate change impact and therefore were not subject to climate change criteria and did not affect the sample.

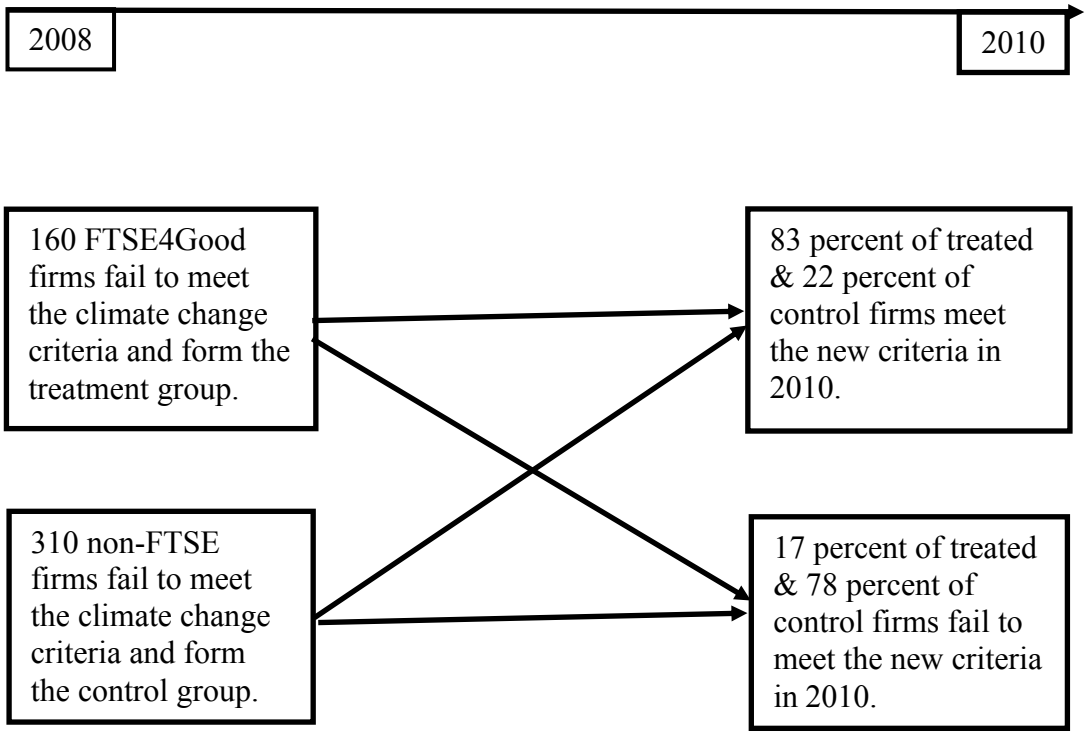
[17] It could be the case that companies were subject to simultaneous engagement regarding several FTSE4Good criteria or had previously been in engagement regarding a different FTSE4Good CSR theme. While this could provide a 'synergy' effect, different nature of the criteria and tight requirements in each theme meant that it would unlikely bias the results. Further, the analysis of semi-annual Policy Committee documents revealed that there were cases of companies that had either in-person meetings or teleconferences regarding the requirements to meet the criteria and had commissioned specialised teams to work on the requirements, yet the company would be deleted if it had not demonstrated sufficient progress in meeting the requirements by the deadline. Further, conversations with FTSE representatives revealed that companies could be in regular contact with FTSE and could provide information internally but would not be willing to publicly disclose and clarify the emission trend data or would have the emissions data available but would not be ready to demonstrate senior level commitment and publish climate change policy. Finally, the strongest incentive to comply would be in situations where a company would have spent resources to improve their environmental performance. To the extent that a reputable independent data provider (ASSET4) could provide an assessment indicative of company's expenditure on environmental improvements, I

companies in this group. The remaining 310 firms are non-member companies which did not receive engagement nor faced the potential exclusion, and these firms form the control group. The structure of the experimental setting and the time line are illustrated in Figure 5.1. This empirical context allows us to contrast the response to the index by the two groups, one in treatment, i.e. engagement reinforced by the threat of exclusion, and the other without the index involvement.

include a control variable representing ASSET4's assessment (as a score) of company's emission reduction performance.

FIGURE 5.1

Experimental Setting and Timeline



Sample are FTSE All-World Developed constituents, excluding prohibited firms (e.g. weaponry, tobacco), identified by FTSE as having medium or high climate change impact. These companies are independently assessed by EIRIS for policy, management, reporting and performance with requirements varying by climate change impact. Climate change criteria were established in 2008, with firms given until 2010 to comply. Engagement was conducted with FTSE4Good members that had not complied in 2008.

5.3.2 Variables

Dependent Variable. The dependent variable (Meet10) is a dichotomous variable where one indicates compliance with the FTSE4Good climate change criteria 2010.

Explanatory Variables. The main explanatory variable (Engage) represents the joint effect of engagement from FTSE and the threat of exclusion from the index. It is a dichotomous variable coded one for all non-complying eligible firms which were members of the index in 2008 and therefore received engagement and zero otherwise.

Next, I measure the membership incentive (P.Ind08) as the predicted probability of the FTSE4Good index membership in 2008. Here I follow the rationale that if companies with certain characteristics tend to be in the index, there are net benefits in that, and the competition and reputation concerns would motivate managers to avoid exclusion or to become included in the index. This is consistent with the view that companies do feel the pressure from more environmentally advanced competitors (Lash & Wellington, 2007; Reinhardt 1999). To estimate P.Ind08, I use logit model on the full sample of 1,675 assessed FTSE All-World Developed companies not from weaponry, tobacco or nuclear businesses. The probability of a firm being in the index in 2008 is estimated using country (Country) and industry (Industry) dummies, climate change impact (High) as assessed by FTSE, size expressed as the log of market capitalisation (Size) and the concentrated ownership percentage collected from Datastream (Close):

$$Ind08_j = a_0 + a_1 Size_j + a_2 Close_j + \ldots$$
$$\Sigma C_{1\text{-}21} Country_j + \Sigma I_{1\text{-}32} Industry_j + e_j$$

The country and industry dummies are collectively statistically significant (Chi2=270.05, $p<0.001$ and Chi2=131.69, $p<0.001$ respectively) as are the risk (Chi2=10.65, $p<0.01$), the size (Chi2=103.46, $p<0.001$) and the ownership (Chi2=11.98, $p<0.001$). The model has a pseudo-R2 of 0.23 and correctly classifies 73 percent of cases.

I collect the ownership data from Datastream and use the measure of concentrated shareholdings in 2010 defined as shares held for strategic rather than trading reasons and including shares held by family and employees, other corporations, governments, investment institutions and pension funds. I take the measure of the firm governance from ASSET4 and use their overall 0-100 governance score in 2010. ASSET4 governance score is based on multiple criteria including, for example, various board characteristics and shareholder protection provisions. Taking the governance variable from a different source therefore avoids potential bias arising from taking both compliance and governance assessment from FTSE. The institutional environment (Economy) is included as a dichotomous variable distinguishing liberal market economies and coordinated market economies[18].

Control Variables. Given that companies assessed by FTSE as high risk in climate change had to meet the most stringent requirements, I include a control variable coded one if a company had a high impact on climate change according to FTSE assessment. Further, following prior research suggesting that the level of CSR disclosure varies in different industries and countries (Deegan et al., 2000; Young & Marais, 2012), I include industry and country controls defined as the average compliance rate in a given industry or country (Antonakis et al., 2010). Next, because prior evidence suggested that environmental performance may influence climate change disclosure (Dawkins & Fraas, 2011), I include in the models an ASSET4 indicator of emission reduction performance expressed as a 0 to 100 score. Again, collecting the environmental performance measure from a data source other than FTSE allows us to avoid potential bias in the assessment of the company's prior environmental performance. I also interact the treatment variable with the emission

[18] The country classification is as follows (an asterix corresponds to those countries defined as CME): Australia 35, Austria* 1, Belgium* 6, Canada 14, Denmark* 4, Finland* 5, France* 15, Germany* 15, Greece* 4, Hong Kong 12, Ireland 3, Italy* 4, Japan* 120, Netherlands* 5, New Zealand 1, Norway* 4, Portugal* 2, Singapore 10, Spain* 7, Sweden* 6, Switzerland* 9, UK 68, USA 120. I followed prior evidence where available, otherwise I based the classification on stock market capitalisation to GDP (La Porta et al., 1997) and anti-self-dealing index (Djankov et al., 2008). This effectively reflects common law versus code law systems.
The industry distribution of the sample is as follows: Oil & Gas 34, Basic Materials 107, Industrials 94, Health Care 46, Consumer Service 52, Utilities 18, Financials 3.

reduction score to test whether engagement was more successful with those companies which already had advanced climate change strategies in place and were therefore 'easier' cases for engagement. Finally, because prior literature documented the relationship between company size and environmental performance and disclosure (Deegan & Gordon, 1996; Holder-Webb et al., 2009; Patten, 1992, 2002; Udayasankar, 2008), I control for size expressed as a natural logarithm of the market capitalisation (Thomas & Cotter, 2007).

5.3.3 Model Specification

In the main tests I use the following logit model to examine the effect of index engagement reinforced by the threat of public exclusion on the probability that a firm would comply with the climate change requirements by the given deadline.

$$\begin{aligned} Meet10_i &= \beta_0 + \beta_1 Engage_i + \beta_2 Emit.Red_i + \beta_3 Engage_i * Emit.Red_i + \ldots \\ &\beta_4 High_i + \beta_5 Size_i + \beta_6 Ind.Meet_i + \beta_7 Co.Meet_i + e_i \end{aligned}$$

In the model i indexes firms, Meet10 denotes compliance with the FTSE4Good climate change criteria in 2010, Engage is the combined effect of index engagement and exclusion, Emit.Red is the ASSET4 emission reduction score, High determines companies with high climate change impact, Size is the natural logarithm of the market capitalisation and Ind.Meet and Co.Meet are mean compliance rates in a given industry or country.

When I introduce the incentives/constraints variables along with their interaction terms with the engagement variable, the model becomes as follows:

$$\begin{aligned} Meet10_i &= \beta_0 + \beta_1 Engage_i + \beta_2 Incentive_i + \beta_3 Engage_i * Incentive_i + \ldots \\ &\beta_4 High_i + \beta_5 Size_i + \beta_6 Ind.Meet_i + \beta_7 Co.Meet_i + e_i \end{aligned}$$

In this model Incentive comprises expected index membership (P.Ind08), strategic ownership (Ownership), firm's internal governance (Governance) and institutional setting (Economy).

5.3.4 Propensity Score Matching Approach

Since the control variables in the regression approach could be associated with the treatment itself, I use propensity score matching as a robustness test (Caliendo & Kopeinig, 2008; Rosenbaum & Rubin, 1983) to control for the sample selection bias and the resulting heterogeneity between the contrasted treatment and control groups. According to this method, I first model the probability of a given firm to be included in the treatment group based on its climate change risk, size, emission reduction score and industry and country controls. As I predict that governance-related incentives and/or constraints affect compliance, I later test whether differences in those are eliminated after the matching procedure and find that they mostly are. Where not, I adjust the propensity score model to incorporate these additional factors and the results remain consistent. I also use propensity score matching as a robustness test for the analysis of compliance incentives.

5.4 Results

Descriptive statistics are presented in Panel A of Table 5.1. Of the engaged companies, 83 percent complied with the climate change requirements in 2010 as opposed to only 22 percent of the control firms. Companies in the treatment group are also more likely to have medium impact on climate change, are almost twice as much more likely to be members of the index in 2008, are more likely to reside in coordinated market economies and have slightly lower governance scores. Conversely, ownership is about the same in the two groups.

Panel B presents the correlation matrix for the dependent variable and explanatory and control variables. The engagement variable is strongly and positively correlated with compliance (0.59), as is the predicted index membership (0.46). Consistent with

the hypotheses, there is a high (greater than 0.50) correlation between the engagement variable and the probability of index membership (0.55). There is also a high negative correlation between governance and being domiciled in a CME which is in line with prior evidence (Gillan & Starks, 2007; La Porta et al., 2000).

TABLE 5.1

Panel A. Descriptive Statistics

Full Sample	Meet10	Engage	High	Size	Emit.Red	P.Ind08	Ownership	Governance	Economy
Mean	0.43	0.34	0.30	15.66	0.69	0.37	26.95	0.59	0.44
Std. Dev	0.49	0.47	0.46	1.18	0.28	0.26	19.90	0.32	0.50
Max	1.00	1.00	1.00	19.13	0.95	0.97	88.24	0.97	1.00
Min	0.00	0.00	0.00	12.37	0.10	0.00	0.02	0.02	0.00
N	470	470	470	470	470	441	425	461	470
Engagement									
Mean	0.83	1.00	0.14	15.82	0.82	0.56	24.90	0.54	0.63
Std. Dev	0.38	0.00	0.35	1.34	0.18	0.24	17.91	0.32	0.49
Max	1.00	1.00	1.00	19.02	0.95	0.97	76.71	0.96	1.00
Min	0.00	1.00	0.00	12.91	0.11	0.04	0.02	0.03	0.00
N	160	160	160	160	160	155	152	156	160
Control									
Mean	0.22	0.00	0.38	15.57	0.61	0.26	28.09	0.62	0.35
Std. Dev	0.41	0.00	0.49	1.08	0.29	0.21	20.87	0.31	0.48
Max	1.00	0.00	1.00	19.13	0.95	0.91	88.24	0.97	1.00
Min	0.00	0.00	0.00	12.37	0.10	0.00	0.09	0.02	0.00
N	310	310	310	310	310	286	273	305	310

TABLE 5.1

Panel B. Correlation Matrix

	Meet10	Engage	High	Size	Emit.Red	P.Ind08	Ownership	Governance	Economy
Meet10	1								
Engage	0.59***	1							
High	-0.37***	-0.26***	1						
Size	0.07	0.10*	-0.01	1					
Emit.Red	0.34***	0.36***	0.01	0.31***	1				
P.Ind08	0.46***	0.55***	-0.34***	0.19***	0.38***	1			
Ownership	-0.09†	-0.08	0.06	-0.11*	-0.06	-0.22***	1		
Governance	-0.17***	-0.11*	0.09†	0.26***	0.14**	-0.03	-0.33***	1	
Economy	0.29***	0.27***	-0.10*	-0.06	0.20***	0.29***	0.23***	-0.71***	1

Statistics and correlations are presented for the main test sample (470 observations) or where data on a specific variable is missing for the available sample. Meet10 denotes meeting climate change requirements in 2010 (=1); Engage denotes subject to FTSE Engagement (=1); High is a zero-one variable which denotes high climate change risk as assessed by FTSE in 2008. Size is the natural logarithm of the market capitalisation. Emit.Red is the ASSET4 emission reduction score in 2008 (zero to one). P.Ind08 is the estimate of the probability of being in the index in 2008, Ownership is the percentage of strategic equity as assessed by Datastream, Governance is the firm's overall governance score as assessed by ASSET4 and calculated on a zero to one scale and Economy equals one for CME. Economy, Ownership and Governance are measured as at 2010. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

5.4.1 Test of the Joint Engagement and Deletion Threat Effect

Table 5.2 presents the results of the logistic regression model used to test H1 which predicted positive relationship between treatment (engagement reinforced by the threat of exclusion) and compliance with climate change requirements. In Model 1 I include the treatment variable along with the immediate controls for climate change risk and industry and country. In Model 2 I additionally control for size. I next incorporate the emission reduction performance first as the main effect only (Model 3) and with the interaction term with treatment (Model 4).

The estimated coefficient for the treatment variable is positive and significant in all model specifications which supports H1 (Model 1: $\beta=2.92$, $p<0.001$, Model 2: $\beta=2.82$, $p<0.001$, Model 3: $\beta=2.39$, $p<0.001$ and Model 4: $\beta=4.47$, $p<0.001$). The marginal effect estimated for these four models shows a significant impact of treatment (Model 1: 0.41, $p<0.001$, Model 2: 0.40, $p<0.001$, Model 3: 0.33, $p<0.001$ and Model 4: 0.61, $p<0.001$), which corresponds to an increase in the probability of a firm complying after treatment of approximately 33 to 61 percent points.

The coefficient on emission reduction score is positive and significant (Model 3: $\beta=0.02$, $p<0.05$, Model 4: $\beta=0.03$, $p<0.05$) suggesting that companies with a more proactive approach to climate change will tend to have a more systematic approach to climate change strategies and provide better disclosure of their programmes. This is consistent with the accommodative approach discussed in previous studies whereby managers want to communicate their environmental strategies to stakeholders (Al-Tuwaijri et al., 2004; Clarkson et al., 2008; Dawkins & Fraas, 2011). However, while the inclusion of the interaction term almost doubles the coefficient on the main treatment effect, the negative coefficient on the interaction term (Model 4: $\beta=-0.03$, $p<0.05$) implies that proactive companies may not require additional incentive of engagement. The high risk variable is negative and significant (Model 1: $\beta=-2.01$, $p<0.001$, Model 2: $\beta=-2.06$, $p<0.001$, Model 3: $\beta=-2.11$, $p<0.001$ and Model 4: $\beta=-2.10$, $p<0.001$) which is to be expected as companies with higher

assessed impact on climate change had to meet more stringent requirements making it more challenging for them to comply.

TABLE 5.2
Tests of the Joint Engagement and Deletion Threat Effect

	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Intercept	-0.49	-3.38	-2.45	-2.92
	(0.32)	(0.95)	(0.65)	(0.75)
Engage	2.92***	2.82***	2.39***	4.47***
	(12.03)	(9.96)	(7.87)	(4.07)
Emit.Red			0.02*	0.03*
			(2.56)	(2.57)
Engage*Emit.Red				-0.03*
				(2.32)
High	-2.01***	-2.06***	-2.11***	-2.10***
	(5.60)	(5.14)	(6.64)	(6.32)
Size		0.16	-0.09	-0.07
		(0.87)	(0.48)	(0.37)
Ind.Meet	-0.73†	-0.78†	-0.55	-0.56
	(1.78)	(1.93)	(1.28)	(1.32)
Co.Meet	0.28	0.63	1.59	1.48
	(0.28)	(0.63)	(1.62)	(1.59)
Marginal effect				
Engage	0.41***	0.40***	0.33***	0.61***
Engage*Emit.Red				-0.003**
Wald-Chi^2				
Full Model	684.10***	673.24***	581.41***	630.48***
All Engagement	144.75***	99.14***	61.93***	54.52***
Observations	540	529	470	470
Pseudo-R^2	0.35	0.35	0.37	0.37

This table presents the results of a logistic regression of compliance with climate change criteria introduced in 2008 and implemented in 2010. The dependent variable is compliance in 2010. The independent variables are engagement from FTSE reinforced by the exclusion threat (Engage), ASSET4 emission reduction score taken at 2008, high climate change risk (High), size as the natural log of market capitalisation (Size), and industry and country mean compliance controls. The absolute t-statistics are given underneath in parentheses. I also present Wald-Chi^2 estimates of the significance of a) the full model and b) the engagement variables plus any interaction term. All standard errors are robust and are clustered by country. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

5.4.2 Propensity Score Matching Tests of Engagement

In Table 5.3 I used propensity score matching to test the effect of the FTSE engagement on compliance with climate change requirements. In this approach I contrast compliance of the firms which received treatment with control firms which were equally likely to be treated but did not receive treatment. I match treatment and control firms based on a propensity score which is a function of climate change risk, size, emission reduction score and industry and country controls. I report the results using a range of matching techniques including matching with the nearest neighbour, three nearest neighbours, three nearest neighbours within 0.001 propensity of treatment, all firms with the propensity of treatment within the 0.001 radius and kernel matching where the result for the treated firm is matched with the weighted average results for all control firms with weights determined by their propensity scores. I use bootstrapping with 50 iterations to validate the estimates.

The results in Table 5.3 add further support to H1 as the difference in compliance between the two groups of companies is strongly significant (Model 1: ATT=0.37, $p<0.001$, Model 2: ATT=0.40, $p<0.001$, Model 3: ATT=0.44, $p<0.001$, Model 4: ATT=0.45, $p<0.001$, Model 5: ATT=0.37, $p<0.001$). Some of the approaches which impose stricter requirements for matched companies leave substantial number of companies out of comparison. In these cases the difference in the probability of compliance between treated and control firms reaches about 45 percent. However, as can be seen from the second panel of Table 5.3, when I compare the incentives indicators for the two groups, I find that treated firms are significantly more likely to be members of the index in 2008 and, while in the original dataset treated firms were almost twice as likely to come from coordinated market economies, after matching the sample is skewed in the opposite direction with substantially more control firms coming from CMEs. Given that I expect the impact of these characteristics on the company's response to engagement, I refine the propensity score matching test by incorporating the expected index membership and the institutional setting variables in the model to obtain propensity scores. The model suggests that expected index membership does indeed have a significant influence on receiving engagement while

the indicator of the type of the economy is insignificant. Overall, the resulting matching eliminates the difference in the incentives characteristics of the two groups but does not alter the main outcomes and further supports H1.

TABLE 5.3
Analysis of the Joint Engagement and Deletion Threat Effect Using Propensity Score Matching

Matching	ATT			t-statistic	Treatment	Control
	Treatment	Control	Diff.			
Unmatched	0.83	0.22	0.61	15.51***		
Model 1: Nearest (n1)	0.83	0.46	0.37	4.51***	159	301
Bootstrapped			0.37	3.88***		
Model 2: Nearest (n3)	0.83	0.43	0.40	5.92***	159	301
Bootstrapped			0.40	5.22***		
Model 3: Nearest (n3)						
Caliper (0.001)	0.76	0.32	0.44	4.37***	50	301
Bootstrapped			0.44	2.98**		
Model 4: Radius, (0.001)	0.76	0.31	0.45	4.37***	50	301
Bootstrapped			0.45	3.28**		
Model 5: Kernel	0.83	0.46	0.37	6.70***	159	301
Bootstrapped			0.37	6.75***		

Impact of Matching on Incentive Variables						
		Treated	Control	%Bias	% Change	t-statistic
P.Ind08	Unmatched	0.56	0.26	134.1		13.68***
	Matched	0.53	0.41	52.9	60.5	2.54*
Ownership	Unmatched	0.69	0.84	-35.1		3.66***
	Matched	0.69	0.66	6.5	81.6	0.28
Governance	Unmatched	0.54	0.61	-20.9		2.11*
	Matched	0.59	0.51	22.7	-8.9	1.05
Economy	Unmatched	0.62	0.35	55.7		5.72***
	Matched	0.52	0.73	-43.2	22.4	2.18*

This table presents the results of the test of the treatment using propensity score matching. I use nearest neighbour matching, radius matching and kernel matching methods to test whether the treatment has an effect on compliance with the FTSE4Good climate change criteria. ATT denotes average treatment effect on the treated group regarding the outcome (compliance). T-statistic is the result for the average treatment effect. Treatment presents the number of companies subject to engagement and threatened with exclusion. Control denotes the matched companies that were not engaged with and did not face the deletion threat. The second panel reports the distribution of the incentive variables before and after the matching process using radius matching. I report the means of treated and control sample unmatched and matched, the pre-matching and post-matching bias, the reduction in that bias achieved by matching and the t-test of difference in means before and after matching. The results for the incentives variables remain consistent when I use the other matching techniques. † $p < .10$, * $p < .05$, ** $p < .01$,*** $p < .001$

5.4.3 Tests of Incentives and Constraints

Table 5.4 reports the results of the logistic regression models used to test the impact of governance incentives on corporate adoption of the FTSE4Good climate change requirements. The incentives and/or constraints examined are the expected index membership, concentrated ownership, institutional context and firm internal governance. In Models 1 to 8 I introduce each incentive construct separately and together with the interaction term with engagement. Models 9 and 10 have all incentives together as main effects and with the interaction terms. Each model also includes climate change risk, size and emission reduction performance variables as well as industry and country controls.

5.4.3.1 The Impact of Index Membership

Models 1 and 2 reveal some but not strong positive relationship between expected index membership and compliance as the coefficient on the probability variable is insignificant when examined as the main effect only (Model 1: β=1.14, p=insig) and significant when the interaction term is also included (Model 2: β=1.66, $p<0.01$) . The interaction effect is negative and strongly significant (Model 2: β=-2.51, $p<0.001$) and the two incentives variables together are significant (Model 2: Chi^2= 16.40, $p<0.001$). The engagement coefficient is positive and significant as the main effect (Model 1: β=2.11, $p<0.001$, Model 2: β=3.10, $p<0.001$) and is significant when estimated jointly with the interaction term (Model 2: Chi^2= 43.64, $p<0.001$). As a robustness check I conduct propensity score matching tests separately for companies with above average probability of being in the index in 2008 and those with lower probability. For the former I find that engagement increases the probability of compliance from 42 percent to 83 percent while for the latter from 41 percent to 84 percent. Thus the results further suggest no significant impact of the expected index membership on compliance.

The results therefore do not generally support H2a as competitive pressure implied by the expected membership in the index does not seem to constitute a definite driver

of compliance with climate change requirements. Meanwhile, strong significance of the engagement coefficient implies that, to the extent that these two variables introduced together separate the effect of FTSE engagement itself from the simultaneous threat of exclusion, FTSE dialogue does stimulate companies to adopt the required proactive climate strategies which is consistent with prior evidence regarding dialogue-driven investor engagement (Dimson et al., 2012). I also find the opposite result to H2b as it appears that engagement is less efficient if the company is more likely to be a member of the index. A possible explanation for this could be that competition forces motivate companies to comply while the FTSE communication process achieves more noticeable results in cases where the company is not a priori expected to be a member of the index. An alternative explanation could suggest that, if shareholder engagement signals manager's inability to maintain strong social responsibility and/or reach an agreement with the shareholders (Chung & Talaulicar, 2010; David et al., 2007) managers may want to signal the opposite by taking the matters solely in their hands and avoiding external engagement. Finally, a third interpretation could be that, to the extent that companies regard membership in an index as a way to differentiate themselves from the competitors, companies which are not likely to be included may be more responsive to engagement which could lead them to become eligible for inclusion.

5.4.3.2 The Impact of Concentrated Ownership

H3a predicted that concentrated ownership would inhibit adopting climate change practices; consistent with this intuition, the coefficient on the strategic shareholdings is negative and significant (Model 3: β=-1.14, $p<0.001$ and Model 4: β=-1.13, $p<0.001$). When I decompose strategic ownership into categories of corporate shareholdings, institutional blockholdings, family holdings, government ownership and pension fund equity, I find that the negative impact comes from significant influence of families and, somewhat surprisingly, government and institutions while the potentially positive effect of pension funds is insignificant. Despite its overall negative impact on compliance, strategic shareholdings do not seem to significantly affect the efficiency of the engagement itself as the interaction term is not significant

(Model 3: β=-0.04, p=insig) although the negative sign is consistent with prior evidence suggesting that concentrated owners may prevent external social activism (Judge et a., 2010). The positive impact of engagement on compliance holds despite the presence of strategic blockholders (Model 3: β=2.34, p<0.001 and Model 4: β=2.34, p<0.001). I therefore find support for H3a but not for H3b. Concentrated ownership itself tends to prevent proactive climate change policies however it does not inhibit external involvement with management on the issue.

5.4.3.3 The Impact of Institutional Differences

When I test the impact of the overall institutional environment, I find that companies which reside in coordinated market economies tend to comply with climate change provisions more readily than companies from liberal market economies (Model 5: β=0.72, p<0.01 and Model 6: β=0.87, p<0.01). However, engagement is efficient in both settings as the coefficient on the main engagement variable is positive and significant (Model 5: β=2.33, p<0.001 and Model 6: β=2.60, p<0.001) while the interaction term is insignificant (Model 6: β=-0.50, p=insig). The results are therefore consistent with H4a but not H4b. The findings suggest that, whilst companies in coordinated market economies may themselves have more incentives to enhance their climate change mitigating strategies, the positive influence of engagement from a responsible investment index can constitute an efficient mechanism of stirring companies towards higher climate change proactivity. I follow the same approach as in Mackenzie et al. (2013) and additionally incorporate the market capitalisation scaled by the GDP (La Porta et al., 1997) and the anti-self-dealing index introduced by Djankov et al. (2008). The intuition is that the relative influence of the stock markets may put further pressure on management to outperform and may hinder investment in long-term projects with uncertain financial benefits such as climate change while anti-self-dealing index could indicate the potential discretion of management in pursuing their personal agenda. The results reveal insignificant impact of the market capitalisation scaled by the GDP although the sign is consistent with the prediction and with the findings by Mackenzie et al. (2013). However, the anti-self-dealing index exhibits positive significant relationship

with compliance with climate change criteria and the overall economy indicator remains positive and significant.

5.4.3.4 The Impact of Corporate Governance

H5a predicted that good governance would be negatively related to compliance and would affect the response to engagement. The results reveal that good governance is indeed negatively associated with compliance (Model 7: β=-1.47, $p<0.001$ and Model 8: β=-1.34, $p<0.001$) but does not alter the engagement impact (Model 7: β=-0.45, p=insig). When I test the impact of particular governance attributes such as CEO-chair duality, the number of non-executive directors and the size of the board (Judge et al., 2010), I find that CEO-Chairman separation and the board size are insignificant while higher proportion of non-executive directors is negatively associated with compliance. Taken together, the three governance characteristics are significant. Since such governance provisions are typically associated with strong shareholder-oriented governance system, this further supports the intuition that where managers prioritise shareholders' interests they are reluctant to pursue 'external' CSR.

TABLE 5.4
Tests of Incentives and Constraints

	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)	(Model 7)	(Model 8)	(Model 9)	(Model 10)
Intercept	-0.70	-1.62	-2.58	-2.58	-0.67	-0.71	-4.02	-4.18	0.99	0.01
	(0.19)	(0.46)	(0.66)	(0.66)	(0.24)	(0.25)	(1.18)	(1.23)	(0.32)	(0.00)
Engage	2.11***	3.10***	2.34***	2.34***	2.33***	2.60***	2.27***	2.55***	2.06***	4.24***
	(5.99)	(6.20)	(8.55)	(8.55)	(12.44)	(7.61)	(9.42)	(7.44)	(5.47)	(3.64)
High	-1.90***	-1.95***	-2.07***	-2.07***	-2.15***	-2.15***	-1.99***	-1.98***	-1.82***	-1.75***
	(6.07)	(6.08)	(7.07)	(7.02)	(6.74)	(6.69)	(5.91)	(6.03)	(6.95)	(7.04)
Size	-0.17	-0.13	-0.10	-0.10	-0.07	-0.07	-0.02	-0.02	-0.14	-0.11
	(0.81)	(0.65)	(0.58)	(0.57)	(0.52)	(0.49)	(0.14)	(0.12)	(0.89)	(0.70)
Emit.Red	2.00**	1.93**	2.21**	2.22**	2.01**	1.98**	2.55***	2.54**	2.08**	1.88**
	(2.88)	(2.82)	(2.63)	(2.68)	(2.68)	(2.75)	(3.29)	(3.22)	(3.29)	(3.07)
Ind.Meet	-0.38	-0.43	-0.44	-0.43	-0.53	-0.56	-0.35	-0.34	-0.24	-0.29
	(0.78)	(0.91)	(1.04)	(1.08)	(1.29)	(1.41)	(0.86)	(0.84)	(0.55)	(0.69)
Co.Meet	0.98	1.18	2.45**	2.45**			2.28†	2.31†		
	(0.86)	(0.98)	(2.93)	(2.90)			(1.87)	(1.90)		
P.Ind08	1.14	1.66*							1.06	1.39
	(1.64)	(2.14)							(1.03)	(1.19)
Engage *		-2.51***								-1.24†
P.Ind08		(3.38)								(1.67)

Ownership			-1.14***	-1.13***					-0.70**	-0.57**
			(5.90)	(4.19)					(3.16)	(2.94)
Engage * Ownership				-0.04						-0.16
				(0.06)						(0.19)
Economy					0.72*	0.87*			0.19	0.61
					(2.12)	(2.50)			(0.56)	(1.27)
Engage * Economy						-0.50				-1.23
						(1.16)				(1.63)
Governance							-1.47***	-1.34**	-0.74†	-0.20
							(3.54)	(2.59)	(1.68)	(0.38)
Engage * Governance								-0.45		-1.54
								(0.78)		(1.28)
Wald-Chi2										
Full Model	584.23***	1241.07***	504.94***	837.70***	923.44***	747.09***	716.68***	741.92***	1133.55***	1591.03***
All Engagement	35.88***	43.64***	73.12***	74.15***	154.75***	94.93***	88.70***	127.11***	29.92***	125.09***
All Incentives	2.68	16.40***	34.77***	34.40***	4.50*	6.24*	12.55***	18.32***	180.44***	342.51***
Observations	441	441	447	447	470	470	461	461	415	415
Pseudo-R^2	0.36	0.37	0.39	0.39	0.38	0.38	0.38	0.38	0.38	0.38

This table presents the results of a logistic regression of compliance with FTSE4Good climate change criteria in 2010. The independent variables are engagement from FTSE (Engage), high climate change risk (High), size as a natural logarithm of the market capitalisation (Size), ASSET4 emission reduction score at 2008, mean industry and country compliance (Ind.Meet and Co.Meet), the prior probability of being included in the FTSE4Good index (P.Ind08), strategic ownership with one indicating holdings of more than 10 percent (Ownership), domicile in a CME (Economy) and the ASSET4 assessment of corporate governance (Governance). The absolute t-statistics are given underneath in parentheses. I also present Wald-Chi^2 estimates of the significance of a) the full model, b) the engagement variables plus any interaction terms and c) all incentive variables plus any interaction terms. All standard errors are robust and are clustered by country. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

5.4.3.5 The Impact of All Incentives

In Model 9 I include expected index membership, concentrated ownership, institutional context and internal governance variables jointly and I further incorporate the respective interaction terms in Model 10. The coefficients for the main effects remain qualitatively consistent with the individual tests and all incentives are jointly strongly statistically significant as main effects (Model 9: Chi^2= 180.44, $p<0.001$) and together with the interaction terms (Model 10: Chi^2= 29.92, $p<0.001$). When I include all interaction effects, the coefficient on the main engagement variable doubles and remains strongly significant (Model 10: β=4.24, $p<0.001$) and when I take all engagement-related variables together, they are collectively significant (Model 10: Chi^2= 125.09, $p<0.001$). Engagement only appears to work less well for firms where there is already peer pressure to be a member.

The decline in statistical significance of the economy and the internal governance indicators is driven by a strong correlation between them (Table 1, ρ=-0.71) and when I introduce the interaction term between the two measures alongside all other incentives, I find that the negative impact of governance comes mainly from CMEs. The result for the economy variable is sensitive to the inclusion of the other incentives so I revisit the relationship using propensity score matching test and compare the probability of compliance as a result of engagement for companies in CMEs and LMEs separately. The results are inconclusive. Matching with the nearest neighbour or the three nearest neighbours suggest that the compliance outcome for CMEs and LMEs is almost indistinguishable with the increase in the probability of compliance from 48 percent to 85 percent for CMEs and from 44 percent to 77 percent for LMEs. However, when I use tighter matching criteria, e.g. matching with a calliper, the results reveal some difference in compliance with companies in the CMEs displaying the increase in the probability of compliance from 39 percent to 74 percent and LMEs – from 19 percent to 61 percent. However, this approach only leaves 23 treated CME firms and 13 treated LMEs firms for the analysis so the results should be treated with caution. Overall, the propensity score matching

approach together with the declined significance of the main effect of the institutional setting variable in the regression model when the other incentives are included should be treated with caution.

Since the result for the governance variable also seems to be sensitive to the inclusion of the other incentives, I apply propensity score matching test to contrast the compliance outcome for well governed firms as opposed to the ones with lower governance. The results support those of the regression analysis regardless of the matching procedure used. For example, for the nearest neighbour matching the probability of compliance for well-governed firms increases from 57 percent to 78 percent while for the firms with less strong governance the increase is from 50 percent to 89 percent. Thus, engagement has a significant positive impact on compliance but this influence is lower for firms with stronger internal governance system.

5.4.4 Test of Compliance and Changes in Corporate Emissions

I analyse the relation between the FTSE treatment and corporate emissions using ASSET4 data on total CO_2 and CO_2 equivalents emissions and direct CO_2 emissions separately. To capture the intensity of emission reduction efforts, the variable of interest is measured as a percentage change in the absolute emissions between 2009 and 2011, i.e. one year after the assessment of compliance. These years were selected as they gave the largest available sample. As a robustness test I also use alternative dates and the results remain qualitatively similar. Following prior research (Reid & Toffel, 2009), I log-transform the dependent variable. Following the general logic of the differences-in-differences approach, I assume that, if the firm characteristics are time-invariant, their impact on the outcome will be cancelled out. I therefore use the most parsimonious model where the difference in emissions is a function of compliance with the climate change requirements.

TABLE 5.5
Test of Compliance and Changes in Emissions

	(Model 1) Change in Total Emissions	(Model 2) Change in Direct Emissions
Intercept	0.10**	0.10*
	(3.39)	(2.45)
Meet10	-0.08*	-0.15*
	(1.99)	(2.43)
Observations	399	297
R2	0.04	0.02

This table presents the results of a regression analysis of changes in total and direct emissions in 2009-2011 measured as a log-transformed percentage change in total (Model 1) and direct (Model 2) emissions of CO_2 and CO_2 equivalents. The independent variable is compliance with FTSE4Good climate change criteria (Meet10). † p < .10, * p < .05, ** p < .01, *** p < .001

The results suggest that meeting FTSE4Good climate change criteria is negatively related to the difference in emissions between 2009 and 2011 (Model 1: β=-008, $p<0.05$ and Model 2: β=-0.15, $p<0.05$). This is consistent with compliance being associated with reduction in emissions or at least increasing them to a lesser extent.

5.5 Discussion and Conclusion

Climate change is viewed as the result of massive market failure and, despite its urgency and wide implications, is regarded as a source of managerial discretion and agency problems (Sullivan & Mackenzie, 2008). Nevertheless investors are increasingly beginning to recognise material benefits of advanced climate change strategies and attempt to engage with companies to encourage them to enhance their climate change disclosure and adopt practices leading to emission reduction. Emerging evidence suggests that the market welcomes such endeavours (Dimson et al., 2012), yet institutional investors are facing constraints in their activism coming from both the complex nature of the climate change issues, internal constraints as monitors and the length and costs of engagement itself.

This study therefore examines one way of institutional engagement where the dialogue itself is performed by a responsible index provider but is inspired and

coordinated by the investment institutions and incorporates their expectations. The index engagement simultaneously applies reputational lever of potential public exclusion from the index. I assess whether such strategy is efficient in motivating companies to adopt a set of policies enhancing measurement and disclosure of emissions and strategies reducing greenhouse gas emissions. I also examine the way competition forces, ownership and external and internal governance systems impact on compliance and moderate the engagement efficiency.

For a sample of 470 international firms with a high or medium climate footprint I find that the combined effect of the index engagement and threat of deletion has led to significantly higher probability that a firm will implement the required policies, governance systems and performance disclosure within the two-year period. I then separate the two elements by constructing a measure which is assumed to reflect the extent to which a given company may be expected to be a member of the index because similar firms are. I find that the peer pressure to be included does not alone drive compliance but that the dialogue process does. This could, of course, come from the misspecification of the proxy for the competitive pressure. However, the main outcome is that such engagement strategy by the index effectively stimulates compliance. The results additionally suggest that engagement is highly efficient in promoting compliance among companies which are not themselves expected to have CSR practices consistent with the index membership.

I also find that internal and external contexts do indeed influence compliance. Strategic ownership hinders management's actions to meet the criteria, which is consistent with large entrenched shareholders viewing climate change as an 'external' issue and a direct cost. There is some evidence to suggest that coordinated market economies provide incentives to adopt the required proactive climate risk management while internal governance as yet does not reconcile investment in climate change-related projects with shareholder benefits. Most importantly, in all these contexts index engagement remains robustly efficient.

Although the FTSE4Good criteria mostly targeted measurement and disclosure of emissions and reporting on the strategies to mitigate company's climate change impact, I do observe some tentative evidence of the criteria being associated with the actual emission reduction. Given the short span of time and the long-term nature of emission reduction programmes which often trigger structural changes in the entire industries (Mackenzie & Ascui, 2009), I do not expect to find strong results. The positive association between compliance with the FTSE4Good climate change criteria and the positive shifts in the actual emission reduction efforts implies that FTSE criteria and related engagement do contribute to shifting companies in the right direction towards lowering their climate impact.

This study therefore sheds further light on the ways in which active ownership can be effective in promoting corporate social responsibility. In particular, we show how social CSR with a large societal impact can be advanced via an index and its engagement within the nexus of managers' and owners' motivations and constraints. The argument about competitive advantages offered by the proactive climate change strategies still does not present a compelling case for the shareholder value maximisation paradigm. However, the results demonstrate how responsible investors can have a credible chance of making their voices heard and effectively encourage better governance of climate change risks in different external and internal governance contexts. Finally, the findings may be of interest to the governments in order to better understand the extent to which corporations may be left to market forces to reduce their climate change impact and where the stringent government action and regulation is necessary.

Chapter 6 Discussion and Conclusion

This thesis examines the effect of a responsible investment index and its engagement on the probability that a company will comply with a set of corporate social responsibility criteria within a specified period of time. I study the overall effect of this strategy, assess the contribution of the two elements – the dialogue and the exclusion threat – separately, and investigate the influence of ownership, institutional environment and internal governance. The findings also provide evidence as to whether the index stimulates persistent improvements. The analysis makes use of a quasi-experimental design provided by the introduction by FTSE of new or updated criteria necessary for inclusion in the FTSE4Good index and the subsequent implementation of these criteria. The setting provides me with a treatment group of companies in the index which did not meet the new or upgraded requirements and which received engagement from FTSE and were notified about potential public exclusion from the index, and a control group of companies which were not in the index but were also assessed for compliance and were not subject to engagement or exclusion threat.

Following the argument of prior research suggesting that different CSR areas should be analysed separately (Barnett & Salomon, 2006; Johnson & Greening, 1999, McWilliams & Siegel, 2001), I conduct the analysis in three different CSR categories: environmental management (mixed 'external' and 'instrumental' CSR), countering bribery ('contact' CSR) and alleviating climate change ('external' CSR). As these three CSR areas present varied balance of costs and benefits for the owners, I expect governance mechanisms to affect compliance and the response to engagement differently.

The results of the first study – concerning environmental management – suggest that the combined engagement and exclusion threat almost doubled the probability that a company would adopt the enhanced environmental management practices within the time period 2002 to 2005. The results also demonstrate that the effect persisted for at least five years and was positively related to low levels of closely-held ownership and to firms residing in coordinated rather than liberal market economies.

The findings of the second study – concerning countering bribery – suggest that engagement reinforced by the exclusion threat motivated companies to implement anti-bribery provisions within the time period 2007 to 2009, and that the effect persisted for at least two years. Further, the results show that the two arrangements promoting shareholder interests, liberal market economies and high levels of governance, are associated with higher compliance rates. Additionally, ethical controversies appear to encourage companies to comply and respond to the engagement. Finally, the two levers of the index engagement are shown to promote compliance independently. The dialogue is effective in encouraging good practice while the expected membership in the index and the resulting threat of costs from being excluded appears to prompt best practice in controlling bribery.

Finally, the third study – concerning climate change – demonstrates that, while the index and the engagement are efficient in motivating companies to adopt a set of practices to reduce emissions, compliance is negatively associated with strong internal governance and concentrated shareholdings. There is also some evidence to suggest that compliance with the FTSE4Good climate change criteria is associated with consequent emission reduction.

Taken together, the studies offer significant insights into the ways institutional investors can promote different aspects of corporate social responsibility. The theoretical framework that this thesis builds on suggests that both managers and the owners will consider costs and benefits, whether personal or strategic, when investing resources in CSR activities (Barnea & Rubin, 2010; Benabou & Tirole, 2010; Ryan & Schneider, 2002). Prior literature also argues that CSR is an amalgamation of different themes and can be classified as financial or 'internal', intermediate or 'contact', and social or 'external' (Godfrey et al., 2009; Judge et al., 2010; Mackenzie & Rees, 2011). Financial CSR offers benefits that can be internalised by the firm and will therefore be favoured by both managers and shareholders. Contact CSR affects relations with the business environment such as suppliers, employees and investors, and concerns information transparency and

overall governance. The costs fall on the firm while the benefits can be internalised to the extent that improved relations with the contacts lead to enhanced business opportunities. Finally, social CSR constitutes a market failure as the benefits from these activities affect society at large while the costs are borne by the owners. The investors therefore have little financial incentive to pursue such endeavours. Consequently, while activist investors increasingly engage on all of these issues, the efficiency of such engagement in promoting specific CSR areas is likely to vary and to be moderated differently by the governance context.

Table 6.1 presents the main findings from the three studies: Panel A reports the influences on compliance and Panel B demonstrates the influences on engagement. As can be seen in Panel A, the combined effect of the index engagement and the exclusion threat is efficient in promoting compliance within a given time period in all three cases. The prior probability of compliance is introduced in two studies to control for sample selection bias and to assess whether the engagement effect is driven by the success with companies which were close to meeting the criteria anyway. In the case of climate change all affected companies had to meet the criteria so the prior probability could not be constructed. Taken together, the results suggest that the likelihood of having all necessary practices in place before the FTSE engagement did not determine whether a company would comply by the given time and did not substantially facilitate the dialogue.

Next, I separate the effect of engagement from the exclusion threat by modelling the prior probability of being a member of the index, which aims to capture the peer pressure to be included and hence the potential concerns and costs of being excluded. The results show that for the environmental management and countering bribery criteria the expected index membership stimulates compliance independently of the engagement itself, although in the case of environmental management tentative evidence suggests that engagement works particularly well where the perceived costs of exclusion are higher.

TABLE 6.1. Drivers of Compliance and Engagement Across the CSR Themes

Panel A. Drivers of Compliance with FTSE4Good criteria

	Environmental Management	Countering Bribery	Climate Change
Engagement	Positive	Positive	Positive
Prior Probability of Compliance	Positive	Insignificant	N/A
Expected Index Membership	Positive	Positive	Insignificant
Concentrated Ownership	Negative	Insignificant	Negative
Domicile in CME	Positive	Weakly negative	Weakly positive
Corporate Governance	Weakly positive	Positive	Negative

Panel B. Response to Engagement

	Environmental Management	Countering Bribery	Climate Change
Prior Probability of Compliance	No influence	Weakly positive	N/A
Expected Index Membership	Weakly positive	No influence	Negative
Concentrated Ownership	Insignificant	No influence	No influence
Domicile in CME	No influence	No influence	No influence
Corporate Governance	Weakly positive	No influence	No influence

This table presents the summary of the findings regarding the effect of a) FTSE engagement reinforced by the threat of exclusion from the index, b) the prior probability of compliance with the criteria and c) the incentives including the expected index membership, concentrated ownership, domicile in a coordinated market economy and internal governance. Some judgement had to be made the case of weak or inconclusive results based on the dominant evidence and that was based on the overall conclusion from the regression and propensity score matching approaches.

In contrast, in the case of climate change companies expected to be in the index do not seem to require the additional incentive of engagement and these two drivers

may therefore be viewed as substitutes. Concentrated ownership is negatively related to both environment-related areas, which is in line with the view that the owners do not expect the benefits from such projects to outweigh the costs. However, the negative influence of the blockholders does not jeopardise the efficiency of the engagement. Further, the institutional context in all cases has some influence over a company's pursuit of CSR activities. However, this influence is different with coordinated market economies which stimulate community-oriented CSR such as environment-related projects while liberal market economies promote more transparency and ethical practices. This evidence is consistent with prior research suggesting that coordinated market economies, on the one hand, are more stakeholder-oriented but, on the other hand, are more prone to hiding unethical behaviour. Conversely, liberal market economies are more narrowly shareholder-focussed and expose corruption more efficiently (Chen et al., 2008; Treisman, 2000).

Finally, internal governance is positively associated with having stronger anti-bribery measures in place, which is in line with the view that controlling bribery can be regarded as a proxy for governance (Ramdani & Witteloostuijn, 2012). The findings are consistent with better governed firms guarding shareholder interests and ensuring higher transparency and hence lower risk. In contrast, the climate change study demonstrates a strong negative influence of governance on advancing these projects. This is consistent with climate change being not yet reconciled with the objective of shareholder value maximisation.

These findings offer insights for both theory and practice. With regards to the theory, they suggest that managerial decisions regarding various CSR activities are influenced by the potential costs and benefits of this activity, the competitive environment, the institutional context and the internal governance system. Where the benefits are likely to be personal or strategic and concern stakeholders and the community, influential owners will tend to resist such investments; where the governance system is strong external CSR will be opposed. Where the benefits of an enhanced reputation among business contacts and reduced information asymmetry can be internalised by the firm, good governance and shareholder-oriented

institutional arrangements will encourage these practices. In all settings, however, promoting CSR via active engagement is shown to be effective. With regards to the practice of responsible investment, the findings suggest that the combination of the dialogue and the pressure of potential exclusion from the index offers an effective strategy for engaging on different CSR matters, and the engagement appears to be equally efficient in different institutional and governance contexts. Each of the three studies offers some evidence that the FTSE effect was not transitory. Firstly, the results indicate that the differences in compliance between engaged and control firms persist for at least five years. Secondly, the two drivers of the activism – engagement and the exclusion threat – may work independently or interact, and may promote not only good practice in the particular CSR area but also best practice generally. Finally, the climate change study offers some evidence consistent with compliance being associated with subsequent emission reduction. Overall, the findings demonstrate how, given the costs involved in engagement, monitoring can be enhanced by taking into consideration the nature of the CSR in question and the other governance forces influencing compliance.

Taken together, the three studies in this thesis contribute to the understanding of what drives corporate social responsibility in firms. Prior research has related environmental, social and ethical performance to institutional forces such as stakeholder monitoring, public regulation, institutionalised norms of corporate responsibility (Campbell, 2007) as well as investors' motives and constraints regarding social investments (Cox et al., 2004). While the importance of a dialogue as a form of engagement between stakeholders and companies has been highlighted, most studies focus on shareholder proposals (Reid & Toffel, 2009; Sjöström, 2008) rather than the dialogue. Consequently, there is only scarce and mostly case-study based evidence of how investors can be directly involved in governance to promote CSR issues (Dimson et al., 2012, Gjessing & Syse, 2007). Further, the research on shareholder activism regarding CSR has predominantly focused on US and UK and has mostly used aggregated CSR metrics (Barnea & Rubin, 2010). Consequently, it remained unexplored whether engagement would be effective when applied to companies in different countries with different institutional contexts and with regards

to different CSR issues. This thesis thus contributes to the literature by investigating a particular engagement mechanism whereby the dialogue is conducted by the responsible investment index and is reinforced by the threat of exclusion from the index. While such engagement has only been explored qualitatively as a process of developing an international CSR standard (Slager et al., 2012), this thesis offers empirical evidence of the effect of this engagement strategy in different governance contexts.

It is certainly the case that the findings do not prove that engagement necessarily improves corporate social responsibility, only that the management has taken steps to introduce policy, management and reporting practices that meet FTSE4Good requirements. Compliance with the FTSE4Good criteria therefore acts as a proxy for the actual improvement. Further, given a relatively short time period of about two years in each natural experiment, meeting FTSE4Good CSR criteria would in some instances imply commitment to the underlying practices and enhanced public disclosure, rather than actual improvements of the environmental and ethical performance. However, FTSE criteria bring together views and strategic measures proposed by various stakeholders including responsible investors, industry experts, NGOs and academics[19] and it is unlikely that those views would have no credibility. Further, prior evidence suggests that FTSE4Good compliance indicators correlate positively and significantly with metrics offered by other reputable CSR data providers such as ASSET4 and KLD (now MSCI) (Rees & Mackenzie, 2011; Semenova, 2010). This is consistent with several independent expert systems evaluating the same underlying environmental and social issues.

Above all, this thesis demonstrates that a particular governance mechanism of engagement conducted by a responsible investment index on behalf of investors and reinforced by the reputational threat of public exclusion from the index is effective in eliciting management's response to the CSR improvements, and this effect holds for companies from different countries and industries and different governance systems.

[19] In different years of FTSE4Good's existence Policy Committee included representatives from institutional investors such as CCLA, Jupiter, Legal & General, SWIP and Mercer, NGOs such as Unicef UK and Business in the Community, and academics from UK and US Universities.

Whether or not the three FTSE4Good themes examined in the thesis are sufficiently 'demanding' would be an interesting venue for further research. However, the findings presented in this thesis strongly suggest that, rather than dismissing a CSR index such as FTSE4Good, investor community could be more actively involved in the criteria development process to further enhance corporate social responsibility in firms. The engagement conducted through the index is shown to successfully promote interests of responsible investors amidst the agency problems between the management and the owners. In so doing, such engagement links the monitoring concept suggested by the agency theory with institutional pressures of public embarrassment resulting from not complying with an international CSR standard.

Future research could extend this analysis by examining the effect of specific types of blockholders which are argued to have varying motives for investment in different CSR activities. For example, preliminary findings suggest that, while corporations may resist stricter controls of bribery in the company, families tend to oppose external projects such as investments in climate change prevention. Another area for future research could concern particular attributes of corporate governance, such as board characteristics, particularly since activist investors tend to target the board for negotiations regarding improvements in CSR. How different governance devices mediate the engagement process and the outcome is therefore a fruitful theme for future research. Finally, investigating reputational measures such as ethical controversies could be of interest. Are companies which have been involved in a controversy reported by the media more likely to advance their CSR provisions and will these efforts be symbolic or substantive? As the findings in the this demonstrated that the index could effectively instigate changes in different CSR areas by simultaneously providing guidance and challenging organisational frames with reputational concerns, the proposed questions for future research could provide further insights as to how such engagement could be enhanced and applied to various governance contexts to promote corporate social responsibility.

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