

Corporate Social Responsibility and Firm Characteristics in Sweden: Who and What Makes a Firm a Better Corporate Citizen?

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Abstract

Corporate Social Responsibility (CSR) has become an increasingly important issue in a firm's agenda. This trend can be partially explained by factors external to the firm, such as media coverage and a larger interest of the public opinion in the impact of the firm on society and environment. Likewise, internal factors do also play a role on the social performance of a firm. The specific attributes of the firms may help to understand why some companies are more engaged in improving their social performance than others. In this thesis we are interested in identifying these characteristics of the firm, including ownership structure, which may be associated with a superior social performance. We hypothesize that the allocation of resources in CSR is the cause of a conflict between diverse agents influencing corporate activities. Individuals affiliated to the firm (such as managers and board of directors) may want to over-invest in CSR to obtain personal benefits such as reputation, even though it could be detrimental to other shareholders. Similarly, stakeholders who have an expected CSR-attitude may want to promote social issues into the corporate agenda, while leverage may act as a disciplinary mechanism preventing from over-investing in CSR. Using a unique rating on social issues for 84 publicly listed Swedish companies, we analyze the link between ownership structure and other characteristics of a firm, on one hand, and its corporate social performance, on the other. Our results partially suggest that certain pro-CSR investors (such as governments and non-profit organizations) may be succeeding in making companies in which they invest, more socially responsible. Moreover, we found that insider ownership is negatively and weakly related to social performance. This would occur because, with larger insider ownership, their private benefits of over-investing in CSR are offset by the larger costs that they carry. Furthermore, we found evidence that firm characteristics such as leverage, size, growth opportunities, risk and industrial sector are significantly related to corporate social performance.

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1. Introduction

This study aims to identify the relationship between ownership structure and other characteristics of Swedish firms, on one hand; and their performance regarding corporate social responsibility (also referred as social performance), on the other.

There are many definitions of Corporate Social Responsibility (CSR) but they refer generally to the actions taken by an organization, beyond what is legally required, in order to take responsibility for its impact on society. The European Union Commission (2001, p. 8) defines CSR as “*a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis*”.

The idea of CSR implies the promotion of sustainable development¹, and both terms tend often to be used interchangeably in practice. Agents external to the companies, such as the media and the public opinion have contributed in bringing the social issues on to a company's agenda. Cases of multinational corporations violating human rights have received large coverage in media, causing negative impacts on the firms involved, such as reduction in consumer loyalty, reduction in sales, and costly litigations. An example of this is the case of Unocal, being accused of forcing villagers to work at gunpoint in the Unocal's pipeline in Burma². Furthermore, promoters of CSR issues argue that a firm's good social performance tend to be well-appreciated by the public opinion, enhancing the brand, gaining market shares, and avoiding risks of future law suits.

Moreover, the proliferation of ethical ratings, ethical analysts, and initiatives such as the United Nations Global Compact ethical guidelines, indicate that CSR issues will continue to grow in importance.

While external factors may impact the firm's social performance in different ways, our research question focuses on identifying specific characteristics of a firm that can be associated with better social performance. Could we expect certain types of companies to have better social performance than others? In line with this question, we investigate whether institutional ownership characteristics are associated with a certain level of social performance. We hypothesize different types of owners, including insiders with shares in their own firms, to have diverse attitudes towards CSR. In this study we would like to evaluate who of them are more likely to fulfill their own CSR-agenda through

¹ Back in 1980, during the World Business Council for Sustainable Development, the Norwegian Prime Minister Gro Harlem Brundtland referred to sustainability as “*meeting the needs of the present without compromising the ability of future generations to meet their own needs*”.

² <http://www.laborrights.org/projects/corporate/unocal/index.html> - Last revised: 14-Set-2007.

ownership in the firms. Moreover, other characteristics of the company such as size and industry sector are tested as potential indicators of enhanced social performance.

In order to evaluate the social performance of the companies, we use a unique rating on social issues, which was produced by GES Investment Services, a consultancy firm in socially responsible investments. Our sample consists of 84 Swedish firms listed at the Stockholm Stock Exchange in 2006.

1.1. Contributions

To the best of our knowledge, this is the first empirical study for Swedish firms regarding the relationship between corporate social performance and firm ownership structure. Moreover, in comparison to previous research (mainly applied on American firms), we disaggregate the ownership of non-individuals shareholders, identifying the agents with certain CSR-agendas. This allows us to identify which groups of shareholders may be more inclined to promote higher social performance in the firm, and whether they succeed in it or not.

Additionally, we analyze how insiders' private interests may affect a company's social performance. Insiders, namely managers, employees and directors; may have incentives to over-invest in CSR to uphold good reputation. These incentives may bring to undertake certain actions in favor of the society, which may either enhance or reduce the firm's value. For that reason, we evaluate how insiders' ownership plays a role in reducing the allocation of expenses to CSR. Moreover, we investigate whether other characteristics of the firm, apart from the ownership structure, are associated with the firm's social performance. This may be useful for an investor concerned with social issues, since certain characteristics of a company such as size and leverage, may provide some information on its expected social performance.

Furthermore, as a proxy for corporate social performance we use an externally produced rating on a variety of social issues, provided by GES Investment Services. This rating allows a fairly unbiased evaluation of social performance. In our opinion the rating produced by GES is the most reliable proxy for corporate social performance currently available in Sweden.

2. Theoretical framework

2.1. CSR rating and CSR expenditure

In this paper we use a rating on social issues as a proxy for corporate social performance. This rating is produced independently by GES Investment Services and it is based on approximately 20 different dimensions of social issues, which can be grouped in working standards, relations with community and relations with suppliers. The use of independent social ratings has been applied in previous research when evaluating the relationship between financial and social performance, for example Graves (1994), Mahoney (2002), D'Arcimoles (2002) and Rubin (2006).

In this study we assume that there is a positive relationship between the firm's CSR expenditure and the rating received on social issues. We believe that a company allocating more resources in CSR is more likely to receive a better CSR rating.

As suggested by Barnea and Rubin (2006), we also assume that the link between CSR expenditure and firm value is non-monotonic: CSR expenditure creates firm value up to certain point, from which it starts to destroy value. Hence, a firm with negligible CSR expenditure can increase its value through investing in CSR. This will potentially lead the firm to being considered a more attractive potential employer, increasing employees' loyalty, avoiding fines and bad reputation in media, enhancing consumers' loyalty, generating larger sales, among others.

However, there will be some point, from which investing a marginal amount of resources in CSR will be detrimental for firm value. For instance, a company could potentially allocate all of its resources to CSR expenditures, for example giving money for good causes in a community and in such a way that the company is not able to properly cover its expenses for assets replacement.

In other words, CSR expenditure is viewed as any other input for the firm: it will increase firm value up to the level where the marginal productivity of CSR equals its marginal cost. After that point, CSR may decrease firm value. The empirical evidence on the relationship between CSR and corporate financial performance (CFP) is still unclear. Orlitzky et al. (2003) provides a comprehensive meta-analysis of 52 empirical studies, each of them providing support for a positive, neutral or negative relationship. Given the inconclusiveness regarding the relationship between CSR and CFP, we assume the existence of the mentioned non-monotonic relationship between CSR and firm value.

2.2. Insiders

Insiders are individuals who are directly affiliated to the firm and because of their nature, affect the corporate performance, even if they do not own shares in the firm. In this study we consider managers, employees and board of directors as insiders.

Considering the assumed non-monotonic relationship between CSR expenses and firm value, the CSR expenditure may be seen as the source of conflict between different stakeholders, namely: insiders; larger shareholders with a specific CSR-agenda; and other shareholders concerned on getting the highest return for their investment, regardless of ethical considerations.

Insiders are hypothesized to gain private benefits of being related to a firm that is socially performing well. The benefits may be good visibility and reputation. For example: managers and directors affiliated with a firm doing well in CSR may be considered as respectable citizens who care for their employees and for their communities. Employees may feel an increased personal satisfaction and admiration from others as being part of a company that does “good”. Moreover, a good CSR rating may be a tool for management entrenchment: firing a charismatic, well-respected, community-committed manager, may bring unwanted bad image to the firm.

Thus, the group defined as insiders will have incentives to increase CSR expenditure, even though this may reduce firm value.

In the principal-agent theory there is a conflict of interest between directors, who act on behalf of shareholders, and managers. Jensen and Meckling (1976) suggest that the agency problem arise from the separation of ownership and control. They argue that managers may pursue their own interests, which tend to differ from those imposed by shareholders. In Jensen and Meckling’s scenario, managers’ interests are reflected in perk-taking (e.g. excessive costs of representation), which consume firm value, imposing a type of taxation on shareholders’ shares.

Donaldson and Lorsch (1983), argue that managers see themselves as representatives of different stakeholders: debt-holders, equity-holders, employees, customers and suppliers. Hence, managers’ decisions would be influenced by the different stakeholders’ interests, rather than only maximizing shareholder value.

In comparison to the typical principal-agent theory, we argue that all insiders (and not only managers) can benefit as a result of their firms’ higher social performance. Regarding CSR investment, managers’ and directors’ incentives will be aligned: they may want to over-invest in CSR at the expense of shareholders’ value.

However, insider ownership can moderate this conflict between insiders and shareholders. We hypothesize that the willingness of the insider to over-invest in CSR will be mitigated if they bear a part of the associated economic costs. In other words, if over-investment in CSR destroys value, an insider with shares in the company will experience a negative effect in his/her private economy. Hence, the more shares the insiders own in their firms, the more in line their incentives will be with those of (other) shareholders.

Hypothesis 1: There is a negative relationship between insiders' ownership and a firm's social performance.

2.3. Leverage

According to Hart and Moore (1995), a larger debt obligation prevents managers from using resources in ways that do not maximize value. When the available cash is limited, the manager has fewer resources to invest in all the projects he/she had desired (including both value-creating and value-destroying projects, which may give them private benefits).

In the extreme case of cash scarcity, if the manager could only invest either in a project that creates value or in a project that destroys value, he/she will obviously be more compelled to choose the first one, since his/her actions will be more easily monitored. Following the same line of reasoning, when the leverage of the firm is higher, the insiders' ability to over-invest in CSR will be reduced. High leverage can be seen as a disciplinary mechanism to prevent managers from diversion of cash and/or investing in projects that are detrimental to firm value.

Hypothesis 2: A higher level of leverage will be negatively associated with a firm's social performance.

2.4. Non-public Pro-CSR entities holding shares

In the group of entities with a pro-CSR agenda, we identify the following actors: NGO's (non-governmental organizations), charitable foundations, research institutes, labour unions, churches and ethical investment funds.

Sweden is recognized worldwide for being a welfare state and for its concern for social issues and sustainability. This reputation is explained in part by the level of influence that non-governmental organizations have in Sweden, in comparison to equivalent non-state sectors in other countries. According to Sjöström (2004), the first European ethical fund available to all investors was established in Sweden in 1965. Later, in 1980, the Church of Sweden established the second ethical fund available to the public in Europe.

2.4.1. NGO's

A NGO (non-governmental organization) is any non-profit, voluntary citizens' group which is driven by people with a common interest in social issues, such as human rights, corruption or health. By its own nature, this kind of organization is expected to have ethical considerations when planning an investment decision. We would not expect, for example, Amnesty International, which works from a clear pro-human rights position, to invest in a firm with high controversies regarding its labour standards. Moreover, Långmark (2007, p. 14) suggests that NGO's are more commonly using their shares in companies as a tool to influence them: *"the narrower agenda of NGO's is comprised of a use of shares to promote certain issues instead of acquiring actual return of investment"*. Some examples of NGO's in our dataset are: The Swedish Red Cross, The World Wide Fund for Nature (WWF), and the Swedish NGO Foundation for Human Rights.

2.4.2. Charitable foundations, research institutes, labour unions and churches

These are also organizations that primarily are not driven by profit. Their main activities are expected to have a positive impact on society in general, on a target group of people, or on a specific issue. Considering their nature, they are expected to have ethical considerations when investing in publicly quoted firms. Moreover, since the image of these organizations may be very sensitive to the public opinion, they would not want to be related to firms with low social performance.

2.4.3. Ethical investment funds

These types of funds take into consideration the social and environmental repercussions of their investments. In 2005 there were approximately 85 ethical funds in Sweden, managing 64 billion SEK i.e. 4.8% of the total Swedish fund saving (Långmark, 2007). Based on the analysis of ethical funds characteristics in Sweden (Skillius, 2005), the screening on social issues may require investment objects to correspond to a certain minimum of ethical parameters. These parameters are frequently related to international conventions on human rights, labour standards and corruption, promoted by the United Nations³.

Hypothesis 3: A larger ownership by the mentioned non-public Pro-CSR entities is positively associated to a firm's social performance.

³ United Nations Global Compact - <http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/index.html>

2.5. Governments and public entities

The overall goal of a government is expected to be the welfare of citizens. A government is the only entity that can create legislation and penalize for the infringements of the law.

The Swedish government has taken initiatives to promote the implementation of CSR in public policy. One of the most concrete examples is the “Swedish Partnership for Global Responsibility”. This initiative encourages companies to commit themselves to follow both the OECD Guidelines for Multinational Enterprises and the principles included in the United Nations Global Compact.

The government has not only fostered private firms to become more socially responsible, but it has also started to influence the companies that are fully or partially state-owned or controlled. For instance, “in 2004, 33 state-owned companies were required to report on their work towards implementing the principles underpinning the Swedish Partnership for Global Responsibility⁴”. We expect governments and public entities to have ethical consideration in their investment strategies.

Hypothesis 4: A larger ownership by government and public entities is positively associated to a firm’s social performance.

2.6. The national pension funds - AP Funds

According to the Public Pension Funds Act (2000), the six AP Funds are required to include environmental and ethical considerations in their investment processes. In their annual reports they should include an evaluation on how these considerations have influenced their investment decisions.⁵

It should be noted that the ethical guidelines may not be extremely restrictive, in order to allow the AP funds enough flexibility to gain appropriate returns. For instance, the corporate governance policy of the Second AP Fund (2007) indicates: “*the Second AP Fund shall not invest in companies that have repeatedly or consciously ignored any of these criteria for sound ethics*”. This statement leaves the possibility open of investing in unethical firms, as a one-time occasion or if it has taken place “unconsciously”. This policy may mitigate the strictness of the ethical screening that AP funds make before investing in a firm.

Moreover, even when ethical considerations may be highly relevant, they are subordinated to profit maximization. Hence, for example, in the case of the Seventh AP Fund: “*the sole purpose of the*

⁴ United Nations - Office of the United Nations High Commissioner for Human Rights.

⁵ Ibid.

Seventh Swedish National Pension Fund's involvement in shareholder issues is to help raise the return earned on the pension-savers' units in the Premium Savings Fund and the Premium Choice Fund⁶".

The First AP Fund states that "*consideration shall be given to ethics and the environment without compromising the overall goal of a high return*"⁷.

Additionally, the Seventh AP Fund "*is statutorily prohibited from exercising the voting rights attached to its Swedish shares⁸*", therefore its ability to influence a company's actions (including corporate social performance) may be reduced.

Overall, considering the ethical mandate that they have, we would expect a higher AP Funds' ownership to be related to a firm's better social performance. However, it seems that AP funds have a more flexible CSR-investment-policy than other agents, such as NGO's and churches. Therefore we would expect the ownership of the AP funds to have a weaker relationship with a higher CSR rating, in comparison to those agents described in sections 2.4 and 2.5.

Hypothesis 5: A larger ownership by AP funds is positively associated to a firm's social performance.

⁶ Second AP Fund. (2007). Corporate Governance Policy

⁷ First AP Fund Website / Our mission

⁸ Seventh AP Fund. (2007). Corporate Governance Policy

3. Previous studies

3.1. Measuring CSR

Even when the public awareness on CSR issues seems to have increased dramatically in this new century⁹, academic studies on CSR in the field of finance, date back as far as over three decades, e.g. Alexander and Buchholz (1978) research on CSR and stock market performance.

In order to estimate the CSR of a firm, different studies have used a multitude of diverse variables, producing mixed results. The proxies for CSR have consisted of measures such as: evaluation of questionnaires sent to firms, the Fortune index on corporate reputation (McGuire et al, 1988), reports on employees' satisfaction (Hansen et al, 1989), charitable contributions (Lev et al, 2006), among others.

As it has been mentioned before, we apply a social rating produced independently by GES Investment Services. The use of independent ratings is not new in the CSR field of study. One of the first studies using this kind of data is Shane and Spicer (1983), based on information developed by the U.S. Council on Economic Priorities (CEP). They point out the appropriateness of using externally created data, in comparison to relying on non-standardized reports. In their own words: *“In the absence of mandated disclosure and reporting standards, voluntary disclosures tend to be inconsistent and non-comparable from firm to firm, even in the same industry, On the other hand, externally produced data (as least as produced by CEP) was gathered using consistent procedures for collection and reporting across firms. Comparisons across firms are thereby possible and potentially meaningful¹⁰”*.

Twenty-four years later, the scenario described by Shane and Spicer does not seem to have changed significantly. According to Frithiof and Mossberg (2007), 60% of the Swedish firms that they analyzed do not report CSR data on their websites. Moreover, they find that only 25% of those firms have a person responsible for CSR issues. The existing reports on CSR tend to vary across firms both on the issues presented as well as on the way how they are discussed. This makes it extremely difficult to compare them and to draw clear conclusions.

The first concrete steps towards a standardized guideline for measuring corporate social responsibility have been taken by ISO¹¹ (the International Standards Organization). Negotiations among the different groups of interest are taking place, and the standard is expected to be launched not before 2009.

⁹ For example: the United Nations Global Compact Initiative; the globally broadcasted Live Earth Concert on Climate Crisis; and the documentary “An Inconvenient Truth” by Al Gore, co-winner of this year's Nobel Peace Prize.

¹⁰ Shane and Spicer (1983, p. 523).

¹¹ ISO, Social Responsibility Standard at www.iso.org/sr

Methods to measure CSR, such as questionnaires to be filled by the firms, may lack transparency, and may be filled out by different persons in the firm, with different approaches and knowledge (if the firm does not have a specialized CSR department, then a marketing person, a human resource employee or others may be filling out the forms). This results in a problem of inconsistency.

Moreover, Sjöström (2004) points out another side effect, so-called the “questionnaire fatigue”: when companies are asked to fill in a large number of several kinds of questionnaires, the willingness to provide a well-thought, dedicated feedback tends to decrease. Furthermore, it could be expected that the worst social performers decline more often than the better social performers in participating in these questionnaires.

In the American literature, several studies on CSR such as Rubin (2005) and Graves and Waddock (1997), have used the externally produced rankings on social performance, provided by Kinder, Lydenberg, Domini and Co. (KLD). The authors claim that the use of these ratings is based on critical attributes such as a wide consideration of several social dimensions, independence and consistency on the data collection and reporting. As it will be described later (section 4.3.1.), both the way how the GES-social rating is elaborated and its attributes, are similar to those of the KLD rating.

3.2. CSR and institutional ownership

It is worth to remark that the vast majority of empirical studies in CSR have focused mainly on analyzing the relationship between a firm’s social performance and its financial performance. Hence, the center of attention has been on the output that a good social performance can give to the company, rather than on investigating which factors may increase the likeliness of a firm being a good social performer.

Moreover, to the best of our knowledge, when analyzing the relationship between social performance and institutional ownership, previous studies have considered shares by institutions as one indivisible category, rather than disaggregating it in sub-categories of entities.

The study conducted by Graves and Waddock (1994) is one of the most prominent studies on social performance and institutional ownership. The authors use the KLD rating on social issues for a sample of 430 firms included in the Standard & Poor’s 500. They found evidence of a positive but non-significant relationship between the obtained social rating and the percentage of shares held by institutions. They conclude that improving a firm’s social performance does not discourage institutional ownership.

In another study applied for American firms, Coffey and Fryxell (1991) use two different proxies for dimensions of social responsibility: charitable contributions and number of women on the board of directors. They do not find a significant relationship between institutional ownership and the first proxy, but they do find a positive relationship between institutional ownership and number of women in the board.

Mahoney and Roberts (2002) investigate the relationship between a firm's social performance and the number of institutions owning shares in it. Using a sample of 300 Canadian firms listed in the Toronto Stock Exchange, they find a significant and positive relationship. They apply a social rating by Michael Jantzi Research Associates, which is based on several dimensions on social performance. Arguing that institutional investors tend to hold shares in a firm for a longer time than disperse individuals, they state that institutional investors take social performance into consideration, as a way of reducing long term risk (e.g. avoiding litigations or being more responsive to potential pressures on social issues).

In a more recent study, Barnea and Rubin (2005) state that expenditures in CSR may be seen as a conflict between institutional owners, creditors and insiders. They argue that decision-makers inside the firms (insiders) will gain private benefits of belonging to a socially responsible firm. They find that insiders' ownership works as a mechanism aligning insiders' interest with the interest of other agents: the larger the insider ownership, the lower the CSR expenditure. They also find that the larger the firm's leverage, the lower its social performance is. Leverage would act as a mechanism preventing from over-investments in CSR. Finally, they do not find a relationship between institutional ownership and a firm's social performance.

3.3. Other factors influencing a firm's social performance

Research on CSR suggests that certain characteristics of the firm may help in explaining its likeliness of being rated as a high or low social performer. Previous studies on the field widely coincide in considering the following attributes: size, growth opportunities, risk and industry sector.

D'Arcimoles and Trebucq (2002) indicate that a larger firm **size** is related to both a better ability of allocating larger resources for CSR, and an enhanced communication platform to signal their "social actions" to their stakeholders. For example, a large firm may allocate more economic resources for community causes and may afford having a specialized CSR-responsible (or a good marketing person) to make sure that their "good actions" are highly visible. Burke (1986) suggests that when companies mature and get larger, they get more attention from various stakeholders, and they are forced to be more responsive to different groups' demands.

The **growth opportunities** of a firm may also have a relationship to its social performance. A firm with better social performance may gain market shares in certain target groups, in which others cannot compete, e.g. consumers who prefer environmental-friendly products or who do not buy from firms with reputation as “exploiters”. Additionally, following Waddock and Graves (1997) argumentation, investment in CSR may be a costly project at first, but potentially bringing efficiencies and better opportunities in the long run.

Skillius (2002) and Sjöström (2004) suggest that the financial **risk** of a firm is reduced through better social performance. If firms have policies that go beyond national law, and have respect for international conventions, they are less likely to be sued or to become a part of corporate scandals. In addition, they will be in a better position to respond in case there is a change in the law, or in case external groups make higher demands on social issues.

The inclusion of firms’ industry sector has been generalized in empirical studies on CSR. To get a good CSR rating, firms in certain industries will have to struggle more than those in another kind of industries. Based on the above discussion, three additional hypotheses are included:

Hypothesis 6: A firm’s size will be positively associated with its social performance.

Hypothesis 7: A firm’s level of growth opportunities will be positively associated with its social performance.

Hypothesis 8: A firm’s level of risk will be negatively associated with its social performance.

4. Methodology

4.1. Model

In order to test our hypotheses, we use the following multivariate regression model:

$$\begin{aligned} \text{Social Performance}_{it} = & \beta_0 + \beta_1 \text{Insiders ownership}_{it} + \beta_2 \text{AP Funds ownership}_{it} \\ & + \beta_3 \text{Non-Public Pro-CSR Entities ownership}_{it} + \beta_4 \text{Government ownership}_{it} \\ & + \beta_5 \text{Leverage}_{it} + \beta_6 \text{Size}_{it} + \beta_7 \text{Growth Opportunities}_{it} + \beta_8 \text{Risk}_{it} \\ & + \sum \beta_k \text{Industry dummy variables}_{it} \end{aligned}$$

The firm's social performance is the dependent variable in the regression. The explanatory variables can be grouped into ownership variables and firm characteristics variables.

The expected signs for this regression, according to our hypotheses, are summarized in the following table:

Table 1: Regression expected signs

Coefficient	Description	Expected sign
β_1	Insiders' ownership	-
β_2	AP Funds' ownership	+
β_3	Non-Public Pro-CSR Entities' ownership	+
β_4	Government's ownership	+
β_5	Leverage	-
β_6	Size	+
β_7	Growth Opportunities	+
β_8	Risk	-

4.2. Explanatory Variables

For all the ownership variables we use 2 types of proxies: ownership measured by percentage of cash flow rights, and ownership measured by percentage of voting rights. We believe that these two different approaches vary in their degree of appropriateness, depending on the type of entity owning shares. For instance, the percentage of cash flow rights may be a better proxy for the insiders' ownership: insiders already have an influence on the firm's decisions, without a need for voting rights. Cash flow rights reflect in a better way the economic impact that over-investment in CSR may have on insiders' utility level.

For other groups of owners, such as AP funds and governments, voting rights may be a more appropriate proxy for ownership than cash flow rights. This is because these agents must obtain a certain level of voting participation first, in order to get their demands "heard". Those with more percentage of voting rights are in a better position to get a better response to their demands, including demands on CSR issues.

The leverage is measured as the total amount of long term interest-bearing debt divided by total assets. We use total assets as the measure for a firm size. To capture a firm's growth opportunities we use the price-to-earnings ratio. To measure the risk of a firm, we include the 250-days volatility of the stock return. All the variables are collected as of 29 of December, 2006.

The selection of the proxies was made according to two conditions. Firstly, the proxies must have been routinely used in previous empirical studies. Secondly, both the strength of the correlations among explanatory variables and their significance levels must be as low as possible.

Based on the 9-sectors category by Affärsvärlden (2005), we included 7 industry dummy variables: consumer products, industry, raw materials, finance, health, services and TIME (telecommunications, IT, media and entertainment). The last category encompasses the 3 industries with the lowest number of firms represented in the sample. Appendix A shows the firms included in the study, classified by industry sector.

4.3. Data Collection and Sample

The sample used in this study initially consisted of the 100 most traded firms at the Stockholm Stock Exchange in 2006. These are the firms for which a social rating was available, as provided by the consultancy firm in responsible investments GES. The number of firms included in the study was then reduced to 84, since there was no available data on detailed ownership for 16 of them.

Even though social ratings for Swedish firms are available for some preceding years, the number of firms included in those previous ratings represents only a small fraction of the sample that is used here. We chose to focus on the period in which a more complete and consistent information was available for the largest number of firms, i.e. 2006.

4.3.1. Social Performance: The Social Rating

We use the social rating produced by GES Investment Services as the proxy for the firms' social performance.

GES Investment Services is the leader in Northern Europe in providing advice on socially responsible investments. The assets under GES' consultancy services amount to approximately €250 billion. The social rating that they produce is based on the evaluation of approximately 20 different dimensions, related to social issues. These dimensions include among others, the evaluation of the firm in the following categories: child labour, employee satisfaction, discrimination, health and safety at work, freedom of association policy, impact on communities and community support, outsourcing from developed countries, and policies to choose suppliers.

Moreover, these aspects can be grouped in three sub-categories: relations with employees, relations with communities and relations with suppliers. Together these three sub-categories compose the overall social rating.

The social rating reflects how a firm conducts its businesses with respect to international norms on social issues, such as the Universal Declaration of Human Rights and the main conventions of the International Labour Organization. In order to assess a firm's social performance, GES analyzes official company documents and websites, and contacts the companies directly to get further information. Moreover, GES gathers information from sources external to the firm, namely: media, non-governmental organizations, and GES partners.

Each of the analyzed social dimensions is given a numerical rating. A higher score means a better performance in the respective dimension. Conversely, the lack of ability to deal suitably with one social dimension, results in a lower score. Each of the dimensions receives a numerical score and the final result is the final weighted-average social rating, which has a range from 0,00 to 2,00.

4.3.2. Insider ownership data

The insiders' ownership data was obtained manually from Finansinspektionen (FI). FI is the public Swedish Financial Supervisory Authority. FI keeps a public register of the buying and selling of stocks by corporate insiders (managers, other employees and board directors) at their own companies.

From the printed registers for each company, we obtained the following information: names of those individuals considered as insiders by FI, and number of A shares, B shares, and options in their possession, as of 29 of December of 2006.

It is important to point out that FI takes into account the ownership that insiders may have through third-parties. For instance, insiders (from firm Y) may own a significant amount of shares in the firm X, and the firm X may possess shares in Y. FI considers those shares by firm X in Y as insiders' shares.

Using this information, we calculated the insiders' percentage of voting rights and cash flow rights as a fraction of the total voting and cash flow rights in each firm, respectively.

4.3.3. Non-insider ownership data

Data on the largest shareholders for each company as of 29 of December of 2006, was obtained from SIS Ägarservice Database.

SIS Ägarservice AB specializes in analysis of ownership for those firms that are listed on the Stockholm Stock Exchange, but only for those which are domiciled in Sweden. For that reason, 16 firms that were not domiciled in Sweden were excluded from the sample, leaving a final set of 84 firms¹². All those shareholders with at least 0,1% of the total shares were included in the study¹³. Each of the largest shareholders for the 84 firms was classified as: governments and public authorities; AP funds; ethical funds¹⁴, foundations, charity organizations, churches and NGO's, and others. The last five mentioned entities were grouped into the category "Non-Public Pro-CSR Entities".

We decided to aggregate these groups into the "Non-Public Pro-CSR" category because they owned a small percentage of shares when considered individually. We believe this aggregation to be rational since these entities share a strong concern for social issues, and are not public (in comparison to government and AP funds, which may also have a strong interest in CSR issues).

4.3.4. Other firm characteristics data

The data on total assets, long term interest bearing debt and price-to-earnings ratio was extracted from the Orbis database. The 250-days volatility of the stock return was collected from the SIX Trust database. The following table shows a summary of the variables description and the data source from which they were collected:

¹² Other databases either showed only a few number of the largest shareholders or did not show information at the required specific date (2006-12-29).

¹³ Using this criteria, the largest shareholders for every firm were approximately 60.

¹⁴ In order to identify which funds were ethical funds, we used the list provided by Skilius (2005).

Table 2: Definition and source of variables

Variable name	Definition	Source
Corporate Social Performance	A social rating based on approx. 20 different social aspects, which can be grouped in labour standards, community relations and supplier relations	GES Investment Services
Insider Ownership	Percent of both voting and cash flow rights held by all officers and board directors of the company	Finansinspektionen
Other ownership (excl. insider ownership)	Percents of both voting and cash flow rights held by the specific entities as a group.	SIX Ägarservice
Leverage	The book value of long term interest-bearing debt divided by the book value of total assets.	Orbis
Ln Assets	The natural log of the book value of total assets	Orbis
Price-to-earnings ratio	The stock's market capitalization divided by its after-tax earnings	Orbis
Ln 250-Vola	The natural log of the 250-days-volatility of the stock return.	Six Trust
Industry dummies	Firms grouped in 7 categories: consumer products, industry, raw materials, finance, health, services and TIME (telecommunications, IT, media and entertainment)	Based on Affärsvärlden classification

5. Empirical results and discussion

5.1. Descriptive statistics

The descriptive statistics for the variables used in the regressions are shown in table 3a (with percentage of cash flow rights as proxy for ownership) and 3b (with percentage of voting rights as proxy for ownership):

Table 3a: Descriptive statistics – percentage of cash flow rights as proxy for ownership

Variable	Mean	Std. Dev.	Minimum	Maximum	N
Social Rating	0,71	0,04	0,00	1,49	84
Insiders CF	16,5%	2,4%	0%	92,4%	84
AP fund CF	2,8%	0,3%	0%	12,3%	84
Pro-CSR agents CF	3,9%	0,5%	0,2%	26,4%	84
Government CF	2,3%	1,0%	0%	59,4%	84
Leverage	16,3%	1,8%	0%	60,0%	84
LN Assets	16,7	0,2	13,6	21,9	84
P/E ratio	19,1	3,2	-11,2	251,8	84
LN 250-Volatility	4,6	0,1	3,1	6,1	84

Notation: CF=cash flow. Pro-CSR agents=Non-public pro-CSR entities.

The table indicates that the social rating has a range of 0,00-1,49. The mean is 0,71 and the standard deviation is close to zero (0,04). Our dependent variable is fairly close to be normally distributed.

Regarding cash flow ownership, insiders are the group that has the highest mean ownership (16,5%). They also include the shareholders with largest ownership in a firm (92,4%). The rest of shareholders groups considered in this sample have a mean ownership of around 2%-4%.

Table 3b: Descriptive statistics – percentage of voting rights as proxy for ownership

Variable	Mean	Std. Dev.	Minimum	Maximum	N
Social Rating	0,71	0,04	0,00	1,49	84
Insiders vote	21,5%	2,9%	0%	92,4%	84
AP fund vote	2,2%	0,2%	0%	12,3%	84
Pro-CSR entities vote	4,7%	0,9%	0%	52,7%	84
Government vote	2,1%	1,0%	0%	59,4%	84

When using percentage of voting rights as a proxy for ownership (table 3b), insiders still show the largest ownership mean (21,5%) and still include the shareholder with largest ownership (92,4%). It is interesting to mention that non-public pro-CSR entities have slightly higher average voting rights than cash flow rights. The opposite is true for AP funds and governments. Preliminarily, this could be an indication that non-public pro-CSR entities prefer to take a more active role in shaping the firm's CSR

agenda than governments and AP funds. This is in line with our previous discussion on different entities' attitudes towards CSR¹⁵.

5.2. Partial correlations

Table 4 shows the partial correlations for key variables, using percentage of cash flow rights as a proxy for ownership:

Table 4: Partial correlations among variables – percentage of cash flow as proxy for ownership

		Correlations								
		Social Rating	APCFrights	Pro-CSR ent. CFrights	Government CFrights	Insider CFrights	LNassets06	Leverage06	PE 06	LNVolat250 SIX2006
Social Rating	Pearson Correlation	1	.036	.224 *	.186	-.192	.361 **	-.179	-.163	-.030
	Sig. (2-tailed)		.745	.041	.090	.081	.001	.111	.144	.787
	N	84	84	84	84	84	83	80	82	84
APCFrights	Pearson Correlation	.036	1	.056	-.054	-.326 **	.186	.034	-.076	.074
	Sig. (2-tailed)	.745		.612	.627	.002	.093	.762	.495	.502
	N	84	84	84	84	84	83	80	82	84
Pro-CSR ent. CFrights	Pearson Correlation	.224 *	.056	1	.035	-.222 *	.324 **	-.060	-.154	.228 *
	Sig. (2-tailed)	.041	.612		.751	.043	.003	.598	.166	.037
	N	84	84	84	84	84	83	80	82	84
GovernmentCFrights	Pearson Correlation	.186	-.054	.035	1	-.178	.266 *	-.018	-.070	-.016
	Sig. (2-tailed)	.090	.627	.751		.105	.015	.874	.534	.885
	N	84	84	84	84	84	83	80	82	84
InsiderCFrights	Pearson Correlation	-.192	-.326 **	-.222 *	-.178	1	-.326 **	-.127	.023	-.153
	Sig. (2-tailed)	.081	.002	.043	.105		.003	.263	.838	.164
	N	84	84	84	84	84	83	80	82	84
LNassets06	Pearson Correlation	.361 **	.186	.324 **	.266 *	-.326 **	1	-.062	-.285 **	.200
	Sig. (2-tailed)	.001	.093	.003	.015	.003		.585	.010	.070
	N	83	83	83	83	83	83	80	82	83
Leverage06	Pearson Correlation	-.179	.034	-.060	-.018	-.127	-.062	1	.014	-.143
	Sig. (2-tailed)	.111	.762	.598	.874	.263	.585		.903	.205
	N	80	80	80	80	80	80	80	79	80
PE 06	Pearson Correlation	-.163	-.076	-.154	-.070	.023	-.285 **	.014	1	-.219 *
	Sig. (2-tailed)	.144	.495	.166	.534	.838	.010	.903		.048
	N	82	82	82	82	82	82	79	82	82
LNVolat250SIX2006	Pearson Correlation	-.030	.074	.228 *	-.016	-.153	.200	-.143	-.219 *	1
	Sig. (2-tailed)	.787	.502	.037	.885	.164	.070	.205	.048	
	N	84	84	84	84	84	83	80	82	84

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Regarding cash flow rights, the signs of the correlations among the four ownership variables and the dependent variable (social rating) show the expected signs: negative for insiders' ownership and positive for the others. Insiders, non-public pro-CSR entities and governments are statistically significant at the 10%, 5% and 10% level, respectively.

On the other hand, AP funds' ownership has a correlation far from significant with the social rating. There is a highly significant correlation (at 1% level) between insiders' ownership and AP funds' ownership. In fact, insiders' ownership has significant and negative correlations (in the range 5%-10% level) with the other ownership variables. In general these entities could be discouraged to invest in firms with large insiders' ownership. This would imply that a larger insider's control has a negative impact on the perceived corporate governance of the firm.

¹⁵ In fact, AP funds policy is to have ethical considerations when investing, but without sacrificing profits for it. On the other hand, non-public pro-CSR entities, because of their nature, are expected to prioritize CSR-issues over profits.

Leverage is negatively correlated to the social rating at a significance level of 12%, and it is not correlated significantly with other independent variables. Size (assets) is positively correlated to the social rating, at the 1% significance level. Risk (stock return volatility) has a negative but non-significant correlation with the social rating. Finally, growth opportunities (P/E ratio) is correlated with the social rating at the 15% significance level, and the sign of the coefficient is negative, which is different to what it was expected.

Overall, the partial correlations table shows significant correlations among the ownership variables and the social rating. Three of these four correlations have the expected signs. Additionally, size is significantly correlated with the social rating and has the expected sign. The partial correlations when using percentage of voting rights provide similar results to those described for percentage of cash flow rights. These results are included in the appendix (Table A2).

5.3. Multivariate regressions

In this section we present the results for the multivariate regressions, based on the model presented in section 4.1. Given the proxies that we have used for the dependent and the explanatory variables, the two regressions to be run have the following specifications:

Specification 1:

$$\begin{aligned} Social\ Rating_{it} = & \beta_0 + \beta_1 Insiders\ CF\ rights_{it} + \beta_2 AP\ Funds\ CF\ rights_{it} \\ & + \beta_3 Non-Public\ Pro-CSR\ Entities\ CF\ rights_{it} + \beta_4 Government\ CF\ rights_{it} \\ & + \beta_5 Leverage_{it} + \beta_6 LN_Assets_{it} + \beta_7 P/E-ratio_{it} + \beta_8 LN\ Stock\ return\ volatility_{it} \\ & + \sum \beta_k Industry\ dummy\ variables_{it} \end{aligned}$$

Specification 2:

$$\begin{aligned} Social\ Rating_{it} = & \beta_0 + \beta_1 Insiders\ voting\ rights_{it} + \beta_2 AP\ Funds\ voting\ rights_{it} \\ & + \beta_3 Non-Public\ Pro-CSR\ Entities\ voting\ rights_{it} + \beta_4 Government\ voting\ rights_{it} \\ & + \beta_5 Leverage_{it} + \beta_6 LN_Assets_{it} + \beta_7 P/E-ratio_{it} + \beta_8 LN\ Stock\ return\ volatility_{it} \\ & + \sum \beta_k Industry\ dummy\ variables_{it} \end{aligned}$$

Hence, both specifications differ from each other in the way ownership is measured (as percentage of cash flow rights or as percentage of voting rights). As mentioned before, we believe that percentage of cash flow rights are the best proxy for analyzing the conflict between insiders and outside shareholders. By definition insiders have a lot of managerial discretion in the company and they do not need voting rights per se to influence corporate decisions. On the other hand, percentage of voting rights may be a better measure of how non-insiders may gain control over the firm's actions. For that

reason, and as a robustness check, we estimate ownership using both percentage of cash flow rights and percentage of voting rights.

Table 5 summarizes the regression results for specifications 1 and 2:

Table 5: Regression results modeling the relationship between social performance and characteristics of the firm

Dependent Variable: Social Rating 2006						
Explanatory variables						
Ownership: Cash Flow Rights				Voting Rights		
	Coeff.	Sig.	t-stat	Coeff.	Sig.	t-stat
Insiders CF	-0.002	(25%)	-1.182			
Insiders vote				-0,001	(45%)	-0.764
AP fund CF	-0.019	(27%)	-1.121			
AP fund vote				-0,017	(35%)	-0.944
Pro-CSR agents CF	0.010	(20%)	1.306			
Pro-CSR agents vote				0,006	(15%)	1.471
Government CF	0.004	(33%)	0.997			
Government vote				0,005	(26%)	1.139
Leverage	-0,431*		-1.837	-0,393*		-1.719
LN Assets	0,088***		3.128	0,093***		3.369
P/E ratio	-0,003**		-1.987	-0,002**		-1.193
LN 250-Volatility	-0,132***		-2.528	-0,127**		-2.466
Intercept	0,075		0.138	-0,043		
Significant industries						
Financial	-0,217**		-2.043	-0,245**		-2.382
Services	-0,257*		-1.722	-0,255*		-1.694
TIME	-0,379***		-2.708	-0,390***		-2.793
N ^o of observations	84			84		
R ²	46.2%			46.0%		
Adjusted R ²	34.4%			34.2%		
F	3.92			3.89		
F significance level	0.00			0.00		

Notes: This table shows the regression coefficient for each variable. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively. The significance levels for ownership variables are shown in parentheses. Only the dummies for significant industries are showed in the table.

From the table above, it can be observed that both specifications present a fairly high R² of approximately 46%. The adjusted R² for both specifications is around 34%. The F values, which are a measure of the overall significance of the regressions, are significant at the 1% level for both specifications.

5.3.1. Ownership variables

Table 5 indicates that none of the ownership variables is significant at the 10% level for any of the two specifications. Still, the insiders coefficient is negative for both specifications, as it was expected in our first hypothesis. Specification 1 (using percentage of cash flow rights) has a better significance level than specification 2, which may support the idea that percentage of cash flow rights are a better proxy for the relationship between insiders' interests and CSR-expenses. We cannot reject that there is a negative relationship between insiders' cash flow ownership and social performance at a 25% significance level.

Non-public Pro-CSR entities' ownership, and governments and public authorities' ownership show positive coefficients for both specifications. For specification 1 (specification 2), we cannot reject a positive relationship between non-public Pro-CSR entities' ownership and CSR; as well as between governments ownership and CSR, at a significance level of 20% (15%) and 33% (26%) respectively. Hence, even when the results of the regressions do not show statistical significance at the conventional levels for these entities, we can infer that the links between these two groups of agents' ownership and the social performance of the firm have a positive inclination.

For both specifications, the coefficient of AP funds' ownership is negative, which is contrary to what we expected, and it is not significant at the 10% level. As shown in table 4, there is no correlation between the AP funds' ownership and the social rating. Therefore, there was no reason to expect different results in the regressions.

It must be recalled that, even when we expected a positive relationship among AP funds' ownership and social performance, there were indications that this relationship was not straightforward. The ownership policies of the AP funds indicate that ethical considerations must not compromise the return on investments.

5.3.2. Capital structure and other characteristics of the firm

The beta coefficient of leverage is negative and significant (at the 10% level) for both specifications. These results confirm our hypothesis that with higher level of debts, the insiders' capacity to (over-) invest in CSR is reduced.

The level of risk shows a negative coefficient for both specifications. The significance level is 1% for specification 1 and 5% for specification 2. This result supports hypothesis 8. This finding is particularly interesting, since it could be argued that better social performance reduces the risk of the firm, which in this case was measured as the volatility of the stock return. Investors are interested in

the risk-return profile of a firm (and not only in its return), and the social performance of a firm could be an indication of a lower investment risk. Still, it is important to remark that in this study we look at correlations and it is not our purpose to investigate the direction of the causality.

The proxy for size (log of assets) has a positive coefficient that is significant at the 1% level for both regressions. This is in accordance with our expectations (hypothesis 6). Hence, a larger firm will tend to have more resources to invest in CSR, so that it will get a better social rating. It could also be the case, that a large company has a better marketing mechanism to make their “good actions” more visible than smaller firms. However, both alternatives are not mutually exclusive.

In the case of growth opportunities, measured as the P/E ratio, we found the coefficient to be negative and significant at the 5% level for both specifications. These results are different to what we expected. A possible explanation to this could be that cash flow coming from CSR investments may take a longer time to pay back than what investors may desire. Moreover, since we have assumed that the link between CSR expenditure and the firm value is non-monotonic, we could expect that certain projects related to CSR may indeed reduce firm value, negatively affecting growth opportunities.

Finally, we found that 3 out of 7 dummy industries were statistically significant: Financial sector, Services and TIME (Telecommunications, IT, Media and Entertainment). The coefficients for these 3 sectors were negative. They share a common characteristic: they have proportionally more private individuals as their direct end-customer, in comparison to raw materials sectors or industry. This characteristic can make these firms more dependent on private individuals’ demands, including pressures on social matters, since they can be expected to be more responsive on these issues. While firms in raw materials and industry sectors may be more exposed to environmental requirements, firms in more person-related industries may be more exposed to social issues. That can be a potential explanation why Financial, Services and TIME dummies have negative coefficient.

Overall, the findings from the main regressions are summarized in the following table:

Table 6: Summary of expected relationships with Social Performance and regression results

Coefficient	Description	Expected sign	Regression results
β_1	Insiders' ownership	-	Inclination to -
β_2	AP Funds' ownership	+	Inclination to -
β_3	Non-Public Pro-CSR Entities' own.	+	Inclination to +
β_4	Government's ownership	+	Inclination to +
β_5	Leverage	-	-
β_6	Size	+	+
β_7	Growth Opportunities	+	-
β_8	Risk	-	-

5.3.3. Regressions with social sub-ratings as dependent variables

The social rating used here is elaborated after evaluating a firm's performance on several social dimensions. These social dimensions are grouped in 3: relations with employees, relations with communities and relations with suppliers.

The regressions results for each of these 3 sub-ratings are shown in the Appendix. Table A3 and A4 show the results when using cash flow rights and voting rights as proxy for ownership, respectively.

For the 6 specifications the signs of the coefficients are similar to those found in our main regressions (table 5). The only exception is that one of the insiders' ownership coefficient is positive for 1 of the 6 specifications. Moreover, insiders' ownership is significant at 5% for one specification (community relations as dependent variable, using cash flow rights). Non-public pro-CSR entities is significant at 1% when having the 'suppliers relations' rating as dependent variable.

Overall, we found the regression results for the sub-ratings very similar to the results of the composite social rating. It is worth to mention that we have focused on analyzing the composite social rating, rather than on examining the different results by sub-categories of social performance. By using a general rating on social performance, we have aimed to cover as many social dimensions as possible, in order to reflect the multiple aspects related to a firm's Corporate Social Responsibility.

6. Conclusion

Corporate Social Responsibility has become an increasingly important topic in the firm's agenda. The focus of previous studies has been mainly on the relationship between social performance and financial performance, i.e. on what benefits CSR can provide to the firm. In this study we analyze the other side of the equation: which characteristics of the firm, including ownership structure, are associated with a better social performance.

We take a slightly different approach to that taken in previous studies on institutional ownership and CSR: we intend to identify those entities which may have an expected pro-CSR agenda. Then we test, whether their ownership in a Swedish firm is associated with a significantly better social performance in the respective firm. Moreover, we hypothesize that all insiders at the firm (and not only managers) will have incentives to over-invest in CSR. This would represent a slightly different topic than the typical principal-agent problem. We evaluate, whether insiders' ownership acts as a mechanism to mitigate this expected trend.

We found that, in Sweden, higher ownership by insiders is negatively and weakly associated to lower corporate social performance. That also means that insiders and other shareholders interests become more aligned with higher insider ownership. Pro-CSR entities and Government ownership is on average positively related to CSR rating. For all ownership variables the significance is quite low (between 15% and 45%). All betas for ownership variables have the expected sign, except that for AP funds ownership. The partial correlations between the CSR rating and ownership variables support the pattern of relationships that is observed in the regression analysis.

In this paper we also identified certain characteristics of the company, apart from ownership, that are associated with enhanced social performance. These characteristics are: size, leverage, growth opportunities, risk and industry sector.

We found that the companies with higher book value of assets tend to be more socially responsible. Companies with higher P/E ratio on average are more reluctant to spend funds on CSR activities. This fact is in line with the first observation regarding the size of the assets, since small growing companies usually have higher P/E ratio than large established firms. Leverage serves as a management disciplinary mechanism that does not allow over-investing in the projects that are detrimental to the value of the company. Hence, the correlation between leverage and the CSR rating is negative, and the beta of the regression is negative as well. The relationship between volatility and the CSR rating is negative, which implies that a superior social performance may help in reducing potential risks, such as litigations.

This study pursued to provide a better understanding of what factors inherent to the firm may be associated with better social performance in Sweden. The literature in this field of study is still scarce. We believe that the increasing public attention on CSR issues will serve as an incentive for more research in the area and more availability of data.

7. Suggestions for further research

The research on CSR related to financial structure and financial performance is still limited and has been mainly concentrated in American firms. We would like to give some ideas about possible extensions of our research.

In our study we used a sample of 84 companies provided by GES Investment, for 2006. We learned that the GES social rating will cover a larger number of firms in the forthcoming years. It would be interesting to see whether the results are consistent when extending the sample. Moreover, the analysis could include firms from various countries, in order to investigate whether the relationship between social performance and firm characteristics vary across countries.

We have investigated characteristics of the firm that may be associated with better social performance. Further research could analyze whether there are other internal or external factors that may help to explain better this relationship.

The firms included in this study are publicly listed firms. It would be interesting to analyze what characteristics of the firms are associated to better social performance for the case of less “visible” firms, i.e. non-public listed firms and small-sized companies. For instance, in this study we found that size is associated to superior social performance. It is not clear if this relationship is mainly due to a real proportional better performance or because the more visibility that the good actions of large firms has. Considering non-public firms in future studies could help to understand this link better.

In our thesis we have assumed that social performance has a non-monotonic relationship with firm value. In other words, it has been presupposed that there is a threshold from which CSR creates/destroys firm value. Researchers could actually evaluate whether good social performance of the company improves its financial performance, and if such a threshold exists. If that is the case, it would be interesting to find what factors determine the position of the threshold in the mentioned relationship.

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Appendix

A. Firms included in the study

Table A1: Sample of firms grouped by industry sector

Industry	Finance	Consumer products	Raw materials
Alfa Laval	Castellum	AarhusKarlshamn	Billerud
Assa Abloy	D. Carnegie & Co	Axfood	Boliden
Atlas Copco	Fabege	Clas Ohlson	Höganäs
B&B Tools	Hufvudstaden	Cloetta Fazer	Holmen
Cardo	Industrivarden	Electrolux	Lundin Petroleum
Hexagon	Investment Kinnevik	Hakon Invest	PA Resources
Indutrade	Investment Öresund	Hennes & Mauritz	SCA Svenska Cellulosa
JM	Investor	Husqvarna	SSAB Svenskt Stål
Lindab	Klöverna	KappAhl Holding	
Munters	Kungsleden	Lindex	
NCC	Latour	New Wave Group	
Peab	Ljungberggruppen	Nibe Industrier	
SAAB	Lundbergs	Nobia	
Sandvik	Melker Schörling	Retail and Brands	
SAS	Nordea Bank	Securitas Direct AB	
Scania	OMX	Swedish Match	
Seco Tools	Ratos		
Skanska	Skand. Enskilda Banken		
SKF	Swedbank		
Sweco	Svenska Handelsbanken		
Trelleborg	Wallenstam Byggnads		
Volvo	Wihlborgs Fastigheter		
	Säki		
Health care	Services	TIME (Telecom., IT, Media and Entertainment)	
Elektro	Eniro	Axis	(Telecom.)
Getinge	Intrum Justitia	Ericsson	(Telecom.)
Meda	Rezidor Hotel Group	Tele2	(Telecom.)
Q-Med	Securitas	Telia Sonera	(Telecom.)
	Securitas Systems	Tradedoubler	(IT)
		MTG Modern Times Group	(Media and Entertainment)

B. Calculation of Stock Return Volatility

SIX Trust calculates the stock return volatility as the normalized annual standard deviation, based on the logarithm of the stock return for a time series.

SIX Trust uses the following formula to calculate the stock return volatility for a rolling period of 250-days:

$$V_i = k \times \sqrt{\frac{n \times \text{sum}(y \times y) - \text{sum}(y) \times \text{sum}(y)}{n \times (n-1)}}$$

$$k = 100 \times \sqrt{250}$$

p_i =Price in period i

$$y_i = e_{-} \log(1 + (p_i - p_{i-1}) / p_{i-1})$$

v_i =Volatility for period i

n=number of days considered for the calculation of volatility = 250

C. Table A2: Partial correlations among variables – percentage of voting rights as proxy for ownership

Correlations										
		Social Rating	AP vote	Pro-CSR ent. vote	Gov. vote	Insider vote	LNassets06	Leverage06	PE 06	LNVol250SIX2006
Social Rating	Pearson Correlation	1	.055	.231 *	.184	-.144	.361 **	-.179	-.163	-.030
	Sig. (2-tailed)		.616	.035	.093	.192	.001	.111	.144	.787
	N	84	84	84	84	84	83	80	82	84
AP vote	Pearson Correlation	.055	1	-.082	-.013	-.321 **	.216 *	.023	-.035	.046
	Sig. (2-tailed)	.616		.461	.910	.003	.050	.841	.755	.678
	N	84	84	84	84	84	83	80	82	84
Pro-CSR ent. vote	Pearson Correlation	.231 *	-.082	1	-.007	-.175	.274 *	-.051	-.129	.209
	Sig. (2-tailed)	.035	.461		.951	.111	.012	.653	.247	.056
	N	84	84	84	84	84	83	80	82	84
Gov. vote	Pearson Correlation	.184	-.013	-.007	1	-.179	.259 *	-.012	-.065	-.025
	Sig. (2-tailed)	.093	.910	.951		.103	.018	.919	.560	.822
	N	84	84	84	84	84	83	80	82	84
Insider vote	Pearson Correlation	-.144	-.321 **	-.175	-.179	1	-.305 **	-.071	.031	-.128
	Sig. (2-tailed)	.192	.003	.111	.103		.005	.532	.782	.246
	N	84	84	84	84	84	83	80	82	84
LNassets06	Pearson Correlation	.361 **	.216 *	.274 *	.259 *	-.305 **	1	-.062	-.285 **	.200
	Sig. (2-tailed)	.001	.050	.012	.018	.005		.585	.010	.070
	N	83	83	83	83	83	83	80	82	83
Leverage06	Pearson Correlation	-.179	.023	-.051	-.012	-.071	-.062	1	.014	-.143
	Sig. (2-tailed)	.111	.841	.653	.919	.532	.585		.903	.205
	N	80	80	80	80	80	80	80	79	80
PE 06	Pearson Correlation	-.163	-.035	-.129	-.065	.031	-.285 **	.014	1	-.219 *
	Sig. (2-tailed)	.144	.755	.247	.560	.782	.010	.903		.048
	N	82	82	82	82	82	82	79	82	82
LNVol250SIX2006	Pearson Correlation	-.030	.046	.209	-.025	-.128	.200	-.143	-.219 *	1
	Sig. (2-tailed)	.787	.678	.056	.822	.246	.070	.205	.048	
	N	84	84	84	84	84	83	80	82	84

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

D. Table A3: Social sub-ratings regressed against firm characteristics - proxy for ownership: percentage of cash flow rights

<i>Dependent variable</i>	Employees Rating			Community Rating			Suppliers Rating		
	Coeff.	Sign.	t-stat.	Coeff.	Sign.	t-stat.	Coeff.	Sign.	t-stat.
<i>Independent variable</i>									
Insiders CF	-0.002	42%	-0.807	-0.005	4%	-2.146	-0.001	82%	-0.224
AP fund CF	-0.014	46%	-0.747	-0.018	35%	-0.946	-0.009	67%	-0.424
Pro-CSR agents CF	0.006	46%	0.745	0.011	23%	1.218	0.042	1%	2.862
Government CF	0.004	43%	0.798	0.003	50%	0.687	0.005	29%	1.065
Leverage	-0.289		-1.078	-0.519*		-1.940	-1.183***		-3.132
LN Assets	0.075*		2.340	0.119***		3.690	0.102**		2.458
P/E ratio	-0.003*		-1.797	-0.001		-0.806	-0.003**		-2.096
LN 250-Volatility	-0.106*		-1.792	-0.143**		-2.294	-0.165**		-2.038
Intercept	0.486		0.784	-0.467		-0.750	-0.345		-0.042
Significant industries									
Financial	-0.269**		-2.220	-0.421***		-3.476	-0.446***		-3.988
Services	-0.319*		-1.872	-0.105		-0.619	-0.384*		-1.773
TIME	-0.641***		-4.015	-0.246		-1.430	-0.241		-1.198
N ^o of observations	78			76			53		
R ²	44.4%			51.9%			56.3%		
Adjusted R ²	32.2%			41.0%			42.0%		
F	3.650			4.779			3.956		
F significance level	0.000			0.000			0.000		

Notes: This table shows the regression coefficient for each variable. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively. Only the dummies for significant industries are showed in the table.

E. Table A4: Social sub-ratings regressed against firm characteristics - proxy for ownership: percentage of voting rights

<i>Dependent variable</i>	Employees Rating			Community Rating			Suppliers Rating		
	Coeff.	Sign.	t-stat.	Coeff.	Sign.	t-stat.	Coeff.	Sign.	t-stat.
<i>Independent variable</i>									
Insiders Votes	-0.001	54%	-0.611	-0.003	13%	-1.522	0.001	63%	0.491
AP fund Votes	-0.014	51%	-0.663	-0.013	53%	-0.638	-0.010	63%	-0.485
Pro-CSR agents Votes	0.003	58%	0.557	0.007	15%	1.470	0.029	1%	3.596
Government Votes	0.004	38%	0.888	0.004	43%	0.799	0.007	16%	1.442
Leverage	-0.264	32%	-1.010	-0.449	10%	-1.694	-1.201	1%	-3.383
LN Assets	0.08		2.536	0.128***		4.025	0.101***		2.601
P/E ratio	-0.003*		-1.745	-0.001		-0.716	-0.003**		-2.295
LN 250-Volatility	-0.101*		-1.712	-0.131**		-2.103	-0.174**		-2.267
Intercept	0.379		0.639	-0.714		-1.186	-0.286		-0.380
Significant industries									
Financial	-0.289**		-2.449	-0.465***		-3.880	-0.374***		-2.156
Services	-0.32*		-1.861	-0.093		-0.536	-0.391*		-1.881
TIME	-0.657***		-4.109	-0.255		-1.469	-0.241		-1.286
N ^o of observations	78			76			53		
R ²	43.9%			50.6%			61.1%		
Adjusted R ²	31.7%			39.4%			48.5%		
F	3.584			4.530			4.835		
F significance level	0.000			0.000			0.000		

Notes: This table shows the regression coefficient for each variable. *, ** and *** represent significance levels of 10%, 5% and 1%, respectively. Only the dummies for significant industries are showed in the table.