

RF-079 A Study on the Effects and Determinants of Corporate Environmental Activities (Abstract of the Final Report)

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[Abstract]

Recently, it was widely acknowledged both in and outside Japan that companies should proactively address global environmental issues as part of their corporate social responsibility (CSR) activities. Together with the increasing interest in CSR, the extent of companies' voluntary involvement in CSR activities, including environmental activities, has been observed. However, CSR activities vary depending on companies and are generally diverse. Moreover, it has not been fully clarified why companies voluntarily engage in CSR activities and whether they can expect any benefits in return.

The purpose of this study is to clarify what factors promote corporate environmental and CSR activities in the current situation and how such activities benefit the involved companies. The present study consists of two sub-themes.

Sub-theme (1) deals with factors that promote CSR activities, including environmental activities, and the effects of such activities on the involved company, while focusing on nonfinancial measures. We regard corporate disclosure as one of such activities. Regarding nonfinancial measures, we focus on the relatively short textual data on the basic CSR policy, CSR index that signifies the level of involvement in CSR activities, and corporate reputation. Using these measures, we then empirically demonstrated that companies address CSR activities, including environmental activities, from the standpoint of a strategic response to stakeholders and that these activities are positively evaluated in society as a reflection of a positive corporate reputation.

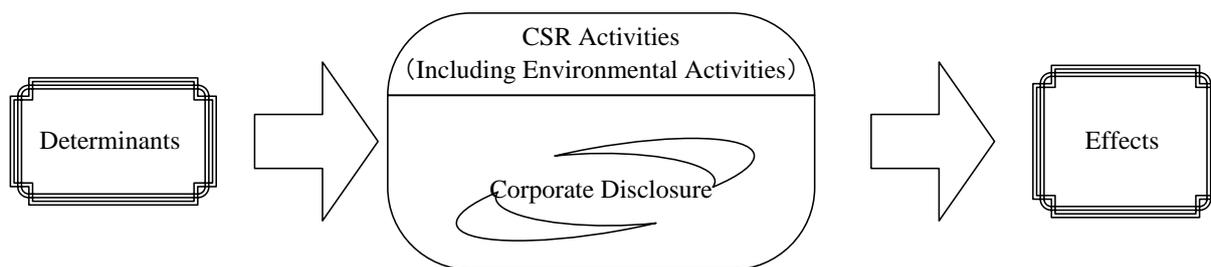
Sub-theme (2) aims to clarify the relationship between corporate response to CSR, including that to the environment, and the securities market. It also discusses how such a response is evaluated in the securities market. This research demonstrates that the stock market does not spoil CSR activities. Moreover, it suggests that as enlightened investors increase, firms more actively engage in CSR activities.

1. Introduction

With the advent of global environmental issues, society's demands on companies are expanding and becoming complicated. Moreover, recently, it was widely acknowledged both in and outside Japan that companies should proactively address global environmental issues as part of their corporate social responsibility (CSR) activities. Together with the increasing interest in CSR, the extent of companies' voluntary involvement in CSR activities, including environmental activities, has been observed. Furthermore, the investors' actions tend to change based on whether a company voluntarily engages in such activities. In other words, CSR activities are related to economic activities and are evaluated from an economic standpoint. Thus, a new situation has emerged.

CSR activities vary depending on companies and are generally diverse. However, it has not been fully clarified why these companies voluntarily engage in CSR activities and whether they can expect any benefits in return. Moreover, the degree to which the outcome of such voluntary undertaking affects economic activities and how CSR activities are evaluated in the securities market have not been elucidated.

<The Framework for This Study >



2. Research Objective

The purpose of this study is to clarify the factors that promote corporate environmental and CSR activities in the current situation and how such activities benefit the involved companies.

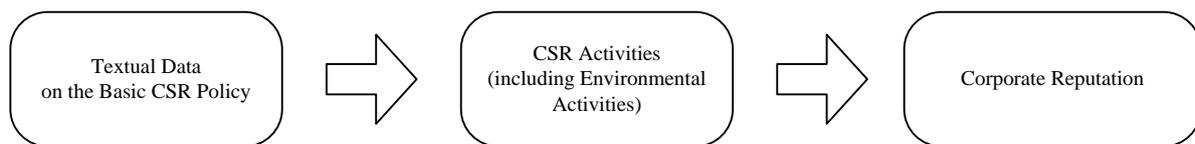
It discusses two sub-themes. The objective of Sub-theme (1) is to investigate the effects and determinants of CSR activities, including environmental activities, in a manner consistent with the *stakeholder approach*¹⁾ toward companies. We focus on corporate disclosure as one of such activities. For this objective, we focus on nonfinancial measures such as the relatively short textual data on the basic CSR policy, CSR index that signifies the level of involvement in CSR activities, and corporate reputation.

The *stakeholder approach* attempts to investigate the corporate response to various stakeholders from the perspective of strategic stakeholder management. According to this approach, companies are to address CSR activities in order to strategically develop and maintain good trusting relationships with their various stakeholders. Corporate disclosure can be recognized as one of such CSR activities. Therefore, it is supposed that the strategic motive for these companies to positively

disclose information is not restricted to economic benefit. Moreover, it is implied that the effect of disclosure is not limited to economic merit. As a result, there are serious limitations to the investigation of the effects and determinants of corporate disclosure by focusing on only financial measures.

We suppose that it is possible to investigate the strategic motive and the merit for companies to positively disclose information, not biased in favor of the securities market perspective, by focusing on nonfinancial measures.

Feature of Sub-theme (1)



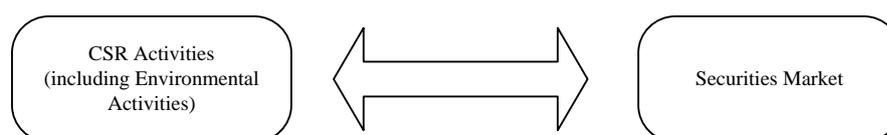
In sub-theme(1), the effects and determinants of CSR activities, including environmental activities, are investigated, while focusing on nonfinancial measures such as relatively short textual data on the basic CSR policy, CSR index that signifies the level of involvement in CSR activities, and corporate reputation.

The objective of Sub-theme (2) is to clarify the relationship between CSR activities, including environmental activities, and the securities market. It also discusses how these activities are evaluated in the securities market.

This research contributes to the academic and political context of CSR. It focuses on CSR activities from a financial and economic perspective. Finance researches are based on economics and assume that individuals maximize their utility and that firms maximize their profits; in fact, there are few finance researches regarding CSR activities that do not relate to profit maximization activities.

This research contributes to environmental policy by investigating whether the security market inhibits firms from participating in CSR activities and how to promote CSR activities through the security market. If the security market inhibits CSR activities, the effectiveness of environmental policy may decrease. Therefore, this research will help investigate whether the effectiveness of other environmental policies decreases or increases through the security market.

Feature of Sub-theme(2)



In sub-theme(2), the relationship between CSR activities, including environmental activities, and the securities market is investigated.

3. Research Method and Result

In Sub-theme (1), the research questions investigated and their results are as follows.

1) The Classification of Companies Based on the Basic Corporate Social Responsibility (CSR) Policy by Using the Text Mining Approach

We deal with relatively short textual data on the basic CSR policy, described in Japanese. We investigate the content of the policy by using the text mining approach, a technique for the quantitative analysis of textual data. By so doing, we attempt to determine corporate attitudes toward CSR and then classify companies according to the basic CSR policy. We take two approaches in applying the text mining to the textual data on the policy. As one approach, we have interest in every mention referred to in the policy when we apply the text mining to the textual data on the policy. As another approach, we focus on specific descriptions regarding corporate disclosure referred to in the policy when we apply the text mining to the textual data on the policy.

As a result, companies are classified as follows when we have interest in every mention referred to in the policy. First, companies are split into companies with the basic CSR policy and those without it. Second, companies with the policy are additionally divided into the following three groups. The first group consists of companies that are oriented to their separate stakeholders in terms of their implementation of CSR activities. The second group comprises companies that address CSR issues in order to contribute to social development and sustain their stakeholders' confidence. The third group comprises companies that have a basic "please everyone" CSR policy. By classifying companies into groups in accordance with the basic CSR policy, this research clarifies that companies have different attitudes toward CSR.

Also companies are separated as follows when we focus on the specific descriptions regarding corporate disclosure referred to in the policy. First, companies are split into companies with the basic CSR policy and those without it. Second, companies with the policy are additionally divided into the following two groups. The first group consists of companies whose basic CSR policy contains matters pertaining to corporate disclosure. The second group comprises companies whose basic CSR policy contains no mention regarding corporate disclosure. Furthermore, companies belong to the first group are additionally divided into the following three sub-groups. The first sub-group is communication-oriented. The second sub-group is disclosure-oriented. The third sub-group is accountability-oriented. We determine that a company is disclosure-oriented as part of CSR if the company's basic CSR policy contains matters pertaining to corporate disclosure.

2) The Relationship between the Basic CSR Policy and Corporate Governance: A Text Mining Approach

We use the result of the classification of companies based on the basic CSR policy and classified companies into four groups: (1) Those that have no policy; (2) Those that are oriented to their separate stakeholders in terms of their implementation of CSR activities; (3) Those that address CSR issues in order to contribute to social development and sustain their stakeholders' confidence; and (4) Those that have a basic "please everyone" CSR policy. We then investigate how the policy is affected by the internal governance mechanism. Namely, we attempt to resolve how the groups

vary depending on the internal governance mechanism. Special attention is accorded to the presence or absence of a CSR department, chief CSR officer, and an external board member in relation to the internal governance mechanism.

If corporate governance is regarded as a mechanism that reflects the various stakeholders' expectations in business management, then CSR and corporate governance are considered to be inextricably linked to each other; therefore, the companies that are oriented to their separate stakeholders in terms of their implementation of CSR activities are the most desirable among the four groups described above. The presence of a CSR department, a chief CSR officer, and an external board member are all recommended in terms of internal governance mechanism. However, the results reveal that their presence does not necessarily lead to the most desirable group. In other words, the results imply that a good internal governance mechanism negatively affects the basic CSR policy. The results contradict the emerging view in business society that CSR and corporate governance are inextricably linked to each other.

3) The Relationship between CSR Activities and Disclosures on Corporate Websites

We focus on CSR activities as one of the determinants of disclosures on corporate websites. We then investigate whether companies with a positive attitude toward CSR activities appear to positively disclose information on corporate websites.

The results demonstrate that companies that promote overall CSR activities in a more positive manner appear to enhance the contents of their corporate websites. The relationship between them is intensified when focusing on individual CSR activities regarding employment and utilizing human resources or consumer correspondence. In addition, this research reveals that disclosures on the corporate websites of companies that are dedicated to individual CSR activities pertaining to the basic CSR response or environment appear to be excellent, even though there is limited evidence in this regard. On the other hand, it has not been empirically observed that individual CSR activities regarding ethics and compliance are relevant to the enhancement of disclosures on corporate websites.

This evidence suggests that companies with a more positive attitude toward overall CSR activities appear to have more enhanced disclosures on their corporate websites. Further, it implies that the enhancement of corporate website contents is strongly correlated with whether or not the companies are engaged in CSR activities oriented to their stakeholders such as those for employees and consumers.

4) The Relationship between the Basic CSR Policy and Disclosures on Corporate Websites: A Text Mining Approach

We use the result of the classification of companies based on the basic CSR policy and classified companies as follows. First, companies are split into two groups according to the presence or absence of the basic CSR policy: those with the basic CSR policy and those without it. Second, companies with the policy are additionally divided into three groups based on the content of the policy: those that are oriented to their separate stakeholders in terms of their implementation of CSR activities, those that address CSR issues in order to contribute to social development and

sustain their stakeholders' confidence, and those that have a basic "please everyone" CSR policy.

We then proceed to investigate whether the level of disclosure on corporate websites depends on the presence or absence of the policy and the differences in the contents. By so doing, we investigate whether the level of disclosure on corporate websites differs among different corporate attitudes toward CSR.

The result reveals that there is no significant difference in the level of disclosure on corporate websites between companies that have the policy and those that do not; in other words, it is the content of the policy that determines the level of disclosure on corporate websites. In particular, companies that have the basic CSR policy that is oriented to their separate stakeholders provide more positive disclosure compared to companies that do not have a basic CSR policy, companies that have a basic CSR policy that addresses social development and the maintenance of their stakeholder's confidence, or companies that have a basic "please everyone" CSR policy. The result implies that disclosure on corporate websites—one type of CSR activity that is oriented to their various stakeholders—is implemented in accordance with corporate attitudes toward CSR to emphasize their separate stakeholders.

5) The Relationship between Corporate Posture toward Disclosure as part of Corporate Social Responsibility and Disclosures on Corporate Websites: A Text Mining Approach

We use the result of the classification of companies based on the basic CSR policy, and we determine that a company is disclosure-oriented as part of CSR if the company's basic CSR policy contains matters pertaining to corporate disclosure.

We then investigate whether corporate posture toward disclosure as part of CSR positively affects disclosures on corporate websites. Namely, it is examined whether a company discloses information in a more positive manner if it has a basic CSR policy that includes issues related to corporate disclosure.

The result reveals that companies are inclined to better disclosure on their corporate websites if they are disclosure-oriented as part of CSR; especially, those companies have the advantage that there is more information on their corporate website disclosures. In addition, the fact that awareness of accountability is an important factor responsible for excellent disclosures on corporate websites is also demonstrated. Further, the results determine that disclosure on corporate websites—one type of CSR activity—is implemented in accordance with corporate attitudes toward CSR to be disclosure-oriented as part of CSR.

6) The Effect of Corporate Website Disclosures on Corporate Reputation

We focus on corporate reputation as the measure of the effect of corporate disclosures in this research. Then we address corporate websites, which is one of the media used for corporate disclosure, and empirically investigate the effect of disclosures on corporate websites. By so doing, we investigate whether companies with a better quality of disclosure on their corporate websites appear to improve their own corporate reputation. In particular, the research deals with contents on corporate websites such as corporate profile; news releases; technology, quality, and safety; corporate social responsibility and environment; investor relations; and corporate mission or vision.

The results reveal that firms with better disclosure on their corporate websites relatively improve their own corporate reputation regardless of the contents on the corporate websites. However, the effect differs depending on the contents on corporate websites. Disclosure of a corporate profile and corporate mission or vision is relatively important in improving corporate reputation. These two contents are expected to be more general and not specialized. Thus, it is more effective to enhance the disclosure of general information than specific information. The results also demonstrate that the improvement of corporate reputation is greater for those with a previously low corporate reputation. Thus, the merit for companies to positively disclose information on their corporate websites is greater for those with previously lower rather than higher corporate reputations.

7) The Strategy and Effects of Social and Environmental Disclosure: A Stakeholder Approach Perspective

This research empirically studies the strategic motivations that cause companies to enhance the quality of social and environmental disclosure and measures the effects of the enhancement of social and environmental disclosure from a *stakeholder approach* perspective. Specifically, it explicitly takes into account that companies enhance the quality of social and environmental disclosure as a component of CSR activities and empirically measures the effects of the enhancement of social and environmental disclosure. Then, it simultaneously investigates the relationship between CSR activities and the quality of corporate social and environmental disclosure as well as the relationship between the quality of corporate social and environmental disclosure and corporate reputation.

The results demonstrate that companies with a positive attitude toward CSR activities appear to positively disclose social and environmental information, and companies with a better quality of social and environmental disclosure appear to have a better corporate reputation. This evidence suggests that companies enhance the quality of their social and environmental disclosures as a component of CSR activities; consequently, such companies can develop and maintain good trusting relationships with their various stakeholders as they had expected. This evidence empirically supports a *stakeholder approach* perspective.

In Sub-theme (2), the research questions investigated and their results are as follow.

1) The Relationship between CSR Investments, Enlightened Investors, and Financial Disclosure

Some research demonstrates that the degree of CSR activities is positively associated with the degree of financial disclosure. This paper investigates why they are correlated using the equilibrium theory. We assume there are enlightened investors and normal investors who are not interested in CSR activities in the stock market. We also assume that both of these types of investors maximize their expected utility and that enlightened investors avoid investing in firms that do not invest in CSR activities. In order to achieve high stock prices, firms decide not only how precisely they disclose financial information but also whether they will invest in CSR activities.

The results demonstrate that firms which do not invest in CSR activities more precisely disclose their financial information than the firms investing in CSR activities. Moreover, when enlightened investors increase, not only firms that invest in CSR activities but also firms that do not invest in CSR activities more precisely disclose their financial information. This indicates that the cultivation of enlightened investors will lead to the promotion of CSR activities as well as of financial disclosure.

2) The Response of the Security Market on CSR Investments

This research investigates the level of reaction of the stock market to the investment information in CSR activities specially ISO 14000 which is related with environmental management and ISO 9000 which is related with quality management. This paper provides the evidence that the investment in environmental management is negatively related to stock returns and the mean of investment in quality management is positively related to stock returns, although its volatility is too high.

This suggests that the Japanese stock market doubts the benefit of investing in environmental management. It is also an indication that the Japanese stock market generally understands the benefit of investments related to quality management; however, the benefit is very different across companies. This means that when firms invest in these activities, they must carefully examine its profitability and/or precisely disclose the latter.

3) The Evaluation of SRI Mutual Funds

This research investigates the return and risk profile of the Socially Responsible Investment (hereafter SRI) fund. SRI funds screen its investments not only for profitability but also for sociality. On the one hand, this may mean that its choice set is limited because of social screening, preventing the diversification of investments and the bearing of some costs. On the other hand, CSR activities may be essential for sustainable development. From this point of view, firms which investment in CSR activities may be more profitable in the future and SRI funds may beat the market.

This study demonstrates that it is true that the returns of SRI funds are low but that the systematic risks are also low. Moreover, Jensen's α is not statistically different from 0. This suggests that the returns of SRI funds are sufficiently low because their risks are also low. The feature is also clear when these returns and risks are compared with the overall mutual funds' returns and risks.

Another concern is that social screening may increase idiosyncratic risks. This research finds that the increase in idiosyncratic risk due to social screening is sufficiently low, even negligible. This indicates that SRI funds in Japan may not beat but are not either beaten by the market.

4) The Relationship between Risks and CSR Activities

Some argue that CSR activities are one of the parts of risk management. If CSR activities are effective for risk management, firms that highly engage in CSR activities can reduce their risks. This research investigates the benefits of CSR activities from a risk reduction point of view.

This research decomposes risk into systematic risks and idiosyncratic risks using the market model and tests whether these risks are negatively associated. The results demonstrate that the systematic risks are not correlated with overall CSR activities but that the idiosyncratic risks are negatively correlated to the latter. These tendencies can be found if we use specific CSR activities. This suggests that CSR activities cannot reduce the risks that are priced in the security market but rather they can reduce the risks that surprise the security market.

4. Discussion and Scientific Achievement

In Sub-theme (1), we first attempt to apply the text mining approach in the CSR research. It is very pioneering approach to use this method in order to investigate the content of the basic CSR policy, one type of qualitative information. We demonstrate that it is applicable and effective to apply the text mining approach, a developing technique, to CSR and other academic research.

We also present evidence that contradicts the emerging view in the business society that CSR and corporate governance are inextricably linked to each other. Further, we demonstrate that corporate attitude toward CSR, one corporate qualitative characteristic, is one of the determinants of corporate disclosure, while existing research focuses on various corporate quantitative characteristics that affect corporate disclosure.

We also focus on the CSR index that signifies the level of involvement in CSR activities and corporate reputation. Using these measures, we empirically demonstrate that companies disclose information as one of the CSR activities to strategically respond to their stakeholders; consequently, they can develop and maintain good trusting relationships with their various stakeholders as they had expected. This evidence supports the *stakeholder approach* perspective. In particular, we first verify the relationship between CSR activities and disclosures on corporate websites, one of the media used for corporate disclosure, then investigate the effect of CSR activities on corporate website disclosure. Furthermore, we first verify the relationship between corporate reputation and corporate website disclosures and then investigate the effect of corporate website disclosures on corporate reputation.

In Sub-theme (2), we demonstrate how the security market values CSR activities. First, this research illustrates the relationship between CSR investments and financial disclosure using the equilibrium theory and finds that not only firms which engage in CSR investments but also those that do not disclose their financial information more precisely as enlightened investors increase.

Next, the security market in Japan does not value environmental investments in the short term. In comparison, the security market in Japan values quality investments but the level differs across firms. This suggests that if firms engage in CSR investments, they must carefully examine its profitability and/or precisely disclose the latter.

Third, this research finds that not only the returns but also the risks of SRI funds are low. The increase in idiosyncratic risk due to social screening is low and even negligible. This indicates that from a long-term perspective, CSR activities do not decrease a firm's value.

Finally, this research finds that CSR activities cannot decrease the systematic risks that are valued by the stock market but can decrease the idiosyncratic risks. In particular, for inside

stakeholders, CSR activities and idiosyncratic risks are negatively correlated. This suggests that CSR activities are efficient risk management tools in that they can reduce the risk of a surprise in the stock market; however, they remain limited as they cannot reduce all risks.

5. Our Contribution to Global Environmental Policy

At present, corporate environmental and CSR activities are not enforced by laws and are largely dependent on companies' voluntary actions. Therefore, to promote such activities in the future, it is necessary to precisely understand the companies' intentions toward these activities and the benefits that they receive through such activities in the current situation.

In Sub-theme (1), we demonstrate that companies address CSR activities, including the environmental activities, from the standpoint of a strategic response to stakeholders and these activities are positively evaluated in society as a reflection of a positive corporate reputation. It is not possible to fully clarify this point only by focusing on the relationship between CSR activities, including the environmental activities, and the securities market. We present the evidence that corporate environmental and CSR activities lead to its positive evaluation in society and then demonstrate that there is scope for indirectly promoting corporate environmental and CSR activities outside of regulations. This is our contribution to the enforcement of global environmental policies in Sub-theme (1).

In Sub-theme (2), the research demonstrates that the stock market does not inhibit CSR activities. Moreover, it suggests that as enlightened investors increase, firms more actively engage in CSR activities. It is often said that there is a tradeoff between economic and CSR activities. Contrastingly, this research contributes to environmental policy by suggesting the possibility that they are compatible activities.

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