# The relationship between disclosures of corporate social performance and financial performance: Evidences from GRI reports in manufacturing industry

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## ABSTRACT

Whether the corporate social performance affects the financial performance is still unclear in many manufacturing companies. We commonly expect, on one side, that profitable corporations have stronger incentives to reveal information on the social performance in order to improve their publicity; on the other hand, companies may face the fear of rising costs due to Corporate Social Responsibility (CSR) activities. With increasing concerns of CSR, it is timely to investigate the relationship between the disclosure of corporate social performance and the financial performance. In this paper with the above study objective, we use Global Reporting Initiative (GRI) reports of 75 sample companies, collect evidences by applying the method of structured content analysis of the cases and attempt to identify this relationship. The corporate social performance is measured by the indicators according to the GRI guidelines, i.e. within the categories of Labor practices and decent work, Human Rights, Society as well as Product responsibility. Financial performance is measured by return on equity, sales growth and cash flow/sales ratio. Using statistical evaluation methods, our results indicate that the categories of Human Rights, Society as well as Product responsibility display a significant and positive correlation with the return on equity. Same conclusion also holds for many CSR indicators. Nevertheless, when examining the CSR practices across different manufacturing sectors, we have not observed significant differences. The study results are important for understanding the development and implementation of CSR practices in the manufacturing industry.

## 1. Introduction

The common definition of sustainability by the Brundtland Report (WCED, 1987) is under three umbrellas: economic accomplishment, social justice and environmental stability. According to the reports of EC (2002), Bansal (2005) and Moneva et al. (2007), the corporate social responsibility (CSR) is considered as contributions of companies to sustainable development. The CSR concept should be included in the corporate strategies concerning the areas of environmental influence, as well as the society living conditions development, willing behavior and business ethics. Such strategies will then define the codes of conduct based on which the companies implement their operations (AECA, 2004).

In recent decades, companies are paying increasing attentions to CSR and its related performances. Different stakeholders raise pressures to companies to improve their CSR performances and release the related reports. Such pressures include for example, public concern, regulatory forces, consumer pressure, industry peer pressures, reputation concerns, media interest and perceived market advantage (Gallear et al., 2012). For company itself, improving and reporting their CSR work are one kind of investments for sustainable development, and thus an evaluation of their consequence should be relevant.

The debates on the relationship between CSR and corporate performances are not new. There are some studies in this concern. Carroll (1979) provides a comprehensive conceptual model for presenting the key aspects of corporate social performances. Clarkson (1995) applies the stakeholder theory to establish a framework for analyzing corporate social performances.

If we examine the relationship between CSR and more specifically the associated financial performances, there are controversial results. Some researchers argue that there should be a positive relationship between the disclosure of CSR performances and company financial performances. The reasoning is that by reporting and improving their CSR work, companies can receive the

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reputation as good company citizens thus can attract investors as well as other stakeholders (e.g. Berman et al., 1999; Brammer and Pavalin, 2006; Weber et al., 2008; Tang et al., 2012). As a result, CSR performances further help the companies to achieve a good financial performance. In addition, McGuire et al. (1988) suggest that the corporates with lower CSR performances are often associated with lower stock market returns and higher risks (such as fines and lawsuits) than those corporates with higher CSR performances.

On the contrast, another group of researchers, especially the neoclassical economists argue that, when the companies spend efforts and allocate resources in improving the CSR performances, the operational costs as well as the product price should increase. Thus, there should be a negative impact on the product market and stock market (Friedman, 1970; Cornell and Shapiro, 1987; Brammer and Millington, 2008; Tang et al., 2012). In other studies, McWilliams and Siegel (2000, 2001) indicate that there is neither clear positive nor negative relationship between CSR and financial performance.

One possible reason for such controversial results could be due to the different measures of corporate social performances used in various studies (Orlitzky et al., 2003). We illustrate here four streams of measures. Firstly, the measure of corporate social performance can be based on reputation ratings, for example in the work by Vance (1975), Alexander and Buchholz (1978), Cochran and Wood (1984), Spencer and Taylor (1987), McGuire et al. (1988), Herremans et al. (1993) and Luo and Bhattacharya (2006). The second alternative is measuring corporate social performance by social audits and observations, for example the studies by Belkaoui (1976), Chen and Metcalf (1980), Fombrun and Shanley (1990) and Russo and Fouts (1997). Thirdly, the corporate social performance is measured by managerial principles and values, for example, the research works conducted by Reimann (1975), Ingram and Frazier (1980), Aupperle et al. (1985), Dooley and Lerner (1994) and Agle et al. (1999). Finally, there are also measures of corporate social performance by disclosures, for example, the research works done by Abbott and Monsen (1979), Anderson and Frankle (1980), Patten (1990), Wolfe (1991) and Brammer and Millington (2008).

Nevertheless, there are very limited research in using an internationally accepted and standard corporate social performance disclosure, such as Global Reporting Initiative (GRI) to explore the link between corporate social performance and financial performance. In fact, GRI reports can be viewed as the most popularly recognized set of voluntary guidelines for corporate sustainability reporting (Moneva et al., 2007, Brown et al., 2009, Marimon et al., 2012; Chen et al., 2014). Moreover, GRI reports also are an efficient assessment tool to measure and report the corporates' environmental, social and economic performances. Thus, GRI reports provide an alternative source for collecting a standard set of data which can be further used for investigating the relationship between disclosures of corporate social performance and financial performance.

We also would like to note that up to recent time, there is a large amount of studies on sustainable operations with focus specifically and individually on subjects such as safety, environment and human rights, but without investigating the inherent interrelationships amongst the different aspects of social responsibility.

Moreover, according to institutional and stakeholder theory, since there will be different stakeholders in different industries, it should be a 'specialization' of social interests in different industries (Griffin and Mahon, 1997; Sweeney and Coughlan, 2008). Thus it will affect the way of companies to report their CSR practices and performance. Trying to explore whether there are differences in reporting CSR in different industries, Sweeney and Coughlan (2008) analyze the annual CSR reports from twenty eight FTSE4-Good firms with a focus on seven different industries. Their results show that there will be significant different in the CSR reports in different industries including Financial Services, Pharmaceutical–Medical, Pharmaceutical–Health and Beauty, Telecommunications, Automobile, Oil and Gas as well as Retail. But it is still unclear whether such difference still exists among different sectors of the manufacturing industry.

From the above discussion, we conclude that when we investigate the relationship between CSR and corporate financial performances, we prefer to have the institutional theory and stakeholder theory as a background in order to capture the inherent interrelationships. In addition, we would like to use standard corporate social performance disclosure, such as GRI reports as the data source. When we collect the studies most relevant to our research topics and methods, i.e. the studies having a focus on CSR and corporate financial performance, and adopting stakeholder/institutional theory with or without the data source from GRI reports, we have a summary of articles presented in Table 1. It shows that three papers use GRI reports as data source for empirical research. All these papers use institutional theory as their theoretical background. However, these studies are very descriptive and they do not have corporate financial performances as the study focus. Also in Table 1, we see that 7 out of 10 studies investigate the relationship between CSR and corporate performances including the financial performance. Nevertheless, these studies do not apply GRI reports as the data source, and again we

**Table 1**
Selected articles in the field of relationship between CSR and corporate performances.

| Sources | Theoretical aspects | Research method | Financial Performance | GRI reports |
|---|---|---|---|---|
| Agle et al. (1999) | Stakeholder theory | Survey in 80 large U.S. companies | Included | |
| McGuire et al. (1988) | Stakeholder theory | Empirical research by Fortune magazine's ratings of corporate reputations | Included | |
| McWilliams and Siegel (2001) | Agency theory, stakeholder theory and conventional theories | Framework building | Included | |
| Orlitzky et al. (2003) | Stakeholder theory | Meta-analysis | Included | |
| Luo and Bhattacharya (2006) | Institutional theory and stakeholder theory | Empirical research by multiple secondary data sets that comprise ratings of large companies | Included | |
| Marom (2006) | Stakeholder theory | Theoretical development | Included | |
| Brammer and Millington (2008) | Instrumental stakeholder theory | Empirical model based on annual reports of the companies | Included | |
| Brown et al. (2009) | Institutional theory | Empirical data on interviews and documentary analysis on corporate social responsibility reports | | Used |
| Chen and Bouvain (2009) | Institutional theory | Empirical data on corporate social responsibility reports in USA, UK, Australia, and Germany | | Used |
| Tate et al. (2010) | Institutional theory | Content analysis on corporate social responsibility reports | | Used |

need to mention that the study results are controversial concerning the relationship between CSR and corporate financial performances. Apparently, there is a research gap in our concerns.

Current study is motivated by the above discussion. The research objectives in this paper are: firstly, investigating the inherent interrelationships amongst different aspects of social responsibility by conducting the descriptive analysis on different social performance indicators; secondly, comparing CSR performance in different industries; and thirdly, investigating the relationship between CSR performance and company financial performance.

To achieve the above research objectives, content analysis and statistical analysis are used respectively for collecting data and analyzing data. The GRI report has been selected as the data sources for this research, since it is expected to be commonly adopted global criterion for CSR and sustainability reporting according to the literature (Skouloudis et al., 2009; Prado-Lorenzo et al., 2009; Tsang et al., 2009; Brown et al., 2009; Rasche, 2009; Levy et al., 2010; Marimon et al., 2012). The GRI report itself provides assessments on economic, environmental and social performance. Concerning the social performance, it provides four categories which include labor practices and decent work performance indicators, human rights performance indicators, society performance indicators and product responsibility performance indicators. In our study, the levels of CSR and their performance are coded using the content analysis on GRI reports. The financial data is collected from annual reports of the sample companies. We have to mention that traditionally, the companies' CSR practices and performance should include both the environmental and social aspects. In this paper, we only investigate the corporate social performance whereas environmental aspect has been discussed in previous research by the same authors (Chen et al., 2014).

The contribution of this paper is to bring some insights to the researchers in academia and managers in industry to understand the CSR and its practices based on GRI guidelines. The differences on reporting CSR performance between different sub sectors in manufacturing industry are also tested. Moreover, the relationship between the disclosure of CSR performance and financial performance is analyzed by building four constructs from GRI social performance indicators.

The paper is organized as follows: Firstly, we will establish a theoretical background for this research based on related literature. Following that the main methodology will be introduced, rational sample choosing, content analysis as well as construct building will be our main focus in this part. Then the research findings will be presented. Finally, the conclusions, management implications as well as future research agenda will be drawn and discussed.

## 2. Theoretical background and research framework

In order to achieve the research objective which is investigating the inherent interrelationships amongst different aspects of corporate social responsibility, we apply descriptive analysis on different CSR performance indicators in various categories. Meanwhile, institutional theory can provide a solid framework for developing research hypothesis concerning the other two research objectives. Details and research hypothesis are presented below.

### 2.1. Institutional theory

As defined by Gray et al. (1987), corporate social reporting is "the process of communicating the social and environmental effects of organizations' economic actions to particular interest groups within

society and to society at large". Thus organization should be the central focus in the study of CSR. In the meantime, Baum (1996) defined in his book that institutional theory can be applied in the research on organizations. The established rules and norms of dominant institutions must be confirmed by the organizations, and consequently the organizations can gain support and be perceived as legitimate. John et al. (2001) also have a similar discussion concerning particular the manufacturing industry. They further state that for the manufacturing companies, intuitions mainly include agencies that establish industry regulations, quality norms for example suppliers, customers, competitors, industry certifications such as ISO certifications, and professional organizations.

Moreover, McWilliams et al. (2006) discuss in their research, institutional difference can lead to different activities and expectations for companies. For companies in different industry, their external pressures can lead to different processes for determining which activities to engage in and how much to invest. In other words, based on different institutional needs, the companies in different industries can decide whether they want to and how they want to invest in reporting their sustainable work. The study of CSR performance of different industries should be of interesting.

There are in fact several studies of CSR performance reported in different countries and industries. These studies suggest differences regarding reporting CSR performance among different industries. For example, Wanderley et al. (2008) examine CSR information disclosure based on the Webs from different countries and various industries. Their results show that both the industry sector and the country of origin have a significant impact on CSR information disclosure. Tsang (1998) conducts a longitudinal study of corporate social performance disclosures in Singapore for banking, food and beverages and hotel industries. He finds that the bank industry has disclosed significantly less social information than the hotel industry.

The literature shows that it is important to take into account the industry categories when studying the CSR since different industries may have different stakeholders (Sturdivant and Ginter, 1977; Sweeney and Coughlan, 2008). As stated by Boutin-Dufresne and Savaria (2004), in some particular industries, companies may be more socially responsible than others due to the nature of their business activities.

In literature, one manufacturing industry, automotive industry has been emphasized a lot on CSR practices. An essential factor in automotive industry's agenda nowadays is the adoption of CSR practices (CARS 21, 2006; Frigant, 2009), for example, to improve the road safety as well as providing job opportunities together with wage-labor nexus in car-manufacturing regions (Frigant, 2009).

Based on the above discussion, we found that some particular industries countenance comparatively high regulatory pressures from internal and external stakeholders, and these regulatory pressures should also drive the companies to report CSR performance differently. Therefore, it is interesting to compare the CSR performance among industry sectors, more specifically the automotive industry with other manufacturing industry such as metals products industry. The first research hypothesis is derived from the above discussion:

**H1.** *There is a significant difference regarding reporting CSR performance among different industrial sectors in the manufacturing industry.*

### 2.2. Disclosure of CSR performance and corporate financial performance

Whether the measure of CSR performance relates negatively or positively to the companies' financial performance is still a datable issue. Cochran and Wood (1984) indicate that the average age of a company's assets is highly correlated with the ranking of its social

responsibility. Aupperle et al. (1985) argue that there is no relationship between the measure of CSR performance and profitability, neither in short term nor in long term. However, Waddock and Graves (1997) suggest significant positive correlations between CSR performance index and financial performances such as return on assets in the long run. As Waddock and Graves (1997) explained based on slack resources theory, the companies, which have a better financial situation, should have more resources to be allocated on improving corporate social performances. Consequently these companies can achieve a high standard on CSR. In short, a better corporate financial performance provides the organization the slack resources to engage in the CSR practices as well as reporting their CSR performance.

Also according to Jones (1995), trust, cooperativeness as well as trustworthiness are subsets of ethical principles, which can help the organizations to achieve significant competitive advantages. The satisfaction of various stakeholder groups is instrumental for organizational financial performance (Orlitzky et al., 2003). This theory suggests a positive relationship between CSR performance and corporate financial performance. Accordingly, the following hypothesis can be developed:

**H2.** *There is a positive correlation between the disclosure of CSR performance and corporate financial performance.*

## 3. Research methodology

In this section, we provide a brief introduction of data collection and structured content analysis of cases. We also refer to our previous study (Chen et al., 2014), in which similar methodology has been used with more detail description. Nevertheless we should note that these two studies have different orientations of investigation, i.e. in previous study the environmental management practices are the main focus, and in addition we have entirely different samples when comparing the two studies.

### 3.1. Data collection

Since one of the research purposes is to compare CSR performance between different industries and different regions, we need sample companies for which it is possible to measure all the CSR variables in a standard and consistent manner. As stated before in the introduction, GRI report has recently developed as a widely applied format of CSR measurement. It represents voluntary guidelines for measuring companies CSR performance and represents a reliable public reference of consciousness and information (Marimon et al., 2012). Thus, we use the Sustainability Disclosure Database (Global Reporting Initative, 2013) for choosing the sample companies. The sample companies should fulfill the selection criteria as follows:

- The company should belong to a manufacturing industry.
- The company should introduce GRI reporting system.

- The company should publish standard GRI reports on 2012 following sustainability reporting guidelines version 3.1 (GRI, 2013).

Finally, 75 companies satisfy the selection criteria and are included as samples in this study. Since that one research purpose is to compare CSR performance in different industries, the samples from manufacturing industry are divided into five groups, i.e. automotive industry, metals products industry, forest and paper industry, chemical industry and health care industry. The samples are summarized in Table 2, with sample numbers in each group respectively indicated.

Recall that another research purpose is to investigate the relationship between CSR performance and financial performance for manufacturing companies, it is necessary to define the measures of the financial performance. The financial measurements we use in this research are Sales growth, Return on equity (ROE) and Cash flow/Sales ratio.

*Sales growth*: This states an increase in sales over a specific period of time.

*ROE*: This measures how well the corporation applied reinvested earnings to generate additional earnings. A measurement of how much profit the corporation can produce given the resources contributed by the stakeholders (Weber et al., 2008).

*Cash flow/Sales ratio*: This ratio, expressed as a percentage, is calculated by comparing the company's operating cash flow to its net sales or revenues. This financial indicator measures the company's ability to turn sales into cash (Cash Flow Indicator Ratios, 2014). A high ratio normally indicates the company's capability of utilizing a larger portion of its revenue into profits, as well as net cash flow.

All the data for measuring the financial performances is collected for the 2012 fiscal year from the database DataStream.

### 3.2. Structured content analysis

To make a cross-industry comparison of CSR, the content analysis can be a good choice. It is also useful for a longitudinal study to understand the trends in CSR for specific case companies (Tate et al., 2010). In this paper, content analysis is applied to extract data from annual GRI sustainability reports of the sample companies.

Human raters are used to code the information included in the reports. Human coding is desirable for this research since raters can assess the intensity as well as presence of specific CSR implementation by reading the contextual information that are contained in the reports (Hofer et al., 2012). However, content analysis has a disadvantage in time and resource consuming. These constrain the sample numbers. Another disadvantage of humane coding is subjective: it can be supplemented by using multiple raters to read the reports to verify the score (Seuring and Müller, 2008). In this study we also have multiple raters for each report.

**Table 2**
Sample companies.

| | |
|---|---|
| Automotive (14) | Aebi Schmidt, Dogus Otomotiv, Fiat Group, Ford Motor Company, Hyunda Mobis, MAN Group, KOEL, Kia Motors, Sapa Group, Piaggio Group, PSA Peugeot Citroën, Volvo Car Corp.,Volkswagen, Valeo |
| Metals products (24) | Acerinox SA, Acindar Grupo, Alcoa, Arcelor Mittal USA, Arcelor Mittal, APERAM, Bekaert SA, BHP Billiton, Componenta, Essar Steel, Elval, Halcor, La Farga Group, Kyungshin, OutoKumpu, Nyrstar, Novelis, Qatar Steel Company, Qatalum, Sandvik, SAIL, SSAB, Talvivaara, Yamana Desenvolvimento Mineral |
| Forest and paper (13) | Ahlstrom, Stora Enso, Billerud AB, Canfor, Catalyst Paper, Domtar, Mestä group, Resolute Forest Products, SCA, Duratex, Nippon Paper, UPM-kymmene, Martela |
| Chemical (10) | Air Products, DuPont, DyStar Singapore, Ecolab, Hanwha Chemical, Methanex, Praxair, Arizona Chemical, BASF SE, Borouge |
| Health care products (14) | Amgen Inc., APL, F. Hoffmann-La Roche Ltd, Infinitus China, LG Household and Health Care, Meda, Merck Germany, MerckUSA, Novozymes, Orion Group, UCB, Fosun Pharmaceutical, Jointown Pharmaceutical, Nova Nordisk |

Validity is a key factor of approving the quality of content analysis. There are two ways to establish the validity. First of all, we can guide the raters by a consistent valid coding scheme. This coding structure should guide raters to the focal concept. Then it can be seen as a valid coding scheme (Potter and Levine-Donnerstein, 1999). Secondly, the raters' decision can be assessed against by standards. The coding can be assumed as a valid process, if the codes meet the standard for right decision making (Potter and Levine-Donnerstein, 1999).

GRI report itself is supposed to provide a comprehensive, visible, consistent measurement system for assessing the company's sustainability work (Brown et al., 2009; Marimon et al., 2012). For the social performance measurement, the GRI report provides 45 indicators which cover four categories concerning CSR (more details see the Appendix):

- Labor practices and decent work performance indicators.
- Human rights performance indicators.
- Society performance indicators.
- Product responsibility performance indicators.

Moreover, all the contents of GRI report published are through a validation process themselves according to the G3.1 guideline (G3.1, 2013). Thus, we use this GRI guided indicators in the social part as a coding structure and score base for the content analysis to approve the validity. We also set the standard for raters to judge if the decision making is right. The grading scale is between 1 and 5, with (1) indicating no active (not reported), (3) indicating medium active (partially reported) and (5) high active (fully reported). For example a fully reported indicator variable may include quantitative measures, categories, and targets.

## 4. Results

After structured content analysis of the sample cases and coding process, statistical analysis by SPSS (Statistical Product and Service Solutions) is conducted. The results are presented in this section.

### 4.1. Descriptive statistics

In order to investigate the inherent interrelationships amongst different aspects of CSR, at first we have investigated the descriptive statistics of all the CSR indicators.

#### 4.1.1. Indicator protocols set for labor practice and decent work (LA)

The indicators related to labor practice and decent work are ranked in Table 3. The three highest ranked indicators are LA1: Total workforce by employment type, employment contract, and region, broken down by gender; LA 7: Rates of injuries and accidents and LA 12: Percentage of employees receiving regular performance and care development reviews, by gender. Two of these indicators, LA1 and LA7, have an average above 4 and they are the highest ranked indicators overall. The only indicator with a mean value below 2 is LA 15: Return to work and retention rates after parental leave, by gender.

It is easy to see that the indicators which are easy to be quantified or measured have higher scores than others. Companies put more efforts to measure the rates of injuries and accidents since it will increase their operating cost and damage their reputation readily.

#### 4.1.2. Indicator protocols set for human rights (HR)

In Table 4 the indicators for human rights (HR) are listed. The top factor measured by companies is HR6: Operations and

**Table 3**
Descriptive statistics on labor practice and decent work (LA).

|      | N  | Minimum | Maximum | Mean | Std. deviation |
|------|----|---------|---------|------|----------------|
| LA1  | 75 | 1       | 5       | **4.28** | 1.073      |
| LA2  | 75 | 1       | 5       | 3.56 | 1.491          |
| LA3  | 75 | 1       | 5       | 3.11 | 1.886          |
| LA4  | 75 | 1       | 5       | 3.69 | 1.786          |
| LA5  | 75 | 1       | 5       | 3.29 | 1.909          |
| LA6  | 75 | 1       | 5       | 3.32 | 1.918          |
| LA7  | 75 | 1       | 5       | **4.25** | 1.128      |
| LA8  | 75 | 1       | 5       | 3.45 | 1.758          |
| LA9  | 75 | 1       | 5       | 2.76 | 1.859          |
| LA10 | 75 | 1       | 5       | 3.37 | 1.634          |
| LA11 | 75 | 1       | 5       | 3.64 | 1.714          |
| LA12 | 75 | 1       | 5       | **3.80** | 1.611      |
| LA13 | 75 | 1       | 5       | 3.72 | 1.530          |
| LA14 | 75 | 1       | 5       | 2.41 | 1.764          |
| LA15 | 75 | 1       | 5       | 1.61 | 1.314          |

**Table 4**
Descriptive statistics of human rights (HR).

|      | N  | Minimum | Maximum | Mean | Std. deviation |
|------|----|---------|---------|------|----------------|
| HR1  | 75 | 1       | 5       | 2.41 | 1.733          |
| HR2  | 75 | 1       | 5       | 3.19 | 1.776          |
| HR3  | 75 | 1       | 5       | 2.57 | 1.780          |
| HR4  | 75 | 1       | 5       | **3.35** | 1.871      |
| HR5  | 75 | 1       | 5       | 3.24 | 1.829          |
| HR6  | 75 | 1       | 5       | **3.59** | 1.794      |
| HR7  | 75 | 1       | 5       | **3.45** | 1.818      |
| HR8  | 75 | 1       | 5       | 1.91 | 1.621          |
| HR9  | 75 | 1       | 5       | 2.55 | 1.933          |
| HR10 | 75 | 1       | 5       | 1.72 | 1.457          |
| HR11 | 75 | 1       | 5       | 1.99 | 1.656          |

significant suppliers identified as having significant risk for incidents with child labor, and measures taken to contribute to the effective abolition of child labor. This indicator is followed by HR7: Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor. HR4 is ranked the third highest in the category, but with an average score of 3.35 which is low compared to the other categories. As many as three out of eleven indicators (HR8, HR10 and HR11) have a mean value below 2 which are more than any other category. Considering that many of the indicators receive a lot of media attention (child labor, forced labor, discrimination and security), it is noteworthy that this category has the lowest average scores of all four categories.

#### 4.1.3. Indicator protocols set for society (SP)

The society indicators are ranked in Table 5. The top indicator is SP8: Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations. From this, we can assume that companies focus more on indicators that are closely related to costs, which can impact on the financial performance directly. SP8 is closely followed by SP3 and SP5. Interestingly, a Wilcoxon signed rank test shows that SP3, which is training against corruption is significantly ($p < .05$) higher than SP2, which is about the portion of the business that has been analyzed for corruption. One explanation could be that it is less sensitive to put employees through training than to actually audit business units on corruption. The means of two indicators are

below 2: SP9 Operations with significant potential or actual negative impacts on local communities; SP10 Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities. These two indicators have relatively less attention since their effects cannot be detected in the short run; their impacts are mainly

through external stakeholders, e.g., local communities in the long run.

### 4.1.4. Indicator protocols set for product responsibility (PR)

From Table 6, we can find that the top ranked product responsibility performance indicator is PR1: Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures. Meanwhile, there is no indicator with a mean value below 2. It is easy to derive that companies really mind the product responsibilities among the CSR indicators. The reason is that these product responsibility indicators are strongly correlated with the products reputation in the product market. This kind of reputation can direct impact on companies' market performance.

### 4.2. GRI constructs

The GRI reports are built around categories and sub-categories, which in turn can be tested as constructs (See Table 7). If the internal consistency for a category or sub-category is low, it is an indication that the indicators do not measure the same latent variable, which in turn has effects on the design of future research on CSR. The main categories are as previously described Labor Practices (LA), Human Rights (HR), Society (SP) and Product Responsibility (PR). Each main category consists of between 5 and 8 sub-categories as illustrated in Table 7. Some of the sub-categories consist of a single indicator while others consist of up to 4 indicators. By calculating Cronbach's alphas for all multi-indicator constructs, it is possible to test their internal consistency. According to previous studies, alphas above .7 usually indicate a high internal consistency, though for exploratory research alphas above .6 can be accepted (Hair et al., 1998). On the aggregated level Labor Practices, Human Rights, Society and Product Responsibility

**Table 5**
Descriptive statistics of society indicators.

|       | N  | Minimum | Maximum | Mean | Std. deviation |
|-------|----|---------|---------|------|----------------|
| SP1   | 75 | 1       | 5       | 3.43 | 1.780          |
| SP2   | 75 | 1       | 5       | 3.16 | 1.882          |
| SP3   | 75 | 1       | 5       | **3.72** | 1.729      |
| SP4   | 75 | 1       | 5       | 3.51 | 1.863          |
| SP5   | 75 | 1       | 5       | **3.72** | 1.790      |
| SP6   | 75 | 1       | 5       | 3.05 | 1.999          |
| SP7   | 75 | 1       | 5       | 3.43 | 1.897          |
| SP8   | 75 | 1       | 5       | **3.77** | 1.857      |
| SP9   | 75 | 1       | 5       | 1.85 | 1.650          |
| SP10  | 75 | 1       | 5       | 1.91 | 1.686          |

**Table 6**
Descriptive statistics of product responsibility indicators.

|      | N  | Minimum | Maximum | Mean | Std. deviation |
|------|----|---------|---------|------|----------------|
| PR1  | 75 | 1       | 5       | **3.83** | 1.647      |
| PR2  | 75 | 1       | 5       | 2.79 | 1.961          |
| PR3  | 75 | 1       | 5       | **3.64** | 1.806      |
| PR4  | 75 | 1       | 5       | 2.87 | 1.954          |
| PR5  | 75 | 1       | 5       | 3.35 | 1.782          |
| PR6  | 75 | 1       | 5       | 3.29 | 1.909          |
| PR7  | 75 | 1       | 5       | 3.00 | 1.945          |
| PR8  | 75 | 1       | 5       | 2.47 | 1.898          |
| PR9  | 75 | 1       | 5       | **3.48** | 1.913      |

**Table 7**
Categories on social performance from GRI report.

| Categories | Indicators (See Appendix) | Cronbach's alpha |
|------------|---------------------------|------------------|
| Labor Practices and Decent Work Performance Indicators |  | .861 |
| Employment (LA_A) | LA1, LA2, LA3, LA15 | .554 |
| Labor/Management Relations (LA_B) | LA4, LA5 | .640 |
| Occupational Health and Safety (LA_C) | LA6, LA7, LA8, LA9 | .609 |
| Training and Education (LA_D) | LA10, LA11, LA12 | .634 |
| Diversity and Equal Opportunity (LA_E) | LA13 | – |
| Equal Remuneration for Women and Men (LA_F) | LA14 | – |
|  |  |  |
| Human Rights Performance Indicators |  | .897 |
| Investment and Procurement Practices (HR_A) | HR1, HR2, HR3 | .773 |
| Non-discrimination (HR_B) | HR4 | – |
| Freedom of Association and Collective (HR_C) | HR5 | – |
| Child Labor (HR_D) | HR6 | – |
| Forced and Compulsory Labor (HR_E) | HR7 | – |
| Security Practices (HR_F) | HR8 | – |
| Assessment (HR_G) | HR9 | – |
| Remediation (HR_H) | HR10 | – |
|  |  |  |
| Society Performance Indicators |  | .854 |
| Local Communities (SP_A) | SP1, SP9, SP10 | .777 |
| Corruption (SP_B) | SP2, SP3, SP4 | .738 |
| Public Policy (SP_C) | SP5, SP6 | .671 |
| Anti-Competitive Behavior (SP_D) | SP7 | – |
| Compliance (SP_E) | SP8 | – |
|  |  |  |
| Product Responsibility Performance Indicators |  | .900 |
| Customer Health and Safety (PR_A) | PR1, PR2 | .701 |
| Product and Service Labeling (PR_B) | PR3, PR4, PR5 | .747 |
| Marketing Communications (PR_C) | PR6, PR7 | .664 |
| Customer Privacy (PR_D) | PR8 | – |
| Compliance (PR_E) | PR9 | – |

all have strong alphas, indicating strong constructs. On the sub-category level, constructs are weaker but the majority is still within the acceptable levels. LA_A falls slightly below the threshold value, indicating that the included indicators may not measure the same thing. The ranking of both individual and aggregated indicators shows Labor Practices to be important (See Table 3). Since the constructs in this paper are based on the standardized format in the GRI report and due to the high ranking of Labor Practices, it was decided to include LA_A for further analysis but with extra care taken in the interpretation of the results.

### 4.3. Cluster analysis

In order to see if there are different patterns on how CSR practices are implemented and reported, a cluster analysis has been conducted, first based on the averages of each category (Labor, Human Rights, Society and Product responsibility) and then based on the averages for the sub-categories. A K-means cluster analysis is performed with three clusters. The choice of three clusters is based on having an expected number of cases in each cluster above 20. Additionally two or four clusters do not provide significant additional insights. The results (see Tables 8 and 9) suggest a parallel adoption of all four categories: there is no indication of a sequential adoption where some categories are fully adopted and the remaining ones are not. Both for categories and sub-categories, all indicators, follow the same pattern; the score for cluster 1 is lower than the score for cluster 2, which in turn is lower than cluster 3. A closer inspection of the sub-categories shows that, among the lowest performing cluster members, Security Practices (HR_F), Remediation (HR_H), Customer Privacy (PR_D) have an average of 1.0, i.e. none of the 24 companies reports anything in these sub-categories. The overall picture for this cluster is the same, with average scores consistently below 3. The best performing cluster has averages above 4.0 for 3 out of 4 categories and 17 out of 24 sub-categories. The sub-category assessment (HR_G) is the only one that deviates from the general pattern with an average score below 3, thus the result indicates that this sub-category is not generally adopted by the companies in this sample.

### 4.4. Comparison in industries

To test whether there is any significant difference in CSR performance indicators between automotive industry, metals products industry, forest and paper industry, chemical industry and health care industry, a non-parametrical Kruskal–Wallis 1-way ANOVA has been applied for all the GRI indicators concerning the social performance. We only find two indicators having significant differences among industries among 45 indicators to be tested. These indicators are LA14: Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation ($p = .012$) and PR7: Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising,

**Table 8**
Final cluster centers.

| | Cluster | | |
|---|---|---|---|
| | 1 (N=28) | 2 (N=21) | 3 (N=27) |
| LA_AVG | 2.46 | 3.27 | 4.27 |
| HR_AVG | 1.54 | 2.65 | 3.96 |
| SP_AVG | 1.99 | 3.12 | 4.30 |
| PR_AVG | 1.80 | 3.28 | 4.49 |

**Table 9**
Final cluster centers for sub-categories.

| | Cluster | | |
|---|---|---|---|
| | 1 (N=24) | 2 (N=23) | 3 (N=28) |
| LA_A | 2.69 | 2.74 | 3.86 |
| LA_B | 2.08 | 3.35 | 4.82 |
| LA_C | 2.52 | 3.28 | 4.38 |
| LA_D | 2.86 | 3.32 | 4.48 |
| LA_E | 2.83 | 3.96 | 4.29 |
| LA_F | 1.33 | 1.78 | 3.86 |
| HR_A | 1.53 | 2.62 | 3.83 |
| HR_B | 1.50 | 3.78 | 4.57 |
| HR_C | 1.42 | 3.52 | 4.57 |
| HR_D | 1.83 | 3.78 | 4.93 |
| HR_E | 1.58 | 3.61 | 4.93 |
| HR_F | 1.00 | 1.52 | 3.00 |
| HR_G | 1.08 | 1.52 | 2.43 |
| HR_H | 1.00 | 1.43 | 3.29 |
| SP_A | 1.53 | 1.93 | 3.52 |
| SP_B | 2.22 | 3.35 | 4.62 |
| SP_C | 2.58 | 2.96 | 4.43 |
| SP_D | 1.58 | 3.78 | 4.71 |
| SP_E | 2.00 | 4.30 | 4.86 |
| PR_A | 2.21 | 3.00 | 4.50 |
| PR_B | 2.28 | 3.00 | 4.38 |
| PR_C | 1.79 | 2.83 | 4.57 |
| PR_D | 1.00 | 1.96 | 4.14 |
| PR_E | 1.67 | 3.96 | 4.64 |

promotion, and sponsorship by type of outcomes ($p = .027$). Thus we conclude that within the manufacturing industry, there is little (or no) indication of consistent differences between the five industrial sectors mentioned above. The results reject the hypothesis H1. As a conclusion, there is no significant difference regarding reporting CSR performance among different industrial sectors in the manufacturing industry.

### 4.5. Correlations between the disclosure of corporate social performance and financial performance

At last we have investigated the correlation between CSR indicators and financial performance. For all companies, the average of all scores of corporate social practices has been calculated, as well as the average scores for LA indicators, HR indicators, SP indicators and PR performance indicators. These scores have then been compared to the sales growth, return on equity and cash flow/sales ratio by applying the Spearman's rho correlation tests. All except labor practices have displayed a significant positive correlation with the ROE (see Table 10).

A similar pattern emerges for the correlations between the constructs (sub-categories) in Table 7 and financial performance, see Tables 11–14. In Labor Practices and Decent Work performance indicators, Occupational Health and Safety (LA_C) and Equal Remuneration for Women and Men (LA_F) are significantly correlated with ROE. Meanwhile, Diversity and Equal Opportunity (LA_E) has a positive and significant correlation with cash flow/sales.

In Human Rights performance indicators, Investment and Procurement Practices (HR_A) is significantly correlated with ROE. Assessment (HR_G) is significantly correlated with sales growth. In Society performance indicators analysis, it is found that Compliance (SP_E) is significantly correlated with ROE. In Product Responsibility performance indicators, it is found that Marketing Communications (PR_C) have significant correlations with ROE.

Based on above analysis, LA_C, LA_F, HR_A, HR_G, SP_E and PR_C all have positive and significant correlations with ROE. Due to some constructs having low Cronbach's Alphas, these results have been further verified on the indicator level. No further significances have

**Table 10**
Correlations between average scores of social indicators with financial performances.

|  |  |  | Sales growth | ROE | Cash flow/sales |
|---|---|---|---|---|---|
| Spearman's rho | LA_AVG | Correlation Coefficient | .105 | .200 | −.093 |
|  |  | Sig. (1-tailed) | .215 | .078 | .255 |
|  |  | N | 59 | 52 | 53 |
|  | HR_AVG | Correlation Coefficient | −.102 | .265[a] | .099 |
|  |  | Sig. (1-tailed) | .221 | .029 | .240 |
|  |  | N | 59 | 52 | 53 |
|  | SP_AVG | Correlation Coefficient | −.048 | .246[a] | .105 |
|  |  | Sig. (1-tailed) | .360 | .040 | .227 |
|  |  | N | 59 | 52 | 53 |
|  | PR_AVG | Correlation Coefficient | .054 | .294[a] | .114 |
|  |  | Sig. (1-tailed) | .341 | .017 | .209 |
|  |  | N | 59 | 52 | 53 |

[a] Correlation is significant at the .05 level (1-tailed).

**Table 11**
Correlations between Labor Practices and Decent Work performance indicators with financial performances.

|  |  |  | Sales growth | ROE | Cash flow/ sales |
|---|---|---|---|---|---|
| Spearman's rho | LA_A | Correlation Coefficient | .096 | .095 | −.151 |
|  |  | Sig. (1-tailed) | .234 | .252 | .140 |
|  |  | N | 59 | 52 | 53 |
|  | LA_B | Correlation Coefficient | .097 | .143 | −.020 |
|  |  | Sig. (1-tailed) | .232 | .156 | .443 |
|  |  | N | 59 | 52 | 53 |
|  | LA_C | Correlation Coefficient | .134 | .250[a] | −.019 |
|  |  | Sig. (1-tailed) | .155 | .037 | .446 |
|  |  | N | 59 | 52 | 53 |
|  | LA_D | Correlation Coefficient | −.004 | .055 | −.143 |
|  |  | Sig. (1-tailed) | .487 | .349 | .153 |
|  |  | N | 59 | 52 | 53 |
|  | LA_E | Correlation Coefficient | −.146 | −.022 | −.427[b] |
|  |  | Sig. (1-tailed) | .134 | .439 | .001 |
|  |  | N | 59 | 52 | 53 |
|  | LA_F | Correlation Coefficient | .178 | .250[a] | .086 |
|  |  | Sig. (1-tailed) | .089 | .037 | .269 |
|  |  | N | 59 | 52 | 53 |

[a] Correlation is significant at the .05 level (1-tailed).
[b] Correlation is significant at the .01 level (1-tailed).

**Table 12**
Correlations between Human Rights Performance Indicators with financial performances.

|  |  |  | Sales growth | ROE | Cash flow/ sales |
|---|---|---|---|---|---|
| Spearman's rho | HR_A | Correlation Coefficient | .013 | .337[a] | .222 |
|  |  | Sig. (1-tailed) | .460 | .007 | .055 |
|  |  | N | 59 | 52 | 53 |
|  | HR_B | Correlation Coefficient | −.204 | .113 | .043 |
|  |  | Sig. (1-tailed) | .061 | .214 | .380 |
|  |  | N | 59 | 52 | 53 |
|  | HR_C | Correlation Coefficient | −.131 | .144 | .073 |
|  |  | Sig. (1-tailed) | .161 | .155 | .301 |
|  |  | N | 59 | 52 | 53 |
|  | HR_D | Correlation Coefficient | −.010 | .191 | .009 |
|  |  | Sig. (1-tailed) | .470 | .088 | .476 |
|  |  | N | 59 | 52 | 53 |
|  | HR_E | Correlation Coefficient | −.084 | .227 | .025 |
|  |  | Sig. (1-tailed) | .264 | .053 | .429 |
|  |  | N | 59 | 52 | 53 |
|  | HR_F | Correlation Coefficient | −.097 | .168 | .064 |
|  |  | Sig. (1-tailed) | .232 | .117 | .323 |
|  |  | N | 59 | 52 | 53 |
|  | HR_G | Correlation Coefficient | −.303[a] | −.056 | −.106 |
|  |  | Sig. (1-tailed) | .010 | .346 | .225 |
|  |  | N | 59 | 52 | 53 |
|  | HR_H | Correlation Coefficient | .015 | .179 | .215 |
|  |  | Sig. (1-tailed) | .457 | .102 | .061 |
|  |  | N | 59 | 52 | 53 |

[a] Correlation is significant at the .01 level (1-tailed).

been found and there are no large inconsistencies within constructs with significant correlations. The result seems support the result in early studies reasoning according to the slack resources theory, which states that the profitable companies can have more resources to be spent on corporate social performance. Moreover, the CSR can bring incremental benefits for companies and then on the other hand the disclosure of CSR also helps the companies to mitigate potential harm from negative events (Peloza, 2006). However, it is interesting to note that only one construct (LA_E) among all constructs has significant correlations to sales growth or cash flow/sales. According to Orlitzky et al. (2003), ROE is a measure of corporate financial performance which examines the internal resources utilization for the company, whereas, sales growth and cash flow/sales are more intend to external measures of corporate financial performance. The result of our study shows that improved corporate social performance as well as more transparent disclosures of corporate social performance would have a strong relationship with improving the internal utilization of financial resources of

the companies. But such corporate social performance and its disclosures are not necessarily improving the company's external financial performances.

## 5. Conclusion and managerial implications

The study results have managerial implications for CSR performances especially concerning the social part. First of all, the study findings show that amongst different categories of corporate social responsibility, the labor practice and decent work have received the highest attention. Moreover, the indicators which are easy to

be quantified or measured often have higher scores than others. There is no indicator in the category of product responsibility with a mean value below 2. This indicates that companies are making efforts to improve their performance in product responsibility, possibly because the product related CSR indicators are closely related to market performance, brand value as well as competitiveness for the companies. Based on the cluster analysis of all CSR indicators, we can detect a parallel adoption of four categories, instead of a sequential progress where one category would be adopted before the others. Based on the current dataset and the employed statistical tools, it is not possible to test for the development trajectories. But it is reasonable that the parallel adoption is a reflection of a parallel development.

When comparing the CSR performance indicators between different industries, only two indicators out of 45 indicators have significant difference, namely LA14 and PR7. This result shows that in general there is no consistent difference in the disclosures of CSR performance among automotive industry, metals products industry, forest and paper industry, chemical industry and health care industry. This could indicate that CSR indicators are indeed general and relevant across industries. Another explanation can be found in the method. Since the indicators measure degree of disclosure, it does not necessarily reflect the amount of work put into that category. A company with sites only in developed countries with strict governmental control of labor conditions will find it much easier to reach full disclosure in these areas than a company with a truly global foot print, even if the latter does more work. Concerning the two indicators showing the difference, one possible reason is that the automotive industry often compliances to such industry standards (for example labor union standards) that are issued on a regular basis. The adherence to such standards has as a positive impact on their performance (Buren and Patterson, 2012).

In this paper, we take a comparatively short-term view (from time horizon perspective) to analyze the relationships between the disclosures of CSR and financial performances in manufacturing companies. The results indicate that those companies doing well on the GRI indicators like wisely perform well financially, particularly as the measure is based on ROE. Therefore, our study supports the opinion that the profitable companies may have extra resources to report and improve corporate social performance; in the meantime, CSR publicity and improvement can potentially bring in significant competitive advantage for these companies and thus complement the economic goals of the companies in the short-term perspective. These results are in the line with the slack resource theory as well as the findings by Waddock and Graves (1997). Generally speaking, the disclosure of corporate social performance and corporate financial performance mutually affect each other through a virtuous cycle.

In this paper we suggest to measure the CSR performance according to the reporting system. This measurement is based on content analysis on the GRI reports mostly. As discussed by Chen and Bouvain (2009), though this measuring method presents a helpful evidence of the relative importance of the issue that the company intends to represent to readers, it is not necessarily associate with the importance related to the actual CSR practice. Thus, a further checking or auditing system is necessary for the external stakeholders to assess the actual CSR work in these companies.

The findings of this study should be of interest for managers, government policy makers and investors. For those managers who can allocate companies' resources during investment, they should consider the potential payback from allocating some resources towards a transparent disclosure of corporate social performance. Such investment can efficiently utilize the internal financial resource of the companies, as well as remedy negative

**Table 13**
Correlations between Society performance indicators with financial performances.

| | | | Sales growth | ROE | Cash flow/ sales |
|---|---|---|---|---|---|
| Spearman's rho | SP_A | Correlation Coefficient | .051 | .183 | −.002 |
| | | Sig. (1-tailed) | .350 | .097 | .495 |
| | | N | 59 | 52 | 53 |
| | SP_B | Correlation Coefficient | .052 | .230 | .125 |
| | | Sig. (1-tailed) | .347 | .051 | .186 |
| | | N | 59 | 52 | 53 |
| | SP_C | Correlation Coefficient | −.120 | .097 | .180 |
| | | Sig. (1-tailed) | .184 | .246 | .099 |
| | | N | 59 | 52 | 53 |
| | SP_D | Correlation Coefficient | −.128 | .137 | −.112 |
| | | Sig. (1-tailed) | .166 | .166 | .213 |
| | | N | 59 | 52 | 53 |
| | SP_E | Correlation Coefficient | −.058 | .239[a] | .052 |
| | | Sig. (1-tailed) | .333 | .044 | .356 |
| | | N | 59 | 52 | 53 |

[a] Correlation is significant at the .05 level (1-tailed).

**Table 14**
Correlations between Product Responsibility Performance Indicators with financial performance.

| | | | Sales growth | ROE | Cash flow/sales |
|---|---|---|---|---|---|
| Spearman's rho | PR_A | Correlation Coefficient | .118 | .210 | .126 |
| | | Sig. (1-tailed) | .188 | .068 | .183 |
| | | N | 59 | 52 | 53 |
| | PR_B | Correlation Coefficient | .097 | .213 | −.006 |
| | | Sig. (1-tailed) | .232 | .065 | .482 |
| | | N | 59 | 52 | 53 |
| | PR_C | Correlation Coefficient | .006 | .403[a] | .207 |
| | | Sig. (1-tailed) | .482 | .002 | .068 |
| | | N | 59 | 52 | 53 |
| | PR_D | Correlation Coefficient | −.079 | .150 | −.021 |
| | | Sig. (1-tailed) | .275 | .144 | .441 |
| | | N | 59 | 52 | 53 |
| | PR_E | Correlation Coefficient | −.019 | .154 | .185 |
| | | Sig. (1-tailed) | .442 | .139 | .092 |
| | | N | 59 | 52 | 53 |

[a] Correlation is significant at the .01 level (1-tailed).

communications coverage. Moreover, the managers should be encouraged to pursue GRI reporting activities with increased vigor or to investigate the underlying causes of the positive relationship between the categories of Human Rights, Society as well as Product responsibility with the return on equity.

However, there are still some limitations for GRI guideline itself. For example, GRI reports are not sufficient in providing information for the CSR performance assessment at suppliers' level. As Lee and Kim (2009) discussed in their research, for company's daily supply chain management practices, lack of specific information of the CSR performance assessment at suppliers' level is a big disadvantage. The development of evaluation measures for suppliers can be a crucial determinant in improving a company's performance. Therefore, it is very important for the GRI report developers considering how to develop concise and practical measurement indicators for the social performance from a supply chain perspective.

This research provides a structured content analysis of CSR reports, especially it considers the social parts in the reports. The CSR report presents a comprehensive coverage of social indicators. Using this social disclosure rating system, stakeholders can assess a company's commitment towards CSR issues and contrast them with the actual performance. In this way, companies have a baseline to compare the CSR performances between each other. Moreover, it also provides companies the chance to benchmark from the best practice in order to establish a sustainable business. For the policy-makers, they should consider the provision of appropriate support and training for companies to publish standard CSR reports, for example under GRI guidelines.

For investors, our study offers the empirical results as following: first of all, GRI reports can be used as an effective method to assess the companies' sustainable work; and secondly, our study supports the conclusion in Rajput et al., (2012), namely a sustainable business provides a basis for securing the financial performance.

## 6. Limitations and future research suggestions

As the main content of GRI report always exceeds 100 pages, it is difficult to apply content analysis to collect data from a large sample of companies. In this paper, we have investigated 75 companies across Europe, Asia and America. The limited sample size restrains the possibility to conduct more advanced statistical analysis. The analysis crossing the regions could be of interest, but our samples are distributed unevenly for these three regions due to more available samples from Europe. With a larger sample size, it would also be possible to further investigate the reason that the Labor Practices has a low internal consistency with the GRI structure.

Tang et al. (2012) analyzed 130 companies using panel data with a time span from 1995 to 2007. They found that companies improve profits if they adopt a consistent CSR strategy, which involves related dimensions of CSR and starts with those more internal to the companies. Oikonomou et al. (2012) conducted a longitudinal analysis of corporate social performance and financial risk, and they use a large sample of panel data between the years 1992 and 2009. They found that corporate social responsibility is negatively and weakly related to the systematic company risk. In addition, corporate social irresponsibility is positively and strongly related to the financial risk. However, in the above mentioned studies, the corporate social performances are not evaluated using a consistent reporting system. Whereas with the availability of GRI reports, we can repeat the similar longitudinal studies with some in-depth research focuses. Such a study should bring managers and researchers more insights to understand the development path of CSR practice, and its relationship with financial performance from a long term perspective.

Again the longitudinal studies may also have a focus on certain regions. Since the Swedish manufacturing companies adopted GRI

reporting system for a relatively longer time, we can conduct a longitudinal panel data analysis during a period for the Swedish manufacturing companies for the future research.

## Appendix A. List of variables for raters

This list is adopted Global Reporting Initiative G3. Details of the definition can be found in sustainability reporting guidelines version 3.1. Grading scale should follow 1: not doing it, 3: alludes to doing it . . . 5: quantitative measures, categories, and targets.

1. **Labor practices and decent work performance indicators**
   **1A: Employment**
   - LA1: Total workforce by employment type, employment contract, and region, broken down by gender.
   - LA2: Total number and rate of new employee hires and employee turnover by age group, gender, and region.
   - LA3: Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation.
   - LA15: Return to work and retention rates after parental leave, by gender.
     **1B: Labor/management relations**
   - LA4: Percentage of employees covered by collective bargaining agreements.
   - LA5: Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements.
     **1C: Occupational health and safety**
   - LA6: Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advice on occupational health and safety programs.
   - LA7: Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender.
   - LA8: Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.
   - LA9: Health and safety topics covered in formal agreements with trade unions.
     **1D: Training and education**
   - LA10: Average hours of training per year per employee by gender, and by employee category.
   - LA11: Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.
   - LA12: Percentage of employees receiving regular performance and care development reviews, by gender.
     **1E: Diversity and equal opportunity**
   - LA13: Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.
     **1F: Equal remuneration for women and men**
   - LA14: Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.
2. **Human rights performance indicators**
   **2A: Investment and procurement practices**
   - HR1: Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening.

- HR2: Percentage of significant suppliers, contractors, and other business partners that have undergone human rights screening, and actions taken.
- HR3: Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.

### 2B: Non-discrimination
- HR4: Total number of incidents of discrimination and corrective actions taken.

### 2C: Freedom of association and collective
- HR5: Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.

### 2D: Child labor
- HR6: Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.

### 2E: Forced and compulsory labor
- HR7: Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.

### 2F: Security practices
- HR8: Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.

### 2G: Assessment
- HR10: Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.

### 2H: Remediation
- HR11 Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.

3. **Society performance indicators**

### 3A: Local communities
- SP1: Percentage of operations with implemented local community engagement, impact assessments, and development programs.
- SP9: Operations with significant potential or actual negative impacts on local communities.
- SP10: Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.

### 3B: Corruption
- SP2: Percentage and total number of business units analyzed for risks related to corruption.
- SP3: Percentage of employees trained in organization's anti-corruption policies and procedures.
- SP4: Actions taken in response to incidents of corruption

### 3C: Public policy
- SP5: Public policy positions and participation in public policy development and lobbying.
- SP6: Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.

### 3D: Anti-competitive behavior
- SP7: Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes.

### 3E: Compliance
- SP8: Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations.

4. **Product responsibility performance indicators**

### 4A: Customer health and safety
- PR1: Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.
- PR2: Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.

### 4B: Product and service labeling
- PR3: Type of product and service information required by procedures and percentage of significant products and services subject to such information requirements.
- PR4: Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.
- PR5: Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.

### 4C: Marketing communications
- PR6: Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.
- PR7: Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.

### 4D: Customer privacy
- PR8: Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.

### 4E: Compliance
- PR9: Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and services.

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