

Determinants of corporate social responsibility disclosures: Evidence from India



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ABSTRACT

Over the last few decades, a number of studies, mostly in the western countries, have investigated the nature and frequency of corporate social responsibility disclosures, their patterns and trends, and their general relationships with corporate size and profitability. This study seeks to extend the knowledge regarding the relationship between a number of financial and non-financial corporate characteristics and the level of social responsibility disclosures based on an extensive sample of top Indian companies. Corporate size and industry category are found to correlate with the corporate social disclosures of the companies and the corporate reputation as recognised through awards and social ratings has also been observed to be a significant factor that influences the social disclosures made by the Indian companies.

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1. Introduction

Over the last few decades, there has been a great deal of academic research into the social reporting practices of corporations operating in different parts of the world. Researchers and academics working in the realm of corporate social responsibility (CSR) have shifted their focus from measuring corporate social responsibility disclosure (CSRD) to exploring its determinants (Eng & Mak, 2003; Ghazali, 2007; Khelif & Souissi, 2010; Kotonen, 2009; Purushotahman, Phil, & Ross, 2000; Saleh, Zulkifli, & Muhamad, 2010). Academic researchers have made rigorous efforts to explore the financial and non-financial determinants of the social and environmental disclosures made by the corporate sector, including: size of the business (Eng & Mak, 2003; Hackston & Milne, 1996; Haniffa & Cooke, 2005; Said, Yuserrie, & Haron, 2009), financial performance (Oeyono, Samy, & Bampton, 2011; Roberts, 1992; Waddock & Graves, 1997), age of the company (Cormier, Magnan, & Velthoven, 2005; Rahman, Zain, & Al-Haj, 2011), board characteristics (Hossain & Reaz, 2007) and nature of the industry.

The motivation for this paper emerges from the realisation that most of the research in this sphere of knowledge has explored CSRD in the western world, and only a small number of studies have been conducted into CSRD and its determinants in developing economies such as India, Pakistan, Malaysia and Indonesia. There has been little

research on the Indian corporate sector despite the strong global contribution of the Indian economy. To the best knowledge of the authors, only a few studies have explored the determinants of voluntary CSRD in the Indian context. Three decades ago, Singh and Ahuja (1983) conducted a study on the determinants of CSRD on public sector companies. Hossain and Reaz's (2007) study was limited to the banking sector and the index used considered only eight items related to CSR (out of a total of 65 items). There is a need for a comprehensive research study in the Indian context that explains the level of CSRD and the factors explaining disclosures.

Besides the existing gap in the literature on CSRD in the Indian context, the other motivation for this study is the need to measure and understand the level of CSRD and its determinants before the application of the *Corporate Social Responsibility Voluntary Guidelines* issued by the Ministry of Corporate Affairs, India (2009), the *Guidelines on Corporate Social Responsibility for Central Public Sector Enterprises* (2010, 2012) and the Companies Bill 2012, which has made CSR disclosures mandatory in India.

As per the guidelines, CSR is a company's commitment to operate in an economically, socially and environmentally sustainable manner, while recognising the interests of various stakeholder groups. These guidelines provide for resource allocation towards CSR projects in relation to their declared profits in a particular year and include regulations for the implementation, monitoring and reporting of social disclosures. They became law in 2013 after the Companies Bill 2012 passed through the upper house of India's parliament. These regulatory changes may have an impact on social performance and CSRD by companies in India in the future. Therefore, this study will contribute to the existing

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literature on the determinants of CSRD by providing an overview of the level of CSRD in the pre-mandatory regime. Future research into CSRD can use the findings of this study as a comparative base to measure the impact of the CSR legislation in India.

2. Corporate social responsibility

2.1. Overview

CSR has sustained the attention of academics, researchers, non-government organisations and governments over a long period and has emerged as an important dimension of companies' operational activities (Vilanova, Lozano, & Arenas, 2009). The increased globalisation of trade, the rise in the strategic importance of stakeholder relationships and the growth of corporate image management have been key drivers of the increased importance of CSR (Azim, Ahmed, & Islam, 2009). Unfortunately, CSR does not yet have an accepted universal definition. Current CSR definitions are ambiguous, and differing interpretations (Valor, 2005) and perspectives (Balasubramanian, David, & Fran, 2005) have been adopted. Dahlsrud (2008) analysed 37 definitions of CSR originating from 27 authors and covering the period 1980–2003. Rather than attempting a comprehensive definition of CSR, the definition used here is that given by the World Business Council for Sustainable Development (World Business Council for Sustainable Development, 1998): 'The commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life.'

2.2. Why Indian CSR is unique

The CSR scene in India is unique for multiple reasons. The first and most important is the country's 'family-centered' style of management—most of the large corporations in India are controlled by family groups (Sundar, 2000). CSR has been practised by leading family corporations for over 100 years as a family tradition (Balasubramanian et al., 2005; Sagar & Singla, 2004). Thus, selection of CSR initiatives (benefactions for education, medical facilities and so forth) is influenced by the specific cultural and social preferences of the individual family. For example, the founders of the Tata Group established the JN Tata Endowment Fund in 1892 to encourage Indian scholars to take up higher studies abroad. This was the first of a large number of philanthropic initiatives by the Tata Group. Over generations, members of the Tata family have contributed much of their personal wealth to the many trusts that they have created to benefit Indian society.

The second unique feature of CSR in India is the lack of a formal and widely accepted mechanism for corporate reputation ratings such as Kinder Lydenberg Domini (KLD), Fortune, Moskowitz and Business Ethics; thus, corporate social performance (CSP) is not promoted. In India, Karmayog provides a rating for companies on the basis of their social performance (Karmayog, 2004), but the extent to which companies themselves and various stakeholders value these ratings has not yet been investigated. The conferring of various awards by the government and other social agencies provides recognition of companies' social and environmental endeavours. Companies voluntarily report their CSR efforts/awards in various business dailies, annual reports and websites. Better-performing CSR companies are more concerned about the readability of their CSRD (Abu & Ameer, 2011).

The third feature is the sets of guidelines for CSR reporting in India: the *Corporate Social Responsibility Voluntary Guidelines* (2009 and 2010) issued by the Ministry of Corporate Affairs, the *Guidelines on Corporate Social Responsibility for Central Public Sector Enterprises* (2010, 2012) and now the Companies Bill 2012. However, not all companies adhere to these guidelines because the observance of law is generally quite poor in India (Prieto-Carrón, Lund-Thomsen, Chan, Muro, & Bhushan, 2006). This fact is confirmed by poor implementation, monitoring and reporting of CSR mechanisms in Indian government companies (Report

no. CA 22). It also inspires research into the question that if legal compliance is poor, what else might drive companies to disclose or not to disclose?

Finally, India is a fast-growing economy that has witnessed substantial corporate and economic growth in recent years, particularly in the post-liberalisation era. Former United Kingdom (UK) Prime Minister Gordon Brown advised that India could emerge as the fastest growing economy in the world in the next 10 years (Hindustan Times, 2010). India is the first country in the world to mandate the spending of 2% of the average net profits of three years immediately preceding the reporting period (Companies Bill 2012). In addition, boards of directors are required to disclose the contents of CSR policy in their reports. Given the uniqueness of Indian corporations, research into the degree of CSRD – and the factors that drive companies to make high or low CSRD – attracts a great deal of interest.

3. Literature review

A literature review highlights the dearth of academic research into CSRD in developing countries (Azim et al., 2009), although there have been a large number of studies in the western world. Some prominent CSRD studies in the western world include Guthrie and Parker (1990); Roberts (1992); Gray, Kouhy, and Lavers (1995) and Gray, Javad, and Sinclair (2001). Studies in the UK include Samuel and Brian (2004) and Gray et al. (1995); in Canada, Zeghal and Ahmed (1990); in South Africa, Savage (1994); in New Zealand, Hackston and Milne (1996); in Western Europe, Adams, Hill, and Roberts (1998); in the UK and Germany, Adams (2002); and in Australia, Deegan and Rankin (1999), Deegan, Rankin, and Voght (2000) and Barut (2007). Studies in developing countries are minimal except for recent studies on CSR in Bangladesh (Azim et al., 2009; Khan, Muttakin, & Siddiqui, 2012).

The vast amount of literature devoted to CSRD throughout the world is a testimony to the importance of the concept over time. The determinants of CSRD are a research area receiving increasing attention. The relationship of CSRD as determined by financial attributes (size, profitability and the leverage of the firms) has been widely investigated and reported in the management and social sciences literature in developed countries (Haniffa & Cooke, 2005; Amran and Devi, 2008; Mahadeo, Hanuman, & Oogarah-Soobaroyen, 2011; Crisóstomo, Freire, & Vasconcellos, 2011). In South Asian countries in general, and specifically in India, research is limited to the nature and extent of CSRD (Singh & Ahuja, 1983; Cowen, Ferreri, & Parker, 1987; Vasal, 1995; Chaudhri & Wang, 2007; Murthy & Abeysekera, 2008).

The determinants of CSRD in emerging countries are not defined in the existing literature. In India, very few studies explore inter-industry variations and the determinants of CSRD (Hossain & Reaz, 2007; Porwal & Sharma, 1991; Singh & Ahuja, 1983). Singh and Ahuja's (1983) study analysed 40 annual reports of public sector companies by employing the content analysis technique. It covered 33 items of social disclosure and found that 40% of Indian public sector companies disclosed 30% of the total CSRD items under consideration. The study examined the relationship between corporate social reporting and company size, age, profitability and industrial grouping, and concluded that company size, earning margin and industry type were statistically significant in explaining the extent of social disclosure. As one of the initial studies, it explored only a small number of CSRD items and covered only public sector enterprises. Porwal and Sharma's (1991) study demonstrated that larger companies – measured by the size of their disclosed assets – made greater CSRD than smaller companies. The rate of return and earnings margin did not explain much variance in CSRD. The most recent study in an Indian context was conducted by Hossain and Reaz (2007). The study is quite limited in scope and used only a small sample of 38 banking companies; at best, the results are indicative of corporate characteristics explaining CSRD in India. The study stressed size and assets-in-place as significant determinants of CSRD.

Academic research has identified the need for more studies into CSRD in the context of developing countries (Ghazali, 2007). This paper aims to fill this knowledge gap by examining the level of disclosures made by top Indian companies and analysing the financial and non-financial determinants of CSRD. The primary objective of the study is achieved through the following research questions:

1. What is the level of CSRD made by top Indian firms?
2. Is there any difference in the level of disclosure based on the nature of industries?
3. To what extent is CSRD determined by the size, profitability (in the current year or the previous year) or risk of the company?
4. Does the corporate social reputation of a company determine its level of CSRD?

To answer these research questions, this study measures the CSRD of the top 100 companies in India and relates the weighted corporate social, environment, energy and emissions (CSEEE) scores (measured on a six-point scale) to financial and non-financial determinants. This study is the first to explore non-financial factors as determinants of CSRD in the Indian context. An effort has been made to add a new dimension to the literature on the determinants of CSRD by connecting CSRD in India to corporate social reputation. This study has used traditional financial variables (size, profitability, risk, age and industry) and surrogates for the non-financial attributes (corporate reputation) in the univariate and multiple regression models. The study is innovative because it tries to examine hitherto unexplored areas of CSR reporting and relies heavily upon the extant literature on corporate communication and reputation management to sketch the significant relationship between corporate social reputation and CSRD. By establishing the relationship between CSRD and corporate social reputation, the study makes a significant contribution to the existing literature on the determinants of CSRD.

4. Theoretical framework and hypotheses

4.1. Relationship between CSR disclosures and financial corporate characteristics

4.1.1. CSR disclosures and company size

The existing literature reports that the size of a company influences its social disclosures (Dierkes & Preston, 1977; Patten, 1991; Roberts, 1992; Hackston & Milne, 1996; Adams et al., 1998). This leads to the hypothesis that larger firms disclose CSR information to a greater extent than smaller firms (Aras et al., 2010; Gray et al., 2001; Hossain & Reaz, 2007; Purushotahman et al., 2000; Siregar & Bachtia, 2010). Porwal and Sharma's (1991) study argued that larger Indian firms in both the public and private sectors made greater CSRDs than smaller firms.

It is understandable that larger companies make more disclosures because they tend to receive more attention from the general public and are therefore under greater pressure to exhibit social responsibility. Moreover, these companies are likely to have more shareholders who are concerned with the social programmes undertaken by the company (Cowen et al., 1987), greater visibility in supply-chain management (CSRWORLD survey report 2002 series), a greater need to legitimise their actions and limit governmental interference in their business activities (Purushotahman et al., 2000), and more infrastructure and higher cash flows at their disposal (Crisóstomo et al., 2011). Therefore, the directional hypothesis is formulated by relating CSRD to company size:

H1. Large-sized companies tend to disclose more CSR information than small-sized companies.

H1a. Firms with a higher level of sales disclose CSR information to a greater extent than firms with a lower level of sales.

H1b. Firms with a higher level of total assets disclose CSR information to a greater extent than firms with a lower level of total assets.

4.1.2. Relationship between CSR disclosures and profitability

The literature's research results on corporate profitability as a determinant of CSRD appear inconclusive. They present a mixed reaction in the form of a positive, negative or uncertain relationship between a firm's profitability and CSRD. Some researchers failed to find any association between profitability and CSRD (Porwal & Sharma, 1991; Hackston & Milne, 1996; Aras et al., 2010). Other researchers found a positive and significant relationship between profitability and CSRD (Oeyono et al., 2011; Roberts, 1992; Waddock & Graves, 1997). Crisóstomo et al. (2011) argued that spending resources on CSR can only be justified to the shareholders and creditors by excess cash flows arising from higher portability. Further, a few studies have asserted that there is a negative relationship between CSR initiatives and disclosures and financial performance, on the premise of the high cost of extensive charitable contributions, community development plans, the maintenance of facilities in economically depressed locations and the establishment of environmental protection procedures (McGuire, Sundgren, & Schneeweis, 1988; Siregar & Bachtia, 2010; Rahman, 2011).

Regarding the market rate of return, some studies indicated that CSR has an impact on the financial markets (Shane and Spicer, 1983). Some researchers examined the value-relevance of corporate environmental reputation (CER) information and its potential usefulness to investors in predicting future earnings (García-Ayuso and Larrinaga, 2003; Hussainey and Salama, 2010). These researchers contend that the firms with higher CER scores exhibit higher levels for the share-price anticipation of future earnings than the firms with lower CER scores. Saleh et al. (2010) examined the relationship between CSRD and the market prices of stock, and reported that CSRD can be leveraged to attract institutional investors to actively invest in public limited companies with strong CSR practices. Thus, empirical results provide evidence that CER information influences market prices.

Based on the mixed results shown by earlier studies investigating the relationship between profitability and CSRD, three measures of profitability are considered: first, profit after tax (PAT) at the beginning and end of the year; second, a relative measure return on capital employed (ROCE); and third, a market-based measure (that is, the market price for the shares of the respective company). The discussion above leads to the development of the following hypotheses exploring the connection between CSRD and financial performance:

H2. Firms with higher profitability disclose CSR information to a greater extent than those with lower profitability.

H2a. Firms with higher PAT at the beginning of the year disclose CSR information to a greater extent than those with lower PAT.

H2b. Firms with higher PAT at the end of the year disclose CSR information to a greater extent than those with lower PAT.

H2c. Firms with a higher ROCE disclose CSR information to a greater extent than those with a lower ROCE.

H2d. Firms with higher stock market prices disclose CSR information to a greater extent than those with lower stock market prices.

4.1.3. CSRD and risk

The relationship between CSRD and risk is not as widely explored by academic researchers as CSRD's relationship with firm size and profitability. However, a significant relationship between CSRD and risk is traced in the earlier literature, highlighting that firms with a higher degree of debt/equity ratio (DER) make higher CSRD (Khelif & Souissi, 2010; Purushotahman et al., 2000). Siregar and Bachtia (2010) concluded that leverage does not have a significant impact on corporate social reporting. Based on the empirical findings of these studies, the

following hypotheses are suggested to test the relationship between CSRD and risk:

H3a. Firms with higher financial leverage disclose CSR information to a greater extent than firms with lower financial leverage.

H3b. Firms with higher values for beta disclose CSR information to a greater extent than firms with lower values for beta.

Note, risk is considered in terms of financial leverage measured through the debt to equity ratio (DER) and the market systematic risk, beta.

4.1.4. CSRD and industry

The insights provided by the literature present a mixed answer to the question of whether industry affiliation influences the communication of social information. A large number of studies, mostly conducted in developed countries, have established that industry sector is significantly associated with amount of corporate social disclosure (Cowen et al., 1987; Roberts, 1992; Tilt, 1994; Hackston & Milne, 1996; Adams et al., 1998; Gray et al., 2001; Graafland et al., 2003; Kotonen, 2009). However, other researchers trying to associate corporate social reporting with industry size could not gather enough evidence to confirm or refute the association (Andrew et al., 1989; Purushotahman et al., 2000). The relationship between CSRD and industry groups has not been widely explored in the Indian context.

The relationship between industry and corporate social disclosure can be the result of consumer perceptions, government pressure (Cowen et al., 1987) or the environmental or social impacts of a particular industry (Cowen et al., 1987; Dierkes & Preston, 1977; Patten, 1991; Roberts, 1992; Hackston & Milne, 1996). The need for CSR and CSRD can be the result of the supply of resources peculiar to that industry; for example, Murthy and Abeyssekera (2008) suggested that a shortage of skilled labour in the software sector in India might have led to CSRD practices in the human resources (HR) category. The discussion above forms the foundation for the following hypothesis associating industry and CSRD:

H4. The specific industry to which a firm belongs establishes/determines the level of CSR disclosures by that firm.

4.1.5. CSRD and age of firm

Previous research has established that the age of a firm influences the CSR involvement of the firm and that long-established firms are likely to make greater voluntary social disclosures. Some researchers (Cormier et al., 2005; Roberts, 1992) reported a positive relationship, while others (Rahman et al., 2011) denied any relationship between the age of the firm and CSR disclosures. The hypothesis testing the relationship between CSRD and age is as follows:

H5. Long-established companies disclose more CSR information than newly established companies.

4.2. Relationship between CSRD and non-financial corporate characteristics

The research community tends to explore newer attributes to explain CSRD—for example, the political economy framework, reduced cost of capital, culture, research and development intensity, and corporate governance characteristics (Dhaliwal, Li, Tsang, & Yang, 2011; Ghazali, 2007; Khelif & Souissi, 2010; Kotonen, 2009; McWilliams, Siegel, & Wright, 2006; Purushotahman et al., 2000; Saleh et al., 2010). This paper attempts to investigate a new variable in CSRD research as it makes an effort to determine the role of corporate reputation in explaining CSRD level.

4.2.1. CSRD and corporate reputation

Reputation is a measurement of organisational character (Devine & Halpern, 2001). Bebbington, Larrinaga-Gonzalez, and Moneva (2008) proposed that a negative social or environmental incident affects an organisation's reputation, which in turn has a second-order impact on corporate legitimacy. There is no doubt that firms use CSRD to influence public perceptions, to legitimise their actions (Abu & Ameer, 2011; Saleh et al., 2010), to protect and enhance their reputation and image (Neu, Warsame, & Pedwell, 1998; Hooghiemstra, 2000; Saleh et al., 2010; Abu & Ameer, 2011) and for increased visibility (Burke & Logsdon, 1996). CSRD favourably influences the reputation of a firm (Fombrun & Shanley, 1990; Zyglidopoulos, 2001; Siltaoja, 2006; Hidayat, 2011). Socially reputed firms tend to make more CSRDs to maintain their CSR image. For example, firms such as the Tata Group, the Birla Group, Infosys and Wipro need to make disclosures to assure the public of their continuous provision of socially desirable ends and that they are not deviating from the high standards established in the past (Deegan, 2010, 331). Hence, we make the following hypothesis:

H6. More socially reputed companies make greater CSRDs than less socially reputed companies.

5. Research methodology

The purpose of this research is to investigate the association between CSRD and corporate financial characteristics such as profitability, risk and size, and non-financial factors such as age, industry and corporate reputation. This objective has been achieved by investigating the CSRDs made by the top 100 companies in the Bombay Stock Exchange (BSE) 500 index and relating their disclosure levels to financial and non-financial determinants. The content analysis method is used to measure the CSRD of the sample companies.

5.1. Construction of CSEEE index

An index is constructed based on an extensive list of items of social importance (Hackston & Milne, 1996; Hall, 2002) and earlier CSRD indices used to capture India's specific disclosure items (Porwal & Sharma, 1991; Singh & Ahuja, 1983). Some items specific to the Indian context, such as reservation to minority communities – scheduled castes and scheduled tribes, midday meals for children, mass-marriage programmes and so forth – were included based on a pilot study of the annual report disclosures of 20 Indian companies. Another category – emission of carbon and harmful gases – was added to reflect recent changes in the social and environmental reporting arena. This process generated a total of 111 items. Cronbach's alpha was run to assess the reliability/internal consistency of the disclosure index. Cronbach's alpha is calculated as:

$$\alpha = \frac{t}{t-1} \left(1 - \frac{\sum_{i=1}^n \sigma^2 y_i}{\sigma_y^2} \right) \quad (1)$$

where: i is the number of components (111 items here), σ_x^2 is the variance of the observed total disclosure score and σ_y^2 is the variance of item i for the 20 companies randomly selected for the pilot study.

The value of Cronbach's alpha on standardised items ($N = 111$) is 0.864 and 15 items with zero variance are excluded from the final index. The final CSEEE index consists of 96 items (given in Appendix A), classified under seven themes, as used by Kansal and Singh (2012): community development (CD), HR, product and services—safety and innovation (PSI), environment (ENV), energy (ENG), emissions (EMN) and 'Others CSR'. The data regarding corporate financial characteristics has been taken from the Prowess database managed by the Centre for Monitoring the Indian Economy (CMIE).

Table 1
Reliability and scale statistics.

Cronbach's alpha	Cronbach's alpha based on standardised items	N	Mean	Variance	Standard deviation
0.875	0.864	111	110.2500	418.467	20.45646

The weighted mean disclosure for the year 2009–2010 has been calculated using the following formula based on a 0–5 rating scale to calculate the extent of CSR:

$$CSEEScore_i(w) = \sum_{j=1}^j \sum_{i=1}^n d_{ij} \quad (2)$$

where: j represents the number of companies (80 final companies in the sample);

- d_{ij} 0 if the item has not been disclosed;
 d_{ij} 1 if one or less than one sentence has been disclosed;
 d_{ij} 2 if more than one sentence has been disclosed;
 d_{ij} 3 if only one quantitative figure is found;
 d_{ij} 4 if the disclosure is non-monetary and comprises more than one figure;
 d_{ij} 5 if the disclosure is expressed in monetary terms; and
 n the maximum number of items a company is expected to disclose (96 items).

First, a univariate regression analysis is run to explore various independent variables that could finally be used in multiple regression models. Prior research used different measures of profitability such as return on sales, assets and equity to discover whether using different measures of profitability lead to measureable improvements (Callan & Thomas, 2009). The financial explanatory variables used are sales, total assets (proxy for size), PAT, ROCE, market prices (that is, an average of the closing market price for the last 365 days—proxy for the market rate of return), DER (an accounting measure of financial leverage) and beta (the systematic risk relating to stock and financial markets). The natural log of total assets, total sales and PAT is used because of a high level of skewness of these variables. Previous studies used total assets/log of total assets as a proxy for the size of the company (Eng & Mak, 2003; Hackston & Milne, 1996; Haniffa & Cooke, 2005; Said et al., 2009).

Relative measures of profitability have also been widely used by many CSR researchers (Eng & Mak, 2003; Haniffa & Cooke, 2005). The awards and certifications received by a company in various categories of CSR are used as a proxy for corporate reputation. Social reputation is measured on a rating scale of 0–6, representing the number of CSR categories in which a company has received awards or certifications. A

company is regarded as socially reputed for a CSR category if it receives any award/certification in that category. As there are six categories of CSR (ENV, ENG, HR, PSI, CD and EMN), any company could earn a maximum of six. The rating scale better measures corporate reputation than the absolute number of awards because companies can receive multiple awards for the same endeavours from different social constituents. The age of the firm has been extracted from the Prowess database as the number of years since its establishment, as used by previous research studies (Roberts, 1992; Yong, Chang, & Martynov, 2011).

5.2. Regression models for determining CSEEE scores

The following simple regression model is used to explore the relevant predictors and five different multiple regression models are used to understand the specific contribution of each explanatory variable in determining the CSEEE scores:

$$\text{Model 1: CSEEE score} = \alpha + \beta_1 \text{IND} + \varepsilon \quad (3)$$

$$\text{Model 2: CSEEE score} = \alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \varepsilon \quad (4)$$

$$\text{Model 3: CSEEE score} = \alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \beta_3 \log \text{TA}_t + \varepsilon \quad (5)$$

$$\text{Model 4: CSEEE score} = \alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \beta_3 \log \text{TA}_t + \beta_4 \log \text{PAT}_t + \varepsilon \quad (6)$$

$$\text{Model 5: CSEEE score} = \alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \beta_3 \log \text{TA}_t + \beta_4 \log \text{PAT}_t + \beta_5 \text{Age} + \varepsilon \quad (7)$$

$$\text{Model 6: CSEEE score} = \alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \beta_3 \log \text{TA}_t + \beta_4 \log \text{PAT}_t + \beta_5 \text{Age} + \beta_6 \text{SocRepu} + \varepsilon \quad (8)$$

where:

- IND is the industry classification;
 PAT is the profit after taxes;
 $\log \text{PAT}_{t-1}$ is the log of PAT at the beginning of the year;
 $\log \text{TA}_t$ is the log of total assets of the firms;
 $\log \text{PAT}_t$ is the log of PAT for the current year;
 SocRepu is the social reputation scale.
 E is the error term.

Table 2
Profile of the sample by industry group.

Industry group	Industry	Frequency	Percent
IND1	Refineries and oil drilling & exploration	10	12.5
IND2	Telecommunications & computers—Software	10	12.5
IND3	Steel & metals—Non ferrous	7	8.8
IND4	Power—Generation/distribution	9	11.3
IND5	Pharmaceuticals	6	7.5
IND6	Engineering & auto	10	12.5
IND7	Construction & contracting	6	7.5
IND8	Cement—Major	3	3.8
IND9	Miscellaneous	18	23.8
Total		80	100.0
Form of ownership	Public	18	22.5
	Private	62	77.5
Total		80	100.0

Table 2 provides the sample selection and an overview of the selected companies along with the code assignment scheme that is used for analytical purposes. (See Table 1.)

Table 2 provides a broad outline of sample companies. Of the top 100 companies selected in the sample for the year 2009–2010, the 20 companies in the financial sector have been excluded because some of the themes of CSR – such as ENG, ENV, product and carbon disclosures – are not directly relevant to financial sector companies (Raffournier, 1995; Depoers, 2000; Haniffa & Cooke, 2002). For example, Brammer and Pavelin (2008) argued that the financial sector, being a service-oriented industry, has fewer environmental concerns and impacts. This sample of 80 companies is a logical sample to generalise the

Table 3
Descriptive statistics of CSEEE score and financial variables (N = 80).

Variable	Min	Max	Mean	S. E. Mean	Std. Dev.	Skewness
CSEEE	3.00	120.00	47.43	3.48	31.10	0.50
Sales	0.00	329,987.00	20,990.97	5009.28	44,804.37	5.01
Total assets	68.53	24,5953.16	24,883.37	4214.92	37,699.35	3.68
PAT _t – 1	–1044.80	16,126.32	1833.21	318.64	2849.96	3.33
PAT _t	–1414.09	16,767.56	2189.03	351.26	3141.75	2.95
Age of firm	3.00	103.00	38.84	2.63	23.49	0.61
Reputation score	0.00	6.00	1.14	0.17	1.51	1.10
ROCE (%)	–20.16	134.33	17.88	2.14	19.13	3.13
M.P	32.99	4024.63	610.79	75.44	670.51	2.42
Debt/equity ratio	0.00	4.00	0.55	0.08	0.75	2.06
Beta	0.31	2.04	1.02	0.05	0.41	0.50

Sales, total assets and PAT are in ≤Crores (one crore rupees = 10 million rupees).
The market prices of stock are taken as the average of the closing price over 365 days.
Reputation score: Corporate social reputation score.

findings of the study, as is represents 21 of the industrial sectors classified by the BSE. Prior studies have used sample sizes of less than 100 companies to understand corporate sector CSR levels in a country—for example, [Hackston and Milne \(1996\)](#) with a sample of 50 companies. The 80 companies in this sample have been recorded into nine industry groups on the basis of the nature of the industry. Any company in an industry group for which the number of companies is equal to or less than two has been put into the miscellaneous category. Refineries and oil drilling and exploration, telecommunications and computers—software and engineering, and automobiles are the three dominant groups, with 10 companies each; together, they represent 37.5% of the total study sample. The steel and metals industry consists of 8.8% of the sample, while the power-generation/distribution and construction and contracting industries each comprise 7.5% of the sample. Of the sample companies, 77.5% are privately owned and 22.5% are under public ownership.

6. Analysis and discussion

[Table 3](#) displays the descriptive statistics of the CSR of the 80 companies in the sample.

The mean CSEEE score per company is 47.43. This score is very low compared to a total possible score of 480 (i.e., 96 indicators times the maximum score of 5). The range of CSEEE scores varies widely, from 3 to 120. The literature indicates that the CSR is low in developing countries ([Chaudhri & Wang, 2007](#); [Azim et al., 2009](#); [Menassa, 2010](#)). The average sales are ≤209,909 million and the mean total assets and PAT

Table 4
Total CSEEE scores across industry grouping and ANOVA for CSEEE scores by industry grouping.

Panel A: Total CSEEE score across industry grouping					
Industry groups	Mean	Std. deviation	Skewness		
Refineries and oil drilling & exploration	52.50	29.372	0.881		
Telecommunications & computers—Software	43.50	29.319	0.826		
Steel & metals—Non ferrous	82.14	32.143	−0.037		
Power—Generation/distribution	56.00	30.046	−0.005		
Pharmaceuticals	36.67	28.353	0.734		
Engineering and auto	45.60	29.330	0.636		
Construction and contracting	30.00	30.705	1.378		
Cement—Major	38.67	12.503	1.621		
Miscellaneous	41.21	31.336	0.391		
Total	47.43	31.100	0.501		
Panel B: ANOVA for CSEEE score by industry grouping					
Source	Sum of squares	Df	Mean square	F-ratio	p-Value
Between groups	16,484.5	8	2060.57	2.33	0.0275*
Within groups	62,666.2	71	882.62		
Total (Corr.)	79,150.8	79			

*, ** Correlation is significant at the 0.05, 0.01 level respectively (2-tailed).

are ≤248,833 million and ≤18,332 million respectively. The descriptive statistics show that the data are positively skewed in the CSEEE scores, indicating that most of the companies made less than the average number of disclosures because the data lie on the left side of the mean.

[Table 4](#) provides an overview of the mean CSR disclosure of sample companies categorised into nine industries. The top Indian companies scored 47.43 against a maximum score of 480—that is, they disclosed approximately 10% of all possible CSR information in their annual reports. Further, [Table 4](#) indicates that the highest scoring industry was steel and metals—non-ferrous (82.14), followed by power-generation/distribution (56), and refineries and oil drilling and exploration (52.5). The construction and contracting (30) and pharmaceuticals (36.67) industries made relatively low disclosures. The cement industry had the lowest overall variability in CSR. The CSEEE scores for steel and metals, and power-generation/distribution depict negatively skewed data, implying that many of the companies in these industries had higher CSR disclosures than the average overall disclosures of all industries. For all of the other industries, the CSEEE scores are positively skewed, showing most of the clusters of data on the left side of average; this means that

Table 5
Summary statistics and ANOVA for CSEEE scores and awards and certifications.

Panel A: Summary statistics for CSEEE scores and awards and certifications

Corporate reputation (0–6 scale)	N	Mean	Standard deviation
0	21	20.90	16.2293
1	18	44.44	24.2031
2	12	55.33	24.4813
3	14	51.14	32.6045
4	9	72.56	28.6361
5	5	74.20	45.5104
6	1	107.00	0.0000
Total	80	46.88	31.6529

Panel B: ANOVA for CSEEE score by awards and certifications

Source	Sum of squares	Df	Mean square	F-ratio	p-Value
Between groups	28,667.1	6	4777.85	6.91	0.0000**
Within groups	50,483.7	73	691.56		
Total (corr.)	79,150.8	79			

Contrast	Sig.	Difference	+ / – Limits
0–1	*	–23.5397	16.835
0–2	*	–34.4286	18.966
0–3	*	–30.2381	18.084
0–4	*	–51.6508	20.881
0–5	*	–53.2952	26.080
0–6	*	–86.0952	53.644
1–4	*	–28.1111	21.397
1–5	*	–29.7556	26.495
1–6	*	–62.5556	53.847

*, ** Correlation is significant at the 0.05 and 0.01 level (2-tailed), respectively.

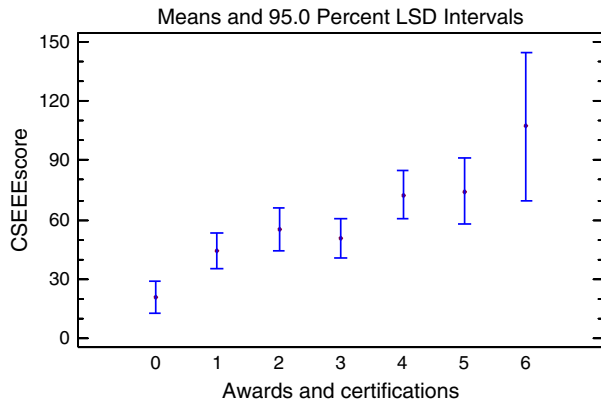


Fig. 1. CSEEE scores and awards and certifications.

the telecommunications and computers—software, pharmaceutical, engineering and auto, construction and contracting, cement and miscellaneous industry categories made fewer disclosures. The high values of the standard deviations, ranging from 12% to 32%, support the hypothesis that the CSR practices of firms are influenced by their industry grouping, proving that industry grouping is a statistically significant factor in determining CSR disclosures.

A one-way analysis of variance (ANOVA) has been conducted for the CSEEE score to test whether there are any significant differences among the means of the CSEEE scores for the various industries. The F-ratio, equal to 2.3346, and a p-value < 0.05 indicate that there is a statistically significant difference between the mean CSEEE score from one industry to another at the 95.0% confidence level (see Table 4: Panel B). Therefore, it is concluded that the amount of CSR by a firm is determined by the industry to which it belongs.

Panel A of Table 5 explains the summary statistics for the CSEEE score categorised into various groups based on social reputation. It was found that the higher the social reputation of the company, the higher the level of CSR. The 21 companies that received no awards/certifications during the year have the lowest CSEEE score (20.90); the disclosure of the next 18 companies, which received at least one award/certification, is noticeably higher (44.44). The companies that scored 4, 5 and 6 in social reputation made higher average CSR disclosures of 72.56, 74.2 and 107 respectively. Thus, the companies whose efforts have been recognised through awards/certifications are encouraged to

communicate their CSR initiatives. The existing literature also supports this finding. Sumiani, Haslinda, and Lehman (2007) reported that the awards/prizes/certifications made by a government – for example, the Malaysia Environmental and Social Reporting Awards (MESRA) – have some level of influence on voluntary environmental reporting in Malaysia.

Panel B of Table 5 shows significant differences between the CSR of companies with a social reputation score of 4, 5 or 6, and companies with a social reputation score of 1. Moreover, the non-award-receiving companies disclosed significantly less than the companies that received awards or certifications, even in one arena.

Fig. 1 contains a graph of the means 95% LSD intervals for the CSEEE scores and awards and certifications for the companies in the sample.

Table 6 presents evidence that the size of the company, measured in terms of the total assets, determines the level of social disclosures made by the company, with $R^2 = 3.56$. However, the relationship between total sales (measured by the size of the firm) and CSR is not significant. The company's financial performance in absolute terms (i.e., PAT) explains a significant proportion of the variation in CSR ($R^2 = 10.62\%$ for PAT with lagging effect, 10.1% for PAT for the current year). However, profitability in relative terms (i.e., ROCE) and the market-based return of profitability do not significantly contribute to an explanation of the variations in CSR. Earlier research by Wu (2006) confirmed that an accounting-based measure of profits is a better predictor of social performance than market-based measures. The statistical results for DER (R^2 at 0.53%) and beta (0.91%) are not significant at a 95% level of confidence, rejecting Hypotheses H3a and H3b. Similar to the earlier results reported by Branco and Rodrigues (2006), this study found a negative relationship between CSR and financial leverage ($\beta = -.44$). Thus, contrary to expectations, a significant relationship was not found between risk (either financial or market) and CSR. Further, the earlier literature substantiates that leverage does not influence CSR in a statistically significant manner (Haniffa & Cooke, 2005, 395).

The age of a firm is a statistically significant determinant of its CSR, with $R^2 = 6.37\%$ and β coefficient = 0.34, significant at a 95% level of confidence. As the beta coefficient is positive, the relationship is direct, concluding that the older firms make more social disclosures. Cormier et al. (2005) also found that the age of a business significantly influences the disclosure patterns of the firm. This relationship may exist because long-established firms have received more benefits from society than newly established firms and, with time, the relationship matures and the firm undertakes a greater leadership role, developing an increased

Table 6
Univariate regression results for CSR on financial determinants.

Independent variable (expected sign)	Intercept (p-value)	Slope (p-value)	Adj. R^2 (%)	F-statistic	Durbin-Watson statistic
Sales (+ve)	14.4451 (0.5091)	3.65543 (0.1293)	3.04	2.35	1.72
Log of total assets (+ve)	−17.8376 (0.4991)	6.86606 (0.0151)*	3.56	6.17	1.77
Log of PAT_{t-1} (+ve)	−12.9984 (0.5299)	8.72416 (0.0041)**	10.62	8.80	1.75
Log of PAT_t (+ve)	−10.010 (0.592)	18.612 (.003)	10.1	9.65	1.65
ROCE (+ve)	6.4572 (0.0000)**	0.0133801 (0.6181)	0.32	0.25	1.72
Market Prices (+ve)	46.1866 (0.0000)**	0.00147 (0.8346)	0.05	0.04	1.68
Debt Equity ratio (DER) (+ve)	6.93868 (0.0000)**	−0.437738 (0.5218)	0.53	0.41	1.67
Beta (+ve)	54.4416 (0.0000)**	−7.4073 (0.3991)	0.91	0.72	1.68
Age (+ve)	33.6681 (0.0000)**	0.340056 (0.0239)*	6.37	5.31	1.76

*, ** Correlation is significant at the 0.05 and 0.01 level (2-tailed), respectively.

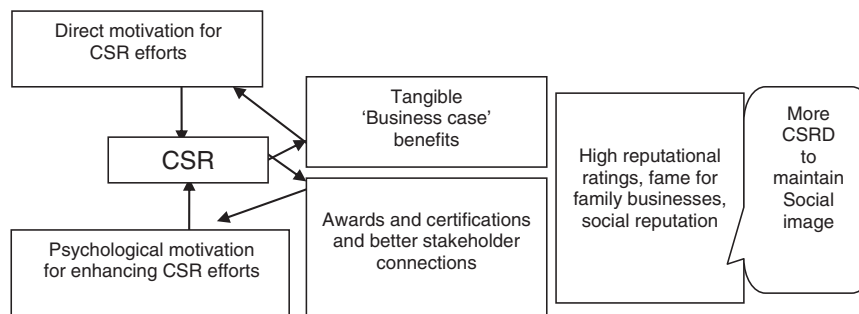


Fig. 2. Connection between CSR, CSRD and corporate reputation.

sense of social responsibility. In India, the value system is very strong; firms carry on CSR endeavours from generation to generation as, for example, with the Tata and Birla groups.

CSR endeavours benefit not only the wider group of stakeholders but also the company itself in terms of reputation and financial benefits, which more than offset the costs incurred by these initiatives. Prickett (2007) noted that the award-winning CSR initiatives undertaken by London cab firm Radio Taxis Group, which became carbon neutral at an annual cost of £120,000, earned the company 'capital gains' via good publicity, an ISO 140041 accreditation and a financial management award. In India, Excel Industries took an initiative to recycle garbage in Mumbai and consequently gained an extremely positive social reputation (Gupta, 2005). Another Indian company, Hindustan Construction Company (HCC), gained a positive reputation when it installed equipment to clean up and make ground water useable for construction. Earlier, this company was buying water for $\leq 100,000$ a day from the local municipality; the $\leq 3,000,000$ cost of the new equipment was recovered in a month (Kumar, 2011).

It is clear that CSR performance enhances corporate reputation (Friedman & Miles, 2001; Lewis, 2003; Fombrun, 2005; Kolk, 2005; Bertels & Peloza, 2008; Ferns, Emelianova, & Sethi, 2008). Further, corporate reputation has a positive relationship with stock market returns and a negative relationship with social risk (Spicer, 1978; Herremans, Akathaporn, & McInnes, 1993). For firms with high CSP, reputational ratings can improve their relationships with bankers and investors, facilitating their access to capital (Spicer, 1978). These companies can also attract better employees (Greening & Turban, 2000) and/or increase their current employees' goodwill, which in turn can improve financial outcomes (McGuire et al., 1988; Waddock & Graves, 1997). Therefore, corporate managers should employ CSR to enhance the reputation of their company in the eyes of its stakeholders and subsequently disclose this CSR information to influence stakeholders because various stakeholders want to see positive contributions to social and environmental causes (Melo & Garrido-Morgado, 2011).

Fig. 2 illustrates the connection between CSR, CSRD and corporate reputation.

The trend towards CSR reporting is gaining momentum not only in developed countries; emerging and developing countries are being pressured to follow the lead (Othman, Darus, & Arshad, 2011). Governments in developing countries like Malaysia are encouraging companies to take more CSR initiatives and to follow better CSR disclosure practices (Bursa Malaysia, 2011). The Indian government rewards the efforts of companies undertaking good CSR work in various categories. The initial univariate statistics indicate that the company's profitability, size, age, industry and reputation all influence its CSRD level.

Table 7 contains a correlation matrix for the independent variables. There are some significant correlations among the independent variables, but these correlations do not present a serious risk of multicollinearity in the data while interpreting the regression results, as $r < 0.8$ in all cases (Hanniffa and Cooke, 2005, 414; Field, 2005, 186). For brevity, only the significant independent variables have been entered into the correlation matrix.

A multiple regression analysis has been conducted to understand the interplay of these independent variables with CSRD. Table 8 presents the results for the six regression models.

As predicted in Hypothesis 1, a company's likelihood of disclosing its CSR activities is positively associated with its industry affiliation. Model 1 reports that the correlation between CSRD and industry is positive at 0.369 and that CSRD is positively associated with industry. Industry affiliation determines 12.5% of the total variation in CSRD. Thus, Hypothesis H1 is accepted.

Model 2 investigates Hypothesis H2 that is, whether the profitability of a firm in the previous year favourably influences its CSEE score in the current year, controlling for industry to parse out the possibility of confounding effects. Hypothesis H2 is accepted as in Model 2, where the adjusted R^2 changes from 12.5% to 19.4%. This change in R^2 is statistically significant with an F change of .007.

Model 3 reports the correlation between firm size and CSRD as 0.473, after controlling for industry and firm profitability in the previous year; the size of the firm is not associated with a greater likelihood of CSRD in the current year. The change in R^2 is not significant in Model 3. Similar to prior literature, this univariate regression analysis found that the CSRD of companies is influenced by their size (Dierkes & Preston, 1977; Patten, 1991; Roberts, 1992; Hackston & Milne, 1996; Adams et al., 1998; Brown and Deegan, 1999; Purushothaman et al., 2000; Gray et al., 2001; Hossain & Reaz, 2007; Aras et al., 2010). However, company size may not influence CSRD when variations in industry and profitability with lagging effect have already been considered.

In Model 4, the impact of current-year profitability on CSRD regresses. It is found that, controlling for industry, the previous year's profitability and the size of the firm, the current year's profitability accounts for merely 2.5% of the variations in CSRD. The current year's financial performance has no significant relationship with CSRD because the change in R^2 is not significant.

In Model 5, the age of the firm is entered as the independent variable. Although R^2 increases by 1.8% (from 19.8% in Model 4 to

Table 7
Correlation matrix between CSEE score and corporate variables.

Variable		IND	logPAT _{t-1}	logTA _t	LogPAT _t	Age	scoRepu
CSEEScore	r	0.369**	0.326**	0.253*	0.336**	0.252*	0.407**
	Sig.	0.001	0.004	0.023	0.003	0.024	0.000
IND	r	1.000	0.130	0.344**	0.118	0.053	0.143
	Sig.		0.262	0.002	0.305	0.638	0.207
logPAT2009	r		1.000	0.735**	0.793**	0.288*	0.285*
	Sig.			0.000	0.000	0.012	0.012
logTA2010	r			1.000	0.703**	0.163	0.287**
	Sig.				0.000	0.149	0.010
logPAT2010	r				1.000	0.287*	0.208
	Sig.					0.011	0.068
Age	r					1.000	0.195
	Sig.						0.082

*, ** Correlation is significant at the 0.05 and 0.01 level (2-tailed), respectively.

Log₁₀ values have been used for sales, total assets and PAT.

20.7% in Model 5), the change in R^2 is not significant; thus, we reject the hypothesis that a firm's CSRD is determined by the age of the firm.

Finally, Model 6 introduces a new non-financial variable, corporate reputation, as a determinant of CSRD, while controlling for industry, previous year's and current year's profitability, and size and age of the firm. Corporate reputation exclusively explains 9% of the variability of CSRD as R^2 increases from 20.7% to 29.7%. The change in R^2 is significant at the 0.01 level. Thus, we conclude that CSR is positively and significantly associated with the level of CSRD. The p-value of the Durbin–Watson (DW) test is greater than 0.05 and there is no indication of the existence of serial autocorrelation in the residuals (Field, 2005, 170).

It is found that industry affiliation and profitability with lagging effect have a significant association with the CSEEE score at a 1% level of significance, with their coefficients being significant at 0.369 (industry) and 0.282, $p < 0.01$ (profitability in previous year). Size and current financial performance do not have a statistically significant relationship with CSR disclosures. Corporate reputation does have a significant influence on the level of CSR disclosures. Those companies that have been recognised for their efforts through various awards and other social ratings are motivated to have higher levels of CSRD. Thus, the companies in steel and metals–non-ferrous industries, power-generation/distribution industries, and refineries and oil drilling and exploration industries, with sound profit positions at the beginning of the year and higher social reputations, have a greater likelihood of higher levels and quality of CSRD.

7. Implications of the study

India has taken a strong and distinctive stance on CSR reporting by the corporate sector and this may have serious policy implications. The Companies Bill 2012 sets out how large companies in India shall conduct and report CSR. The approach followed by the Companies Bill 2012, 'Spend your CSR budget or explain', relies on stakeholder pressure. Top-performing and large companies that fail to spend and/or report their CSR budgets will be vulnerable to loss of reputation. The current study highlights the fact that not only the size of a company (as reported by earlier studies) but also its corporate reputation

significantly affects its level of CSRD. The more socially reputed companies are more inclined to spend their CSR budget and make higher CSRD because of their reputations.

India's Ministry of Corporate Affairs is currently fixing the rules of the CSR game. This study provides useful inputs into the design of CSR rules because the results of the study provide timely information on the pre-legislation CSRD scenario. It may also provide warning signals to corporate management in cases where the level of CSRD is very low in the pre-legislation period. The study argues that the impact of these guidelines on the reporting pattern of Indian companies may be evident in the coming years. It also provides a basis of comparison for future research in this domain.

The International Integrated Reporting Council has recently issued a reporting framework that requires organisations to publish material information about their strategy, governance, performance and prospects in a clear, concise and comparable format. It is expected that this integrated reporting framework will underpin and accelerate the evolution of corporate reporting, reflecting developments in financial, governance, management commentary and sustainability reporting. The framework may provide opportunities for the management of Indian companies to disclose more value-relevant information to various stakeholder groups, which is a key requirement of the Companies Bill 2012 in India.

8. Conclusions, limitations and future research

This paper examined the current level of CSR in the well-represented and fast-emerging Indian economy with its large corporate sector. This is a comprehensive study that makes a value-adding contribution to the existing CSR literature by investigating various financial and non-financial determinants of CSRD in India. The study found that overall disclosures are low; these results are similar to those reported by earlier studies in developing countries (Chaudhri & Wang, 2007; Azim et al., 2009; Menassa, 2010). The results highlight that a firm's industry affiliation and profitability significantly influence its CSRD. The finding that profitability determines CSRD in a positive manner is similar to results reported by Roberts (1992), Waddock and Graves (1997) and Wu (2006). The study could not confirm any association between

Table 8
Multiple regression models for CSRD with different independent variables.

Model 1: CSEEEscore = $\alpha + \beta_1 \text{IND} + \varepsilon$						
Model 2: CSEEEscore = $\alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \varepsilon$						
Model 3: CSEEEscore = $\alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \beta_3 \log \text{TA}_t + \varepsilon$						
Model 4: CSEEEscore = $\alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \beta_3 \log \text{TA}_t + \beta_4 \log \text{PAT}_t + \varepsilon$						
Model 5: CSEEEscore = $\alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \beta_3 \log \text{TA}_t + \beta_4 \log \text{PAT}_t + \beta_5 \text{Age} + \varepsilon$						
Model 6: CSEEEscore = $\alpha + \beta_1 \text{IND} + \beta_2 \log \text{PAT}_{t-1} + \beta_3 \log \text{TA}_t + \beta_4 \log \text{PAT}_t + \beta_5 \text{Age} + \beta_6 \text{SocRepu} + \varepsilon$						
Model	1	2	3	4	5	6
R	0.369	0.463	0.473	0.499	0.517	0.600
R^2	0.136	0.214	0.224	0.249	0.267	0.359
Adjusted R^2	0.125	0.194	0.193	0.198	0.207	0.297
Std. error of estimate	29.611	28.420	28.428	28.346	28.185	26.536
R^2 change	0.136	0.078	0.010	0.025	0.018	0.092
F change	12.270	7.678	.954	1.224	1.840	10.358
Sig. F Change	0.001	0.007	0.332	0.300	0.179	0.002
Durbin–Watson						1.937
F-value	12.270	10.499	7.313	4.903	4.439	5.773
Sig.	0.001	0.000	0.000	0.001	0.001	0.000
Constant–Significance	0.000	0.490	0.866	0.760	0.825	0.351
<i>Beta values and significance</i>						
IND	0.369**	0.333*	0.372***	0.389***	0.381***	0.365***
$\log \text{PAT}_{t-1}$		0.282	0.387*	0.223	0.188	0.146
$\log \text{TA}_t$			−0.153	−0.238	−0.211	−0.327
$\log \text{PAT}_t$				0.279	0.248	0.320
Age					0.143	0.096
Corporate social reputation						0.327**

*, ** Correlation is significant at the 0.05 and 0.01 level (2-tailed), respectively.

CSRD and risk, which is also consistent with earlier research (Haniiffa & Cooke, 2005).

Non-financial variables and social reputation also determine the communication of social efforts. These results are similar to results shown by previous studies into the nature of industry-influenced CSRD (Rizk et al., 2008; Kotonen, 2009). The results are crucial and match with expectations because of the 'business case + caring model', long-established CSR tradition and high reputation of the companies seriously involved in CSR in India.

The study has some limitations as it considered the data for only one year from the annual reports of the sample companies and did not

consider some other corporate disclosure sources, such as media and corporate websites. Content analysis was performed by one of the authors to eliminate inter-rater bias and the coding of a sample of 10 companies was crosschecked by the other author. Nevertheless, the errors inherent in the rating scale due to human judgment and bias remain a limitation.

Regarding future research, the financial and non-financial determinants model could be replicated and confirmed in other developing countries. Future researchers could investigate the motivations behind CSRD by the corporate sector by conducting interviews with managers and boards of directors.

Appendix A. Particulars of Items in CSEEE Index

Theme I—Community development	
1	Promotion of education through donations/scholarships
2	Summer or part-time employment of students
3	Sponsorship of educational conferences, seminars, and art exhibits
4	Sponsorship of public health projects/medical camps
5	Aiding medical research
6	Supporting national pride and government campaigns
7	Supporting the development of local industries or community programs and activities.
8	Generation of jobs
9	Establishment/maintenance of educational institutions
10	Formulating vigilance committee to check corruption in the company
11	Livestock/wasteland development
12	Providing relief to victims of natural disasters
13	Employee volunteerism for community work
14	Rural development program/adoption of villages
15	Rainwater harvesting
16	Improving road network
17	Improving agricultural productivity
18	Aids to sports
19	Meals for the disabled/midday meals for children
20	Special community related activities, e.g. opening the company's facilities to the public.
21	Adopting old age homes
22	Mass marriage programs
Theme II—Human resources	
1	Statements regarding reduction of pollutants, irritants, hazards, injuries
2	Promoting employee safety and physical or mental health
3	Compliance with health and safety standards and regulations
4	Receiving a safety award
5	Establishing a safety department/committee/safety policy
6	Providing low cost health care for employees
7	Disclosing percentage or number of minority employees in the workforce and/or in the various managerial levels
8	Employment of differently abled people/ex-servicemen
9	Training employees through in-house program
10	Giving financial assistance to employees in educational institutes or continuing education courses
11	Establishment of trainee centers
12	Staff accommodation
13	Providing recreational, cultural and activities/facilities
14	Providing the number of employees in the company and/or at each branch/subsidiary
15	Providing per employee statistics, e.g. assets per employee and sales per employee
16	Providing information on the company/management's relationships with the employees in an effort to improve job satisfaction and employee motivation e.g. Strikes/statements regarding cordial relations
17	Improvements to the general working conditions—both in the factories and for the office staff
18	Information and statistics on employee turnover
19	Winning an award for being a good employer
20	Awards given away for motivation of employees
21	Stock option plans for the employees or Employee share purchase schemes
22	Retirement benefits
23	Subsidized canteen
24	Subsidized transport
25	Feedback from employees
26	Employee loan facilities
27	Employee welfare fund
28	Information about support for day-care, maternity and paternity leave
29	Holiday benefits
30	Disclosing percentage or number of women employees in the workforce and/or in the various managerial levels

Appendix A (continued)

Theme III—Product, services—Safety and innovation (PSI)	
1	Information on developments related to the company's products, including its packaging, e.g. making containers reusable
2	The amount/percentage figures of research and development expenditure for specific products and/or its benefits
3	Information on the quality of the firm's products as reflected in prizes/awards received
4	Verifiable information that the quality of the firm's product has increased
5	Disclosing improved or more sanitary procedures in the processing and preparation of products
6	Information on the safety of the firm's product
Theme IV—Environment	
1	Pollution consciousness in conduct of Business operations (capital, operating, R&D for pollution abatement)
2	Statements indicating that the company's operations are non-polluting or that they are in compliance with pollution laws and regulations
3	Statements indicating that pollution from operations have been or will be reduced
4	Prevention or repair of damage to the environment resulting from processing or natural resources, e.g. land reclamation or reforestation
5	Conservation of natural resources, e.g. recycling glass, metals, oil, water and paper; using recycled materials
6	Receiving an award for environment programs and policies
7	Preventing waste/ waste management
8	Biodiversity/wildlife conservation
9	Signatory status to agreements that commit the organization to consider the environment in its operations
10	Water, environment studies/surveys
11	Water reuse/reduction of water usage
12	Use of environment friendly materials
13	Claims that the company is water positive/targets to become water positive
14	Discussion of environment management systems
15	Donations for restoring historical buildings/structures
Theme V—Energy	
1	Conservation of energy in the conduct of business operations/using energy more efficiently during the manufacturing process
2	Use of alternate sources of energy
3	Discussing the company's efforts to reduce energy consumption
4	Receiving an award for an energy conservation program
5	Disclosing the company's energy policies
6	Voicing concerns about energy shortages
7	Energy conservation/day week/month/awareness
Theme VI—Emission of carbon and harmful gases	
1	Setting Carbon emission targets
2	Disclosing mode used for reducing carbon emission
3	Statements showing that emissions within the limits
4	Efforts to reduce carbon emissions
5	Clean development management project (use of clean technology)
6	Carbon emission management system
7	Green building movement
8	Statements that company is carbon positive
9	Signatory to MOU with other corporate with regard to reduction of emissions
10	Membership of United Nation Global Compact (UNGC) Program
Theme VII—Other CSR activities	
1	Corporate objectives/policies: general disclosure of corporate objectives/policies relating to the social responsibility of the company to the various segments of society
2	Receiving CSR rewards
3	Social accounting system audit
4	CSR or part of CSR as a theme on title page/part of company mission/vision statement
5	Encouragement to implement official language
6	Issuance of value added statements

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