THE LINK BETWEEN CORPORATE SOCIAL AND FINANCIAL PERFORMANCE OF NIFTY 50 COMPANIES IN INDIA

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Growing relevance of CSR in today's times have attracted many corporates to indulge in welfare activities for the society. Companies undertake CSR activities in different ways; some take a broader perspective of making philanthropic contributions in the form of donations, charities, etc. while still others integrate CSR activities into their core business. Whatever be the perspective, companies are interested in knowing if doing *"good socially"* also leads to doing *"good financially"*. To get a better understanding of this aspect, this paper analyses and empirically tests the link between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP) for the Indian companies listed on the Nifty Index for a five year period from 2008-2012. Various variables both from social and financial perspectives are considered and tested. For the CSP aspect, a comprehensive index has been developed which is based on disclosures by companies on different dimensions like – environment, energy, human resources, diversity, shareholder's returns, supplier's relations, product & customer relations, business ethics & fair business practices, government relations & aid in economic growth and community involvement. For the CFP aspect we have included only profitability ratios viz.- Return on Equity (ROE), Return on Capital Employed (ROCE), Return on Assets (ROA), Operating Profit Margin (OPM) and Earning per Share (EPS).

We find that Nifty companies score well on social front with a median score of 77 percent. This may be due to the fact that they are all blue chip and large sized companies. However we find no significant relationship between CSP and CFP for Nifty companies in India. The results have important implications about CSR activism in India. It shows that corporate social performance is in a way independent of its contemporaneous profitability. However this weak link between CSP and CFP also shows that the CSR situation in India still has a long way to go.

Key Words: CSR, Corporate Social Performance (CSP), Corporate Financial Performance (CFP), Nifty Companies.

I: INTRODUCTION

A lot has been heard about Corporate Social Responsibility (CSR) initiatives these days, especially with the enactment of Companies Act 2013, which has ensured that Indian Corporates take up their moral responsibility. In this regard, many companies have already started to take up initiatives and report the same on a regular basis.

So is it just the financial performance that matters, or does social performance also contribute equally for the overall well-being of a corporate? Till date, most of the countries do not have any mandatory norms to report for the Social Responsibility actions taken up by the corporates and thus, it becomes difficult to quantify the CSR performance as compared to their financial performance.

In India corporate social responsibility and its disclosure got attention during the eighties. Sacher Committee (1978), which was formed by Govt. of India to consider and report on the changes, those are necessary in the form and structure of the Companies Act and MRTP Act made some recommendation in this direction. With effect from 1st April 1989, under section 217 of the Companies Act 1956, it has also been made mandatory to disclose company's position relating to research and development and technology absorption, adoption and innovation, conservation of energy, technology absorption, foreign exchange earnings and out go.

Considering the CSR initiatives, following are some major developments that have taken place over the years with respect to CSR reporting in India:

1986: Specified corporations shall submit an annual environmental audit.

2008: The Companies Act states that board of directors' reports shall contain information on conservation of energy.

2009: Voluntary guidelines for CSR are issued. The guidelines outline *six* core elements for companies to address, including adopting sustainable environmental policies, undertaking activities for economic and social development of communities and geographical areas, and disseminating information on CSR policy, activities, and progress. Relevant information should be disseminated to all stakeholders and the public through their website, annual reports, and other communication media.

2011: The Securities and Exchange Board of India (SEBI) mandates listed companies report on Environmental, Social and Governance (ESG) initiatives undertaken by them, according to the key principles enunciated in the 'National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business.'

2012: Bombay Stock Exchange launches green index.

2013: The government announced that the expenses on the rehabilitation work in the flood-affected areas of Uttarakhand, would be treated as corporate social responsibility (CSR) activities.

Enactment of Companies Act 2013, which includes the concept of CSR in its statue. It states that every company having net worth of Rs. 500 crore or more, or turnover of Rs. 1,000 crore or more OR a net profit of Rs. 5 crore or more during any financial year shall constitute a CSR committee of the Board consisting of 3 or more directors, out of which at least one director will be an independent director. The committee shall recommend the policy for CSR to the Board. CSR should preferably be spent in local areas where it operates.

The Board of every company must ensure that the company spends at least 2% of the average net profits of the company made during the 3 immediately preceding financial years, in every

financial year, in pursuance of its CSR policy and in case of failure to do so, it shall report the necessary reasons for not spending the same in the Board's report.

Before the enactment of Companies Act 2013, CSR was in the nature of voluntary actions that businesses could take. It was like going the extra mile. But the provisions of the Act, particularly Section 135, read with Schedule VII, show that the Government has adopted an inclusive growth strategy to implement CSR through corporates.

While mandating CSR spends for the corporates, the Government has also ensured that such spending is monitored in the form of reporting and disclosure. (Bhandari, 2013)

The Schedule VII specifies some of the CSR activities, which can be undertaken:

♦ Eradicating extreme hunger and poverty;

♦ Promotion of education;

♦ Promoting gender equality and improving maternal health;

♦ Reducing child morality and improving maternal health;

♦ Combating human immunodeficiency virus, acquired immune deficiency syndrome, malaria and other diseases;

♦ Employment enhancing vocational skills;

♦ Social business projects; and

♦ Contribution to the prime minister's national relief fund or any other fund set up by the central government or the state governments for socio-economic development and relief and fund for the welfare of the schedules castes, the scheduled tribes, other backward classes, minorities and women.

With Companies Act 2013, India is the second Asian country to impose such a requirement after Indonesia. Indonesia issued a similar requirement in August 2007, with the very functional title, "Law Number 40 of 2007." Like the proposed Indian requirement, Indonesia requires annual reporting. However, Indonesia neither stipulates a percentage of revenue for annual CSR spending, nor does it designate income thresholds that trigger the requirement. Rather, the requirement applies generally to any limited liability company. (Zaman, 2013)

II: CONCEPTUAL FRAMEWORK

Before understanding Corporate Social Performance, it is imperative to understand 'Corporate Responsibility.'

Bhanumurthy (2007) in his paper coined the term "Corporate Responsibility". He further mentions, that it is the perception about the nature of business and its relationship with society that defines the 'Social Responsibility of Business'. It determines what the responsibility of business towards society is and hence, the setting up standards of such responsibility is based on philosophy of business since it is concerned with 'the fundamental principles that underlie the formation and operation of a business enterprise'.

There is a need to treat corporate responsibility as a package of three dimensions:

a.   **Good Governance:** The corporations are formed on the basis of division of ownership and control, in which the investor or owner relies on the manager i.e. CEO to manage the business on his behalf which implies that principal agent relationship exists between investor and manager. There is always a gap between the information possessed by the manager vis-à-vis the investors. This situation calls for a good governance, corporate governance means transparency. The objective of good governance is to have such system of controlling and managing so that the interest of owner may be protected. It is important to make profits within ethical framework. There is a shift in the psychology of investors they are not only curious to know how much profit the Company has booked but also how this profit has been earned, i.e. ethically or unethically.

b.   **Corporate social responsibility ("CSR"):** This refers to the social practices where the company is discharging its responsibility towards community at large i.e. stakeholders. Stakeholders are the ones who can influence or can be influenced by the actions, decisions, policies, practices and goals of the company. Apart from shareholder, it includes employees' consumers, supplies, government competitors, and community at large. CSR is about how companies manage the business processes to produce an overall positive impact on society. CSR is about business giving back to society.

c.   **Environmental Accountability:** As business interacts with its natural environment, it draws its resources from the environment. It also influences the environment by its actions. Therefore, it is also accountable to it for any impact, which it makes. Earlier corporates dumped their wastes with impunity in the environment. With the growing awareness and concern about environmental degradation, depletion of natural resources and the phenomenon of global warming, there is moral and legal pressure on corporates to realize that the earth needs to be preserved, and looked after so that future generation are not adversely affected.

Thus a company has to be accountable to its environment, i.e. planet, responsible to its society at large, i.e. people and transparent in his business practices, i.e. good governance which determines the profit for the investors.

Thus, the flow of CSP can be said to move in the following way:

Corporate Responsibility	→	Corporate Social Responsibility (CSR)	→	Corporate Social Performance (CSP)
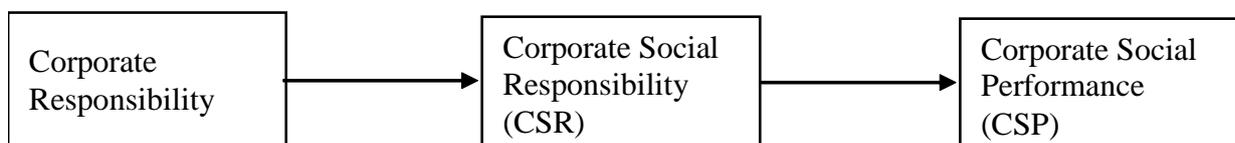
With the growing importance of CSR, there is a need to measure CSR actions or what can be known as Corporate Social Performance (CSP). There is no universally acceptable definition for Corporate Social Performance. CSP is basically measuring the social performance of the company or business.

Wood (1991) defined the concept of Corporate Social Performance (CSP) as "a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships"

Thus, corporate social performance is a set of descriptive categorizations of business activity, focusing on the impacts and outcomes for society, stakeholders and the firm itself. Types of relevant outcomes are determined by the firm's linkages, both general and specific, as defined by the structural principles of corporate social responsibility (CSR). (Wood, 1991)

Although theorists attempt to distinguish corporate social performance from corporate social responsibility (CSR), sometimes subsuming CSP under the umbrella of CSR and sometimes the reverse (Barnett, 2007; Carroll, 1979, 1999; Wood, 1991), the terms corporate social performance and corporate social responsibility (CSR)—or "socially responsible behavior"—are often used interchangeably in empirical studies.

CSR refers to meeting the needs of all the stakeholders (shareholders, investors, suppliers, customers, government, community, etc.) in an ethically responsible manner.

World Business Council for Sustainable Development (WBCSD) defines Corporate Social Responsibility (CSR) as:

"CSR is the task of a business to contribute to sustainable economic development, working together with workers, their families, the local community and society in general to improve quality of life."

Various studies have tried to identify the basis on which CSR can be measured. Majority of them focus on three major dimensions: economic, environment and social contribution of the corporates to fulfil their social responsibility. However, other dimensions are of equal importance, which will be studied in this paper. For our purpose, CSP and CSR have been used interchangeably.

The other important variable for our study, Corporate Financial Performance (CFP) refers to the process by which the business results of a company are measured. It is a measure to check the company's financial health.

The relationship between CSP and CFP has been a hot debate topic of scholars for half a century. The empirical study results on the CSP and CFP link have never been in agreement, as some studies determined negative correlation, some determined positive correlation, while others determined no correlation at all.

The viewpoint for positive correlation between CSP and CFP suggests that as a company's explicit costs are opposite of the hidden costs of stakeholders, therefore, this viewpoint is proposed from the perspectives of avoiding cost to major stakeholders and considering their satisfaction (Cornell & Shapiro, 1987). In addition, this theory further infers that commitment to CSR would result in increased costs to competitiveness and decrease the hidden costs of stakeholders. This argument is meaningful and reasonable,

as good relationships with employees, suppliers, and customers are necessary for the survival of a company. Some shareholders regard CSR as a symbolic management skill, namely, CSR is a symbol of reputation, and the company reputation will be improved by actions to support the community, resulting in positive influence on sales. Therefore, when a company increases its costs by improving CSP in order to increase competitive advantages, such CSR activities can enhance company reputation, thus, in the long run CFP can be improved, by sacrificing the short term CFP.

The viewpoint for negative correlation between CSP and CFP suggests that the fulfillment of CSR will bring competitive disadvantages (Aupperle K, et al., 1985) to the company as the consequential costs may request other methods or need to bear other costs. When carrying out CSR activities, increased costs will result in little gain if measured in economic interests. When neglecting some stakeholders, such as employees or the environment, result in a lower CSP for the enterprise, the CFP may be improved.

Some other studies suggested that CSR is not related to CFP at all. That is there is no reason to anticipate the existence of any relationship between CSR and CFP, as there are many variables in between the two (Ullmann, 1985). It might also be possible that the relationship between CFP and CSP would disappear with introduction of more accurate variables, such as the R&D strength, into the economic models. (McWilliams & Siegel, 2000)

III: REVIEW OF LITERATURE

The empirical link between CSP and CFP has received considerable attention for the last 35 years but no consensus has yet emerged. Some of the studies undertaken highlight the following:

Cavaco & Crifo (2009) proposed a theoretical model and conducted an econometric study on a matched CSP-CFP panel data for the biggest European listed ûrms over the 2002-2007 period. They found out that the firms invest in CSR provided that they are relatively high performing and that the complementarity between CSR practices increases expected profits.

Becchetti, Giacomo, & Pinnacchio (2008) investigated whether inclusion and permanence in the Domini social index affects corporate performance on a sample of around 1,000 firms in a 13-year interval by controlling for size, industry, business cycle and time invariant firm idiosyncratic characteristics. The results find partial support to the hypothesis that CSR is a move from the shareholders wealth to a multi-stakeholders welfare target.

Orlitzky, Schmidt, & Rynes (2003) conducted a meta-analysis of 52 studies yielding a total sample size of 33,878 observations. The meta-analytic ûndings suggest that social responsibility is likely to pay off, although the operationalizations of CSP and CFP also moderate the positive association. For example, CSP appears to be more highly correlated with accounting-based measures of CFP than with market-based indicators, and CSP reputation indices are more highly correlated with CFP than are other indicators of CSP.

Lyon (2007) tries to empirically explore the relationship between CSR and financial performance of 125 firms from the New Zealand Stock Exchange (NZSX). The relationship between CSR and financial performance is compared in two broad industries, the production industry and the service industry, to see

if there is a difference in the relationship between CSR and financial performance across different industries. The results suggest that the industry a firm operates in has a large effect on the relationship between CSR and financial performance. Only firms in the production industry seemed to benefit financially from reporting more CSR. There is evidence of legitimacy theory as those firms in the production industry are often more publicly exposed or have a greater impact on the environment.

Tsoutsoura (2004) studies and tests the sign of the relationship between corporate social responsibility and financial performance. The dataset includes most of the S&P 500 firms and covers the years 1996-2000. The relationship is tested by using empirical methods. The results indicate that the sign of the relationship is positive and statistically significant, supporting the view that socially responsible corporate performance can be associated with a series of bottom-line benefits.

Von Arx & Ziegler (2008) analysed the effect of corporate social responsibility (CSR) on corporate financial performance between 2003 and 2006 for two regions: USA and Europe by applying different asset pricing models for explanation of stock performance. The respective positive effects on average monthly stock returns between 2003 and 2006 appear to be more robust in the USA and, in addition, to be nonlinear. The study also points to biased parameter estimations if incorrectly specified econometric models are applied: The seemingly significantly negative effect of environmental and social performance of the industry to which a firm belongs vanishes if the explanation of stock performance is based on the Fama-French three-factor or the Carhart four-factor models instead of the simple Capital Asset Pricing Model.

Izzo & Donato (2012) investigated the impact of CSP on stock prices of Italian listed companies for the period 2004-2008. Their study found out that a good social performance has a negative influence on stock prices in the Italian Stock Exchange Market. Further, Italian investors perceive CSR practices as avoidable expenses reducing shareholders' income and companies value and recognize a negative market premium, in terms of lower stock prices, to socially responsible enterprises.

Vergalli & Poddi (2009) tries to discover whether certain performance indicators are affected by a firm's social responsible behavior and their certifications by looking at panel data. They consider CSR index that intersects two of the three main international indices (Domini 400 Social Index, Dow Jones Sustainability World Index, FTSE4Good Index), to be objective and obtain a representative sample. Their main results seem to support the idea that CSR firms have better long run performance. They have some initial costs but obtain higher sales and profits due to several causes: reputation effect, a reduction of long run costs and increased social responsible demand.

Elsayed & Paton (2005) and McWilliams & Siegel (2000) research points out that there are numerous biases and problems of previous work among which: model misspecification; omitted variables in the determinants of profitability; limited data (small samples, old periods); cross-sectional analysis invalid in the presence of significant firm heterogeneity; problems of measurement of CSR; wide diversity of measures are used to assess financial performance. Another problem also lies in the direction and mechanisms of causation. Whether CSR would lead (or not) to superior financial performance, or whether financial performance would rather be a necessary condition for CSP is still a major stake to be investigated.

The measurement of Corporate Social Performance (CSP)

Methods proposed in past literature to measure CSP are varied, and include the some of the following methods:

Waddock & Graves (1997) suggested the KLD (Kinder, Lydenburg, Domini) Index Method. The KLD rating classifies eight CSP assessment indicators with special attention to the five that provide multi-aspect assessments of stakeholder-related relationships, which may produce major impact on corporate strategy. These are community relationships, employee relationships, emphasis on environmental performance, product features, and treatment of women and disadvantaged groups. (Prahalad & Hamel, 1994).

Trebucq & D'Arcimoles (2002) in their French study suggested the AReSE (Agence de Rating Social et Environnemental sur les entreprises) method. AReSE is the French partner of the American KLD. AReSE rating uses a different assessment mode, it also lists five characteristics of CSR in its assessment rules, including ER—employee relationships, ENV—environment, SHA—shareholder relationships, PRD—product quality relationships with suppliers and customers, and COM—community.

Van De Velde, Vermeir, & Corten (2005) used the Vigeo CSR scores. Vigeo is an independent corporate social responsibility agency that screens European quoted companies on CSR. The scores of Vigeo contain information on ûve dimensions of CSR: human resources; environment; customers & suppliers; community & society and corporate governance.

For each dimension, Vigeo assesses the CSP with a sustainability score. In their paper, they have constructed a total sustainability score as a summation of the ratings on the ûve individual dimensions.

Further, the recent ISO 26000 (2010) identifies, seven core subjects which defines the scope of social responsibility, which are as under:

- **Organizational governance:** Organizational governance is the system by which an organization makes and implements decisions in pursuit of its objectives.

- **Human rights:** Human rights are the basic rights to which all human beings are entitled. There are two broad categories of human rights. The first category concerns civil and political rights and includes such rights as the right to life and liberty, equality before the law and freedom of expression. The second category concerns economic, social and cultural rights and includes such rights as the right to work, the right to food, the right to the highest attainable standard of health, the right to education and the right to social security.

- **Labour practices:** The labour practices of an organization encompass all policies and practices relating to work performed within, by or on behalf of the organization, including subcontracted work.

- **The environment:** The decisions and activities of organizations invariably have an impact on the environment no matter where the organizations are located. These impacts may be associated with the organization's use of resources, the location of the activities of the organization, the generation of

pollution and wastes, and the impacts of the organization's activities on natural habitats. To reduce their environmental impacts, organizations should adopt an integrated approach that takes into consideration the direct and indirect economic, social, health and environmental implications of their decisions and activities

- **Fair operating practices:** Fair operating practices concern ethical conduct in an organization's dealings with other organizations. These include relationships between organizations and government agencies, as well as between organizations and their partners, suppliers, contractors, customers, competitors, and the associations of which they are members.

- **Consumer issues:** Organizations that provide products and services to consumers, as well as other customers, have responsibilities to those consumers and customers. Responsibilities include providing education and accurate information, using fair, transparent and helpful marketing information and contractual processes, promoting sustainable consumption and designing products and services that provide access to all and cater, where appropriate, for the vulnerable and disadvantaged.

- **Community involvement and development:** Community involvement goes beyond identifying and engaging stakeholders in regard to the impacts of an organization's activities; it also encompasses support for and building a relationship with the community. An organization's contribution to community development can help to promote higher levels of well-being in the community. Such development, generally understood, is the improvement in the quality of life of a population.

The measurement of Corporate Financial Performance (CFP)

Vergalli & Poddi (2009) highlight the two broad subdivisions of CFP, that is, market-based (investor returns) and accounting-based (accounting returns).

First, market-based measures of CFP, such as price per share or share price appreciation, reflect the notion that shareholders are a primary stakeholder group whose satisfaction determines the company's fate. The bidding and asking processes of stock-market participants, who rely on their perceptions of past, current, and future stock returns and risk, determine a firm's stock price and thus market value. Some of these measures can be market capitalization (MKTCAP), stock returns, earnings per share (EPS) and so on.

Alternatively, accounting-based indicators, such as the firm's return on assets (ROA), return on equity (ROE), return on capital employed (ROCE) or return on sales (ROS), capture a firm's internal efficiency in some way. Accounting returns are subject to managers' discretionary allocations of funds to different projects and policy choices, and thus reflect internal decision-making capabilities and managerial performance rather than external market responses to organizational (non-market) actions.

IV: Research Objectives and Hypotheses:

The basis of the research study will be to see the existing body of literature and adding further by testing the theoretical framework. The new dimensions considered are as follows:

- Identifying the relevant variables for measuring CSP by doing a Content Analysis of the selected Indian listed companies.

- Determining the relationship between CSP, based on CSR in the broadest sense, and CFP for the selected Indian listed companies.

Regarding objective 1, the following hypothesis is tested:

H_0: There are no significant components of CSP, which can be identified and measured for selected Indian listed companies.

H_1: There are significant components of CSP, which can be identified and measured for selected Indian listed companies.

Regarding objective 2, the following hypothesis is tested:

H_0: There is no significant relationship between CSP and CFP for selected Indian listed Companies.

H_1: There is a significant relationship between CSP and CFP for selected Indian listed Companies.

V: DATA AND SOURCES

We use secondary sources of data. The data comprises of various CSP indicators and CFP indicators for the selected sample Indian companies.

The selected companies are the Indian Companies listed on the CNX Nifty Index. The CNX Nifty is a well-diversified 50 stock index accounting for about 22 sectors of the economy. It is used for a variety of purposes such as benchmarking fund portfolios, index based derivatives and index funds.

CNX Nifty is owned and managed by India Index Services and Products Ltd. (IISL), which is a joint venture between NSE and CRISIL. The CNX Nifty Index represents about 65.87% of the free float market capitalization of the stocks listed on NSE as on December 31, 2012. The total traded value for the last six months ending December 2012 of all index constituents is approximately 50.23% of the traded value of all stocks on the NSE. (Source: NSE)

For our purpose all CNX Nifty Companies (excluding Banks and Financial Institutions) have been included. Banks and Financial Institutions have been specifically not included due to their specific core business and risk profile, they would have altered the average results. For them, the environmental variables do not have much importance as compared to other sectors, and for them customer relationship becomes one of the most important variable. Thus, a total of 40 companies from various sectors have been studied for the 5 year period (2008-2012).

The data for the selected companies has primarily been collected from the PROWESS database of Centre for Monitoring Indian Economy (CMIE), which provides information about all listed companies in India. Besides PROWESS, the information has also been collected from annual and sustainability reports of the sample companies, their websites, Moneycontrol.com website, National Stock Exchange (NSE) website and Global Reporting Initiatives (GRI) websites.

VI: METHODOLOGY

For Corporate Social Performance (CSP):

In order to fulfill the objectives mentioned above, an exploratory study has been conducted for the Indian listed companies selected. For each of the Indian companies selected, in order to create an Index for CSR Disclosures, Content analysis was undertaken.

Content Analysis is defined as "a method of codifying the text (or content) of a piece of writing into various groups (or categories) depending on selected criteria." The use of a content analysis in CSR research has been found be to be empirically applicable by several researchers (Guthrie and Parker 1990 and Gray et al. 1995).

After an extensive review of literature, in order to create an Index for CSP Disclosures, a list of relevant CSR activities mostly undertaken by the companies in the Indian Context were listed down under the following broad heads:

I. Disclosures relating to Environment and ecology

II. Disclosures relating to Energy

III. Disclosures relating to Human Resources

IV. Disclosures relating to Diversity

V. Disclosures relating to Shareholders' Relations

VI. Disclosures relating to Suppliers' Relations

VII. Disclosures relating to Product and Customer Relations

VIII. Disclosures relating to Business Ethics and Fair Business Practices

IX. Disclosures relating to Government Relations and Aid in Economic Growth

X. Disclosures relating to Community Involvement

For each of the above-mentioned heads, a detailed list was further developed.

CSR disclosures for the selected companies were analyzed for the periods 2008-2012 from their annual reports, sustainability reports and website to get a composite CSR score.

The binary scores were allotted for each of the CSR activity identified. The company fulfilling a particular activity was given an individual score of "1", and if it failed to fulfill the activity, an individual score of "0" was given. There were certain cases in which a particular activity may not be applicable for that particular sector. In such a case, the individual score was marked as "NA" and that activity was not considered for computing the total aggregated score as well. Based on all the activities identified, an aggregate CSP score for each of the company was computed as under:

CSP score of a company = $\underline{\text{Number of CSR activities followed by a company}}$ X 100

Total number of CSR activities in the CSR Index

For Corporate Financial Performance (CFP):

For CFP variables, as can be seen in the previous studies conducted, a variety of CFP variables, both accounting based and market based, have been used like Return on Equity (ROE), Return on Assets (ROA), Return on Capital Employed (ROCE), Operating Profit Margin (OPM), Earnings Per Share (EPS), etc.

For our study, the following CFP variables have been considered for the 5 year period, 2008-2012:

1. **ROE (Return on Equity):** ROE is equal to a fiscal year's net income (after preferred stock dividends but before common stock dividends) divided by total equity (excluding preferred shares), expressed as a percentage. It measures the rate of return on the ownership interest (shareholders' equity) of the common stock owners. It measures a firm's efficiency at generating profits from every rupee of net assets (assets minus liabilities), and shows how well a company uses investment rupee to generate earnings growth.

2. **ROA (Return on Assets)**: ROA percentage shows how profitable a company's assets are in generating revenue. It is given by the ratio between net income and total assets. This ratio tells you "what the company can do with what it's got", i.e. how many rupees of earnings they derive from each rupee of assets they control. It's a useful number for comparing competing companies in the same industry. The number will vary widely across different industries. Return on assets gives an indication of the capital intensity of the company, which will depend on the industry; companies that require large initial investments will generally have lower return on assets.

3. **ROCE (Return on Capital Employed):** ROCE is used in finance as a measure of the returns that a company is realizing from its capital employed. It is commonly used as a measure for comparing the performance between businesses and for assessing whether a business generates enough returns to pay for its cost of capital. It is given by the ratio between the pre-tax operative profit and the capital employed.

4.   **Operating Profit Margin:** Operating profit margin is calculated as operating income divided by net sales. It is a measurement of what proportion of a company's revenue is left over after paying for variable costs of production such as raw materials, labor costs etc. A healthy operating margin is required for a company to be able to pay for its fixed costs, such as interest on debt. If a company's operating margin is increasing, it is earning more per rupee of sales. The higher the margin, the better.

5.   **Earnings per Share (EPS):** It represents the company's portion of profit allocated to each outstanding share of common stock. It serves as an indicator of a company's profitability. It can be calculated by dividing the net profit or loss for the period after deducting preference dividends and any attributable tax thereto for the period by the weighted average number of equity shares outstanding during the period.

After collecting the financial data for 40 companies for 5 year period, for each of the CFP Variables (ROE, ROA, ROCE, OPM and EPS), two cases were analyzed for our purpose:

Case 1: Simple Average of CFP variables

In this case, simple average was taken for each of the 5 CFP variables for the 5 year period (2008-2012), in order to get Average ROE (AVG_ROE), Average ROA (AVG_ROA), Average ROCE (AVG_ROCE), Average OPM (AVG_OPM) and Average EPS (AVG_EPS).

Here, the purpose will be to test whether there is any relationship between CSP and CFP when a simple average for CFP variables is considered, not giving much importance to timing of their returns.

Case 2: Weighted Average of CFP variables

In this case, weighted average was taken for each of the 5 CFP variables, in order to get Weighted Average ROE (WAVG_ROE), Weighted Average ROA (WAVG_ROA), Weighted Average ROCE (WAVG_ROCE), Weighted Average OPM (WAVG_OPM) and Weighted Average EPS (WAVG_EPS).

The weights assigned for each of the 5 years were as under:

Years	Weights assigned
2012	0.30
2011	0.25
2010	0.20
2009	0.15
2008	0.10
Total	1.00

As can be seen from the above table, higher weights have been assigned to recent period (2012) and lower weights to the earliest period (2008) under the study. The rationale behind this has been that in the earlier periods, CSR reporting was not much prevalent in India. Over the period of time, more CSR initiatives and its reporting is being undertaken by the companies. Especially with the coming up

of 'National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business' in 2011 and Companies Act 2013.

Here, the purpose will be to test whether the relationship between CSP and CFP gets affected, with increase in CSR reporting over a period of time, thus giving more importance to the timing factor.

Besides regression analysis we have also used LOGIT model (binary logistic regression) to know the probability of a company being a good scorer on CSP front for a given level of corporate profitability.

VII: EMPIRICAL ANALYSIS

In order to check for the relationship between CSP and CFP, Pearson's Correlation (*Heinze, 1976; McGuire et al., 1988; Stanwick, 1998; Preston and O'Bannon, 1997; Charles-Henri et al., 2002; Hull et al., 2008*) and Regression analysis *(Fogler and Nutt, 1975; Vance, 1975; Chen and Metcalf, 1980; Stanwick, 1998; McWilliams et al., 2000; Hull et al., 2008)* were run considering both the cases mentioned above.

I.   Pearson's Correlation Analysis:

Correlation measures the <u>degree</u> of association between variables. It tests the strength of relations between the variables.

Following are the Correlation Matrices, which summarizes our results:

Case 1: Simple Average of CFP variables

Table 1: The Pearson correlation analysis of CSP score on CFP variables (Case 1)

	AVG_ROE	*AVG_ROCE*	*AVG_ROA*	*AVG_OPM*	*AVG_EPS*	*CSP Score*
AVG_ROE	1					
AVG_ROCE	0.749**	1				
AVG_ROA	-0.237	-0.206	1			
AVG_OPM	0.156	-0.050	-0.259	1		
AVG_EPS	0.161	0.197	0.771**	-0.052	1	
CSP Score	0.119	0.329*	0.010	-0.080	0.118	1

AVG_ROE: Average return on equity; AVG_ROCE: average return on capital employed; AVG_ROA: average return on assets; AVG_OPM: average operating profit margin; AVG_EPS: average earning per share; CSP; corporate social performance. **, * significance level 1 and 5%.

No. of companies: 40

From Table 1, we can see that there is high correlation between AVG_ROE and AVG_ROCE, AVG_ROA and AVG_EPS. As regards, the CSP and CFP are concerned, only ROCE shows significant positive correlation at 0.329. However, CSP and other CFP variables (ROE, ROA, OPM and EPS) show no significant correlation.

Case 2: Weighted Average of CFP variables

Table 2: The Pearson correlation analysis of CSP score on CFP variables (Case 2)

	WAVG_ROE	WAVG_ROCE	WAVG_ROA	WAVG_OPM	WAVG_EPS	CSP Score
WAVG_ROE	1					
WAVG_ROCE	0.738**	1				
WAVG_ROA	-0.216	-0.214	1			
WAVG_OPM	0.154	-0.015	-0.201	1		
WAVG_EPS	0.199	0.232	0.770**	-0.080	1	
CSP Score	0.117	0.330*	0.095	-0.071	0.212	1

WAVG_ROE: Average return on equity; WAVG_ROCE: average return on capital employed; WAVG_ROA: average return on assets; WAVG_OPM: average operating profit margin; WAVG_EPS: average earning per share; CSP; corporate social performance. **, * significance level 1and 5%.

No. of companies: 40

From the table above, we can see that there is high correlation between WAVG_ROE and WAVG_ROCE, WAVG_ROA and WAVG_EPS. As regards, the CSP and CFP are concerned, only WAVG_ROCE shows significant positive correlation at 0.330. However, CSP and other CFP variables (ROE, ROA, OPM and EPS) show no significant correlation.

Thus, in both cases, no significant correlation exists between CSP and CFP.

II. Regression Analysis:

Regression analysis is a statistical process for estimating relationships among variables. It is also used to understand which among the independent variables are related to the dependent variable, and to explore their forms of these relationships. In this study, the basic relationship has been studied as under:

Corporate Social Performance = *f* (Corporate profitability)

i.e. $CSP_i = \alpha + \beta CFP_i + \varepsilon$

This can be further expanded considering the CFP variables:

$$CSP_i = \alpha + \beta_1 ROE_i + \beta_2 ROCE_i + \beta_3 ROA_i + \beta_4 OPM_i + \beta_5 EPS_i + \varepsilon$$

This will now be tested for both the cases, presented as under:

Case 1: Simple Average of CFP variables

Table 3: Model Summary (Case 1)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.385	.148	.019	12.18048

From the model summary above, let's analyze the value of R square. R square tells us how much of the variation in the CSP score can be explained by our regression model. Thus, in our case, 14.8% of the variation in the CSP score can be explained by variability in the CFP variables (ROA, ROE, ROCE, OPM and EPS). Considering the adjusted R^2, giving a low score of just 1.9%, it indicates that the explanation capability of the above model is considerably low.

Table 4: ANOVA (Case 1)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	853.559	5	170.712	1.151	.354
Residual	4896.015	33	148.364		
Total	5749.574	38			

From the ANOVA table above, again we see that the significance level is more than 0.05 at 0.354, which suggests that there is that there does *not exist* any relationship between the CSP and CFP variables for the selected Indian Companies.

Table 5: The Regression analysis of CSP on CFP (Case 1)

Independent Variable		CFP				
Dependent Variable		**AVG_ROE**	**AVG_ROCE**	**AVG_ROA**	**AVG_OPM**	**AVG_EPS**
	β value	-0.173	0.330	0.001	0.000	0.015
CSP	**(p-value)**	.272	0.055	0.957	0.995	0.897
	t-value	-1.117	1.985	0.054	-0.007	0.130

AVG_ROE: Average return on equity; AVG_ROCE: average return on capital employed; AVG_ROA: average return on assets; AVG_OPM: average operating profit margin; AVG_EPS: average earning per share; CSP; corporate social performance. **, * significance level 1and 5%.

No. of companies: 40

Finally, from Table 5 above, we get the summarized results for the regression analysis performed. The p-values for CSP on ROE, ROCE, ROA, OPM and EPS are larger than 0.05, indicating the relationship between CSP and these CFP variables is <u>not significant</u>.

Case 2: Weighted Average of CFP variables

Table 6: Model Summary (Case 2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.392	.154	.026	12.14271

From the model summary above, 15.4% of the variation in the CSP score can be explained by variability in the CFP variables (ROA, ROE, ROCE, OPM and EPS). Considering the adjusted R^2, again giving a low score of just 2.6%, it indicates that the explanation capability of the above model is considerably low.

Table 7: ANOVA (Case 2)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	883.874	5	176.775	1.199	.331
Residual	4865.700	33	147.445		
Total	5749.574	38			

From the ANOVA table above, again we see that the significance level is more than 0.05 at 0.331, which suggests that there is that there does *not exist* any relationship between the CSP and CFP variables for the selected Indian Companies.

Table 8: The Regression analysis of CSP on CFP (Case 2)

Independent Variable		CFP				
Dependent Variable		**WAVG_ROE**	**WAVG_ROCE**	**WAVG_ROA**	**WAVG_OPM**	**WAVG_EPS**
	β value	-0.153	0.345	0.008	4.358	-0.005
CSP	**(p-value)**	.302	0.045*	0.727	1.000	0.967
	t-value	-1.050	2.088	0.352	0.000	-0.041

WAVG_ROE: Weighted average return on equity; WAVG_ROCE: weighted average return on capital employed; WAVG_ROA: weighted average return on assets; WAVG_OPM: weighted average operating profit margin; WAVG_EPS: weighted average earning per share; CSP; corporate social performance. **, * significance level 1and 5%.

No. of companies: 40

Finally, from Table 8 above, we get the summarized results for the regression analysis performed. The p-value of CSP on ROCE is less than 0.05, indicating a significant positive relationship between the two. However, the p-values for CSP on ROE, ROA, OPM and EPS are larger than 0.1, indicating the relationship between CSP and these CFP variables is not significant.

III.   Binary Logistic Regression:

We also applied LOGIT model or Binary Logistic Regression to know the probability of a company being a good scorer on CSP front for a given level of corporate profitability.

Table 9 shows the results of binary logistic regression. The dependent variable is the type of company-Top quartile (i.e. 25% of total sample companies with highest CSP score) and Bottom quartile (i.e. 25% of total sample companies with lowest CSP score). The dependent variable takes value 1 for top performing

companies and 0 for poor performers. Regression results reported under case 1 and 2 show that there is some relationship between CSP and ROCE. Hence in order to perform binary logistic regression (or LOGIT analysis) we have used only ROCE as the independent or explanatory variable. The results show that a 1% increase in ROCE increases the probability of a company to be in the top performers by 3.5%. However this relationship is not statistically significant.

Table 9: Results of Binary Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ROCE	.034	.028	1.451	1	.228	1.035
	Constant	-.790	.761	1.078	1	.299	.454

a. Variable(s) entered on step 1: ROCE.

VIII: CONCLUSIONS

Thus, from the empirical study above, we can conclude that under both the cases, using simple average or weighted average, the relationship between CSP and CFP for the selected Indian companies turns out to be non-significant, indicating *no relationship*.

Overall, the results of the empirical analysis are consistent with the status of the Indian Corporate Social Responsibility scenario, which is that: although things are changing and corporates and citizens are becoming aware and more proactive to undertake CSR initiatives and making it as part of their operations, still there is a long way to go, especially with the coming of the Companies Act 2013. When the situation changes from *Voluntary CSR* to *Mandatory CSR* activities, many things will come to the forefront. It is still in the changeover stage and it will be too early to reach to the final conclusion.

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