# The Relationship between Environmental Governance and Other Dimensions of Corporate Social Responsibility

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***Abstract*--Corporate social responsibility (CSR) is a multi-dimensional concept, which raises the question as to whether strong performance in one dimension predicts strong performance in other dimensions.**

**This work sought to determine the nature and strength of relationships between business ethics, business's code for social management, and investment in the community dimensions of CSR and its environmental governance dimension.**

**The entire system of hypothesized direct and indirect relationships among the four variables was modeled using structural equations modeling on IBM® SPSS® AMOS. Several path analyses were tested using maximum likelihood estimations of the parameters in the model. Hypothesis testing was conducted on the entire system of equations and on each coefficient.**

**The results show that investment in the community and the code for social management in the business, have direct positive effects on the environmental governance rating. However, the bossiness ethics interacts with it only indirectly, via its direct effects on both the business social code and its investment in the community. The magnitudes of the effects of these two variables are more or less similar at 0.286 and 0.269, respectively.**

**In conclusion, for the corporates rated in the "Maala" index, a strong performance in the human rights and working place dimension and in the community investment dimension, predicts strong performance in the environmental dimension.**

## I. INTRODUCTION

Corporate social responsibility (CSR) is a concept of increasing interest to businesses worldwide. The term begun to track attention after many multinational corporations recognized that there is a large group of stakeholder, on whom an organization's activities might have an impact that traditionally was unaccounted for. Their addressing concerns of these stockholders comes to indicate that the firm is engages in "actions that appear to further social good, beyond the mare business interests, and what is required by law". Via the adaptation of a CSR process, corporations could show that they embrace responsibility for their actions and encourage a positive impact through their activities on the environment, consumers, employees, communities, stakeholders and all other members of the public sphere who may not be traditionally incorporated into the beneficiaries of the wealth created by business activities.

More and more firms adopt one form or another of social responsibility [15], and the reasons for their willingness to adopt CSR strategies vary. An increasing number of authors have found that embracing CRS policies have positive effects on consumers' purchasing behavior ([6], [2],[10]), firms economic results ([18],[9]), and enhanced reputation, [20].

To date, no single definition of CSR has gained universal acceptance, and numerous definitions have been proposed and continue to evolve over time. The World Business Council for Sustainable Development (a coalition of 120 international companies) defines CSR as a "continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families, as well as of the local community and society at large" [7]. However, as Black, and Hartel,[3], notice, social responsibility is an ongoing interaction in relationships between firms and stakeholders and these relationships are multi-dimensional in nature. Tiago and Alvaro, [5], presented a five dimensional model of CSR consisting of employee relations, diversity issues, product issues, community relations, and environmental issues, all of which interact with industrial effects.

Most recently, and in an effort to create conditions favorable to sustainable growth, responsible business behavior, and durable employment generation in the medium and long term, the European Commission published its new policy on CSR. The policy defines CSR as "the responsibility of enterprises for their impacts on society" ,[4], and further states that, to fully exhibit CSR, enterprises must integrate social, environmental, ethical, human rights, and consumer concerns into their business operations and core strategy.

The trait shared by all the different definitions of CSR is their multi-dimensionality. Multi-dimensionality implies that various distinct aspects of the nature of a business need to be considered simultaneously when assessing a firm's CSR performance. These distinct criteria are very often clustered into three main subgroups: environmental, social, and governance related. (Given this multi-dimensional nature of CSR, the question arises as to whether strong performance in one dimension predicts strong performance in other dimensions. This question is most pressing for the environmental aspect of CSR, because there is a growing desire by corporations to appear environmentally friendly (as noted by [19]). This is attributed to the growing attention to corporate environmental initiatives in the business press, which suggests that market forces are increasingly powerful drivers of corporate environmental improvement and that consumers attach most value to that dimension of CSR [1].

### *A. CSR and Environmental Law Enforcement*

According to many authors who address this phenomenon (e.g., [12], [13]), the concept of CSR was developed to serve as a form of corporate self-regulation integrated into a business model. In their view, the role of CSR policy was to function as a built-in, self-regulating mechanism whereby a

business can monitor and ensure its active compliance within the spirit of the law, ethical standards, and international norms. From the perspective of environmental law enforcement agencies, CSR offers both threats and opportunities. On one hand, environmental agencies have a justifiable suspicion that companies may want to mislead them by engaging in "green-washing" ([8], [14]). On the other hand, environmental enforcement requires considerable expenditure, first on compliance monitoring (assessing compliance through inspections) and then, where necessary, on enforcement actions pursued through civil and criminal prosecutions.

Environmental agencies could therefore, be assumed to have an interest in corporate self-governance to the extent that this mitigates compliance monitoring costs by enabling the agency to screen companies so as to focus on the likely worst offenders. Similarly, they are likely to be interested in potential cross-over effects, whereby environmental performance is positively affected by performance in other CSR areas.

*B. The purpose of this work*

This work seeks to determine whether performance in the various social, ethical, human/worker rights, and/or consumer dimensions of CSR is indicative of performance in the environmental dimension, and the magnitude of the effect. The question is relevant for regulators seeking to reduce the costs of environmental enforcement and thus interested both in the question of whether partial reliance on self-governance could mitigate compliance monitoring costs without impairing outcome and in finding quicker means of screening companies so as to focus on the worst offenders.

Quantifying the performance of the various dimensions of CSR is not standardized. While a number of reporting guidelines or standards have been developed to serve as frameworks for social accounting, auditing, and reporting, no single widely-accepted and independent system for assessment currently exists ([5]).

However, since the end of the 1990s, socially responsible investment (SRI) indices have proliferated. The launch of these indices is usually driven by two motives. Firstly, they seek to establish benchmarks for companies involved in CSR activities. Secondly, they endeavor to provide a real reference for investors who want to consider corporate environmental, social, and governance aspects in their investment decisions. Since the main objective of such indices is to describe company performance against certain CSR criteria, SRI indices may serve as a proxy measure for at least some CSR requirements.

In Israel, the leading business umbrella organization for the promotion of CSR is Maala, [11]. Since 2003, Maala has published an annual index that ranks participating companies based on their CSR performance. In 2011, 85 leading private and public sector companies, representing some 60% of the Israeli business sector's output, chose to participate in the survey. In 2012, the number of participants rose to 91. The index appears on the Tel Aviv Stock Exchange as the "Maala Corporate Social Responsibility (CSR) Index". It thus functions as an SRI index and, indeed, a desire to enhance their reputation with stakeholders (including investors) is a main factor encouraging business participation.

The rest of this paper is organized as follows. In the next section, we describe the data we obtained from the Maala Index and present our model. Then, results are presented and discussed, followed by concluding remarks.

## II. METHODOLOGY

*A. Variables*

Quantitative data on CSR performance by firms was obtained from the Maala Index. From 2003–2007 (inclusive), the ranking was based on four "chapters", while in 2008 a fifth chapter (corporate governance) was added. The four chapters that have been assessed by Maala since its inception and that were utilized in this research are defined as follows:

1. Business Ethics: criteria are the existence of a code of ethics and the application of that code;
2. Human Rights and the Workplace: policies and performance with respect to human rights and the workplace. Human rights criteria are based on the Maala Code for Social Management in Business, as well as established Israeli labor law, and include the existence of a plan for ensuring adherence. The workplace criterion is divided into two components: fair workplace (which deals primarily with compliance with Israeli labor, health and safety legislation) and advanced workplace (which examines workforce equality and diversity);
3. Community Investment: the criteria are financial donations, written policies regarding community investment, and employee volunteering;
4. Environment: the criteria are policies (their existence and content), management and implementation, performance, and reporting.

For each of the chapters, "Maala" ranks company performance from 1–10 using a mathematical model. These individual chapter rankings are then combined to produce a single overall ranking of Platinum, Gold or Silver.

This work used "*Maala"* Index data concerning the first four chapters for 2012. Each chapter was considered a single variable, and thus four variables were considered: the environment *(Environ*) variable and three co-variables: business ethics (*Ethics*); human rights and the workplace (*Labor*); and community investment (*Commun*).

*B. Modeling and data analysis*

Initially, in order to identify possible connections, a correlation matrix analysis has been conducted. First, it should be noted that the variables that are related to various dimensions of each index are not necessarily correlated with one another. For example, the two dimensions of Human rights in the workplace have a correlation coefficient of

0,066, whereas the components of Environmental governance are more related to each other statistically.

Looking to explore possible connections between the various aspects of each dimension of the environmental governance and other variables of CSR , we notice that environmental performance and labor environment are positively correlated with correlation coefficient of 0.414 **(Table 1)**, but no strong correlation is detected to any variable on its own

This lack of one dimension connection to any of the variables, leads to a search for interrelations that may involve a combination of few variables. Other independent variables did not present strong correlations with each other. However, dependent variables are not perfectly correlated. The entire system of hypothesized direct and indirect relationships among the four variables was modeled using structural equations modeling (SEM) on IBM® SPSS® AMOS. Several path analyses were tested using maximum likelihood estimations of the parameters in the model. The hypothesis testing was conducted on the entire system of equations and on each coefficient.

## III. RESULTS AND DISCUSSION

### *A. Overall relations*

The purpose of the analysis was to account for variation in the dependent variable, *Environ*, as well as its co-variation with the *Ethics*, *Labor*, and *Commun* variables. The unstandardized parameter estimates (**Fig. 1**) retain the scaling information of the variables and are thus interpreted with reference to the scales of the variables. The standardized estimates correspond to effect-size estimates.

TABLE 1: CORRELATION MATRIX

| | | | | | *Environment* | | | |
|---|---|---|---|---|---|---|---|---|
| | | *Ethics.* | *Labor .* | *Commun.* | *policy* | *Man.* | *Perfor.* | *Environ.* |
| | Business Ethics | 1 | .456** | .394** | .354** | .108 | .169 | .293** |
| | Labor Environment | .456** | 1 | .365** | .176 | .208 | .414** | .373** |
| | Community Involvement | .394** | .365** | 1 | .280** | .215* | .302** | .384** |
| Environment | Policy | .354** | .176 | .280** | 1 | .680** | .287** | .758** |
| | Management | .108 | .208 | .215* | .680** | 1 | .513** | .833** |
| | Performance | .169 | .414** | .302** | .287** | .513** | 1 | .777** |
| | Environment | .293** | .373** | .384** | .758** | .833** | .777** | 1 |

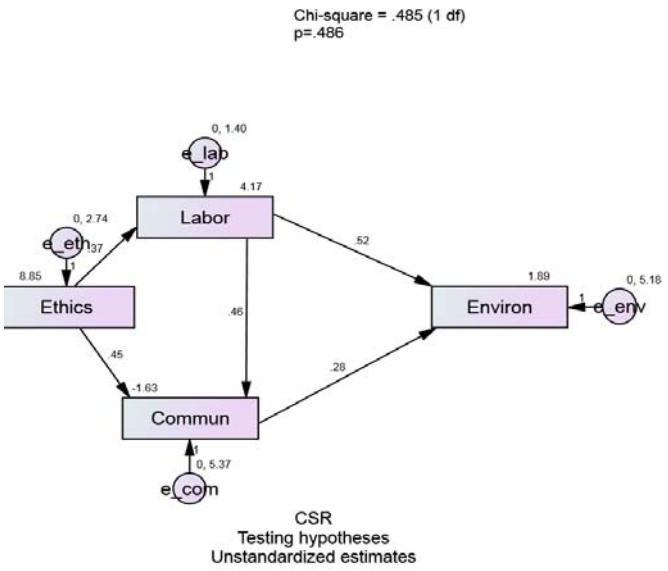


Fig. 1: Unstandardized parameter estimates

**Figure 1** illustrates the model estimated with unstandardized parameters. Each one of them stands for one of the four *"Maala"* chapters: business ethics (*Ethics*); human rights and the workplace (*Labor*); community investment (*Commun*); and environment (*Environ*). The number on each long arrow represents the impact of the outgoing variable on the ingoing variable. The circles represent the stochastic disturbances of each variable. The number next to a circle is the estimated variance.

The results show that there is a direct path from *Commun* to *Environ*, which suggests some ties between the firm's willingness to take responsibility towards the wellbeing of both its human surroundings as well as its natural surroundings. Another direct path exists from *Labor* to *Environ*. It indicates that corporates that are positively engage in creating more just and inviting working place for their workers would be more likely to pursue environmental governance.

Interestingly, there is no direct connection between the Ethics index and the environmental index. *Ethics* is only indirectly related to *Environ*, via its direct effects on both *Labor* and *Commun.* The $\chi^2$ value (0.485) indicates a reasonable fit for the estimated connections. A possible explanation is that the Ethics index represents somewhat vague concepts that their realization via community engagement and keeping a just and fair workplace are realized whereas its direct realization in environmental governance is to as clear. Thus, the effect of *Ethics* is realized only by its relations with *Labor* and *Commun*.

Table 2 presents the regression coefficients for the model, all of which are significant at 10%.

Considering that the firms that participate in the ranking are very diverse in terms of their size, industry, and orientation, we hypothesize that there may be a better fit if, in subsequent research, the data are subdivided into more homogenous groups.

When the standardized coefficients (Table 3) are considered, it is evident that the magnitude of the effect of *Labor* on *Environ* (0.269) is similar to the magnitude of the effect of *Commun*, (0.286).

*B. Environmental performance*

The model described in Fig. 1, although significant, seems to be insufficient to ensure that the consideration of a corporate ethics, labor environment, and involvement in the community, will indicate its performance in environmental governance. Since the main interest of this work is in prediction of the performance of a corporate in the environmental arena, the next logical step is to explore connections regarding to this dimension of the overall corporate environmental governance. The reason to do so, is to differentiate actual environmental performance from the 'intentional'.

As described above, the overall environmental governance index is an agglomeration of three components. Namely: the existence and content of environmental policies, environmental goals embedded in the management, and actual implementation and performance in the environmental arena. As the mare existence of policies an goals is noble and may indicate a corporate with environmental vision, the performance is the corporate actual doing for the improvement of the present environmental quality.

We began by exploring several possible sets of connections between the ethics, labor environment, community involvement indexes, and the three aspects of the environmental governance. Some of the connections that are described in Fig. 1 remain stable even when the environmental governance was differentiated to its three components, and some of the connections were absorbed in the differentiation. Fig. 2 describes the direct and indirect effects on the actual environmental performance.

TABLE 3: STANDARDIZED REGRESSION WEIGHTS

| | | | Estimated |
|---|---|---|---|
| *Labor* | → | *Environ* | 0.269 |
| *Commun* | → | *Environ* | 0.286 |
| *Ethics* | → | *Environ* | 0.000 |
| *Labor* | → | *Ethics* | 0.000 |
| *Ethics* | → | *Commun* | 0.287 |
| *Commun* | → | *Ethics* | 0.000 |
| *Ethics* | → | *Labor* | 0.456 |
| *Commun* | → | *Labor* | 0.000 |
| *Labor* | → | *Commun* | 0.234 |

TABLE 2: ESTIMATED REGRESSION COEFFICIENTS

| | | | **Estimated coefficients** | **S.E.** | **P-value** |
|---|---|---|---|---|---|
| *Labor* | → | *Environ* | 0.517 | 0.200 | 0.010 |
| *Commun* | → | *Environ* | 0.283 | 0.103 | 0.006 |
| *Ethics* | → | *Environ* | 0.000 | | |
| *Labor* | → | *Ethics* | 0.000 | | |
| *Ethics* | → | *Commun* | 0.448 | 0.172 | 0.009 |
| *Commun* | → | *Ethics* | 0.000 | | |
| *Ethics* | → | *Labor* | 0.366 | 0.078 | *** |
| *Commun* | → | *Labor* | 0.000 | | |
| *Labor* | → | *Commun* | 0.456 | 0.213 | 0.033 |

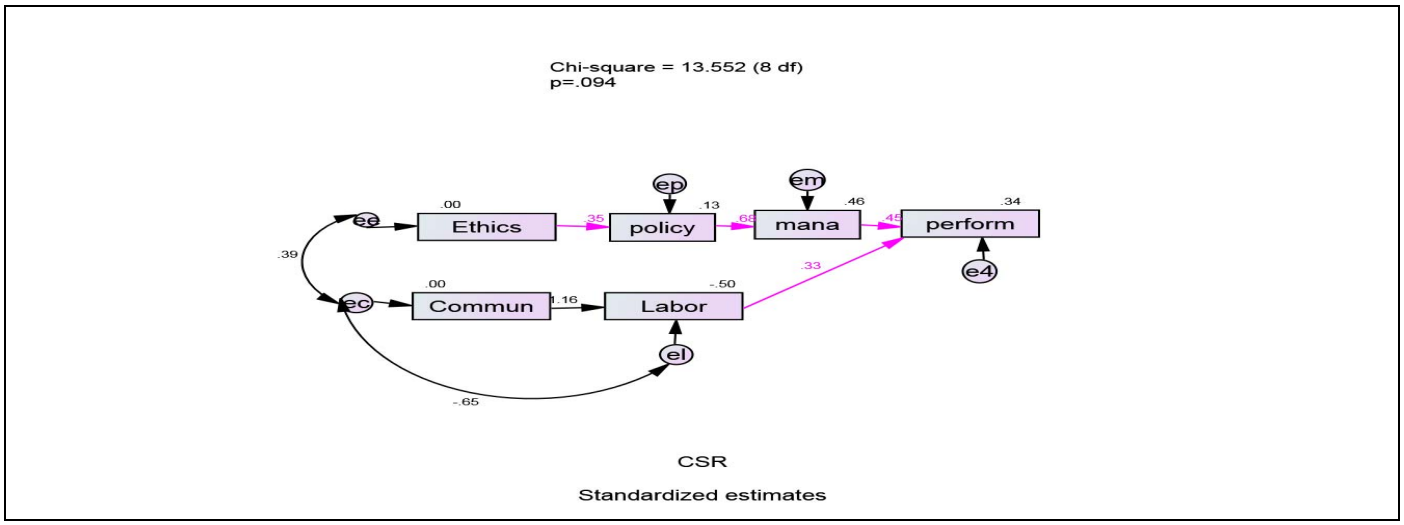


Figure 2: Parameter estimates for Environmental Performance

Table 4 presents the regression coefficients for the model, all of which are significant. All the regression coefficients are positive, indicating there is no competition between the CSR indexes but rather, they complement each other. The actual environmental performance appears to be directly related to the environmental management goals as well as the corporate's labor environment.

TABLE 4: REGRESSION WEIGHTS

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| *policy* | <--- | Ethics | .641 | .185 | 3.465 | *** | par_1 |
| *mana* | <--- | policy | .663 | .078 | 8.495 | *** | par_2 |
| *Labor* | <--- | Commun | .596 | .174 | 3.415 | *** | par_6 |
| *perform* | <--- | Labor | .772 | .211 | 3.662 | *** | par_3 |
| *perform* | <--- | mana | .488 | .096 | 5.087 | *** | par_4 |

## IV. CONCLUSIONS

In this work, the data provided in the "*Maala"* Index, which is a CSR index of voluntarily participating Israeli corporations, were used in order to explore the possible effects of the business ethics, human rights and the workplace, and community investment components of CSR on its environmental component. As all effects were positive, it is expected that performance in the environmental dimension will be stronger when the other CSR dimensions are strong.

Indeed, it was found that higher performance in the areas of human rights and the workplace and community investment directly correlate with higher performance in the environmental area, whereas higher performance in the area of business ethics only indirectly correlates with the environmental variable. Thus, it may be possible to draw conclusions about a corporation's environmental policies, management, implementation, performance, and reporting by observing its performance in these other areas. Environmental agencies may find the results useful since it emphasizes that the environmental side is most pressing because of consumer concerns.

The model described at Fig. 2 direct attention to somewhat different direction. The setup of environmental policies is directly related to the corporate's ethical code. A strong ethical code dose seems to translate into an increase interest in the setup of environmental policy. This policy seems to be precondition to the inclusion of environmental management goals that is then translated into the actual environmental performance. This may indicate that the elevation of environmental actions may be a step by step process. Thus, even corporates that currently do not show desire to be involved in actual environmental protection actions, should be encouraged to advance internal discussion regarding possible environmental policies for the long run.

Furthermore, it seems that the fair and ethical employment does have its positive effect on a corporate environmental performance, whereas, other community involvement of the corporate, as well as the corporate's ethical code, are only indirectly related. This indirect relationship is realized either, via the positive effect of community involvement on the labor environment, or via the effect of the ethical code.

These findings should be taken with caution. It is evident that there is a growing desire by corporations to appear environmentally friendly. As a result of the growing attention to corporate environmental awareness, the question of the quality and content of their environmental disclosure arises. Participation in the "*Maala*" index is voluntary and depends on self-reporting. Thus, it is unclear that the interpretation of the standards by the participating corporates, and thus their answers to the "*Maala*" questionnaire, is the same as the interpretation, for example, of a relevant environmental enforcement agency. This doubt may require further investigation into the role CSR indices could play in predicting the actions of corporations.

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