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Analysis

A Multidimensional Analysis of the Relationship Between Corporate Social Responsibility and Firms' Economic Performance

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A B S T R A C T

This paper analyses the relationship between firms' Corporate Social Responsibility activities and their economic performance, taking into account seven macro-categories of corporate social responsibility (CSR), six market-based and accounting-based performance indicators and by disaggregating for the firms' sector of activity. In particular, through a representative sample of 988 US-based companies from nine different sectors (Basic Materials, Consumer Goods, Consumer Services, Financials, Health Care, Industrial, Oil & Gas, Technology and Utilities), we study the dynamics of possible endogenous and non-linear relationships through the Arellano-Bond technique in the dynamic panel. The results show some common patterns and sectorial specificities—CSR engagement in general raises firms' total stock returns and reduces financial risks, but this depends on the area of CSR in which the firms invest. The results of an accounting-based figure analysis are less univocal, showing patterns that depend both on the specific area of CSR and the sectorial activities conducted.

1. Introduction

Corporate social responsibility (CSR) can be broadly defined as the positive or "responsible" attitude of a company toward all its stakeholders. The definition is itself inherently linked to the idea that firms or companies can benefit from positively engaging with their various stakeholders, both internal and external, such as employees, board members, communities, workers' families and so on, as well as by caring for the (broadly defined) environments in which they operate. According to Sheldon (1924), CSR is voluntary engagement in social and environmental programmes. Ever since this seminal study, CSR has been considered a common practice to be promoted by governments, non-governmental organisations and consumers (Lee, 2008). However, the impact of CSR on the economic performance of companies has not always been viewed in a positive light. Milton Friedman (1972), for instance, saw CSR as an unfair and costly burden to shareholders. Benabou and Tirole (2010) discuss three different visions of CSR and the rationale for both a positive and a negative link between CSR and companies' performances. Thus, it is of no surprise that a large body of literature has been devoted to the empirical analysis of the relationship between CSR and economic performance, without any definitive conclusion. Some scholars have shown a positive relationship between CSR and economic performance—Margolis and Walsh (2003), Orlitzky et al. (2003), Rettab et al. (2009), Lin et al. (2009) and Sun (2012) showed that companies involved in CSR take advantage of the positive environments they have created. Also, Chen and Wang (2011), Alafi and Hasoneh (2012) and Galbreath and Shum (2012) statistically assessed the positive impact that CSR has on its stakeholders. Quazi and Richardson (2012) conducted a meta-analysis of 51 prior studies included in Orlitzky et al. (2003) and showed that by increasing the sample size, the level of significance between the economic and CSR variables rises as well. However, other scholars found a negative relationship between the two. Vance (1975), Wood and Jones (2005), Brammer and Millington (2008), Anginer et al. (2008), Brammer et al. (2005) and Nejati and Ghasemi (2012) show that the market punishes companies' efforts to improve their CSR activities.[1] Ahamed et al. (2014), Aupperle et al. (1985) and McGuire et al. (1988) argue that the relationship between CSR and economic performance is unclear. A possible explanation lies in the timing of the analysis: there can be a short-run negative relationship, but the positive long-run relationship will ultimately dominate, according to Yang (2016) and Comincioli et al. (2012).

The empirical literature that considers the relationship between CSR and economic performance is not univocal also with regards to the

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[1] See also Lioui and Sharma (2012), who consider the relationship between the environmental dimension of CSR and the companies' economic performances, and the references therein.

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economic measures used to test it. Indeed, it is possible to evaluate economic performance by looking at market values or companies' accounting values. The two families of variables are related but focus on different elements—the former represents the market evaluation that depends on firms' economic perspectives, management quality and so on, while the latter is the measurement of a company's economic life. CSR influences, in different ways, different aspects of firm performance and therefore different indicators may lead to inconsistent results when evaluating the relationship between economic results and CSR activities (McGuire et al., 1988). Each type of economic indicator is subject to particular biases (McGuire et al., 1987). Accounting-based measures, for example, consider only the historical aspects of firm performance and are subject to bias from managerial manipulation and differences in accounting procedures (Briloff, 1976); they should also be adjusted for risk, industry characteristics and other variables (Aaker and Jacobson, 1987). Stock market-based measures, on the contrary, represent investors' evaluation of a firm's ability to generate future economic earnings, rather than past performance; they need not reflect a fair evaluation of investors in conditions of market distortion such as limited competition or asymmetric information (McGuire et al., 1988). Moreover, market values such as stock prices refer only to financial stakeholders and therefore might not be suitable to represent a multidimensional concept like CSR, which refers to both economic and non-economic values (Mc Williams et al., 2006). Perhaps not surprisingly, taking into account these differences, the meta-analysis of the empirical studies, conducted by Horvathova (2010), shows mixed results in assessing the relationship between CSR and companies' performances.

All these studies consider CSR without taking into account the firms' specificities. However, the definition of CSR itself refers to the broad set of multiple activities that companies can undertake in order to improve their relationships with their stakeholders. This is strongly influenced by the sector in which the firm operates, since it impacts the nature of the company, its average size, types and characteristics of products or services it delivers, the organisation of its work and so on. There exist some studies that have focused on the empirical relations between the two variables in specific sectors, e.g., the banking and financial sectors (Mallin et al. (2014); Comincioli et al. (2012), Soana (2011); Jo et al. (2014); Platonova et al. (2016)); the tourist sector (Theodoulidis (2017); Gu et al. (2013); Zhang (2014)). However, these studies do not compare the results across sectors, taking into account the possible impact on the empirical relationship due to differences in performance measures and the dynamic nature of the CSR-performance relationship. The aim of this study is to evaluate the relationship between CSR and economic performance, taking into account company and sectorial specificities and distinguishing across financial and accounting measures in a dynamic way. The latter is especially important since it is entirely possible that a company's engagement in CSR activities has an impact over time in a non-linear way. As discussed, engagement in CSR activities can have a cost and can also generate benefits, and these two components can change over time. Our model aims to capture these dynamic non-linear aspects as well.

We stress that our aim is not to provide a theoretical accounting of all the possible relationships between CSR and each financial or economic performance measure in each sector but simply to provide an empirical evaluation of these relationships, without involving or assuming any pre-defined model for CSR. However, we do acknowledge the multidimensional nature of CSR, which considers both internal and external stakeholders. For this reason, we follow the Scholtens (2008) approach, which studies the economic performance of 289 companies listed in the MSCI ESG KLD STATS Dataset and its relationship with seven dimensions of CSR activities, as reported in this Dataset:

- Environmental (ENV), which evaluates the existence of clean energy programmes, pollution prevention programmes and environmentally proactive activities;
- Community (COM), which measures community engagement programmes;
- Human rights (HUM), which considers if the company has undertaken human rights initiatives;
- Employee relations (EMP);
- Diversity (DIV), which identifies gender diversity in the company's top management;
- Product (PRO), which evaluates the existence of quality control programmes and if the company invests in R&D and innovation;
- Governance (CGOV), which analyses the existence of transparency programmes and policies to prevent corrupt business dealings.

There exist several sources of information on CSR provided by different companies. Most of them include reviewing public and private information, including interviews to companies. We use the MSCI ESG KLD STATS Dataset which at present, provides the largest available survey on CSR.[2] It contains reviews of > 2600 firms in the US, for a panel that for a subset of the firms is up to 25 years long. This allows a deep longitudinal analysis of the firms' CSR activities. In particular, we extend Scholtens' (2008) work along several dimensions:

- We create a panel of 998 US-based companies, from 2003 to 2015, for a total of 12,844 observations;
- We elaborate on the CSR indicators to provide a standardised absolute index of CSR engagement, coherent over time and sector;
- We consider both lagged and non-linear variables to better capture the dynamics of the relationship and employ a statistical methodology that captures the endogenous dynamics;
- We consider both market-based financial values as well as accounting-based ones;
- We test the statistical significance as well as the overall impact of a company's CSR activities by dimension over a period of time.

In particular, and in line with our aims, this study provides statistical evidence on the impact of the various dimensions of CSR on a company's economic and financial performance indicators. By means of a dynamic panel model, we evaluate the impact of full engagement in CSR activities over a three-year horizon, accounting for the dynamics of the economic and financial performance indicators as well as for the lagged impact of CSR indicators on the dependent variables. Our approach being purely empirical will focus on the evaluation of the statistical significance of functions of parameters in the estimated dynamic panel model.

This study yields interesting results regarding the nature of the relationship between CSR activities and economic performance, which suggests some sectorial specificity. For instance, firms in the Oil & Gas sector invest more in all areas of CSR with an almost always-positive return on financial performance and a reduction of financial risk. This can be explained by the fact that Oil & Gas production significantly costs society in terms of air pollution, oil spills and so on; thus, in line with the stakeholder engagement view, the Oil & Gas industry invests in CSR to improve its economic and financial performance. Another sector that gives more attention to CSR is the Financial sector, albeit to a lower extent compared with the Oil & Gas sector. Firms belonging to different sectors, such as Basic Materials, Consumer Goods and Technology, invest even less in CSR. In the Consumer Services, Health Care, Industrial and Utilities sectors, firms focus their investments only in specific areas

[2] A stream of literature focuses on testing to what extent social rating in the environmental dimension of MSCI ESG KLD STATS correlates with objective measures such as harmful emissions. Chatterji et al. (2009) finds that MSCI ESG KLD STATS does a reasonable job in aggregating past environmental performances, yet the level of correlation between the environmental performances and the scoring provided by MSCI ESG KLD STATS shows unclear evidence. Chatterji and Toffel (2010) show that poor environmental ratings induce firms to improve their environmental performances more than other firms. This literature is rather new and further research on the link between the social rating and objective social performances is needed.