**Track 10: MNEs, institutional environment, corporate social responsibility and sustainable development**

**Interactive paper**

# How public trust in corporations shapes the financial returns on Corporate Social Responsibility investments


## Abstract

There has been a long debate in the literature on whether socially responsible activities can have an impact on the financial performance of the company (see Margolis and Walsh 2001, 2003; Orlitzky et al 2003). So far, the variability of empirical results suggests the need to examine various contingencies that produce variable financial returns to investments in Corporate Social Responsibility (CSR). The goal of this paper is to help move the research on this stream towards better understanding the institutional level contingencies and specifically the role of public trust in corporations.

Building on the instrumental stakeholder theory argument that good stakeholder relationships can have an impact on a firm's bottom line (Jones, 1995) we discuss how the level of public trust in corporations moderates these relationships. Hence, we argue that the 'business case' for CSR is not only firm specific but also country specific.

We develop and test the hypothesis that in countries where the general public trusts large corporations, CSP activities will lead to increased CFP; accordingly, we test for positive interaction effect. Our econometric analysis on 224 major multinational companies from 9 countries around the world over 6 years confirms our hypothesis.

**How public trust in corporations shapes the financial returns on CSR investments.**

## INTRODUCTION

There has been a long debate on the impact of Corporate Social Performance (CSP) on Corporate Financial Performance (CFP) (Margolis and Walsh, 2003; Orlitzky et al., 2003). However, "the question remains without a definitive answer" (Barnett, 2007:796). The variability of empirical results suggests the need to examine various contingencies that produce variable financial returns to investments in Corporate Social Responsibility (CSR). So far, there has been little research on the many contingencies that cause the variability of results, especially on the institutional level contingencies. The goal of this paper is to help move this research stream towards better understanding of the (institutional level) contingencies that shape the financial returns on CSR investments.

After reviewing the various mechanisms that have been identified in the literature (Barnett, 2007; Brown and Dacin, 1997; Greening and Turban, 2000; McWilliams and Siegel 2001), through which CSP potentially influences CFP, we examine whether public trust in corporations, play an important moderating role in the CSP-CFP relationship. Building on the instrumental stakeholder theory argument that good stakeholder relationships can have an impact on a firm's bottom line (Jones, 1995) we discuss how the level of public trust specific to a country moderates these relationships, hence affecting the financial returns on CSR investments. We conceptualize public trust as the willingness of the public as a stakeholder to become vulnerable to the actions of business as a general institution (Pirson et al., 2014).

Hence, the focus of this paper is on examining whether the business case is not only firm specific but also country specific.

In other words, we develop and test the hypothesis that in countries where the general public trusts large corporations, CSP activities will lead to increased CFP; accordingly, we test for positive interaction effect. Therefore, our hypothesis is:

*H1: Public Trust in Corporations moderates the relationship between CFP-CSP; the higher the levels of public trust in corporations, the higher the impact of CSP on CFP.*

Our analysis on 224 major companies, over 6 years, from 9 countries, confirms our hypothesis. Our results have important implications for developing countries in particular where public trust in large corporations is relatively low acting as a barrier to further CSR investments on countries where are mostly needed.

## EMPIRICAL ANALYSIS

Sample and data

The sample used in this study is drawn from companies on the Dow Jones Global Index (DJGI) and evaluated by Sustainable Asset Management firm (SAM) on their sustainable performance (environmental, social and economic performance) for inclusion in the Dow Jones Sustainability Index (DJSI). Our sample is drawn from all companies rated (including those that were excluded from the DJSI index) so that a bigger sample per year is available for analysis with greater variance in their sustainability performance. Our study covers 6 year data (2002-2007) of 224 companies (N=1344), located in USA, Canada, UK, Germany, France, Netherlands, Switzerland, Spain and Japan. The number of firms per country is shown

in Table I below. Finally, we collected financial data from the 'Datastream' database and data on the public trust in corporations from the 'World Values Survey' database.

TABLE I

List of countries included in data analysis

| ***Country*** | ***Number of firms*** |
|---|---|
| Canada | 11 |
| France | 17 |
| Germany | 23 |
| Japan | 32 |
| Netherlands | 11 |
| Spain | 10 |
| Switzerland | 15 |
| UK | 48 |
| USA | 57 |
| **Total** | 224 |

*Dependent variable: Corporate Financial Performance (CFP)*

The majority of studies in this area of research have used accounting measures of financial performance (e.g. return on assets, return on equity, return on sales) rather than market measures (e.g. stock price, alpha, market risk) (see Margolis and Walsh, 2001 for an overview). Accounting measures are considered indicators of past performance, while market measures are considered as reflecting future performance. Overall, accounting data is considered less 'noisy' compared to market data, as it indicates what is actually happening in

the firm rather than indicating the perception the market may have about the firm which is subject to macroeconomic factors, such as speculation (Lopez et al., 2007). Consistent with previous research, in this study we employ the two dominant accounting measures in the field, e.g. Return on Assets, computed as the ratio of operating income to total assets; and Return on Equity, computed as the ratio of operating income to equity (see, Russo and Fouts, 1997; Ahuja and Hart, 1996).

*Independent variable: Corporate Social Performance (CSP)*

In this study, we used SAM's composite index of social, environmental and economic sub-indexes. Each sub-index provided by SAM is the weighted average of a score produced over several categories (e.g. human capital development, social reporting, etc). Contrary to KLD data, that most researchers use without any weighting, assuming all social performance categories apply equally to all kind of firms, this weighting structure allows for industry specific criteria. The downside is that it also introduces a subjectivity bias, but since it is externally verified it is as objective and fair as possible.

*The dimensions of SAM's ratings are:*

*Economic Dimension:* Corporate Governance, Risk & Crisis Management, Codes of Conduct/Compliance/Corruption/Bribery

*Environmental Dimension:* Environmental Performance/Eco-efficiency, Environmental Reporting

*Social Dimension:* Labor Practice Indicators, Human Capital Development, Talent Attraction and Retention, Corporate Citizenship/Philanthropy, Social Reporting.

More details on these dimensions can be seen in Table II below.

Table II

SAM dimensions of CSP

| *Dimension* | *Sub-dimension* | *Weight* |
|---|---|---|
| Economic | Codes of Conduct / Compliance / Corruption &Bribery | 6.0 |
| | Corporate Governance | 6.0 |
| | Risk & Crisis Management | 6.0 |
| | Industry Specific Criteria such as:<br>Brand management, Marketing practices, R&D,<br>Customer Relationship management,<br>supply chain management<br>etc | Depends on Industry |
| Environment | Environmental Reporting* | 3.0 |
| | Industry Specific Criteria such as:<br>Environmental management systems,<br>Climate strategy,<br>Biodiversity impacts,<br>Product stewardship<br>etc | Depends on Industry |
| Social | Corporate Citizenship/ Philanthropy | 3.0 |
| | Labor Practice Indicators | 5.0 |
| | Human Capital Development | 5.5 |
| | Social Reporting* | 3.0 |
| | Talent Attraction & Retention | 5.5 |
| | Industry Specific Criteria such as:<br>Product information<br>Product quality and recall management<br>Global sourcing<br>Occupational health and safety<br>Healthy living<br>Bioethics<br>etc | Depends on Industry |

*Criteria assessed based on publicly available information only

*Independent variable: Public Trust in Corporations*We constructed the variable of interest (public trust in corporations) from the 'World Values Survey' database (www.worldvaluessurvey.org). This is a public database covering a large range of political and sociocultural variables across many countries.

*Control variables*

We controlled for the four standard variables that have been regularly used in both CSP and CFP research such as firm size, firm risk/leverage, industry heterogeneity, R&D intensity (see Margolis and Walsh, 2001; McWilliams and Siegel, 2000; Capon et al., 1990).

Operationally, firm size was measured by two different variables: total number of employees, and total assets following previous studies (e.g. Waddock and Graves, 1997; Nelling and Webb, 2009). For risk/leverage, we used three different measures that have been previously used in the CSP-CFP area: long term debt/total assets (e.g. Dowell et al., 2000; Waddock and Graves, 1997), total debt/total equity (e.g. Pava and Krausz, 1996; Ahuja and Hart, 1996) or total debt/total assets (e.g. Elsayed and Paton, 2005). We measured R&D intensity as firm expenses on R&D / total sales, following previous researchers (e.g. McWilliams and Siegel, 2000; Elsayed and Paton, 2005; Garcia-Castro et al., 2010).

Descriptive statistics for all variables are shown in Table III below.

TABLE III

Descriptive statistics [a]

| *Variable* | *Observations* | *Mean* | *SD* | *Min* | *Max* |
|---|---|---|---|---|---|
| ROA | 1325 | 6.20 | 6.52 | -41.90 | 62.35 |
| CSP [b] | 1343 | 60.95 | 13.44 | 10.68 | 87.89 |
| Trust_Corp [c] | 1344 | 2.23 | 0.08 | 2.08 | 2.328 |
| LEV [d] | 1338 | 171.28 | 508.08 | -4965.34 | 1080.00 |
| SIZE [e] | 1334 | 78061.26 | 91269.52 | 99.00 | 536350.00 |
| R&Dint [f] | 813 | 4.13 | 5.05 | 0.00 | 49.56 |

[a] All variables shown in the table were standardized (z-scores) before using them in the regression analysis.
[b] CSP= SAM's composite index of social, environmental and economic performance.
[c] Trust_Corp= Constructed Variable indicating public trust in corporations based on World Values Survey Data
[d] LEV=total debt / equity
[e] $SIZE_1$=total number of employees
[f] R&Dint=R&D expenses/sales

Econometric Analysis

Panel data analysis was used to control for omitted/unobservable variables that threaten causal inference in observational studies (Lee 2002; Halaby 2004). The problem of 'omitted variable bias' or 'unobserved heterogeneity' is quite a serious problem in empirical research, especially in CSP empirical research where the list of potential determinants can be large (Zyglidopoulos and Georgiadis 2006). Firm-specific unobserved variables, i.e. unobserved variables that represent time-invariant properties of firms, such as corporate culture or managerial ability/quality or the political context in which a firm operates, may affect CSP but are difficult to observe or measure; and so are usually omitted from the statistical analysis. Traditional panel data analysis (such as fixed-effects analysis) can account for such endogeneity under certain assumptions (Wooldridge 2002). However, since simultaneity/ reverse causality issues might also be present in this line of research (Waddock and Graves 1997) we used 'Instrumental Variable' (IV) estimation. In addition, we controlled for previous financial performance using a dynamic panel data model.

A common estimation in such models is to use Arellano and Bond's (1991) difference generalised method of moments (GMMs) estimator. This estimator uses first differences in the regression equation to remove any unobserved effects and then instruments any endogenous explanatory variables by using lagged values of the original regressors. However, Arellano and Bover (1995) have improved the efficiency of the difference GMM estimator as far as the quality of instruments is concerned by introducing the system GMM estimator. This method was fully developed later by Blundell and Bond (1998). In addition, with short panels (small T), Blundell and Bond (2000) used Monte Carlo experiments to examine the benefits of system GMM and found that these extra instruments can overcome two problems associated with first differenced estimator: (1) precision and (2) finite sample bias. Therefore,

in this study, we employed the two-step system GMM estimation, with Windmeijer-corrected robust errors (Windmeijer 2005).

Finally, we used the STATA10 software package. All regression results are shown in Table IV below.

TABLE IV

Regression results [a b c]

| *Dependent variable=ROA* | *Model 1* | *Model 2* |
|---|---|---|
| Lagged ROA | 0.499***<br>(0.181) | 0.474 ***<br>(0.148) |
| CSP | 0.494 *<br>(0.273) | 0.514**<br>(0.234) |
| Size | -0.168<br>(0.333) | -0.129<br>(0.323) |
| Leverage | -0.005<br>(0.117) | 0.017<br>(0.104) |
| R&Dint | -0.033<br>(0.193) | -0.008<br>(0.228) |
| TrustCorp | -0.031<br>(0.451) | 0.164<br>(0.413) |
| TrustCorp X CSP | | 0.169**<br>(0.069) |
| Observations (N) | 676 | 676 |

[a] Significance of coefficients: *p<.10, **p<.05, ***p<.01
[b] All variables in standardized form ( z scores).
[c] Robust standard errors in parentheses

Our results, as shown in Model 2 (Table IV), confirm our hypothesis. The coefficient of the interaction term between CSP and trust in corporations is found positive and significant ($b= 0.169$, $p<0.05$). We also performed robustness test with other metrics of independent and dependent variables such as ROE for CFP, total assets for size and Long term debt over total assets for leverage. Our results remained virtually the same.

## DISCUSSION AND CONCLUSIONS

Firstly, this study confirms the business case for CSR, i.e. that CSP positively affects CFP, with a new dataset across countries and by using advanced econometric techniques to control for most potential control variables that have been identified in the literature so far. Our dynamic panel data model, through the use of Instrumental Variable estimation, has controlled for potential sources of endogeneity (e.g. measurement errors, omitted variables, reverse causality), hence improving previous statistical methods of analysis often used in this line of research and enhancing confidence in causal inference.

Moreover, this study confirms that public trust in corporations is a significant positive moderator in this relationship, which means that the impact of CSP on CFP is stronger in countries with higher levels of trust in corporations. Hence, firms operating in these countries can capitalize more on their CSR investments. These results emphasize the importance of contingences in this area of research and opens up a new path for further examination of the institutional environment which can affect CSR investments. To our knowledge this is the first study to go beyond firm level contingencies and empirically test institutional level contingencies in the CFP-CSP link.

Our results are based on a sample of 224 companies operating in 9 OECD countries. A larger sample would greatly improve the robustness of results and enhance confidence in causal inference. Hence, it is necessary that future studies test this effect in more countries, especially in the developing world where public trust in large corporations is low but the need for CSR investments is quite high. If the business case proves to be contingent on public trust in these countries, too, then developing countries need first to take significant action to restore public confidence in corporations, else the aspiration of ‘inclusive development’ may fail to realize.

## REFERENCES


Ahuja, G., & Hart, S. L. 1996. Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. *Business Strategy and the Environment*, 5(1): 30-37.

Arellano, M. & Bond, S. 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies, 58*, 277–297.

Arellano, M. & Bover, O. 1995. Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, 68, 29–52.

Barnett, M.L. 2007. Stakeholder Influence Capacity and the variability of financial returns to corporate social responsibility. *Academy of Management Review*, 32 (3) , 794-816.

Blundell, R. & Bond, S. 1998. Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115-143.

Blundell, R. & Bond, S. 2000. GMM estimation with persistent panel data: An application to production functions. *Econometric Reviews*, 19(3), 321-340.

Brown, T. J. & Dacin, P. A. 1997. The company and the product: Corporate associations and consumer product responses. *Journal of Marketing***,** 61(1), 68-84.

Capon, N. J., Farley, U., & Hoenig, S. 1990. Determinants of financial performance: A meta-analysis. *Management Science*, 36, 1143-1159.

Dowell, G., Hart, S. & Yeung, B. 2000. Do corporate global environmental standards create or destroy market value? *Management Science, 46*, 1059–1074.

Elsayed, K., & Paton, D. 2005. The impact of environmental performance on firm performance: static and dynamic panel data evidence. *Structural Change and Economic Dynamics*, 16, 395-412.

Garcia-Castro, R., Arino, M.A. & Canela, M.A. 2010. Does social performance really lead to financial performance? Accounting for endogeneity. *Journal of Business Ethics, 92*, 107–126.

Greening, D. W. & Turban, D. B. 2000. Corporate Social Performance as a competitive advantage in attracting a quality workforce. *Business & Society*, 39(3), 254.

Halaby, C. 2004. Panel models in sociological research: Theory into practice. *Annual Review of Sociology*, 30, 507-544.

Jones, T. 1995. Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review*, 20, 404-437.

Lee, M. 2002. *Panel Data Econometrics: Methods of Moments and Limited Dependent Variables* (Academic Press, San Diego, CA).

Lopez, M., Garcia, A. & Rodriguez, L. 2007. Sustainable development and corporate performance: A study based on the Dow Jones Sustainability Index. *Journal of Business Ethics*, 75, 285-300.

Margolis, J. D. & Walsh, J.P. 2001. *People and profit: The search for a link between a company's social and financial performance* (Lawrence Erlbaum Associates, Inc., New Jersey, NJ).

Margolis, J. D. & Walsh, J. P. 2003. Misery loves companies: Rethinking social initiatives by business. *Administrative Science Quarterly*, 48, 268-305.

McWilliams, A. & Siegel, D. 2000. Corporate social responsibility and financial performance: Correlation or misspecification? *Strategic Management Journal*, 21(5), 603-609.

McWilliams, A. & Siegel, D. 2001. Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, *26*, 117–127.

Nelling, E. & Webb, E. 2009. Corporate social responsibility and financial performance: The 'virtuous circle' revisited. *Review of Quantitative Finance and Accounting*, 32(2),197-209.

Orlitzky, M., Schmidt, F.L. & Rynes, S.L. 2003. Corporate social and financial performance: A meta-analysis. *Organization Studies*, *24*, 403–441.

Pava, M. L. & Krausz, J. 1996. The association between corporate social responsibility and financial performance: The paradox of social cost. *Journal of Business Ethics*, 15, 321-357.

Pirson, M., Martin, K. & Parmar, B.L. 2014. Public trust in business and its determinants. In J.D. Harris, B.T. Moriarty and A.C. Wicks (eds.) *Public trust in business*. Cambridge: Cambridge University Press.

Russo, M.V. & Fouts, P.A. 1997. A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 40(3), 534-559.

Waddock, S. A. & Graves, A. B. 1997. The corporate social performance-financial performance link. *Strategic Management Journal*, 18, 303-319.

Windmeijer, F. 2005. A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of Econometrics*, 126: 25-51.

Wooldridge, J. M. 2002. *Econometric Analysis of Cross Section and Panel Data* (MIT Press, Cambridge, MA).

Zyglidopoulos, S. & Georgiadis, A. 2006. Media visibility as a driver of corporate social performance. Cambridge Judge Business School Working Papers, No.16/2006, University of Cambridge, Cambridge, UK.