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Does Corporate Social Responsibility Affect Stock Returns?

Scott Li[1*]
[1]College of Business and Economics, California State University, Los Angeles
* sli86@calstatela.edu

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Abstract

Introduction: This paper finds that U.S. firms with higher corporate social responsibility (CSR) compliance levels have higher stock returns from 2006 to 2014. This result is robust after controlling for size, book to market ratio, momentum, etc

Purpose: There appears to be a positive relationship between corporate social responsibility compliance level and product market competition level.

Methodology: Obtain CSR data from Global Reporting Initiative. Monthly stock return files and annual firm fundamentals are downloaded from CRSP and Compustat database. In the GRI dataset, we quantify firm's compliance level as numeric values from 0 to 5, with 5 being the highest compliance level. The compliance level score mapping is displayed in Table 1 in the appendix.

Findings: This paper finds that engagement in CSR activities have a positive impact on stock returns. This effect is robust after controlling for firm characteristics such as size, book to market equity ratio.

Paper Type: Research Article

Keywords: Corporate social responsibility; Product market competition; Stock returns.

INTRODUCTION

There are two opposing views in literature about the relationship between corporate social responsibility (CSR hereafter) and firms' performance. One view is that CSR is positively related to stock returns and shareholder's value. This view states that firms with higher CSR

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UNIVERSITAS AHMAD DAHLAN

Kampus 4
Universitas Ahmad Dahlan
Jl. Ringroad Selatan, Tamanan
Banguntapan, Bantul
Yogyakarta 55191
e-mail : ihtifaz@uad.ac.id

compliance have stronger reputations, and exhibit more long-term profitability and efficiency (Freeman, 1984). The opposing view is that there is a negative relationship between CSR and firm performance because CSR activities are expensive, thus leading to a competitive disadvantage and less efficiency (Friedman, 1970).

To test the effect of firm-level CSR activities, we examine the stock performance of U.S. firms with CSR data from the Global Reporting Initiatives database. Global Reporting Initiatives (GRI hereafter) is established by International Reporting Committee to standardize sustainability reporting and create transparency and comparability of companies around the world. In 1999, GRI provided the first comprehensive Sustainability Reporting Framework. In 2006, the GRI G2 Guidelines were replaced by the G3 guidelines, which included some modifications to the issues as well as new application level declarations. According to the scope of disclosure, firms can declare application levels A, B, or C, where A refers to the highest disclosure level, and C, the lowest. Under G3, the application level can also be verified by GRI or a third party. The latest GRI guidelines (GRI4) divide CSR reporting into economic, environment, and social categories.

Lins et al. (2017) find that during the finance crisis, firms with high CSR ratings have significantly higher crisis-period stock returns than those with low ratings from August 2008 through March 2009. Hsu and Liu (2017) show that improved CSR performance correctly estimates firms' default risk. While previous research has focused on various facets of the contribution of CSR to firm value and crisis-period stock returns, we contribute to this literature by testing the relationship between not only the overall CSR compliance level and stock returns, but also the interaction between CSR compliance level and industry product market competition level for U.S. firms over the period 2006 - 2014.

The externality-driven nature of CSR suggests that it can be related to industries' legal requirements. In some industries, companies may be more socially responsible than others because of the nature of their business activities. Withisuphakorn and Jiraporn (2016) show that firms invest more in CSR as they get older. Fisman et al. (2008) suggest that CSR activities are more beneficial in competitive industries with high advertising intensity. Our hypothesis is that CSR compliance levels will be negatively correlated with industry concentration levels because CSR program is more beneficial in industries where a firm's image is more important to consumers.

The rest of this paper is structured as follows. Section I describes the data source and how CSR levels are defined. Section II discusses the relationship between CSR and firm/industry characteristics. Section III analyzes the relationship between CSR and stock returns. Section IV concludes..

METHODOLOGY

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We obtain CSR data from Global Reporting Initiative. Monthly stock return files and annual firm fundamentals are downloaded from CRSP and Compustat database. In the GRI dataset, we quantify firm's compliance level as numeric values from 0 to 5, with 5 being the highest compliance level. The compliance level score mapping is displayed in Table 1 in the appendix. To merge CSR data with stock returns, we perform fuzzy matching between GRI and CRSP dataset in SAS. We choose 2006 as the start year because only 5% of firms in GRI dataset have compliance level reports before 2006. In the merged dataset, we require a firm to have no missing stock returns, positive market equity (ME), positive total assets (AT) and book equity (BE) value to be included in the sample. This gives us 3873 observations in total, about 390 firms per year.

One challenge we encounter with GRI dataset is that the reporting from some firms is not continuous. For example, a firm's first GRI compliance report may be in 2006, and the next in 2009. In these cases, we associate the years in between with the compliance level from the last available report.

Table 1. The compliance level score mapping

Score	CSR Compliance level	Score	CSR Compliance level
0	0	Non-GRI, U, (2)	2
G1	1	G3, B+, GRI	3
G1, CI, (2)	1	G3, B+, Sd	3
G2, CI	1	G3, B, 3p	3
G2, CI, (2)	1	G3, B, GRI	3
G3, U	1	G3, B, Sd	3
G3, U, (2)	1	G3, C+, 3p	3
G3, U, Sd, (2)	1	G3, C+, GRI	3
G3.1, U	1	G3.1, B+, Sd	3
G3.1, U, (2)	1	G3.1, B, GRI	3
G4, U	1	G3.1, B, Sd	3
G4, U, (2)	1	G3.1, C+, 3p	3
GRI-Ref	1	G3.1, C+, GRI	3
GRI-Ref, (2)	1	G3, A, Sd	4
GRI-Ref, U, (2)	1	G3, B+, 3p	4
Non-GRI	1	G3.1, A, Sd	4
Non-GRI, (2)	1	G3.1, A, Sd, (2)	4
Non-GRI, B, Sd, (2)	1	G3.1, B+, 3p	4
Non-GRI, C, Sd, (2)	1	G3.1, B+, GRI	4
G2, IA, (2)	2	G4, In accordance - Core	4
G2, IA, IA GRI	2	G4, In accordance - Core, (2)	4
G2, IA, IA Sd	2	G3, A+, 3p	5
G3, C+, Sd	2	G3, A+, GRI	5
G3, C, 3p	2	G3, A+, Sd	5
G3, C, GRI	2	G3, A, GRI	5
G3, C, GRI, (2)	2	G3.1, A+, 3p	5
G3, C, Sd	2	G3.1, A+, GRI	5
G3, C, Sd, (2)	2	G3.1, A+, Sd	5
G3.1, C+, Sd	2	G3.1, A, 3p	5
G3.1, C, GRI	2	G3.1, A, GRI	5
G3.1, C, Sd	2	G4, In accordance - Comprehensive	5
Non-GRI, In accordance - Core, (2)	2	G4, In accordance - Comprehensive,	5
Non-GRI, In accordance - Core, GRI	2		

DISCUSSION AND RESULT

To analyze the relationship between CSR and firm/industry characteristics, we form portfolios based on CSR compliance level from 2006 to 2014. As Panel A in Table 1 shows, firms with higher compliance levels are associated with larger market equity. The highest compliance level (level 5) portfolio is also the group with the biggest firms. Additionally, scaled R&D expense is generally greater for firms at the higher CSR compliance levels, implying these firms are more engaged in innovative activities. The scaled advertisement expense (AD/AT) increases significant when compliance level jumps from lowest level to the level 2. However, it decreases as the CSR compliance level increases, though not monotonically.

Table 2. Summary of Firm and Industry Level Statistics 2006-2014

Panel A: Characteristics of CSR Compliance Level Portfolio

CSR Level	# of Firms	Size	BM	lnAsset	LnSale	R&D/AT	SGA/AT	AD/AT	ROA	IC Level
Low	280	8.58	0.39	4.29	3.91	0.022	0.18	0.012	0.129	0.124
2	50	10.05	0.29	4.68	4.36	0.036	0.21	0.032	0.148	0.111
3	14	9.19	0.38	4.57	4.18	0.029	0.17	0.020	0.125	0.102
4	38	9.83	0.38	4.84	4.27	0.031	0.20	0.016	0.135	0.108
High	14	10.32	0.32	5.09	4.54	0.035	0.14	0.017	0.134	0.097

Panel B: Industry Characteristics by FF 12 Industries

FF 12	# of Firms	Size	BM	Asset	Sale	R&D/AT	SGA/AT	AD/AT	ROA	IC Level
Utils	9	8.02	0.43	4.57	4.08	0.03	0.22	0.01	0.146	0.506
NoDur	34	8.22	0.40	3.96	3.93	0.01	0.28	0.04	0.156	0.454
Manuf	51	8.33	0.36	4.20	4.00	0.03	0.18	0.01	0.133	0.399
Chems	41	8.00	0.43	3.90	3.77	0.02	0.15	0.01	0.095	0.397
Durbl	35	9.28	0.47	5.06	3.42	0.00	0.01	0.00	0.013	0.343
Enrgy	17	8.67	0.30	4.04	3.95	0.02	0.28	0.05	0.175	0.332
Health	5	9.84	0.41	4.77	4.39	0.00	0.09	0.01	0.121	0.325
Shops	43	8.98	0.33	4.10	4.30	0.00	0.39	0.03	0.185	0.316
Telcm	18	9.42	0.45	4.56	4.34	0.00	0.04	0.00	0.151	0.210
Other	28	9.49	0.27	4.26	4.01	0.06	0.22	0.01	0.171	0.141
Money	46	9.25	0.28	4.20	4.04	0.08	0.23	0.01	0.142	0.126
BusEq	40	8.45	0.51	4.26	3.83	0.00	0.00	0.00	0.091	0.095

One interesting pattern revealed here is that firms with higher compliance levels are associated with the lower industry concentration levels. We use the Herfindahl Hirschman Index calculated via 3-digit SICCD (Standard Industry Classification Code) to measure the industry concentration level (ICL hereafter). Panel A shows that the most competitive industries have the highest average CSR compliance level, suggesting that competition may pressure firms into investing more in public relations to create a positive image. An alternative explanation can be that firms in highly concentrated industries have less incentives to create a positive image because of their ability to exercise strong market power. To further examine this, we classify firms using the Fama-French 12 industry classification and compute the average firm characteristics for each industry in panel B. It shows that Industries with high concentration levels are utilities, non-durable, and manufacture. Industries with high product market competition levels are telecommunication, finance, business equipment and other.

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To examine the relationship between CSR compliance levels and several key firm/industry characteristics, we perform Fama-MacBeth regression of CSR on Size, BM, Sales, ROA, scaled R&D and advertisement expenses, and ICL. The results are presented in Table 2. Panel A suggests that Size, Sales, R&D/AT, and AD/AT are positively related with the CSR compliance level. BM is negatively correlated with the compliance level. However, it becomes an insignificant factor when size and sales are included in the regression. The negative coefficient on industry concentration level supports the hypothesis that firms in more competitive industries are likely to have higher compliance levels.

Table 3. Fama-MacBeth Regression of CSR on Firm Level Characteristics 2006-2014

Size	BM	ln(Sales)	ROA	TobinQ	R&D/AT	SGA/AT	AD/AT	ICL
Panel A: Univariate Regressions								
0.105**	-0.248***	0.033**	0.309*	0.010	1.416**	-0.041	1.423***	-0.127***
(2.63)	(-3.47)	(2.87)	(1.78)	(1.26)	(2.45)	(-0.52)	(3.46)	(-3.16)
Panel B: Multivariate Regressions								
0.105**	-0.011							
(2.64)	(-0.74)							
0.097**	0.020	0.017**						
(2.58)	(1.09)	(2.81)						
0.104**			-0.034					
(2.65)			(-0.48)					
0.105**			0.026		1.243**	-0.000		
(2.77)			(0.18)		(2.34)	(-0.00)		
0.099**		0.017**	-0.062	-0.024	1.356**	0.023		
(2.63)		(2.77)	(-0.29)	(-1.64)	(2.25)	(0.34)		
0.095**		0.018**	-0.077	-0.025	1.602**	-0.134	1.741**	0.027
(2.63)		(2.79)	(-0.38)	(-1.64)	(2.23)	(-1.26)	(2.62)	(1.02)

In addition, return on assets appears to have no impact on CSR compliance level, indicating higher profitability is not necessarily associated with greater levels of CSR activity. This result is consistent with the diminishing returns to CSR investment observed in Flammer (2013). Scaled R&D and advertisement expenses (AD/AT) seem to be positively correlated with compliance levels. These patterns suggest that "forward-looking", R&D oriented firms are more likely to engage in high levels of CSR activities. Firms with higher advertising expense seem to engage in greater levels of CSR activities as well.

Does engagement in corporate social responsibilities affect stock returns? If being socially responsible fails to enhance stock returns, shareholders and managers may be less motivated to engage in CSR activities. To examine this, we perform Fama-MacBeth regressions of firm's average monthly returns of year t+1 on CSR compliance level, firm and industry characteristics from 2006 to 2014. The results in Table 3 show that CSR compliance levels are positively related to stock returns, and this relationship cannot be fully explained by controlling firm characteristics. The interaction variable CSR*ICL, which captures the paired relationship of CSR to an industry's concentration level, is negatively related to stock returns, while individually ICL and CSR compliance level are positively related to stock returns. Thus, engaging in CSR activities in concentrated industries may negatively impact stock returns because it may be a gratuitous cost in the presence of market power. Importantly, the coefficient on CSR compliance level remains positive and statistically significant across all models at the 1% or 5% level.

Table 3. Fama-MacBeth Regression of Stock Returns on CSR Compliance Level, Firm and Industry Characteristics 2006-2014

Model	1	2	3	4	5	6	7
CSR	0.145*	0.146*	0.099*	0.160**	0.098*	0.160**	0.152***
	(1.93)	(1.96)	(2.21)	(3.30)	(2.25)	(3.30)	(3.43)
log (ME)	-0.246**	-0.247**	-0.217***	-0.218***	-0.222***	-0.218***	-0.225**
	(-2.98)	(-3.05)	(-3.43)	(-3.44)	(-3.45)	(-3.44)	(-3.32)
log (BM)	-0.165	-0.180	0.006	-0.006	0.004	-0.006	-0.011
	(-0.53)	(-0.56)	(0.02)	(-0.03)	(0.02)	(-0.03)	(-0.05)
Momentum			-0.460*	-0.457*	-0.434*	-0.457*	-0.472*
			(-2.01)	(-1.99)	(-1.92)	(-1.99)	(-2.05)
SGA/AT			-0.055	-0.055	-0.031	-0.055	-0.358
			(-0.12)	(-0.12)	(-0.07)	(-0.12)	(-1.50)
R&D/AT			7.311**	7.239**	6.966**	7.239**	7.554**
			(2.57)	(2.54)	(2.48)	(2.54)	(2.93)
AD/AT							3.291
							(1.24)
ICL		-0.004	0.224**	0.374**		0.374**	0.356**
		(-0.03)	(2.48)	(3.20)		(3.20)	(3.06)
CSR*ICL				-0.226**		-0.226**	-0.220**
				(-2.64)		(-2.64)	(-2.49)
Adj. R Sq.	0.035	0.037	0.078	0.077	0.077	0.077	0.078

CONCLUSION

This paper finds that engagement in CSR activities have a positive impact on stock returns. This effect is robust after controlling for firm characteristics such as size, book to market equity ratio, etc. We also find that firms with higher CSR activities are more engaged in innovation activities, are greater in size, has more sales. The results suggest that there is a negative relation between CSR compliance level and industry concentration level. This can be interpreted as that firms in the more concentrated industries are able to exert market power and CSR compliance becomes an unnecessary expense. Finally, we find that in more concentrated industries, firms with higher CSR compliance levels have lower stock returns. This paper brings new insights on how corporate social responsibility activities interact with firm and industry characteristics.

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