Does CSR influence M&A target choices?

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Abstract

We examine the impact of corporate social responsibility (CSR) on mergers and acquisitions
(M&A) target choices. We offer evidence that CSR performance of firms matter for M&A
acquirers. Indeed, our results based on 608 deals between 2003 and 2014 reveal that target
firms have on average higher CSR scores than similar non-target firms. We also show directly
that a firm's CSR is positively associated with its propensity to become a M&A target. These
results hold for all CSR dimensions (environment, social, and governance). Overall, our results
suggest that CSR matters in M&A decisions.

Keywords: Corporate social responsibility, Mergers and acquisitions, Matched-pair analysis,
Logistic regression

1. Introduction

Corporate social responsibility (CSR, hereafter) has been discussed in academic studies for
decades. Existing studies have mainly focused on the impact of CSR on market valuation (Ferrell
et al., 2016; Buchanan et al., 2018), firm risk (Godfrey et al., 2009), financial performance
(Flammer, 2015) and asset allocation choices (Cumming and Johan, 2007). A few authors have
tried to study CSR within the framework of mergers and acquisitions (M&A, hereafter)
transactions. Aktas et al. (2011) study how M&A announcement returns are affected by the

CSR engagement of target firms and report a positive association between target CSR and M&A wealth creation. They explain this result arguing that acquirers learn from targets' CSR practices, and that more synergistic deals occur with targets that exhibit better CSR performance. More recently, Gomes and Marsat (2018) find that the CSR performance of target firms is positively related to M&A bid premiums, implying acquirers positively value the CSR engagement of targets. This is in line with the resource-based view (RBV, hereafter) of the firm which suggests a firm's competitive advantage results from its ability to generate capabilities that are valuable and inimitable (Barney, 1991; Wernerfelt, 1984). Because good relationships with stakeholders (proxied by CSR ratings) are hard to develop, high CSR performance can potentially provide a basis for the type of resource that serves as a source of competitive advantage under the RBV of the firm. Indeed, according to some authors, CSR activities can help firms develop valuable intangible assets such as know-how, corporate culture, and reputation (Aragon-Correa and Sharma, 2003), which can in turn provide many benefits such as increased customer loyalty (Fombrun et al., 2000) or the ability to attract and retain valuable employees (Turban and Greening, 1997). To the extent that CSR activities can be the source of intangible assets and impact firms' characteristics, it follows that they should have an impact on their appeal to potential acquirers.

Our study differs from the existing literature on the impact of targets' CSR in M&A in the following ways. First of all, while M&A announcement returns convey information about how the market perceives shareholder value generation/destruction resulting from a deal, the choice of a target reflects how the acquirer's management team value the acquisition of a particular target. Second, the relationship between bid premiums and target CSR can partly convey an impact of CSR on the price paid for the target but not on target choice. Indeed, it could be possible that CSR be used as a lever in negotiating the terms of a deal once the target

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is picked, rather than actually driving target choice. Focusing on target choice rather than price paid allows us to determine whether CSR influences the strategic decision of picking a target.

To the best of our knowledge, no study has attempted to determine whether CSR performance impacts the choice of target firms in M&A deals. In this paper, we address this question by studying 608 M&A deals over the 2003-2014 period. We use pair-matching techniques (propensity score matching) in order to compare target firms with similar non-target firms and find that target firms feature on average higher CSR scores than comparable non-target firms. We also make use of logistic regression analysis and find a positive association between a firm's CSR and its propensity to become a M&A target. These results hold for all dimensions of CSR (environment, social, and governance).

Our paper proceeds as follows. Section 2 presents the data. Section 3 then introduces our tests and empirical findings. Finally, section 4 concludes.

2. Data

2.1. Measuring CSR

To measure CSR, we use data provided by Thomson Reuters ASSET4. The ASSET4 database includes 5,000 global publicly listed companies and provides history up to fiscal year 2002 for close to 1,000 companies. Specifically, in year t, a firm is assigned a z-score for each of the CSR dimensions (environment and social), benchmarking its performance against the rest of the firms based on all the information available in fiscal year t-1. The resulting percentage is therefore a relative measure of performance, z-scored and normalized to be comprised between 0 and 100%. In this study, for each deal we use the last available ASSET4 scores before the announcement date. Following Cheng et al. (2014), we compute a firm's overall CSR score

(*CSR*) by averaging the scores assigned to the environmental, social, and governance dimensions[1].

2.2. Sample selection

We derive our sample in multiple steps. We download a list of international deals over the 2003-2014 period from Thomson Reuters Financial SDC Platinum database. In line with most studies, we select all offers where the bidder initially owns less than 50% of the target firm and seeks to acquire more than 50% of the target firm. We then merge this list of deals with the ASSET4 database and remove the deals for which we do not have CSR scores for the target. We then remove deals occurring in non-developed countries because of the small number of potential control firms. Finally, we merge this sample with the Thomson Reuters Datastream database to get the necessary control variables. We follow standard practice and exclude deals involving financial firms. Our final sample contains 608 deals[2]. Table 1 shows the description of our sample of deals. Panel A reports sample distribution across years, Panel B reports sample distribution across countries and Panel C reports sample distribution across industries. Our sample includes deals occurring in 15 developed countries[3] over the 2003-2014 period.

3. Empirical analysis

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[1] Appendix A contains a description of the environment, social, and governance factors, as outlined in the ASSET4 documentation.

[2] Sample size is constrained by the availability of ASSET4 ratings. It is certainly true that the firms covered by ASSET4 are not a random sample of all firms, and we acknowledge this potential limitation. However, the ASSET4 universe includes most of the largest companies worldwide with a coverage including FTSE 250, S&P 500, NASDAQ 100, DJ STOXX, Russell 1000, S&P ASX 200 and MSCI World indices. It means our results do have implications for understanding how such large companies operate and make acquisition decisions (as large firms are taken over by other large firms).

[3] To address potential heterogeneity concerns, we have also conducted our study focusing on US firms only (242 deals). Results are similar to those presented in this paper and are not reported due to limited space. They are available upon request.

3.1. Propensity score matching

We now turn to the problem of building a control (non-target) sample, and in particular to the problem of determining characteristics on which control and target samples should be matched. The procedure used to create the control group varies and is often based on a single variable such as size (Hasbrouck, 1985). Traditional dimension-by-dimension matching may potentially not yield good *ex-ante* matches because of a multi-dimensional matching problem, which makes it difficult to match simultaneously on multiple dimensions. To overcome potential selection biases resulting from the multi-dimensional matching problem, this paper employs a treatment-effect methodology. Specifically, we use a propensity score matching (PSM, hereafter) approach. PSM combines all the covariate information into estimated treatment probabilities, known as propensity scores, and use this single continuous covariate as the matching variable (Rosenbum and Rubin, 1985). We employ PSM using three different matching techniques: (1) nearest-neighbor (NN), (2) kernel[4], and (3) local linear regressions (LLR). These matching procedures ensure that control firms (i.e., non-targets) are as similar as possible to the treated firms (i.e., targets) *ex ante.*

Based on prior literature on takeover likelihood (Palepu, 1986; Powell, 1997), we use the following matching variables: firm size (log of total assets), leverage (total debt/total assets), liquidity (current assets/current liabilities), valuation (market-to-book ratio), tangibility (tangible assets/total assets), profitability (return on equity), growth (sales growth), and free cash-flow (operating cash flow/total assets). The variables definitions are detailed in Table 2. In addition, we also control for year, country, and industry[5].

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[4] Specifically, we use an Epanechnikov kernel.
[5] We use 2-digit SIC codes.

3.2. Preliminary analysis

Descriptive statistics of target and control firms are presented in Table 3. The average firm size is $3.3 billion (=$e^{14.995}$). A typical sample firm has a total debt to asset ratio of 25.4%, a market-to-book ratio of 2.77 and a return on equity of 10.1%.

Table 1

Sample description

	Deals	Proportion (%)
Panel A. Distribution across years		
2003	5	0.82
2004	6	0.99
2005	14	2.30
2006	53	8.72
2007	59	9.70
2008	56	9.21
2009	40	6.58
2010	69	11.35
2011	82	13.49
2012	81	13.32
2013	62	10.20
2014	81	13.32
Panel B. Distribution across countries		
Australia	94	15.46
Canada	59	9.70
Finland	6	0.99
France	8	1.32
Germany	17	2.80
Hong Kong	5	0.82
Japan	24	3.95
Netherlands	15	2.47
Norway	5	0.82
Singapore	5	0.82
Spain	11	1.81
Sweden	9	1.48
Switzerland	6	0.99
United Kingdom	102	16.78
United States	242	39.80
Panel C. Distribution across industries (2-digit SIC codes)		
Mineral industries and construction (10-17)	146	24.01
Manufacturing (20-39)	209	34.38

Transportation and communications (40-48)	85	13.98
Wholesale and retail trade (50-59)	94	15.46
Service industries (70-89)	74	12.17
Total	608	100.00

This table presents our sample distribution across years, countries, and industries.

Table 2

Variables definition

Variable	Definition
CSR	Overall CSR score computed as the simple average of the environment, social, and governance scores. Source: ASSET4
Environment	Environmental score. Source: ASSET4
Social	Social score. Source: ASSET4
Governance	Governance score. Source: ASSET4
Size	Natural logarithm of total assets. Source: Datastream
Leverage	Total debt divided by total assets. Source: Datastream
Liquidity	Current assets divided by current liabilities. Source: Datastream
MTB	Market value of equity over book value of equity. Source: Datastream
Tangibility	Property, plants, and equipment divided by total assets. Source: Datastream
ROE	Net income divided by total equity. Source: Datastream
ΔSales	Average sales growth computed over the three years preceding the deal offer. Source: Datastream
FCF	Operating cash flows divided by total assets. Source: Datastream

The rest of the descriptive statistics are shown in column 1 of Table 3. Descriptive statistics regarding the control groups are presented in columns 2, 4, and 6 of Table 3. As expected, variables mean values for these control groups of non-targets are not statistically different from those of the target group (as evidenced by the small values of t-statistics for the difference in estimated mean values between control and target groups).

3.3. Results

Table 4 displays the results of propensity score matching analysis, i.e., the difference in CSR performance between target firms and non-target firms that had the closest ex-ante

propensities to be targeted according to the set of matching variables. We see that target firms have higher CSR scores than similar non-target firms as evidenced by the positive and statistically significant (at the 1% level) difference in estimated means. This result holds regardless of the matching approach that is used. It shows that target firms have a CSR score that is on average 2.7 to 4.3 points higher than similar non-target firms. We also focus on individual dimensions of CSR, namely environment, social, and governance. Again, we find that target firms features higher scores than similar non-target firms. All results are statistically significant at conventional significance levels.

Table 3
Financial data for target and control groups

	Target	Control group (NN)		Control group (Kernel)		Control group (LLR)	
Variable	Mean	Mean	t-stat	Mean	t-stat	Mean	t-stat
Size	14.995	14.961	0.42	15.253	-1.16	14.961	0.42
Leverage	0.254	0.257	-0.34	0.239	1.50	0.257	-0.34
Liquidity	1.529	1.676	-1.15	1.423	0.95	1.676	-1.15
MTB	2.777	2.879	-0.65	2.893	-0.73	2.879	-0.65
Tangibility	0.325	0.309	1.05	0.322	0.16	0.309	1.05
ROE	0.101	0.100	0.06	0.120	-1.59	0.100	0.06
ΔSales	0.129	0.124	0.38	0.121	0.64	0.124	0.38
FCF	0.313	0.285	0.17	0.134	1.24	0.285	0.17

The table presents mean values for variables used in the matching process. Data is reported for target and control groups. T-statistics are for the difference in estimated mean values between control and target groups.

Table 4
CSR difference between target and non-target firms

	Propensity score matching		
	Nearest-neighbor	Kernel	Local linear regressions
CSR	4.302***	2.665***	3.488***
	(3.34)	(2.85)	(2.71)
Environment	5.040***	1.089**	3.998**
	(2.82)	(1.97)	(2.25)
Social	5.100***	1.590**	4.413***
	(3.01)	(2.03)	(2.61)
Governance	2.763**	6.331***	2.061*
	(2.02)	(6.47)	(1.90)

This table reports the results of pair-matched analysis for CSR measures using propensity score matching. Matching is done using nearest-neighbor, kernel, and local linear regression approaches. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

3.4. Logistic regression analysis

In order to better assess the impact of CSR on M&A likelihood, we employ a logistic regression (LOGIT) analysis using the entire ASSET4 universe. The dependent variable is a binary variable taking the value 1 if a firm becomes a target in a given year, and 0 otherwise. Our analysis reveals a positive and statistically significant effect of CSR on the likelihood of becoming a M&A target. Results are presented in Table 5. The odds ratios (computed by exponentiating the LOGIT coefficients) are 1.0127 for the overall CSR score, 1.0075 for the environment score, 1.0093 for the social score, and 1.0069 for the governance score. Taking the overall CSR score as an illustration, the interpretation is that for each unit-increase in overall CSR score, the estimated odds of being subjected to a M&A attempt increases by 1.27%. All results are significant at the 1% level.

3.5. Discussion

Overall, our results support the idea that CSR attributes of target firms matter for acquiring firms and that acquiring firms look for targets that feature good CSR capabilities. Reasons underlying the avoidance of low-CSR targets could include the cost and difficulty of bringing a target company up to the acquirer's standards with regards to managing CSR factors[6]. The propensity of acquirers to target high-CSR companies could also be explained by cost savings

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[6] This was confirmed in a 2012 PRI-PWC survey in which a number of companies stated that their willingness to do a deal would be seriously impacted if it appeared to be too difficult or expensive to bring the target company up to their own internal standards on ESG factors. Source: The Integration of Environmental, Social and Governance Issues in Mergers and Acquisitions Transactions, December 2012, PwC/PRI.

linked to energy efficiency, revenue growth from sales of more sustainable products or increased reputation and customer loyalty (Fombrun et al., 2000).

The importance of target CSR for acquirers could also be explained by the risk-reduction features of CSR activities[7]. Increased transparency associated with high governance standards, e.g., increased earnings quality and lower level of earnings management (Xie et al., 2003), leads to reduced information asymmetry and reduced risk, potentially making high-quality governance firms more appealing to prospective buyers. Strong social attributes reduce the probability of future labor unrest, which could make potential buyers more comfortable regarding post-acquisition outcomes. Finally, strong environmental attributes decrease the probability of negative outcomes such as pollution-related hazards, thereby reducing potential future claims, litigation costs, and reputation damages.

4. Conclusion

While prior literature on CSR is extensive, its impact on M&A decisions has been largely neglected. In this article, we investigate the issue of whether acquirers account for targets' CSR performance when making M&A decisions. Studying a sample of 608 deals over the 2003-2014 period and making use of propensity score matching analysis, we show conclusive evidence that targets' CSR performance matters for acquirers. Specifically, we show that target firms feature on average higher CSR scores than similar non-target firms. In addition, we use logistic regression analysis and show that CSR is positively related to the likelihood of being the subject of a M&A offer. Our results hold for overall CSR performance as well as for individual CSR dimensions (environment, social, and governance).

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[7] This point is particularly important for M&A acquirers given their undiversified nature. Indeed, M&A acquirers are forced to assume a large amount of specific risk because of investment concentration and the high costs associated with the divestiture of acquired businesses.

Our findings contribute to the literature by enhancing our understanding of the determinants of target choice. Future work could investigate the impact of CSR on target choice more deeply by further decomposing CSR performance in order to determine whether some key performance indicators (audit committee independence, board membership limits, diversity, employee relations…) matter more for acquirers than others.

Table 5
CSR and the probability of becoming a target

	CSR	Environment	Social	Governance
	(1)	(2)	(3)	(4)
Constant	-3.017**	-3.198**	-2.898**	-4.153***
	(-2.22)	(-2.36)	(-2.13)	(-3.12)
CSR	0.013***	0.007***	0.009***	0.007**
	(4.59)	(3.90)	(4.50)	(2.49)
Size	-0.296***	-0.265***	-0.287***	-0.209***
	(-5.93)	(-5.53)	(-5.85)	(-4.73)
Leverage	1.947***	1.881***	1.940***	1.786***
	(6.09)	(5.93)	(6.09)	(5.68)
Liquidity	0.005	0.001	0.004	0.001
	(0.871)	(0.05)	(0.13)	(0.05)
MTB	-0.076***	-0.074***	-0.077***	-0.070***
	(-3.66)	(-3.59)	(-3.70)	(-3.41)
Tangibility	-0.553***	-0.545***	-0.540**	-0.535**
	(-2.62)	(-2.59)	(-2.57)	(-2.55)
ROE	-0.421*	-0.403	-0.429*	-0.399
	(-1.69)	(-1.62)	(-1.73)	(-1.61)
ΔSales	0.258	0.222	0.237	0.142
	(1.07)	(0.92)	(0.98)	(0.59)
FCF	1.929	1.842	1.863	1.909
	(1.12)	(1.08)	(1.09)	(1.11)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Observations	20,348	20,348	20,348	20,348
Pseudo-R²	0.065	0.064	0.065	0.063

This table reports the results of logistic regression analysis. The dependent variable is a binary variable taking the value one if a firm becomes a target during a particular year, and zero otherwise. T-statistics are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

Acknowledgment

Appendix A. Description of ASSET4 categories (from ASSET4 documents)

Environmental component

Emission reduction: The emission reduction category measures a company's management commitment and effectiveness towards reducing environmental emission in the production and operational processes. It reflects a company's capacity to reduce air emissions, waste, hazardous waste, water discharges, spills or its impacts on biodiversity and to partner with environmental organizations to reduce the environmental impact of the company in the local or broader community.

Product innovation: The product innovation category measures a company's management commitment and effectiveness towards supporting the research and development of eco-efficient products or services. It reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed, dematerialized products with extended durability.

Resource reduction: The resource reduction category measures a company's management commitment and effectiveness towards achieving an efficient use of natural resources in the production process. It reflects a company's capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management.

Social component

Customer/Product Responsibility: The customer/product responsibility category measures a company's management commitment and effectiveness towards creating value-added products and services upholding the customer's security. It reflects a company's capacity to maintain its license to operate by producing quality goods and services integrating the customer's health and safety, and preserving its integrity and privacy also through accurate product information and labelling.

Society/Community: The society/community category measures a company's management commitment and effectiveness towards maintaining the company's reputation within the general community (local, national and global). It reflects a company's capacity to maintain its license to operate by being a good citizen (donations of cash, goods or staff time, etc.), protecting public health (avoidance of industrial accidents, etc.) and respecting business ethics (avoiding bribery and corruption, etc.).

Society/Human Rights: The society/human rights category measures a company's management commitment and effectiveness towards respecting the fundamental human rights conventions. It reflects a company's capacity to maintain its license to operate by guaranteeing the freedom of association and excluding child, forced or compulsory labor.

Workforce/Diversity and Opportunity: The workforce/diversity and opportunity category measures a company's management commitment and effectiveness towards maintaining diversity and equal opportunities in its workforce. It reflects a company's capacity to increase its workforce loyalty and productivity by promoting an effective life-work balance, a family friendly environment and equal opportunities regardless of gender, age, ethnicity, religion or sexual orientation.

Workforce/Employment Quality: The workforce/employment quality category measures a company's management commitment and effectiveness towards providing high-quality employment benefits and job conditions. It reflects a company's capacity to increase its workforce loyalty and productivity by distributing rewarding and fair employment benefits, and

by focusing on long-term employment growth and stability by promoting from within, avoiding lay-offs and maintaining relations with trade unions.

Workforce/Health and Safety: The workforce/health and safety category measures a company's management commitment and effectiveness towards providing a healthy and safe workplace. It reflects a company's capacity to increase its workforce loyalty and productivity by integrating into its day-to-day operations a concern for the physical and mental health, well-being and stress level of all employees.

Workforce /Training and Development: The workforce/training and development category measures a company's management commitment and effectiveness towards providing training and development (education) for its workforce. It reflects a company's capacity to increase its intellectual capital, workforce loyalty and productivity by developing the workforce's skills, competences, employability and careers in an entrepreneurial environment.

Governance component

Board of Directors/Board Functions: The board of directors/board functions category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to board activities and functions. It reflects a company's capacity to have an effective board by setting up the essential board committees with allocated tasks and responsibilities.

Board of Directors/Board Structure: The board of directors/board structure category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to a well-balanced membership of the board. It reflects a company's capacity to ensure a critical exchange of ideas and an independent decision-making process through an experienced, diverse and independent board.

Board of Directors/Compensation Policy: The board of directors/compensation policy category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to competitive and proportionate management compensation. It reflects a company's capacity to attract and retain executives and board members with the necessary skills by linking their compensation to individual or company-wide financial or extra-financial targets.

Integration/Vision and Strategy: The integration/vision and strategy category measures a company's management commitment and effectiveness towards the creation of an overarching vision and strategy integrating financial and extra-financial aspects. It reflects a company's capacity to convincingly show and communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes.

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