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The Value of CSR in Acquisitions: Evidence from China

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Abstract: In this paper, we aim to test whether and how corporate social responsibility (CSR) is valued in merger and acquisition (M&A) transactions. Employing multiple regression and logistic regression methods to examine the CSR in China's domestic M&A market from 2007 to 2018, we reveal the following: (i) acquisition targets with higher social performance can attain higher acquisition valuation, especially when the acquirers are also socially responsible; (ii) high-CSR acquirers are inclined to choose equity payments, while high-CSR acquisition targets prefer to be paid in cash; (iii) high CSR performance boosts M&A success rate. The findings are robust, due to adopting two-stage least squares method to tackle endogeneity, substituting variable measures and data sources, and winsorizing variables at high levels to eliminate outliers. The value of CSR in M&As possibly results from the role of CSR in reducing information frictions, agency concerns, and corporate risks and is primarily associated with activities which are friendly to suppliers, customers, shareholders, public welfare, and natural environment, as well as being higher in developed regions and irrelevant to corporate ownership and nature. The study is of vital significance to the valuation and decision making in M&A deals.

Keywords: corporate social responsibility; acquirer CSR; target CSR; M&A valuation; M&A success rate; payment method

1. Introduction

Recently, the literature has paid increasing attention to the significance of corporate social responsibility (CSR) [1,2]. Most studies have focused on the effect of social responsibility on economic performance [3–8], corporate governance [9,10], financial cost [11–13], etc. However, studies have seldom examined the effect of CSR on merger and acquisition (M&A) contracting and the M&A success rate. In this paper, we aim at filling the gap by factoring CSR into M&A decision making and M&A valuation, which is of crucial importance for improving the economic performance and risk management of M&A transactions, and also for correctly understanding the value of CSR in the context of M&A waves in China.

The Chinese M&A market is selected for the following three reasons: (i) China is the world's second largest economy, and the rapid development of China has resulted in various environmental and social problems such as ecological damage, product quality, labor-capital conflict, social irresponsibility of the internet lending industry, illegal absorption of public savings, and fake vaccine incidents. To address these negative problems, China has made it a national strategic objective to urge companies to fulfill social responsibility, which makes the Chinese market an ideal place to conduct a natural experiment on the role of CSR. (ii) China has been implementing the national "Outward FDI Strategy" for nearly two decades and its overseas M&A in the first half of 2019 amounted to USD 26.8 billion in terms of a report issued by Price Waterhouse Coopers in August 2019. The M&As

among Chinese companies will further increase with China's economic growth and the globalization of large companies. In addition, the M&A reform of the newly launched "Science and Technology Innovation Board" released the signal that the state will actively power the development of the M&A market. Under the dual promotion of market and government policy, China's M&A market is expected to achieve greater development in the near future. (iii) Although there are many factors affecting M&A, the price or valuation of M&A is always the core link that is a prerequisite for the occurrence of M&A willingness and M&A transaction and also an important factor for a series of resource integration after M&A. On the basis of the abovementioned facts, a scrutiny of the part of CSR in the pricing and transaction characteristics of M&As in the Chinese market is of vital theoretical and practical significance.

While prior M&A literature has looked into the impact of CSR on pre- and post-M&A corporate performance [14], M&A duration [15], choice of acquisition target [16,17] and shareholder value of the acquirer [14,15,18], and socially responsible companies are believed to have higher economic performance and firm value [5,6,8], whether and how the CSR performance of the acquirer and that of the target are valued during the acquisition process is a problem that remains unsettled.

The management of the acquirer will prefer to pay in cash to prevent personal wealth loss due to control right dilution after M&A [19] or in shares due to asymmetric information and the high risk of the target company [20]. CSR is conducive to alleviating information asymmetry by delivering trust signals [21] and lower M&A uncertainty [22]. Therefore, another unresolved problem is whether CSR affects the choice of M&A payment method and M&A success rate.

Different CSR dimensions, such as shareholder interest, environmental protection and employee satisfaction, may have different impacts on M&A transactions. In addition, there is a large proportion of state-owned companies in China and the development among regions is terribly unbalanced. Hence, the last question the study aims to address is whether property nature and regional economic development level mediate the effect of CSR on M&A transactions and which CSR dimensions manifest the most significant effects.

To address the first question, we adopted principal component analysis and simple summation methodologies to alternatively calculate the overall CSR score with as many as 12 CSR dimension scores for each company year, normalized the overall scores by dividing them by the maximum score of the year, and concurrently explored the effect of the CSR performance of the acquirer and that of the target on acquisition price and acquisition premium by constructing regression models, with corporate characteristics and transaction characteristics as well as controlled for industry and year fixed effects. The results indicate that target companies are more highly priced, or offer a higher premium, provided they enjoy higher CSR performance, and the acquisition price and acquisition premium are even higher if acquirers also have high CSR performance.

To resolve the second question, we constructed a payment dummy variable to distinguish cash payment and share payment and a success dummy variable to indicate whether the M&A is successful, and then run logistic regressions of the payment dummy and the success dummy on the normalized CSR score of the acquirer and that of the target, along with a comprehensive set of characteristic variables and fixed effect dummies, respectively. The logistic regressions show the following: (i) Acquirers are inclined to pay in cash if the targets have higher CSR performance and in shares when they themselves enjoy CSR outperformance. (ii) The CSR performances of both acquirers and targets help to increase the success rate of M&As.

To tackle the third question, we defined a property nature dummy variable to distinguish between state-run companies and non-state companies and an economic development level dummy variable to differentiate companies in developed regions from those in less developed regions. Then, we tested the mediation effects of property nature and economic development level by carrying out regressions of M&A price and M&A premium on the property nature dummy and the property nature dummy, along with comprehen-

sive control variables and fixed effect dummies, respectively. CSR dimension scores are computed to test the distinction of their effects on M&A transaction across various CSR dimensions. As many as 12 CSR dimensions are examined, sequentially. The regressions show that high-CSR acquired targets in developed regions are likely to obtain a higher acquisition price and acquisition premium than those in under-developed regions. No evidence shows that there is a significant difference in acquisition price or acquisition premium between state-owned acquired targets and non-state targets.

The contributions of this study are as follows: Firstly, we creatively measure the value of social capital through acquisition price and acquisition premium; secondly, distinct from the literature that focuses on the post-M&A performance of either the acquirer or the acquiree, this study is the first attempt to jointly explore the impact of the CSR performance of both counterparties on the M&A transaction; thirdly, for the first time, we examine the impact of CSR characteristics of both counterparties on the choice of payment method and M&A success rate; finally, we innovatively examine the distinction of the impact of different social dimensions (e.g., environmental protection, shareholder value, customer and supplier relations, employee satisfaction) on M&A transactions and contribute by deepening the research on CSR and providing practical and concrete implications for M&A practitioners.

2. Literature and Hypothesis Development

2.1. Literature Review

2.1.1. Corporate Social Responsibility (CSR), Stakeholders, and Merger and Acquisition (M&A) Performance

While some scholars argue that CSR plays a neutral role in financial performance after considering R&D investment [23], most researchers believe that high-CSR companies usually have higher profitability, growth rate, and sales per employee [2,24–27]. Thus, CSR could be an important element for M&A valuation and decision making.

Previous studies have examined the impact of CSR on M&A from various stakeholders' perspectives such as environmental protection [16] and corporate reputation [17,28], and also the significance of CSR to the economic performance of M&A. For example, Ref. [18] argued that the social performance of a target company is significantly positively correlated with the M&A wealth effect of the acquirer. Ref. [15] found that high-CSR acquirers achieve higher M&A announcement return, greater post-M&A long-term operating performance growth, and positive long-term stock return. Similar viewpoint was also held by [14] who found that acquirers with low-CSR performance tend to obtain longer term abnormal returns.

CSR is widely regarded as a unique "quality dimension" that can increase firm value through means of enhancing return, Tobin Q, and the relationship between current income and future income [29]. Therefore, the cost of supporting community and social/environmental undertakings is usually factored into modeling corporate value [5]. Most studies hold that CSR creates value, and therefore weakens the negative correlation between managerial entrenchment and firm value and lowers firm risk [3,6,8,13], albeit the impact of CSR on corporate value may depend on economic conditions [30] and on whether high-CSR companies receive more favorable media coverage [31].

2.1.2. CSR, Corporate Risk, and M&A Payment Mode

Fulfilling social responsibility induces direct costs and opportunity costs [6,11]. However, long-term investors are inclined to supervise the company so that managers can engage in more active corporate social responsibility activities [10].

Regarding the M&A payment method, the management of the acquirer would prefer cash payment, and therefore prevent personal wealth from control dilution induced loss after M&A [19]. Under the cash payment mode, the control right of the target company is directly transferred to the acquiring company, and the risk caused by the information asymmetry is borne by the shareholders of the acquirer. Therefore, the higher the risk of

the target company, the more inclined the acquiring company is to pay in equity [20,32]. In terms of the work of [33], corporate risk can be alleviated if the managers pursue a reasonable CSR strategy.

High-CSR performance generally enables companies to have more access to financing, which may be attributed to the reduction of corporate agency cost due to the improvement of stakeholder participation [34], and to face lower bank debt cost [12]. Furthermore, due to the high loyalty of CSR-friendly investors and customers, the systemic risk of high-CSR companies is lower, which promotes the companies to hold short-term debt maturity structure and increase cash holdings [9]. According to agency theories, the managers of an acquirer may exploit cash payment to dilute their control rights and obtain private benefits, however, the opportunistic behavior of the managers of high-CSR companies is more constrained, and thus the agency problem risk is alleviated.

2.1.3. CSR, Social Contract, and M&A Success

Undertaking social responsibility can provide a strategic insurance effect for companies when experiencing negative events [35]. High-CSR companies tend to have high transparency and tackle negative news in a timely fashion, thus, reducing company cost and, to a certain extent, mitigating corporate risk [36–38]. In addition, [21] further discovered that CSR helps to alleviate information asymmetry by transmitting trust signals and the impact of CSR is even more significant in competitive industries, indicating that the level of social performance can be exploited as a differentiation strategy to improve corporate competitiveness.

For M&A transactions, CSR investment signals that a company values implicit contracts and tends to maintain corporate reputation. Ref. [22] documented a negative correlation between arbitrage spread (a proxy for transaction uncertainty) and the CSR performance of the acquirer, which indicates that the high social responsibility of the acquirer reduces the uncertainty of the completion of M&A. Therefore, an important consideration of market participants for evaluating the results of global M&A is the socially responsible level of the acquirer. It is implied that high-CSR companies pay more attention to the demands of the stakeholders of target companies after M&A and show more respect for their rules and culture, which is conducive to winning the favor of and reducing the pressure from the targets as well as the success of M&A.

2.1.4. Summary

The existing literature has provided insights into the value of CSR from the perspective of the stakeholder, agency problem, firm risk, social contract, and firm value. Special attention has been paid to the stakeholder theory, which is considered by many scholars [39] to be the analytical basis of CSR, and the economic outcome of CSR. Regarding the role of CSR in M&A, prior studies have primarily focused on the post-merger firm performance. Seldom have previous studies cast light on the significance of CSR on the price/premium, payment method, and success rate of acquisitions.

2.2. Hypotheses

Inspired by China's booming M&A practice, in this paper, we aim to address the following three research questions: (i) Does CSR increase acquisition price/premium? (ii) Does CSR affect acquisition payment mode? (iii) Does CSR improve acquisition success rate? Therefore, centering around the above literature review and related theories, we developed three corresponding hypotheses as follows:

Hypothesis 1 (H1). *Companies with higher CSR performance will be priced at a higher M&A premium.*

Hypothesis 2 (H2a). *The higher the CSR level of the acquisition target, the more likely it is to be paid in cash.*

Hypothesis 2 (H2b). *The higher the CSR level of the acquiring company, the more likely it is to pay in shares.*

Hypothesis 3 (H3). *High CSR performance promotes the success rate of M&A transactions.*

3. Data, Descriptive Summary, and Methodology

3.1. Data and Descriptive Statistics

The sample was constructed with M&A events of Chinese listed companies, from 2007 to 2018, carried by the China Stock Market & Accounting Research (CSMAR) database. The following five screening criteria were applied: (1) Companies that are specially treated during the M&A year are ruled out since transactions under abnormal financial conditions are likely to be driven by special purposes. (2) Financial companies are excluded for industrial particularity. (3) Mixed payment M&As are eliminated for comparative difficulty. (4) Companies with missing core data are excluded. (5) Deals with hybrid payment methods are ruled out. The final sample contained 2224 observations. Financial data were obtained from the Wind Financial database. Continuous variables were winsorized at a 1% level.

Table 1 presents the descriptive statistics of the acquirers (bidders) and targets (sellers). Major variables such as acquisition price, acquisition premium, and varied CSR measures are relatively volatile (acquisition prices and accounting indicators are denoted in CNY). The mean and minimum acquisition premium of the target (acquirer) subsample are 0.69 and −3.87 (0.78 and −6.27), respectively, indicating that while there exists negative acquisition premium, most M&A transactions have a positive acquisition premium. A negative acquisition premium may result from high transaction costs and time value of monetary funds, low realizable value of single assets, inaccurate fair value of net assets, bargain purchases, implicit liability (i.e., relocation expenses and resettlement fees for the laid-off workers), and the capitalization of intangible assets (of target companies). Particularly, in order to revitalize state-owned assets and arrange laid-off workers, the Chinese Government has formulated preferential measures to facilitate well-performing companies to merge/acquire troubled state-owned companies, such as paying a price lower than the fair market value for the target's net assets, which leads to negative acquisition premium and negative goodwill. CSR has relatively low mean value and high volatility, indicating that the CSR level of the companies in China's M&A market is relatively low and disperse. Pay type enjoys high average value and low volatility in both panels, suggesting that most transactions are paid in cash. Success has extremely high mean value and low standard deviation, reflecting that M&A events in China's M&A market have a high probability of success. Statistics further show that state-owned companies and related party transactions account for about 50% of the sample. The overall characteristics of the remaining control variables basically adapt to the current economic conditions in China.

Table 1. Descriptive Statistics.

	Obs	Mean	S.D.	Min	Max
Panel A: The Sample of Targets (Sellers)					
CSR_seller_pca	774	0.00	0.18	−0.74	1.00
CSR_seller_basic	774	0.42	0.15	0.09	1.00
Acquisition price	774	17.93	1.96	9.19	25.33
Acquisition premium	774	0.69	1.09	−3.87	14.29
Pay type	774	0.91	0.38	0	1
Success	774	0.96	0.23	0	1
ROE	774	0.07	0.08	0.02	0.52
Leverage	774	0.55	0.23	0.01	0.91
Top1	774	0.34	0.14	0.04	0.79
Relevance	774	0.46	0.49	0	1
Tat	774	0.57	0.48	0.02	5.83
SOE	774	0.62	0.51	0	1
Size	774	18.59	1.39	18.27	24.14
BTM	774	0.51	0.33	−0.60	4.85
Panel B: The Sample of Acquirers (Bidders)					
CSR_bidder_pca	1450	0.01	0.19	−1.34	1.00
CSR_bidder_basic	1450	0.44	0.15	0.09	1.00
Acquisition price	1450	18.96	2.20	9.14	25.17
Acquisition premium	1450	0.78	1.13	−6.27	14.52
Pay type	1450	0.85	0.30	0	1
Success	1450	0.93	0.22	0	1
ROE	1450	0.12	0.13	0.02	0.50
Leverage	1450	0.49	0.18	0.01	0.95
Top1	1450	0.40	0.17	0.05	0.86
Relevance	1450	0.55	0.52	0	1
Tat	1450	0.71	0.57	0.01	5.49
SOE	1450	0.56	0.48	0	1
Size	1450	25.26	1.54	20.45	29.01
BTM	1450	0.45	0.30	0.38	4.66

3.2. Methodology

3.2.1. CSR Measures

In this paper, the CSR score, which is also a proxy for social capital [2], is formulated with the ratings of 12 CSR dimensions in the China Stock Market & Accounting Research (CSMAR) database. There are 12 CSR dimensions which are all dummy variables that indicate whether a corporate CSR report includes the following: (1) has been verified an independent third party; (2) follows the GRI guidelines; (3) discloses the protection of shareholders' rights and interests; (4) discloses the protection of creditors' rights and interests; (5) discloses the protection of employees' rights and interests; (6) discloses the protection of suppliers' rights and interests; (7) discloses the protection of consumers' rights and interests; (8) discloses the environmental and sustainable development; (9) discloses public relations and social services; (10) discloses the construction and improvement measures of social responsibility system; (11) discloses the content of production safety; (12) discloses the deficiencies of the company.

Particularly, CSR can be measured following two alternative methods: (i) CSR_{PCA}, which is attained by computing the contribution weighted average of component scores using principal components analysis (PCA) technique and normalizing the outcome by dividing the maximum score of all companies for the year; (ii) CSR_{basic}, which, consistent with [2,15] who calculated the overall CSR score by totaling specific dimensions, is measured by summing the 12 dummy variables and normalizing the total by dividing the maximum score of all companies for the year.

3.2.2. Acquisition Premium

While scholars generally measure M&A premium as the difference between the M&A price and the target company's stock price (as of a few days/weeks/months prior to the takeover announcement) over the target's stock price when examining western developed M&A markets [40,41], in this study, we adopt book value rather than target share price to measure acquisition premium for the following reasons: (i) China's M&A market has always been in the coordination between the administrative power of the government and the spontaneous power of the market under the background of an emerging and transitional economic system [14]. A considerable number of M&As are prompted by the government to turn the slumping state-owned companies around, which makes state-owned targets more likely to be undervalued. (ii) China suffers serious loss of state-owned assets and the value may be transferred by purposely undervaluing the state-owned assets through the M&A channel. (iii) China's capital market is much less efficient and liquid than Western developed markets, and the valuation approaches used in China are much less standardized than those in developed capital markets, making M&A targets subject to mispricing. (iv) In China, most targets are unlisted and their market stock prices are inaccessible. The distinctive characteristics of China's capital market make it more accurate and appropriate to estimate acquisition premium using net book value, as do most Chinese scholars.

3.2.3. Model

To empirically test the hypotheses and meet the study's objectives, we construct a general regression model that can accommodate different dependent variables as follows:

$$
\begin{aligned}
DV_{i,j,t} = \alpha &+ \beta_1 CSR_{i,t-1} + \beta_2 CSR_{j,t-1} + \beta_3 CSR_{i,t-1} \times CSR_{j,t-1} + \\
&\beta_4 Control_{j,t-1} + Industry\ FE + Year\ FE + \varepsilon
\end{aligned}
\tag{1}
$$

where $DV_{i,j,t}$ is the dependent variable denoting one of the following in year t: (i) Price (acquisition price, or log of acquisition price paid by the acquirer (i); (ii) Premium (acquisition premium, or log of the ratio of bid price to book value of the acquisition target j); (iii) Success (acquisition success rate, or dummy variable equal 1 for a successful M&A and 0 otherwise); (iv) Pay type (payment mode, or dummy variable equal 1 for cash payment and 0 for share payment). $CSR_{i,t-1}$ and $CSR_{j,t-1}$ are CSR scores of the acquirer (i) and target (j) in year ($t-1$), respectively. The interactive term $CSR_{i,t-1} \times CSR_{j,t-1}$ is included in an attempt to test whether the CSR of the acquirer $CSR_{i,t-1}$ would enhance or moderate the effect of the CSR of the target $CSR_{j,t-1}$ on the dependent variable. Industry FE and Year FE are industry and year dummies, respectively, and ε is the error term. Consistent with the literature [8,15,30], Control is a battery of controls including net income over equity (ROE), log of total assets (size), ratio of total liabilities to total assets (leverage), ratio of number of shares held by the largest shareholder to total number of shares (Top1), net operating income over average asset (Tat), a dummy variable equal 1 for related transaction and 0 otherwise (relevance), a dummy variable equal 1 for state-owned company and 0 otherwise (SOE), and book value over market value of equity (BTM). Variable definitions are summarized in Table A1 of Appendix A.

Noteworthily, the controls are firm characteristics of acquirer *i,* target *j,* and target *j* if Model (1) is conducted on $CSR_{i,t-1}$, $CSR_{j,t-1}$, and both $CSR_{i,t-1}$ and $CSR_{j,t-1}$, respectively. The state ownership indicator SOE is included as a control due to the fact that a large proportion (58% as per Table 1) of companies are state-run in China and state companies might have better CSR performance and greater influence on M&A deals. The correlation matrix is reported in Table 2, which exhibits that the correlations between the variables listed in Table 1 are low (mostly below 0.30 in absolute terms), that is, the regression models constructed in this study are not subject to serious multicollinearity.

Table 2. Correlation Matrix.

	Price	Premium	Pay Type	Success	CSR	Roe	Leverage	Top1	Relevance	Tat	Nature	Size	B/M
Price	1.000												
Premium	0.250	1.000											
Pay type	−0.236	−0.064	1.000										
Success	−0.008	0.003	0.091	1.000									
CSR	0.109	0.126	−0.032	0.071	1.000								
Roe	0.078	0.106	−0.058	−0.008	−0.009	1.000							
Leverage	0.134	−0.140	0.026	−0.008	−0.063	−0.158	1.000						
Top1	0.078	−0.050	0.009	0.045	−0.018	0.048	0.042	1.000					
Relevance	0.190	−0.021	−0.234	−0.011	−0.006	0.039	0.075	0.188	1.000				
Tat	−0.020	−0.023	−0.137	0.001	−0.012	0.170	0.091	0.049	0.118	1.000			
SOE	0.152	−0.016	−0.070	0.005	−0.077	−0.054	0.187	0.222	0.168	0.034	1.000		
Size	0.390	0.001	0.047	0.049	−0.063	0.073	0.447	0.218	0.189	−0.020	0.301	1.000	
B/M	0.191	−0.053	−0.016	0.075	−0.068	0.011	0.153	0.098	0.085	−0.057	0.208	0.404	1.000

4. Empirical Results

4.1. CSR and Acquisition Price/Premium

Table 3 reports the results of running multiple regression Model (1) to test the impact of CSR performance, which is measured by the CSR score calculated using eitherthe principal component analysis (PCA) method in panel A or basic summation method in panel B, on acquisition prices in columns (1) through (3) of Table 3 or acquisition premium rates in columns (4) through (6).

Table 3. Corporate social responsibility (CSR), acquisition price, and acquisition premium.

	Price	Price	Price	Premium	Premium	Premium
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: CSR Performance Measured by CSR_pca						
CSR_seller	1.393 ***		1.04	0.934 **		0.896
	(0.003)		(0.485)	(0.010)		(0.192)
CSR_bidder		1.166 ***	2.599 **		0.364 **	0.43
		(0.001)	(0.020)		(0.015)	(0.435)
CSR_seller × CSR_bidder			28.559 ***			11.923 **
			(0.002)			(0.015)
ROE	1.025 **	2.919 ***	3.27	0.864 **	0.32	2.257
	(0.047)	(0.002)	(0.376)	(0.016)	(0.465)	(0.191)
Leverage	−0.784 **	−0.02	−2.872 *	−0.687 ***	0.06	−2.290 ***
	(0.048)	(0.948)	(0.069)	(0.008)	(0.705)	(0.001)
Top1	−0.149	−0.33	2.07	0.17	−0.584 ***	0.696
	(0.744)	(0.297)	(0.200)	(0.623)	(0.001)	(0.381)
Pay type	−0.392	−1.712 ***	−1.149 ***	−0.16	−0.367 ***	−0.453 ***
	(0.155)	(0.001)	(0.004)	(0.370)	(0.001)	(0.006)
Relevance	0.133	0.204 **	0.38	−0.09	−0.145 ***	−0.184
	(0.352)	(0.041)	(0.278)	(0.290)	(0.002)	(0.431)
Tat	−0.276	−0.06	−0.07	0.11	0.00	0.063
	(0.156)	(0.646)	(0.896)	(0.372)	(0.939)	(0.823)
SOE	0.134	0.10	0.77	0.12	−0.135 **	−0.093
	(0.414)	(0.376)	(0.117)	(0.214)	(0.010)	(0.673)
Size	0.613 ***	0.449 ***	0.254 *	0.156 ***	0.03	0.156 ***
	(0.001)	(0.001)	(0.090)	(0.001)	(0.255)	(0.043)
BTM	−0.591	0.384 *	−0.66	−0.30	−0.08	−0.278 *
	(0.111)	(0.089)	(0.144)	(0.103)	(0.443)	(0.081)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	774	1450	116	774	1450	116
Adj.R²	0.34	0.39	0.66	0.33	0.24	0.53
Panel B: CSR Performance Measured by CSR_basic						
CSR_seller	1.562 ***		−0.93	1.250 ***		−0.092
	(0.004)		(0.470)	(0.001)		(0.572)
CSR_bidder		1.526 **	1.77		0.706 ***	−0.573
		(0.001)	(0.380)		(0.001)	(0.482)
CSR_seller × CSR_bidder			7.572 *			6.556 *
			(0.084)			(0.079)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	774	1450	116	774	1450	116
Adj.R²	0.34	0.39	0.55	0.34	0.25	0.51

Note: Robust standard errors are presented in parentheses. *, **, and *** indicate significance at 10%, 5% and, 1% levels, respectively.

The regressions lend solid support to H1. Particularly, in Panel A, the coefficients of *CSR_seller* are 1.393 and 0.934 with statistical significance in column (1) and column (4) of Table 3, respectively, suggesting that a standard deviation increase of the CSR score of the target would lead the acquisition price and acquisition premium to increase by 0.124–0.104 standard deviation (or 1.34% and 18.87% with respect to their mean values), respectively. The significantly positive coefficient estimates in column (2) and column (5), from the bidder's perspective, indicate that a standard deviation increase of the bidder's

CSR could cause the acquisition price and acquisition premium to increase by 0.11 and 0.076 standard deviation (or 1.17% and 10.08% as compared with their average values), respectively. In addition, the coefficient estimates of the interaction $CSR\_seller \times CSR\_bidder$ are 28.56 and 11.92 at a significance level of 1% and 5%, in column (3) and column (6) of Table 3, respectively, which suggests a mutually reinforcing relationship between CSR_seller and CSR_bidder in raising acquisition price and acquisition premium. Namely, the strong CSR performance of the target companies will be even more highly valued when the acquiring companies also enjoy high CSR performance, and vice versa, due possibly to the following: (i) high-CSR acquirers are more inclined to deal with targets also having desirable CSR performance; (ii) high-CSR acquirers could be able to further enhance their CSR, which is extensively regarded as an intangible asset, by taking advantage of the CSR strengths of the targets; (iii) sharing common perspective on CSR helps facilitate the post-merger collaborations and reduce the post-merger frictions between acquirers and targets, thus enhancing positive synergy effects; (iv) high-CSR acquirers generally stress the insurance-like role of CSR and are prepared to pay higher premiums for high-CSR targets for risk prevention and diversification purposes.

Panel B further confirms that the results in Panel A are robust for alternatively measuring social performance by means of simply summing the 12 CSR dimension scores, following the approach introduced by [2]. Specifically, the coefficient estimates of CSR_seller are 1.56 and 1.25 at a 1% significance level in columns (1) and (4) of Table 3, respectively, the coefficient estimates of CSR_seller are 1.53 and 0.71 at 1% significance level in columns (2) and (5) of Table 3, respectively, and the coefficient estimates of interaction $CSR\_seller \times CSR\_bidder$ are 7.57 and 6.56 at a 10% level of significance in columns (3) and (6) of Table 3, respectively.

A one-to-one comparison between the coefficient estimates in panel A and those in panel B further reveals that all coefficient estimates, except those of $CSR\_seller \times CSR\_bidder$, possess both higher statistical significance and higher economic significance. These findings imply that target companies' social outperformance will be valued, in the form of a higher acquisition price or acquisition premium, by acquirers as an intangible asset or insurance against firm risks, especially when acquirers have social responsibility preference.

Overall, the empirical results substantiate our baseline hypothesis and research question, and also are in agreement with a vast body of literature that documents a positive effect of CSR on firm value [2–4,6–8,29] and the (post) M&A performance [14,15,18].

4.2. CSR and Acquisition Payment Method

To test H2a and H2b, we re-estimate Model (1) on the payment method dummy variable (equal 1 if paid in cash and 0 otherwise) and report the coefficient estimates in Table 4. The coefficient estimation of CSR_seller is 2.12 and that of CSR_bidder is -1.51, both at a significance level of 5%. These results strongly substantiate H2a and H2b, i.e., that an acquisition is more likely to be paid in cash when the target company enjoys higher CSR performance or in equity if the target company has poor or relatively poorer CSR performance.

A plausible explanation is that the target's good CSR performance would enhance the acquirer's belief in the post-acquisition performance and mitigate its concern about the acquisition risk. By contrast, when the target's CSR performance is poor, or comparatively poor, the acquiring company would be more likely to have less confidence in the post-acquisition performance and concern more about the acquisition risk.

The test results and implications are consistent with the extant studies [20,32] documenting that equity payment is preferred by acquirers when dealing with riskier targets, and CSR helps to mitigate firm risk [33,42].

Table 4. CSR and M&A payment method.

	Pay Type	
	(1)	(2)
CSR_seller	2.124 **	
	(0.049)	
CSR_buyer		−1.509 **
		(0.008)
ROE	−0.928	1.732
	(0.620)	(0.343)
Leverage	0.832	0.446
	(0.427)	(0.526)
Top1	−1.540	1.729 ***
	(0.177)	(0.004)
Relevance	−0.312	−2.638 ***
	(0.464)	(0.001)
Tat	−1.192 **	−0.461 **
	(0.013)	(0.048)
SOE	−0.061	−0.808 ***
	(0.889)	(0.001)
Size	−0.400 *	0.414 ***
	(0.058)	(0.001)
BTM	1.062	−0.866 **
	(0.154)	(0.041)
Year FE	Yes	Yes
Industry FE	Yes	Yes
N	774	1450
Pseudo R^2	0.20	0.28

Note: Robust standard errors are presented in parentheses. *, **, and *** indicate significance at 10%, 5% and, 1% levels, respectively.

4.3. CSR and Acquisition Success Rate

The study reruns Model (1) on the M&A success rate dummy variable (equal 1 if successful and 0 otherwise) against the CSR performance of both the acquiring company and the target company to test H3, which estimates that good CSR performance helps improve the success rate of M&A transactions.

Table 5 shows that the coefficient estimate of *CSR_seller* is 4.63 and that of *CSR_bidder* is 2.74, both at 1% level of significance. Therefore, it follows that the social performance of the acquiring company and that of the target company both have a positive impact on the launch and accomplishment of the M&A deal, suggesting that the CSR performance factor has been woven into the consideration of both M&A counterparties. Specifically, the positive and significant coefficient estimate of *CSR_bidder* suggests the following: (i) Target companies might be more willing to be acquired by socially responsible, i.e., responsible for employees, acquirers. (ii) Quite a few acquirers in China are expected by the government to revitalize state-owned companies in trouble under the premise of proper placement of employees, which means that a proportion of acquirers in China actually perform certain social functions and the acquisitions launched by acquirers at high CSR levels are more likely to be successful. The positive and significant coefficient estimate of *CSR_seller* implies that high-CSR targets may be more preferred by acquirers, which improves the success rate. In summary, the regression results attest the validity of H3.

The findings are in line with prior studies [21,35–38], underscoring the role of CSR in mitigating risk, enhancing insurance protection, and building trust, and [22] stressing the effect of the acquirer's CSR on the accomplishment of the M&A.

Table 5. CSR and M&A success rate.

	Success	
	(1)	(2)
CSR_seller	4.633 ***	
	(0.001)	
CSR_buyer		2.739 ***
		(0.009)
ROE	−0.859	−1.212
	(0.382)	(0.740)
Leverage	−1.271	−1.153
	(0.245)	(0.301)
Top1	2.331	1.616
	(0.105)	(0.166)
Pay type	0.633	1.544 ***
	(0.330)	0.001
Relevance	−0.069	0.030
	(0.853)	0.925
Tat	0.337	0.415
	(0.447)	(0.311)
SOE	−0.570	0.524
	(0.264)	(0.133)
Size	0.358 *	0.160 ***
	(0.060)	(0.268)
BTM	−0.398	2.497 ***
	(0.663)	(0.006)
Year FE	Yes	Yes
Industry FE	Yes	Yes
N	774	1450
Pseudo R^2	0.22	0.25

Note: Robust standard errors are presented in parentheses. *, **, and *** indicate significance at 10%, 5% and, 1% levels, respectively.

4.4. Robustness

4.4.1. Endogeneity

Albeit evidence has shown that better CSR performance can bring about a higher acquisition price and acquisition premium, the causality remains open to endogeneities between CSR performance and the pricing of M&A deals. The improvement of CSR performance may be driven by the incentive of locking in a higher acquisition price or acquisition premium, that is, the pursuit of a more desirable acquisition valuation can conversely lead to the enhancements of CSR performance of the target company. As such, the causality the study has established so far may be subject to endogeneities such as reverse causality. To dispel such concern, in the paper, we constructed instrumental variables (IVs) for CSR scores and adopted the two-stage least squares (2SLS) method to tackle endogenous problems.

Three instruments are constructed for the CSR score (CSR_{t-1}) used for deriving the baseline results. The first is the CSR score lagged for one year (CSR_{t-2}) conforming to the approach of [42]. Since it is impossible for companies to predict a subsequent M&A several years in advance, the possibility is low that companies would increase CSR investments as long as two years in advance to secure a better M&A price or premium. Acquisition price/premium cannot cause changes in CSR_{t-2}, or namely, CSR_{t-2} is not related to acquisition price/premium. However, due to the sustainability of CSR policy across companies, the CSR scores between two successive years should be closely correlated. Therefore, CSR_{t-2} is likely to be a valid instrument for CSR_{t-1}. However, using CSR with one year lag as an instrument cannot completely address the concern of endogeneity, because if Price$_t$ (Premium$_t$) affects CSR_{t-1} and CSR_{t-2} affects CSR_{t-1}, then Price$_t$ (Premium$_t$) will be related to CSR_{t-2}. While previous literature [43–46] documents that acquirers anticipate and take advance actions to ease future acquisitions, this possibility does not significantly

undermine the validity of CSR_{t-2} as an instrument. It usually takes time for companies to improve their CSR performance. To improve the ex-post measure CSR_{t-2}, acquirers must be able to predict acquisitions and engage in CSR activities and investments more than two years prior to the acquisitions, which is obviously challenging for acquirers. Analogously, it could be even more difficult for target companies to predict that they would be acquired in the future, and therefore take advance CSR-enhancing actions. Therefore, CSR_{t-2} is a valid instrument for the CSR of both acquisition counterparties.

The second and third instruments are the average CSR of the industry ($CSR_{industry}$) and the average CSR of the region (CSR_{region}), respectively. The average CSR of the industry is calculated according to the industry classification available in the CSMAR database, and the average CSR of the region is measured with respect to the first four digits of a company's zip code. $CSR_{industry}$ and CSR_{region} are valid instruments for the CSR of company *i* (acquirer or target) in that $CSR_{industry}$ and CSR_{region} can influence the CSR of company *i* while the latter should have little effect on the former and $CSR_{industry}$ and CSR_{region} can only affect the acquisition price/premium through influencing company *i*'s CSR performance. While industry or region CSR might affect the range of potential targets for an acquirer targeting a certain industry or region, the acquisition valuation would still depend on the specific CSR performance of the selected target.

The 2SLS regression outcomes are reported in Table 6. The *F* statistics of the first stage of regressions (1) through (6) in all panels of Table 6 are no less than 25.44, indicating that the 2SLS regressions are not subject to weak instrument problem, or namely the instruments assembled are effective.

It can also be observed that the coefficient estimates of *CSR_seller*, *CSR_buyer*, and *CSR_seller* × *CSR_bidder* are all positive, with statistical significance in panel A through panel D of Table 6, which are in line with the baseline findings. Therefore, the results suggest that the baseline implications are robust for constructing different instruments for CSR and carrying out 2SLS regressions to address endogeneity.

Table 6. Two-Stage least squares regressions.

	Price	Price	Price	Premium	Premium	Premium
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: CSR_(t–2) as Instrument						
CSR_seller	1.583 ***		2.537 **	2.611 ***		1.189 **
	(0.009)		(0.015)	(0.001)		(0.028)
CSR_buyer		2.549 ***	1.928 **		1.889 ***	1.641 *
		(0.006)	(0.039)		(0.001)	(0.066)
CSR_seller × *CSR_bidder*			15.322 **			7.259 *
			(0.012)			(0.053)
Controls/year FE/industry FE	Yes	Yes	Yes	Yes	Yes	Yes
N	905	1219	110	902	1219	110
Adj.R^2	0.28	0.38	0.56	0.17	0.16	0.54
Weak instrument test (F−value)	50.23	81.13	61.25	50.23	81.13	61.25
Panel B: Industry Mean as Instrument						
CSR_seller	4.374 ***		2.291 ***	5.251 ***		2.004 **
	(0.002)		(0.005)	(0.001)		(0.018)
CSR_buyer		5.214 ***	3.665 **		2.513 ***	1.928
		(0.001)	(0.017)		(0.001)	(0.127)
CSR_seller × *CSR_bidder*			11.536*			6.354 *
			(0.060)			(0.074)
Controls/year FE/industry FE	Yes	Yes	Yes	Yes	Yes	Yes
N	774	1450	116	774	1450	116
Adj.R^2	0.30	0.29	0.52	0.11	0.09	0.50
Weak instrument test (F−value)	49.02	96.22	37.94	49.02	96.22	37.94

Table 6. *Cont.*

	Price	Price	Price	Premium	Premium	Premium
	(1)	(2)	(3)	(4)	(5)	(6)
Panel C: Regional Mean as Instrument						
CSR_seller	2.646 **		3.011 **	2.230 **		2.467 **
	(0.044)		(0.032)	(0.017)		0.019
CSR_buyer		2.259 **	2.139 **		0.834 **	1.803 **
		(0.010)	0.037		(0.050)	0.034
CSR_seller × CSR_bidder			14.245 *			8.125 *
			0.052			0.065
Controls/year FE/industry FE	Yes	Yes	Yes	Yes	Yes	Yes
N	774	1450	116	774	1450	116
Adj.R²	0.34	0.38	0.61	0.31	0.23	0.58
Weak instrument test (F−value)	73.41	99.01	51.12	73.41	99.01	51.12
Panel D: Industry Mean and Regional Mean as Instruments						
CSR_seller	3.456 ***		2.897 ***	3.646 ***		3.002 ***
	(0.009)		(0.003)	(0.001)		(0.002)
CSR_buyer		2.652 ***	2.415 **		1.057 **	1.186
		(0.002)	(0.016)		(0.015)	(0.138)
CSR_seller × CSR_bidder			15.722**			7.804 *
			(0.043)			(0.052)
Controls/year FE/industry FE	Yes	Yes	Yes	Yes	Yes	Yes
N	774	1450	116	774	1450	116
Adj.R²	0.32	0.37	0.50	0.25	0.22	0.49
Weak instrument test (F−value)	32.09	68.67	25.44	32.09	68.67	25.44

Note: Robust standard errors are presented in parentheses. *, **, and *** indicate significance at 10%, 5% and, 1% levels, respectively.

4.4.2. Winsorization

While continuous variables have already been winsorized at 1% and 99% levels in the baseline regressions, for robustness, this subsection further winsorizes variables at 5% and 95% levels to eliminate the effect of outliers. As shown in Panel A of Table 7, the coefficient estimates of *CSR_seller*, *CSR_bidder*, and *CSR_seller × CSR_bidder* are all positive with statistical significance which are in line with the major results (Table 3). Therefore, the baseline findings of this study are robust to higher levels of winsorization, or namely the removal of biases induced by extreme values.

4.4.3. Rankins CSR Ratings (RKS)

While the widely cited CSMAR CSR ratings that this study are based on are generally regarded as independent and objective, for robustness purpose, we also calculated the CSR scores with ratings offered by Rankins CSR Ratings (RKS), which is also an independent ESG ratings provider well-known in China, for each company, and we re-conduct Model (1) on the CSR scores alternatively compiled using RKS ratings. The results are presented in panel B of Table 7, and again, the coefficient estimates of *CSR_seller*, *CSR_bidder*, and *CSR_seller × CSR_bidder* are positive and all with statistical significance, which provides concrete support for the baseline estimates. Therefore, the major findings are robust to measuring CSR performance with data retrieved from different independent sources.

Table 7. Winsorization and alternative CSR data.

	Price	Price	Price	Premium	Premium	Premium
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Winsorized at 5% and 95% Levels						
CSR_seller	1.526 **		3.699 **	1.252 ***		2.020 **
	(0.014)		(0.045)	(0.001)		(0.021)
CSR_buyer		1.794 ***	3.251 **		0.629 ***	0.918
		(0.001)	(0.049)		(0.001)	(0.291)
CSR_seller × CSR_buyer			18.395 *			9.904 *
			(0.077)			(0.071)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry/year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	774	1450	116	774	1450	116
Adj. R²	0.34	0.38	0.55	0.26	0.26	0.66
Panel B: CSR Measured with Rankins CSR Ratings (RKS)						
CSR_seller	1.810 ***		0.704 *	2.792 ***		1.983 **
	(0.001)		(0.063)	(0.001)		(0.020)
CSR_buyer			1.151 *** 0.649 *		0.686 ***	0.451
			(0.002) (0.072)		(0.001)	(0.137)
CSR_seller × CSR_buyer			9.537 *			6.314
			(0.068)			(0.199)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry/year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1052	1363	125	1052	1363	125
Adj. R²	0.33	0.53	0.62	0.21	0.24	0.54
Panel C: Alternative Measure for Acquisition Premium						
CSR_seller				0.712 **		0.631 *
				(0.044)		(0.091)
CSR_bidder					0.287 *	0.226
					(0.083)	(0.574)
CSR_seller × CSR_bidder						8.430 **
						(0.028)
Controls				Yes	Yes	Yes
Industry/year FE				Yes	Yes	Yes
N				763	79	109
Adj. R²				0.26	0.18	0.39

Note: Robust standard errors are presented in parentheses. *, **, and *** indicate significance at 10%, 5% and, 1% levels, respectively.

4.4.4. Alternative Acquisition Premium Measure

Albeit in Section 3.2.2. we demonstrated that defining acquisition premium with the target's net book value is more appropriate for investigating the M&As in China, we still follow the literature [40,41] to remeasure acquisition premium with respect to the target's stock/market price one month prior to the takeover announcement and re-estimate the CSR–M&A relationship based only on the M&As launched on listed targets for robustness purpose. The regressions in panel C of Table 7 indicate that our baseline findings are robust to alternatively measuring acquisition premium with the (listed) target's pre-M&A market price.

4.5. Further Analysis

4.5.1. CSR Dimension and Acquisition Price/Premium

The results in Table 8 show that only the coefficient estimates of CSR dimensions such as shareholder, supplier, customer, public welfare, and environment are positive with statistical significance. The estimates indicate that CSR activities friendly to suppliers, customers, shareholders, public welfare, and natural environment achieve much higher valuations in China's M&A market. Overall, the analysis of the effect of different CSR dimensions on M&A acquisition price and acquisition premium provides convergent validity to the baseline findings.

Table 8. CSR dimensions of the target company and valuation.

CSR Domains	Price Premium												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Ind assurance	0.368												0.317
	0.148												0.233
GRI		−0.325											−0.305
		0.072											0.073
Shareholder			1.531 ***										1.280 ***
			0.545										0.529
Creditor				0.277 **									0.101
				0.137									0.053
Employee					1.069								0.032
					0.347								0.973
Supplier						0.362 **							0.235
						0.309 ***							0.205 **
Customer							0.242						0.012
							0.644 ***						0.492 **
Environment								1.108 ***					0.771 **
								0.352					0.223
Public welfare									1.005 **				0.850 **
									0.147				0.100
System										0.230			−0.160
										0.134			0.019
Safety											0.063		0.094
											0.130		0.125
Deficiency												0.384 **	0.392
												0.174	0.071
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry/year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	774	774	774	774	774	774	774	774	774	774	774	774	774
Adj. R^2	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.33	0.34	0.36
	0.32	0.32	0.33	0.33	0.32	0.33	0.34	0.32	0.32	0.32	0.32	0.32	0.35

Note: Coefficients with respect to premium are presented in the second row for each variable. *, **, and *** indicate significance at 10%, 5% and, 1% levels, respectively.

4.5.2. Economic Development and Acquisition Price/Premium

The relationship between CSR performance and M&A valuation may be affected by the regional economic development level. Therefore, we tested the moderation effect of economic development on the role of CSR in M&A valuation, and the outputs are listed in Table 9. The coefficient estimates of developed are positive with statistical significance in all regressions, indicating that M&As are higher priced in developed regions. The coefficient estimates of CSR × developed are statistically positive in columns (2) and (4) of Table 9, but insignificant in columns (1) and (3) of Table 9, which implies that the economic development of the region the acquirer is located strengthens the role of the CSR of the acquirer in enhancing M&A valuation. Developed regions have more abundant resources, relatively superior corporate growth environment, and relatively stronger sense of social responsibility, thus, developed regions generally enjoy higher CSR levels than less developed regions and acquirers from developed regions pay relatively higher M&A prices/premiums.

Table 9. Economic development level and acquisition price/premium.

	Price	Price	Premium	Premium
	(1)	(2)	(3)	(4)
CSR_seller	2.569 **		0.410 *	
	(0.028)		(0.085)	
CSR_bidder		1.928 ***		0.447 *
		(0.001)		(0.062)
Developed	0.338 **	0.307 ***	0.243 **	0.568 ***
	(0.030)	(0.003)	(0.015)	(0.001)
CSR × developed	−1.52	1.019 *	0.71	0.110 *
	(0.226)	(0.080)	(0.327)	(0.087)
ROE	1.016 *	2.601 ***	0.817 **	0.185
	(0.055)	(0.006)	(0.024)	(0.648)
Leverage	−0.640	0.099	−0.564 **	0.162
	(0.110)	(0.784)	(0.030)	(0.280)
Top1	−0.071	−0.373	0.158	−0.770
	(0.876)	(0.229)	(0.623)	(0.201)
Pay type	−0.410	−1.699 ***	−0.169	−0.312 ***
	(0.134)	(0.001)	(0.346)	(0.001)
Relevance	0.119	0.219 **	−0.092	−0.142 ***
	(0.401)	(0.026)	(0.289)	(0.002)
Tat	−0.290	−0.058	0.093	−0.030
	(0.141)	(0.668)	(0.448)	(0.589)
Size	0.603 ***	0.443 ***	0.158 ***	0.002
	(0.001)	(0.001)	(0.001)	(0.819)
BTM	−0.545	0.380 *	−0.313 *	−0.142
	(0.146)	(0.091)	(0.088)	(0.124)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	774	1450	774	1450
Adj. R²	0.35	0.39	0.34	0.31

Note: Cluster-robust standard errors are presented in parentheses. *, **, and *** indicate significance at 10%, 5% and, 1% levels, respectively.

4.5.3. Property Nature and Acquisition Price/Premium

A large proportion of companies, in China, are state-controlled or state-participated companies and these companies are usually in the leading position (at least in scale) in domestic economic development, in domestic M&A market, and in the implementation of China's outward foreign direct investment strategy. Besides, state-owned companies have more government resources and financing channels, are larger in scale, and can better fulfill their social responsibilities under the dual supervision of the government and public opinions. As such, state-owned companies are likely to be higher priced in M&As.

Therefore, it is more than necessary to distinguish company nature and test its moderation effect on the role of CSR in M&A valuation.

The coefficient estimates of both SOE and CSR × SOE (in Table 10) reveal that the marginal effect of SOE (company nature dummy equal 1 for state-controlled companies and 0 otherwise) is statistically insignificant, indicating that company nature does not influence the part of CSR for increasing M&A price and M&A premium. There are three plausible reasons as follows: (i) state-owned companies in China generally have much higher CSR performance than other companies, which lowers the marginal effect of their CSR improvement; (ii) the valuation of M&A transactions of state-owned companies is generally under close government and social supervision, which may restrain M&A premiums; (iii) it is generally taken for granted that China's state-owned companies are supposed to have good CSR ratings, making M&A prices/premiums less sensitive to their CSR performance.

Table 10. Property nature and acquisition price/premium.

	Price	Price	Premium	Premium
	(1)	(2)	(3)	(4)
CSR_seller	1.208 *		0.616 *	
	(0.072)		(0.099)	
CSR_buyer		0.726 *		0.600 **
		(0.092)		(0.011)
SOE	0.136	0.084	0.124	0.129
	(0.409)	(0.442)	(0.204)	(0.114)
CSR × SOE	0.327	0.828	0.562	0.444
	(0.728)	(0.168)	(0.416)	(0.145)
ROE	1.011 **	2.872 ***	0.837 **	0.343
	(0.050)	(0.003)	(0.021)	(0.432)
Leverage	−0.789 **	−0.036	−0.695 ***	0.066
	(0.047)	(0.622)	(0.007)	(0.676)
Top1	−0.151	−0.314	0.167	−0.591 ***
	(0.741)	(0.317)	(0.630)	(0.001)
Pay type	−0.395	−1.740 ***	−0.169	−0.352 ***
	(0.154)	(0.001)	(0.356)	(0.001)
Relevance	0.133	0.202 **	−0.093	−0.144 ***
	(0.352)	(0.042)	(0.292)	(0.002)
Tat	−0.276	−0.075	0.111	0.011
	(0.157)	(0.584)	(0.368)	(0.850)
Size	0.613 ***	0.456 ***	0.156 ***	0.023
	(0.001)	(0.001)	(0.001)	(0.325)
BTM	−0.594	0.367	−0.302 *	−0.065
	(0.110)	(0.104)	(0.095)	(0.505)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	774	1450	774	1450
Adj. R2	0.34	0.39	0.33	0.24

Note: Cluster-robust standard errors are presented in parentheses. *, **, and *** indicate significance at 10%, 5% and, 1% levels, respectively.

4.6. Discussion

Our findings relate to a vast body of acquirer-target-pairing literature that stresses the effect of information frictions on M&A matching patterns, such as the studies on acquirers searching for ideal targets [47–51] and those underscoring the pre-announcement auction processes through which targets locate the highest bidders [52–55]. Specifically, the literature argues that lower information frictions could ease M&A pairings and increase synergies and premiums [49,50] and lead to higher cash payment preference and higher M&A success [51]. As such, CSR might enhance acquisition price/premium and success rate and affect payment preference through the channel of reducing information frictions,

because the high CSR of targets as an intangible asset conveys both explicit and implicit information [21] to reduce information frictions.

In addition to the information/search view, the results reported in this article could also be explained by the agency concerns view which emphasizes the agency problems between the M&A counterparties. In terms of the CSR literature [10,20–22,32], high-CSR targets would allay the acquirers' concerns of the agency problems, thus, increasing M&A valuation, M&A success and the likelihood of cash payment. Analogously, the high CSR of acquirers helps dispel the targets' CSR relevant concerns, which boosts M&A success and equity payment.

CSR may also affect M&A valuation, payment, and success rate through the risk mitigation channel in that CSR could generate synergy and firm value through lowering varied corporate risks, as per the risk mitigation function of CSR documented in prior studies [33,42].

5. Conclusions and Future Work

By scrutinizing the acquisitions in the Chinese market from 2007 through 2018, in this paper, we discover the following: (i) Acquiring companies are likely to pay higher acquisition prices and acquisition premiums for socially responsible target companies, especially when the acquiring companies also enjoy high-CSR performance. (ii) Acquiring companies are inclined to pay in cash for relatively high-CSR targets and in shares for relatively low-CSR targets, while the payment preference of the target companies is the opposite. (iii) The social performance of both counterparties helps improve M&A success rate. (iv) The value of CSR reflected in Chinese M&A transactions essentially boils down to social activities targeting suppliers, customers, creditors, and natural environment.

Moderation effects of economic development level and company nature are further examined. The results demonstrate the following: (i) M&A deals are more highly valued in developed regions, and the role of CSR in increasing acquisition valuation is enhanced when the acquiring companies are socially responsible; (ii) company nature (state-run or private) does not affect M&A pricing and the role of CSR in promoting M&A price/premium. The major findings are robust, due to a higher level of winsorization, using alternative CSR data sources, and addressing endogeneity using 2SLS methods constructed with three instrument variables. The finding of this paper are of vital significance for understanding how CSR, as an important intangible asset, is evaluated by both counterparties in M&A deals and for improving M&A pricing by factoring the CSR element into M&A valuation models.

Several limitations of our study offer directions for future research, which include the following: (i) extending the research from scrutinizing the M&A deals in China's market to examining a variety of global markets so as to test the value of CSR in acquisitions from an international perspective; (ii) further probing more channels or mechanisms through which CSR affects acquisition premium, payment mode, and success rate; (iii) examining the value of CSR with respect to M&A risk and M&A risk-adjusted performance.

Author Contributions: Conceptualization, C.H.; Data curation, K.Z.; Formal analysis, K.L. and K.Z.; Funding acquisition, K.L.; Investigation, K.Z.; Methodology, C.H.; Project administration, C.H.; Resources, K.L.; Software, K.Z.; Supervision, C.H.; Validation, K.L.; Writing—original draft, C.H.; Writing—review & editing, C.H. and W.D. All authors have read and agreed to the published version of the manuscript.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data available on request.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Variable Definition.

Symbol	Name	Definition
Price	M&A price	Log of the price paid by the buyer
Premium	M&A premium	Log of the ratio of price paid by the buyer to book value
Pay type	M&A payment method	Dummy variable eqaul 1 if paid in cash and 0 if paid in shares
Success	M&A success/failure	Dummy variable eqaul 1 for a successful M&A and 0 otherwise
CSR pca	Corporate social responsibility	Corporate social responsibility score calculated using PCA method normalized by the highest value of the year. The higher score, the better CSR performance
ROE	Return on equity	Net profit/equity
Size	Corporate size	Log of year-end total assets
Leverage	Asset liability ratio	Total liabilities/total assets
Top1	Ownership concentration	Number of shares held by the largest shareholder/total shares
Tat	Total assets turnover	Net operating income/average total assets
Relevance	Related party transaction	Dummy variable equal 1 for a related party transaction and 0 otherwise
SOE	Corporate attribute	Dummy variable equal 1 for state-owned company in the M&A year and 0 otherwise
BTM	Book to market ratio	Owner's equity/market value

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