



Corporate social responsibility and stakeholder value maximization: Evidence from mergers[☆]



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ABSTRACT

Using a large sample of mergers in the US, we examine whether corporate social responsibility (CSR) creates value for acquiring firms' shareholders. We find that compared with low CSR acquirers, high CSR acquirers realize higher merger announcement returns, higher announcement returns on the value-weighted portfolio of the acquirer and the target, and larger increases in post-merger long-term operating performance. They also realize positive long-term stock returns, suggesting that the market does not fully value the benefits of CSR immediately. In addition, we find that mergers by high CSR acquirers take less time to complete and are less likely to fail than mergers by low CSR acquirers. These results suggest that acquirers' social performance is an important determinant of merger performance and the probability of its completion, and they support the stakeholder value maximization view of stakeholder theory.

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1. Introduction

Corporate social responsibility (CSR) has become an important part of US firms' operation over the past decade. Many US firms have increased their investment in CSR either voluntarily as part of their strategy and vision or as a result of pressure from activist shareholders. Many firms also publish annual CSR reports that provide detailed information about their CSR activities and achievements or devote large sections of their annual reports to a description of their CSR activities. For example, according

to CorporateRegister.com, more than three hundred US firms published annual CSR reports in 2007. Reflecting the importance of CSR in US firms' operation, socially responsible investing (SRI) has also become an increasingly important investment vehicle in the US. According to the 2010 report published by Social Investment Forum, the amount invested in SRI funds was \$3.07 trillion in 2009, up from \$2.16 trillion in 2003.

In spite of the growing importance of CSR investment to firms' operation, the question of why managers invest in CSR activity (i.e., to maximize shareholder wealth or help stakeholders at the expense of shareholders) is subject to much debate, especially given the mixed evidence on the relations between CSR and firm performance and between CSR and the profitability of SRI funds.¹

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¹ For studies that examine the relation between CSR and firm performance (shareholder value), see, for example, Vance (1975), Cochran and Wood (1984), Aupperle, Carroll, and Hatfield (1985),

In this study, we use a large sample of US mergers to shed light on this debate. We focus on mergers for two reasons. First, as one of the most important corporate investment decisions, mergers can have a significant effect on the wealth of shareholders. Moreover, the merger approval process is frequently subject to a range of challenges as well as support from various stakeholders who have a significant impact on the eventual outcome of a merger and play an important role in the post-merger integration process. Therefore, mergers serve as an important event to examine the impact of CSR on shareholder wealth.²

Second, mergers are largely unanticipated events and thus using merger announcement returns in the analysis can potentially mitigate the reverse causality problem present in previous studies on the relation between CSR and firm value (Waddock and Graves, 1997; Teoh, Welch, and Wazzan, 1999; McWilliams and Siegel, 2000; Jiao, 2010). For example, firms with good performance could invest more in CSR, so that firms with high CSR show high Tobin's *q* or good accounting performance (McGuire, Sundgren, and Schneeweis, 1988). This concern is partially alleviated by using abnormal announcement returns associated with unexpected events such as mergers.

Two opposing views on CSR have been proposed, namely, the stakeholder value maximization view and the shareholder expense view. According to the stakeholder value maximization view, CSR activities have a positive effect on shareholder wealth because focusing on the interests of other stakeholders increases their willingness to support a firm's operation, which increases shareholder wealth. This view is in line with contract theory and the theory of the firm advanced by Coase (1937) and expanded by Alchian and Demsetz (1972), Jensen and Meckling (1976), Cornell and Shapiro (1987), and Hill and Jones (1992), among others. These theories view a firm as a nexus of contracts between shareholders and other stakeholders in which each group of stakeholders supplies the firm with critical resources or effort in exchange for claims outlined in explicit contracts (e.g., wage contracts and product warranties) or suggested in

implicit contracts (e.g., promises of job security to employees and continued service to customers). Unlike explicit contracts, implicit contracts are nebulous and have little legal standing. Firms can default on their implicit commitment without legal recourse from other stakeholders. As such, the value of implicit contracts depends on other stakeholders' expectations about a firm honoring its commitments (Cornell and Shapiro, 1987). Because firms that invest more in CSR (high CSR firms) tend to have a stronger reputation for keeping their commitments associated with the implicit contracts, stakeholders of these firms are likely to have stronger incentives to contribute resources and effort to the firm and accept less favorable explicit contracts than stakeholders of low CSR firms. Thus, these theories suggest that the interests of shareholders and other stakeholders in high CSR firms are in greater alignment than those of shareholders and other stakeholders in low CSR firms and, hence, they are more likely to contribute to firms' long-term profitability and efficiency (Jensen, 2001; Jawahar and McLaughlin, 2001; Freeman, Wicks, and Parmar, 2004).

Mergers are likely to unsettle key stakeholders in a firm because they put the continuity of existing long-term relations between the firm and its stakeholders at stake and sometimes force stakeholders to renegotiate their contracts with the new combined firm. Thus, a firm's reputation for fulfilling its implicit contracts with relevant stakeholders and maintaining continued relations with them are crucial to a merger's success, suggesting that mergers are an important channel through which CSR can have a significant effect on shareholder wealth. Consistent with this view, the McKinsey report (Bekier, Bogardus, and Oldham, 2001) shows that, during a merger's transition period, key employees or customers could leave if the management team fails to effectively handle stakeholder relations. As a result, the combined firm could suffer a reduction in firm value.³ To the extent that high CSR acquirers undertake mergers that benefit firm stakeholders, their mergers are likely to lead to greater stakeholder satisfaction than mergers by low CSR acquirers and, thus, their shareholders benefit more from the mergers.

The stakeholder value maximization view has three testable predictions. First, compared with low CSR acquirers, high CSR acquirers realize higher merger announcement returns and higher announcement returns on the value-weighted portfolio of the acquirer and the target. In addition, to the extent that positive announcement returns reflect the improvement in future operating performance, mergers by high CSR acquirers are expected to lead to better post-merger operating performance of the combined firms than those by low CSR acquirers.

Second, because CSR investments are likely to increase firms' intangible assets, the value of CSR might not be fully incorporated into the stock price around the merger

(footnote continued)

Posnikoff (1997), Waddock and Graves (1997), Wright and Ferris (1997), McWilliams, Siegel, and Teoh (1999), Teoh, Welch, and Wazzan (1999), McWilliams and Siegel (2000), Margolis and Walsh (2001), Lev, Petrovits, and Radhakrishnan (2008), and Jiao (2010). These studies find mixed evidence on the effect of social performance on shareholder wealth. In addition, Statman (2000), Bauer, Koedijk, and Otten (2005), Kreander, Gray, Power, and Sinclair (2005), and Brammer, Brooks, and Pavelin (2006) examine the profitability of SRI funds and find that the risk-adjusted returns of SRI funds do not outperform those of conventional funds. Hong and Kacperczyk (2009) further show that sin stocks (i.e., stocks of companies involved in alcohol, tobacco, or gambling) have higher expected returns than comparable stocks. See Renneboog, Horst, and Zhang (2008) for a review of the SRI literature.

² Mergers happen when two firms agree to form a new combined firm instead of remaining separately operated. However, in acquisitions, the firm that sells its asset still exists as an independent legal entity. This difference between mergers and acquisitions suggests that a range of challenges as well as support from various stakeholders can be different between these two types of events. As such, we do not include acquisitions in our analysis. We explain the rationale for excluding acquisitions in detail in Subsection 2.2.

³ Reports by A.T. Kearney (Kearney, 1999), KPMG (Kelly, Cook, and Spitzer, 1999), Booz Allen Hamilton (Adolph, Buchanan, Hornery, Jackson, Jones, Kihlstedt, Neilson, and Quarls, 2001), and the Conference Board (Dell, Hexter, and Wesman, 2001, pp. 12–13) further show that continued customer service and talent retention are important to the success of a merger.

announcement date but is reflected in improved merger performance over time. Therefore, high CSR acquirers are expected to experience higher post-merger long-term stock returns than low CSR acquirers. In line with this argument, [Edmans \(2011, 2012\)](#) shows that firms with high employee satisfaction—one dimension of good social performance—realize long-term abnormal stock returns.

Third, given that high CSR acquirers are less likely to breach their implicit contracts with stakeholders, mergers by these acquirers are likely to receive more support from stakeholders. Consequently, mergers by high CSR acquirers are predicted to take less time to complete and are less likely to fail than those by low CSR acquirers.⁴ Moreover, many US states have enacted constituency statutes, also called stakeholder statutes, which allow target directors to reject the merger offer if they believe that it would have a negative effect on non-shareholder stakeholders.

In contrast to the stakeholder value maximization view, the shareholder expense view suggests that managers engage in socially responsible activities to help other stakeholders at the expense of shareholders ([New York Times Magazine, 1970](#); [Vance, 1975](#); [Friedman, 1998](#); [Pagano and Volpin, 2005](#); [Surroca and Tribo, 2008](#); [Cronqvist, Heyman, Nilsson, Svaleryd, and Vlachos, 2009](#)).⁵ For example, if firms adopt pollution control standards that are too stringent compared with those implemented by competitors, these standards can put the firms at a competitive disadvantage by forcing them to spend too many resources on nonproductive CSR projects, thereby reducing firms' profitability and shareholder wealth. In this case, benefits that other stakeholders obtain from CSR activities come at the expense of shareholder wealth, resulting in a wealth transfer from shareholders to other stakeholders. As such, the predictions of the shareholder expense view are exactly opposite to those of the stakeholder value maximization view. Specifically, it predicts that compared with low CSR acquirers, high CSR acquirers realize lower merger announcement returns, lower announcement returns on the value-weighted portfolio of the acquirer and the target, and larger decreases in post-merger operating performance and long-run stock return. This view also predicts that mergers proposed by high CSR acquirers are more likely to fail and take more time to complete. Because shareholders have the power to veto a merger deal, if firms propose mergers that help other stakeholders

at the expense of shareholders, then shareholders can vote against the merger proposals and, hence, block or delay the completion.

To distinguish between these two competing views, we exploit a firm-level measure of CSR performance. We obtain data on a firm's CSR performance from the KLD Research & Analytics, Inc. (KLD) STATS database. This database provides extensive information about firms' CSR performance ratings and is the most extensive database available for evaluating a firm's CSR activity. Using this database, we create an adjusted CSR score to measure firm CSR performance.

In investigating the relation between a firm's CSR activity and merger outcome variables, we explicitly address the potential endogeneity problems using two-stage least squares (2SLS) regressions in which we employ religion rank (religion ranking of the state in which the bidder's headquarters is located) and a blue state dummy (indicator that equals one if a firm's headquarters is located in a blue or Democratic state and zero otherwise) as instrumental variables. In [Subsection 2.3](#) we discuss how these two instrumental variables satisfy both the relevance requirement and the exclusion condition of instrumental variables.

In addition, to ensure that the CSR measure we use in our study does not proxy for other known factors that affect merger performance, we include several control variables in the regressions. In particular, we include controls that measure the extent of acquiring firms' product market competition ([Hart, 1983](#); [Nickell, 1996](#); [Simmons and Becker-Olsen, 2006](#)), corporate governance ([Byrd and Hickman, 1992](#); [Masulis, Wang, and Xie, 2007](#)), and managerial incentives ([Edmans, Gabaix, and Landier, 2009](#)).

Using a sample of 1,556 completed US mergers in which acquiring firms' KLD ratings are available from 1992 to 2007, we find strong evidence that acquirers' CSR performance ratings have a significant positive effect on their announcement stock returns, the announcement returns on the value-weighted portfolio of the acquirer and the target, and post-merger operating performance and long-term stock returns. Further, we find that mergers by high CSR acquirers take less time to complete and are less likely to fail than mergers by low CSR acquirers. These results are consistent with the stakeholder value maximization view, but inconsistent with the shareholder expense view.

Given our strong evidence in support of the stakeholder value maximization view, we test the robustness of the results by performing an out-of-sample analysis using US firms in the FTSE4Good Index between 2001 and 2011. Our results are robust to using this alternative measure of a firm's social performance.

In addition, we find a significant positive impact of acquirers' social performance on the wealth of other stakeholders (i.e., targets' customers and suppliers, and acquirers' bondholders) around merger announcements. We also find that merged firms' employees tend to be laid off less in mergers by high CSR acquirers than in mergers by low CSR acquirers. Overall, these results strongly suggest that high CSR acquirers undertake deals that

⁴ To illustrate the importance of stakeholders' support in mergers, consider the case of Krupp-Hoesch. In 1997, the German steel producer Krupp attempted to take over Thyssen. Thyssen's employees and local community, however, protested and lobbied against the takeover. The regional government also used political pressure to block the deal. As a result, Krupp withdrew its bid and only managed to successfully acquire Thyssen in a second attempt in 1999.

⁵ The type of agency problem we examine in this paper is different from the classic agency problem that arises from managers' rent-seeking activities, which take place at the expense of all stakeholders including both shareholders and other stakeholders. For example, managers could use corporate resources earmarked for CSR to advance their careers, develop entrenchment strategies, or promote their personal interests at the expense of all stakeholders. We do not consider this type of agency problem in our analysis because it has been extensively examined in previous studies (e.g., [Morck, Shleifer, and Vishny, 1990](#)).

benefit other stakeholders, further supporting the stakeholder value maximization view.

Finally, we examine several alternative arguments that could explain our results. For example, high CSR firms are clustered in specific industries that are systematically different from industries in which low CSR firms are clustered and, thus, our results could simply reflect industry effects (Mitchell and Mulherin, 1996; Harford, 2005). It is also possible that high CSR firms acquire high CSR targets, in which case the acquirer social performance measure used in our analysis captures target social performance effects. Alternatively, our results could simply reflect the effects of corporate governance and agency cost components of CSR measures on shareholder wealth. Yet another possibility is that firms invest in CSR activities as a result of pressure from activist shareholders. We test these alternative explanations and find little evidence to support them.

Our study contributes to the ongoing debate about the impact of CSR on shareholder wealth in several ways. First, our study is the first large-scale study to examine the impact of US acquirers' CSR on investment quality and post-merger long-term performance. Although Aktas, Bodt, and Cousin (2011) also examine the impact of CSR on merger announcement returns, their analysis focuses on the effect of target CSR on acquirer shareholder wealth for a small sample of 106 international mergers and acquisitions. They find a positive relation between the target social performance and acquirer returns. To our knowledge, no study to date has investigated how acquiring firms' past social performance affects the wealth of their shareholders and other stakeholders and their long-term post-merger performance.

Second, our study complements previous literature on the market for corporate control by showing that acquirers' social performance is an important determinant of merger returns and the likelihood of merger completion. We show that high CSR acquirers effectively reduce the conflicts of interest between shareholders and other stakeholders by improving the welfare of both parties, and as a result the integration of the acquirer and the target is accelerated during the pre-merger negotiation and post-merger adjustment periods.

Third, while previous papers typically examine the correlation between a firm's social performance and its value, our study tries to investigate their causal link by explicitly controlling for potential biases associated with the endogenous nature of social performance, thereby identifying a clear channel through which CSR contributes to shareholder wealth. In this regard, our study falls within a new line of research that examines the causality between social performance and firm value.⁶

The paper proceeds as follows. Section 2 describes the data, provides summary statistics for the variables of interest, and outlines the empirical methodology. In

Section 3, we discuss our main empirical results. In Section 4, we report the results from robustness tests. Section 5 summarizes and concludes the paper.

2. Data, summary statistics, and empirical methodology

In this section, we discuss the variables, data, and sample characteristics. We also outline our empirical methodology used to address the endogeneity problems.

2.1. Measures of a firm's CSR and other variables

We measure a firm's social performance using a score that reflects the extent of the firm's involvement in CSR activity. We construct this measure based on the KLD database, which has been extensively used in prior CSR literature (Jiao, 2010; Lev, Petrovits, and Radhakrishnan, 2008; Waddock and Graves, 1997). The KLD database covers approximately 650 companies that comprise the Domini 400 Social SM Index and the Standard & Poor's (S&P) 500 since 1991 and more than three thousand firms that comprise the Russell 3000 since 2003.⁷

Based on a wide variety of sources, including company filings, government data, nongovernmental organization data, and more than 14 thousand global media sources, KLD evaluates firms' social performance along seven major dimensions: community, corporate governance, diversity, employee relations, environment, human rights, and product quality and safety. Each dimension is associated with positive (i.e., strength) and negative (i.e., concern) indicators. If the firm conducts a good deed (a harm) listed as a strength (concern) indicator, it gains (loses) one point. The raw KLD CSR score is the sum of seven major dimension scores based on approximately 80 strength and concern indicators, with a higher value indicating better social performance. This simple summation approach has a drawback, however. Comparing scores across years and dimensions is not possible because the number of strength and concern indicators for most dimensions varies considerably each year (Manescu, 2009). To overcome this issue, we construct another CSR measure by dividing the strength and concern scores for each dimension by the respective number of strength and concern indicators to derive adjusted strength and concern scores for that dimension and then taking the difference between the adjusted total strength score and the adjusted total concern score (adjusted CSR score).⁸ The adjusted CSR score thus gives equal weight to the seven dimensions, not to the individual indicators, mitigating any bias caused by an indicator on the social performance of firms in relatively

⁷ In untabulated tests, we also conduct the empirical tests using a sample that consists of only S&P 500 firms. Our results are largely unchanged.

⁸ For example, suppose that in 2004 the summations of the KLD strength indicators across the seven dimensions are 0, 1, 1, 2, 1, 0, and 1 and the numbers of strength indicators across the seven dimensions are 4, 3, 3, 5, 7, 4, and 4. According to our definition, the adjusted total strength score for the firm is equal to $0/4+1/3+1/3+2/5+1/7+0/4+1/4=1.45$. If the adjusted total concern is 1.25, which is calculated in the same way as the adjusted total strength score, then the adjusted CSR score is $1.45-1.25=0.2$.

⁶ For example, Ioannou and Serafeim (2010) and Cheng, Ioannou, and Serafeim (2013) use the instrumental variable approach to control for potential endogeneity problems. Edmans (2011, 2012) use future stock returns and unexpected earnings surprises to address the potential reverse causality problem.

irrelevant industries.⁹ We use this adjusted CSR score as our main measure of a firm's social performance. In untabulated tests, we find that the results using raw CSR scores are qualitatively similar to those using adjusted CSR scores.

In examining the effect of a firm's CSR on merger announcement returns, we follow Masulis, Wang, and Xie (2007) and include as control variables acquirer-specific characteristics (firm size, leverage, free cash flow, Tobin's q, and previous market-adjusted returns) and deal-specific characteristics (relative deal size, industry mergers and acquisitions (M&A), hostile dummy, high tech dummy, diversifying merger dummy, public target dummy, private target dummy, and all-cash deal and stock deal dummies). Table A1 contains definitions for these control variables. Controlling for Tobin's q and previous market-adjusted returns in the regression ensures that our results are not driven by management quality (Lang, Stulz, and Walkling, 1989). For example, it is possible that high-quality managers treat their stakeholders fairly because they have strong incentives to increase firm value by increasing stakeholder motivation, resulting in a spurious correlation between adjusted CSR and merger returns.

In addition, to rule out alternative explanations for the impact of an acquirer's adjusted CSR on merger performance, we control for three variables: a competitive industry dummy, G-index, and scaled wealth-performance sensitivity in the regressions. For example, as an effective marketing strategy, firms in competitive industries might want to focus more on CSR activities (Simmons and Becker-Olsen, 2006). Therefore, the CSR score could simply capture the extent of product market competition that incentivizes managers to be more efficient (Hart, 1983; Nickell, 1996) and, as a result, firms in more competitive industries engage in more value-increasing mergers. We control for this effect by including Herfindahl Index, which is computed as the sum of squared market shares of all Compustat firms in the industry multiplied by one hundred.

Alternatively, to the extent that well-governed firms make more profitable mergers, our results could be due to the quality of a firm's corporate governance, not necessarily its social performance (Byrd and Hickman, 1992; Masulis, Wang, and Xie, 2007). We use the G-index constructed by Gompers, Ishii, and Metrick (2003) to measure a firm's corporate governance.¹⁰

Finally, our results could be driven by the effectiveness of acquirers' compensation system (i.e., managerial incentives) instead of by their social performance. Morck, Shleifer, and Vishny (1990) and Datta, Iskandar-Datta, and Raman (2001) show that firms with better-designed compensation schemes make better merger decisions because managers whose interests are more aligned to those of shareholders undertake better mergers. We control for the effect of managerial incentives on merger performance by including the scaled wealth-performance sensitivity (Edmans, Gabaix, and Landier, 2009), which is the dollar change in chief executive officer (CEO) wealth for a 1 percentage point change in firm value, scaled by CEO annual pay. The change in CEO wealth is calculated based on the CEO's entire portfolio of stock and options. Prior to 2006, the option deltas are calculated using the methodology of Core and Guay (2002).

2.2. Sample selection and summary statistics

Our sample consists of US mergers between 1992 and 2007. The initial sample of mergers comes from Thomson Financial's Securities Data Company (SDC) Platinum database. Our final sample includes all completed mergers that meet the following five selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) the acquirer holds less than 50% of the target's shares before the announcement and the combination of business between the acquirer and the target takes place after the completion of the transaction, (3) the acquirer is publicly traded and has stock return and financial data available from the Center for Research in Security Prices (CRSP) and Compustat, respectively, (4) the acquirer is in the KLD database, and (5) the acquirer is not in the financial or utilities industries (i.e., firms with primary Standard Industrial Classification (SIC) codes between 6000 and 6999 or between 4900 and 4999).¹¹ These restrictions result in a final sample of 1,556 successful mergers made by 801 firms.

We do not include acquisition events (e.g., purchases of assets such as plants, divisions, or subsidiaries from the targets) in our analyses because unlike a merger in which the acquirer and the target merge to form a new combined firm, in an acquisition the target that sells its assets to the acquirer still exists as an independent legal entity after the transaction. Because both the acquirer and the target that sells its subsidiaries or assets still independently operate after the acquisition, it is highly likely that target stakeholders in the acquisition might not need to renegotiate their contracts with the acquiring (or combined) firm. This difference in the need for implicit and explicit contracts renegotiation between mergers and acquisitions suggests that, unlike in merger cases, the effects of acquirer social performance on stakeholders' willingness to support the transactions and target stakeholder wealth are not clear in acquisition cases. Thus, including acquisition events in our study makes it difficult to draw unbiased conclusions from the results. Moreover, in most acquisition cases, financial

⁹ In addition, KLD provides concern ratings regarding six controversial business issues: alcohol, gambling, tobacco, firearms, military, and nuclear power. We do not include these additional concern ratings when constructing the CSR measure. In untabulated tests, we recalculate the CSR measure by including the scores on these six additional dimensions and repeat all analyses in the paper. Our main results do not change. As an alternative test, we exclude firms that are subject to these additional ratings from the analyses and obtain results that are qualitatively similar to those reported in the paper.

¹⁰ In untabulated tests, we replace G-index with other governance measures, such as institutional ownership, managerial ownership, the proportion of independent directors on the board, and a dual class shares dummy, and reestimate Regression 2 of Table 3. The coefficient estimate on adjusted CSR is still positive and significant at the 5% level.

¹¹ As a robustness test, we include the deals whose values are smaller than \$1 million. We find that our results generally do not change.

data and stakeholder information are not available for targets' assets or subsidiaries, which prevents us from performing many important tests reported in the paper. In [Subsection 4.5](#) we examine how our results are affected when we include acquisition events in our analyses.

In Panel A of [Table 1](#), we present the distribution of our sample mergers according to acquirer industry and year.

The number of mergers in each year increases more or less monotonically until the end of the 1990s. It then decreases significantly before rebounding in 2004. Most of the acquirers are in manufacturing (57.2%), services (24.6%), and transportation and communication (7.3%).

Panel B of [Table 1](#) presents summary statistics for our sample acquirers classified according to the sample

Table 1

Sample distribution and summary statistics.

The sample consists of 1,556 completed US mergers between 1992 and 2007. We obtain the initial sample of mergers from Thomson Financial's Securities Data Company (SDC) Platinum database. Our final sample includes all completed mergers subject to the following selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) the acquirer controls less than 50% of the target's shares prior to the announcement and owns 100% of the target's shares after the transaction, (3) the acquirer is publicly traded and has stock return and financial data available from Center for Research in Security Prices (CRSP) and Compustat, respectively, (4) the acquirer is covered by the KLD Research & Analytics, Inc. STATS database, and (5) the acquirer is not in the financial or utilities industries. In Panel B, firms are divided into high and low adjusted corporate social responsibility (CSR) firms according to the sample median of adjusted CSR. All variables are defined in Table A1. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively. SIC: Standard industrial classification.

Panel A: Sample distribution by year and industry

Year	Acquirer industry (first two digits of the SIC code)						Total
	Agriculture, forestry, and fisheries (01–09)	Mineral industries and construction (10–17)	Manufacturing (20–39)	Transportation and communications (40–49)	Wholesale trade and retail trade (50–59)	Service industries (70–89)	
1992	0	1	17	5	5	4	32
1993	0	1	19	3	1	7	31
1994	0	2	30	6	3	9	50
1995	0	1	33	5	2	7	48
1996	0	3	46	2	6	17	74
1997	0	3	45	7	4	6	65
1998	0	3	53	6	9	8	79
1999	0	3	75	20	7	17	122
2000	0	3	74	8	4	7	96
2001	0	7	40	2	3	15	67
2002	0	5	42	2	4	30	83
2003	0	2	40	1	5	29	77
2004	0	8	98	4	6	56	172
2005	0	10	101	13	18	73	215
2006	0	12	86	16	8	47	169
2007	0	10	91	14	11	50	176
Total	0	74	890	114	96	382	1,556

Panel B: Summary statistics

Variable	Full sample (N=1,556)		Subsample of high adjusted CSR: A (N=786)		Subsample of low adjusted CSR: B (N=770)		Test of difference (A-B)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Adjusted CSR	−0.112	−0.083	0.262	0.143	−0.495	−0.408	0.757***	0.551***
Raw CSR	0.266	0.000	2.037	1.000	−1.542	−1.000	3.578***	2.000***
Herfindahl Index	5.194	4.219	4.811	4.201	5.584	4.316	−0.773***	−0.115***
G-index	9.255	9.000	9.024	9.000	9.512	9.000	−0.487***	0.000***
Scaled wealth-performance sensitivity	61.400	8.647	71.420	9.379	50.950	7.969	20.470	1.410***
Total asset (millions of dollars)	9,195.42	2,665.16	9,865.76	2,774.73	8,511.16	2,568.23	1,354.60	206.50
Tobin's q	2.893	2.064	3.296	2.274	2.483	1.906	0.813***	0.368***
Leverage	0.108	0.080	0.095	0.066	0.122	0.100	−0.027***	−0.034***
Free cash flow	0.056	0.058	0.066	0.064	0.046	0.053	0.020***	0.012***
Previous market-adjusted return	0.094	0.035	0.102	0.035	0.086	0.032	0.016	0.003
Relative deal size	0.184	0.055	0.150	0.043	0.218	0.072	−0.068***	−0.029***
Industry M&A	0.040	0.030	0.038	0.030	0.043	0.030	−0.005***	0.000
Hostile (dummy)	0.012	0.000	0.009	0.000	0.014	0.000	−0.005	0.000
High tech (dummy)	0.308	0.000	0.375	0.000	0.239	0.000	0.136***	0.000***
Diversifying merger (dummy)	0.667	1.000	0.702	1.000	0.631	1.000	0.071***	0.000***
Public target (dummy)	0.531	1.000	0.503	1.000	0.561	1.000	−0.058**	0.000**
Private target (dummy)	0.372	0.000	0.392	0.000	0.352	0.000	0.040	0.000*
Stock deal (dummy)	0.440	0.000	0.436	0.000	0.444	0.000	−0.008	0.000
All-cash deal (dummy)	0.363	0.000	0.355	0.000	0.371	0.000	−0.016	0.000

median of the adjusted CSR score. Several features are worth noting. Firms with high CSR scores have significantly higher Tobin's q and free cash flow than firms with low CSR scores, suggesting that firms with strong performance are more active in their CSR activities (McGuire, Sundgren, and Schneeweis, 1988; Jiao, 2010). Compared with firms with low CSR scores, those with high CSR scores have higher scaled wealth-performance sensitivity of CEO compensation (Edmans, Gabaix, and Landier, 2009), are better governed (i.e., low G-index), operate in more competitive industries, and maintain lower leverage. As for deal characteristics, we find that compared with firms with low CSR scores, firms with high CSR scores prefer to acquire smaller targets, targets in high-tech industries, targets whose industries are different from theirs, and privately held targets.

2.3. Methodology

Although using an extensive list of control variables that are discussed in Subsection 2.1 helps to reduce omitted variables bias in estimating the relation between a firm's CSR performance and merger outcome variables, the results from the regression could still suffer from endogeneity bias caused by unobservable omitted variables. For example, firms with a high-quality management team could be the same firms that undertake profitable mergers and, at the same time, invest more resources in CSR activities. It is also possible that if merger opportunities are predictable and managers believe that high CSR leads to better merger performance, then firms invest in their social reputation before merger announcements. In this case, higher merger announcement returns could simply reflect investments in a firm's social image.¹²

To explicitly address these potential endogeneity problems, we perform 2SLS regression analyses using religion rank and a blue state dummy as instrumental variables for the CSR score. Religion rank measures the religion ranking of the state in which the acquirer's headquarters is located, which ranges between 1 and 50. The ranking is based on the ratio of the number of religious adherents in the acquirer's state to the total population in that state in 2000.¹³ A higher ranking indicates more religiosity. Angelidis and Ibrahim (2004) find that the degree of religiousness is positively correlated with attitudes toward CSR. This finding suggests that the religion rank variable is likely to be positively correlated with a firm's CSR, thus satisfying the relevance requirement of instrumental variables. However, to the extent that the construction of the religion rank variable is based on the state in which a firm

is located, it is unlikely that this variable has a significant effect on the firm's merger performance, satisfying the exclusion condition of instrumental variables.

Blue state is a dummy variable that equals one if a firm's headquarters is located in a blue or Democratic state and zero otherwise.¹⁴ Rubin (2008) finds that firms with high CSR ratings tend to be located in Democratic or blue states. We, therefore, expect this dummy variable to be highly correlated with our sample firms' social responsibility. There is no reason to believe, however, that the choice of locating in a blue or red state (Republican) could have a direct significant effect on merger performance except via its effect on social performance.¹⁵

To provide additional support for our choice of instruments, in each of the 2SLS regressions we perform the following two tests: (1) a Cragg and Donald (1993) instrument relevance test to confirm the relevance of the instrumental variables (i.e., high correlations between the instrumental variables and adjusted CSR) and (2) a Sargan (1958) overidentification test to examine the exogeneity of the instrumental variables (i.e., no significant correlations between the instrumental variables and the error terms in the merger performance regressions).¹⁶

3. Empirical results

In this section, we provide results for merger announcement returns, long-term operating performance, long-term post-merger stock returns, and the likelihood and duration of deal completion.

¹⁴ The list of blue states is obtained from http://en.wikipedia.org/wiki/File:Red_state_and_blue_state.svg and <http://azpundit.com/list-of-the-most-democratic-republican-states/>. The state is considered a blue state if it is listed as a blue state in both websites. In untabulated tests, we redefine the blue state dummy in a certain year as an indicator that takes the value of one if a firm's headquarters is located in a state in which the Democratic Party wins both previous and next presidential elections of that year. We find that our results do not change. Our sample firms' headquarters are well distributed across states. We also find that about two-thirds of our sample firms (i.e., 1,083) are located in Democratic or blue states.

¹⁵ Firms with certain characteristics could choose to become high CSR firms. To check whether our results hold after controlling for this self-selection bias, in untabulated tests we follow the two-step procedure outlined in Heckman (1979) and correct for potential self-selection bias. Specifically, in the first stage, we estimate a probit regression in which the dependent variable (C_{it}) is equal to one if the firm's CSR is above the sample median and zero otherwise and the independent variables are the instrumental variables and control variables used in Tables 3 and 4. In the second stage, we estimate an ordinary least squares (OLS) regression of the acquirer CAR (value-weighted portfolio cumulative abnormal return (CAR) of the acquirer and the target) on C_{it} , the inverse Mills ratio (λ), and the control variables used in Tables 3 and 4. As λ corrects for self-selection bias, the coefficient on C_{it} is the key parameter of interest because it measures the pure effect of social performance. The results are similar to those using OLS and 2SLS regressions, indicating that self-selection bias is unlikely to affect our results.

¹⁶ No statistical way exists to establish the validity of an instrument (Roberts and Whited, 2013). If the results of overidentification tests using different subsets of instruments are the same, this could suggest that the instruments are equally valid, but this could also suggest that the instruments are equally invalid. The Sargan (1958) overidentification test examines the relative validity of instrumental variables versus each other, not their absolute validity. The results from our overidentification tests should, therefore, be interpreted with caution.

¹² The reverse causality problem present in previous studies on the relation between CSR and firm value (Waddock and Graves, 1997; Teoh, Welch, and Wazzan, 1999; McWilliams and Siegel, 2000; Jiao, 2010) is less of a concern in our study because mergers are largely unanticipated events.

¹³ The Association of Religion Data Archive provides information on religiosity every decade. We use 2000 data because it covers the middle of our sample period (1992–2007). As a robustness test, we recalculate religion ranks for the periods 1992–1999 and 2000–2007 as the average religion rank based on 1990 and 2000 data and the average religion rank based on 2000 and 2010 data, respectively. All our results hold except for Regressions 4 and 6 in Table 7.

3.1. Announcement effects

To test the two competing views of CSR, that is, the stakeholder value maximization view and the shareholder expense view, in this subsection we examine announcement returns for acquiring firms' shareholders and for value-weighted portfolios of the acquirer and the target. We measure abnormal returns by estimating the market model using two hundred trading days of return data ending 11 days before the merger announcement. The CRSP value-weighted return is used as a proxy for the market return. Daily abnormal stock returns are cumulated to obtain the cumulative abnormal return (CAR) from day t_1 before the merger announcement date to day t_2 after the merger announcement date.

3.1.1. Univariate tests

In Table 2, we report the CARs for the full sample of acquirers as well as the subsamples of high and low CSR acquirers. Acquirers are divided into high and low CSR acquirers according to the sample median of adjusted CSR. Panel A shows the CARs for the stockholders of the acquiring firms. The mean CAR (−1, 1), CAR (−2, 2), and CAR (−5, 5) for the full sample are negative, but only the mean CAR (−5, 5) is significant at the 5% level. The subsample results show that these negative returns are mostly driven by low CSR acquirers. The mean CAR (−1, 1) and CAR (−5, 5) for low CSR acquirers are negative and significant. In contrast, the respective CARs for high CSR acquirers are not significant and sometimes positive. The

median CARs show a similar pattern. The equality in mean CARs (−1, 1) between the high and low CSR subsamples is rejected at the 5% level.

Using acquirer market capitalizations ten days prior to the announcement date as the weight (Bradley, Desai, and Kim, 1988), we calculate the portfolio CARs of the acquirer and the target. The results are reported in Panel B. The mean and median portfolio CAR (−1, 1), CAR (−2, 2), and CAR (−5, 5) are significantly positive for the full sample as well as for the subsamples of mergers involving high and low CSR acquirers. However, the mean and median portfolio CAR (−1, 1) and CAR (−2, 2) for the subsample of mergers involving high CSR acquirers are larger than those for the subsample of mergers involving low CSR acquirers. The difference in mean portfolio CAR (−1, 1) between the two subsamples is significant at the 10% level.

Overall, the results in Table 2 show that compared with mergers by low CSR acquirers, those by high CSR acquirers lead to higher announcement returns for acquirer shareholders and for value-weighted portfolios of the acquirer and the target, supporting the stakeholder value maximization view.

3.1.2. Cross-sectional regression analysis

To better understand the cross-sectional variation in acquirer CARs, we present estimates from multivariate regressions using the CAR (−1, 1) as the dependent variable and adjusted CSR as a key independent variable. In addition to including control variables discussed in

Table 2

Cumulative abnormal returns (CARs) for acquirers and value-weighted portfolios of the acquirer and the target around merger announcement dates.

In Panel A, the sample consists of 1,556 completed US mergers between 1992 and 2007. We obtain the initial sample of mergers from Thomson Financial's Securities Data Company (SDC) Platinum database. Our final sample includes all completed mergers subject to the following selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) the acquirer controls less than 50% of the target's shares prior to the announcement and owns 100% of the target's shares after the transaction, (3) the acquirer is publicly traded and has stock return and financial data available from Center for Research in Security Prices (CRSP) and Compustat, respectively, (4) the acquirer is covered by the KLD Research & Analytics, Inc. STATS database, and (5) the acquirer is not in the financial or utilities industries. In Panels B, the sample consists of 668 completed mergers in which both acquirers and targets are publicly traded. Firms are divided into high and low adjusted corporate social responsibility (CSR) firms according to the sample median of adjusted CSR. The abnormal stock return is calculated using the market model. The market model parameters are estimated using two hundred trading days of return data ending 11 days before the merger announcement. The CRSP value-weighted return is used as a proxy for the market return. The daily abnormal stock returns are cumulated to obtain the cumulative abnormal return (CAR) from day t_1 before the merger announcement date to day t_2 after the merger announcement date. The value-weighted portfolio CARs are the market capitalization-weighted CARs of the acquirer and the target. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A: Acquirer CARs (percent)

CARs	Full sample (N=1,556)		Subsample of acquirers with high adjusted CSR: A (N=786)		Subsample of acquirers with low adjusted CSR: B (N=770)		Test of difference (A-B)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CAR (−1, 1)	−0.212	−0.092	0.058	0.023	−0.487**	−0.179**	0.546**	0.202
CAR (−2, 2)	−0.124	0.011	0.090	0.167	−0.343	−0.205	0.433	0.372*
CAR (−5, 5)	−0.445**	−0.395**	−0.222	−0.312	−0.674**	−0.678**	0.452	0.366

Panel B: Value-weighted portfolio CARs (percent) of the acquirer and the target

CARs	Full sample (N=668)		Subsample of acquirers with high adjusted CSR: A (N=335)		Subsample of acquirers with low adjusted CSR: B (N=333)		Test of difference (A-B)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CAR (−1, 1)	1.274***	0.927***	1.596***	0.936***	0.953***	0.912***	0.643*	0.024
CAR (−2, 2)	1.425***	1.111***	1.662***	1.274***	1.189***	1.041***	0.473	0.233
CAR (−5, 5)	1.356***	1.242***	1.399***	1.129***	1.314***	1.371***	0.085	−0.142

Subsection 2.1 in the regressions, we control for industry and year fixed effects.

The results are reported in Table 3. Columns 1 and 2 present the estimates from ordinary least squares (OLS) regressions. *T*-statistics reported in the table are calculated using standard errors adjusted for heteroskedasticity and acquirer clustering. We find that the coefficient estimates on an acquirer's adjusted CSR are positive and significant at the 5% level. Thus, even after controlling for various firm- and deal-specific characteristics, shareholders of high CSR acquirers realize higher returns than those of low CSR acquirers. This result is consistent with the stakeholder value maximization view.

In Columns 3 through 6, we report the results from the 2SLS regressions. Columns 3 and 4 reestimate the OLS regression in Column 1 using the 2SLS regression. The first-stage regression results are reported in Column 3, and the second-stage regression results are reported in Column 4. In Column 3, we use adjusted CSR as the dependent variable and the two instrumental variables discussed in Subsection 2.3, acquirer characteristics, and industry and year fixed effects as the independent variables. As expected, both instrumental variables (religion rank and blue state) have positive and significant coefficients. The *p*-value for the Cragg and Donald (1993) instrument relevance test is less than 0.001, rejecting the null hypothesis that the instruments are weak. This result confirms the relevance of our instrumental variables. In Column 4, we use the stock CAR (−1, 1) of the acquiring firms as the dependent variable and the predicted variable for adjusted CSR, acquirer- and deal-specific characteristics, and industry and year fixed effects as the independent variables. We find that the coefficient estimate on the predicted variable for adjusted CSR is positive and significant at the 5% level. The *p*-value of the test of overidentifying restrictions is 0.707, suggesting that our two instrumental variables pass the Sargan (1958) overidentification test.

Columns 5 and 6 reestimate the OLS regression in Column 2 using the 2SLS regression. We find that the coefficient estimates on the religion rank and blue state variables are again positive and significant (Column 5). The predicted variable for adjusted CSR also has a positive and significant coefficient (Column 6). Thus, our finding that shareholders of high CSR acquirers realize higher merger announcement returns than those of low CSR acquirers appears to be robust to controlling for endogeneity concerns.

Next, we estimate the regressions using the value-weighted portfolio CAR (−1, 1) of the acquirer and the target as the dependent variable. We include as control variables those used in the Table 3 regressions and various target characteristics (size, leverage, free cash flow, Tobin's *q*, and previous market-adjusted return). Because the regression analysis of portfolio CARs requires target stock price and financial data, our tests are conducted over a smaller sample of 668 mergers.

The results are reported in Table 4. If CSR facilitates the integration of acquirers and targets, then high CSR acquirers should be able to redeploy the combined assets of the merging firms more efficiently and as a result increase the combined shareholder wealth of the acquirer

and the target. Thus, the stakeholder value maximization view predicts the positive coefficient on adjusted CSR. Consistent with this view, we find that the coefficient estimates on adjusted CSR (Columns 1 and 2) and the predicted variable for adjusted CSR (Columns 4 and 6) are positive and significant. As in Table 3, the two instruments pass both the Cragg and Donald (1993) instrument relevance test and the Sargan (1958) overidentification test.

Overall, the regression results reported in Tables 3 and 4 confirm the univariate results reported in Table 2 and support the stakeholder value maximization view.

3.2. Long-term operating performance

In this subsection we provide further evidence supporting the stakeholder value maximization view by investigating the impact of an acquirer's CSR score on the long-term post-merger operating performance of the merged firm. Specifically, we first divide our sample of high and low CSR acquirers into two subgroups according to the sample median of their adjusted CSR. Following the approach of Healy, Palepu, and Ruback (1992), we then regress the difference in post-merger operating cash flow between the merged firm and the control firm on the difference in pre-merger operating cash flow between the merged firm and the control firm separately for each of these subgroups. The intercept of the regression measures the abnormal change in operating cash flow between the pre-merger and post-merger periods.

To select control firms, we use a propensity score matching approach (Heckman, Ichimura, and Todd, 1997, 1998). The control firms are selected by matching each acquirer in our sample with a nonacquirer that is in Compustat and KLD STATS in the merger announcement year using three different matching techniques: (1) nearest neighborhood, (2) Gaussian kernel, and (3) local linear regressions. The variables we use to match firms are adjusted CSR, firm size, leverage, market-to-book ratio, industry dummies (two-digit SIC code), and year dummies.¹⁷ The pre-merger and post-merger periods are the two years before and the two years after the merger. The merged firm's pre-merger operating cash flow is the total asset-weighted average operating cash flow of the acquirer and the target before the merger.

Table 5 reports results on the merged firms' post-merger changes in operating cash flow. In all three matching approaches, the constant of the regression in the high CSR acquirer subsample is not significantly

¹⁷ To ensure the quality of the matching, in an untabulated test we follow Smith and Todd (2005) and drop 2% of observations for which the propensity score density of the matched observations is the lowest. We find that our results do not change. In another test we further require the matching firms to be in the same industry (two-digit SIC code) as the acquiring firms in the merger announcement year. Using these acquiring and matching firms in the same industry and in the same year, we then calculate the propensity score for each firm by estimating the logit regression in which the independent variables are adjusted CSR, firm size, leverage, and market-to-book ratio, and we select the control firm that has the closest propensity score as the acquiring firm. The results remain the same. Using narrowly defined industry classifications for matching such as Fama and French (1997) 48 industries, four-digit SIC codes, and Hoberg and Phillips (2010) five hundred industry classifications yields qualitatively similar results.

Table 3

Regressions of cumulative abnormal return (–1, 1) for acquiring firms on explanatory variables.

The sample consists of 1,556 completed US mergers between 1992 and 2007. We obtain the initial sample of mergers from Thomson Financial's Securities Data Company (SDC) Platinum database. Our final sample includes all completed mergers subject to the following selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) the acquirer controls less than 50% of the target's shares prior to the announcement and owns 100% of the target's shares after the transaction, (3) the acquirer is publicly traded and has stock return and financial data available from Center for Research in Security Prices (CRSP) and Compustat, respectively, (4) the acquirer is covered by the KLD Research & Analytics, Inc. STATS database, and (5) the acquirer is not in the financial or utilities industries. The dependent variable in Models 1, 2, 4, and 6 is the cumulative abnormal return of the acquirer from one day before to one day after the merger announcement date. The abnormal return is calculated using the market model. The market model parameters are estimated using two hundred trading days of return data ending 11 days before the merger announcement. The CRSP value-weighted return is used as a proxy for the market return. The dependent variable in Models 3 and 5 is adjusted corporate social responsibility (CSR). The first instrumental variable, religion rank, measures the religion ranking of the state in which the acquirer's headquarters is located. The ranking is based on the ratio of the number of religious adherents in the acquirer's state to the total population in that state. The second instrumental variable, blue state, is a dummy that equals one if a firm's headquarters is located in a blue or Democratic state and zero otherwise. Two-digit standard industrial classification code dummies are used to control for industry fixed effects. The numbers in parentheses for ordinary least squares (OLS) and two-stage least squares (2SLS) regressions are *t*-statistics based on standard errors adjusted for heteroskedasticity and acquirer clustering and *t*-statistics, respectively. All variables are defined in Table A1. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Variable	OLS		2SLS			
	(1)	(2)	First stage (3)	Second stage (4)	First stage (5)	Second stage (6)
CSR measure						
Adjusted CSR	0.639** (2.50)	0.500** (2.01)		5.533** (2.03)		5.077** (2.13)
Instrumental variables						
Religion rank			0.003*** (2.85)		0.003** (2.32)	
Blue state (dummy)			0.082*** (2.65)		0.120*** (3.03)	
Product market competition						
Herfindahl Index		0.049 (0.92)			–0.001 (–0.14)	0.056 (0.74)
Corporate governance						
G-index		–0.023 (–0.39)			0.000 (0.07)	–0.019 (–0.28)
Acquirer managerial incentives						
Scaled wealth-performance sensitivity		–0.000 (–0.78)			–0.000 (–1.33)	–0.000 (–0.19)
Other acquirer characteristics						
Firm size	–0.187 (–1.64)	–0.172 (–1.42)	0.032*** (3.63)	–0.357** (–2.31)	0.053*** (4.57)	–0.426** (–2.24)
Leverage	3.837*** (2.05)	2.468 (1.26)	–0.057 (–0.41)	4.400** (2.45)	–0.100 (–0.52)	3.315 (1.54)
Free cash flow	–1.167 (–0.46)	1.383 (0.44)	0.141 (0.82)	–1.770 (–0.81)	0.340 (1.40)	–0.033 (–0.01)
Tobin's <i>q</i>	0.205** (2.16)	0.130 (1.35)	0.013* (1.88)	0.147 (1.60)	0.013 (1.53)	0.077 (0.79)
Previous market-adjusted return	0.240 (0.47)	–0.219 (–0.38)	–0.025 (–0.70)	0.348 (0.77)	–0.029 (–0.64)	–0.085 (–0.17)
Deal characteristics						
Relative deal size	–0.892 (–1.28)	–3.799*** (–4.71)		–0.902 (–1.55)		–3.718*** (–5.16)
Industry M&A	1.767 (0.41)	–1.209 (–0.27)		1.664 (0.38)		–1.497 (–0.33)
Hostile (dummy)	–0.586 (–0.54)	–0.308 (–0.28)		–0.732 (–0.50)		–0.507 (–0.36)
High tech (dummy)	–0.242 (–0.57)	–0.132 (–0.30)		–0.187 (–0.42)		–0.083 (–0.17)
Diversifying merger (dummy)	0.279 (0.80)	0.170 (0.47)		0.268 (0.76)		0.159 (0.42)
Public target (dummy)	–1.183** (–2.26)	–0.575 (–1.09)		–1.163** (–2.10)		–0.532 (–0.89)
Private target (dummy)	0.072 (0.14)	0.249 (0.46)		0.084 (0.15)		0.261 (0.42)
All-cash deal (dummy)	0.195 (0.47)	0.484 (1.11)		0.168 (0.37)		0.443 (0.91)
Stock deal (dummy)	–1.038** (–2.39)	–0.536 (–1.23)		–1.069** (–2.35)		–0.570 (–1.15)
Constant	1.803 (1.61)	1.287 (0.87)	–0.462 (–0.96)	0.347 (0.06)	–0.535 (–1.03)	2.033** (0.35)
Industry and year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Table 3 (continued)

Variable	OLS		2SLS			
	(1)	(2)	First stage (3)	Second stage (4)	First stage (5)	Second stage (6)
First-stage Cragg and Donald test			(p-value < 0.001)		(p-value < 0.001)	
Overidentification test				(p-value = 0.707)		(p-value = 0.301)
Sample size	1,556	1,206	1,556	1,556	1,206	1,206
Adjusted R ²	0.047	0.082	0.145	0.032	0.167	0.059

Table 4

Regressions of cumulative abnormal return (−1, 1) for value-weighted portfolios of the acquirer and the target on explanatory variables.

The sample consists of 668 completed US mergers between 1992 and 2007. We obtain the initial sample of mergers from Thomson Financial's Securities Data Company (SDC) Platinum database. Our final sample includes all completed mergers subject to the following selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) the acquirer controls less than 50% of the target's shares prior to the announcement and owns 100% of the target's shares after the transaction, (3) both the acquirer and the target are publicly traded and have stock return and financial data available from Center for Research in Security Prices (CRSP) and Compustat, respectively, (4) the acquirer is covered by the KLD Research & Analytics, Inc. STATS database, and (5) the acquirer is not in the financial or utilities industries. The dependent variable in Models 1, 2, 4, and 6 is the market capitalization-weighted portfolio cumulative abnormal return of the acquirer and the target from one day before to one day after the merger announcement date. The abnormal return is calculated using the market model. The market model parameters are estimated using two hundred trading days of return data ending 11 days before the merger announcement. The CRSP value-weighted return is used as a proxy for the market return. The dependent variable in Models 3 and 5 is adjusted corporate social responsibility (CSR). The first instrumental variable, religion rank, measures the religion ranking of the state in which the acquirer's headquarters is located. The ranking is based on the ratio of the number of religious adherents in the acquirer's state to the total population in that state. The second instrumental variable, blue state, is a dummy that equals one if a firm's headquarters is located in a blue or Democratic state and zero otherwise. Two-digit standard industrial classification code dummies are used to control for industry fixed effects. The numbers in parentheses for ordinary least squares (OLS) and two-stage least squares (2SLS) regressions are *t*-statistics based on standard errors adjusted for heteroskedasticity and acquirer clustering and *t*-statistics, respectively. All variables are defined in Table A1. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Variable	OLS		2SLS			
	(1)	(2)	First stage (3)	Second stage (4)	First stage (5)	Second stage (6)
CSR measure						
Adjusted CSR	1.310*** (4.75)	1.087*** (3.98)		6.545** (2.31)		5.926** (2.15)
Instrumental variables						
Religion rank			0.004** (1.99)		0.003 (1.25)	
Blue state (dummy)			0.127** (2.29)		0.162** (2.52)	
Product market competition						
Herfindahl Index		0.165** (2.50)			0.003 (0.23)	0.160 (1.52)
Corporate governance						
G-index		0.009 (0.11)			0.005 (0.46)	−0.005 (−0.05)
Acquirer managerial incentives						
Scaled wealth-performance sensitivity		−0.002 (−1.06)			−0.000 (−0.89)	−0.001 (−0.66)
Other acquirer characteristics						
Firm size	−0.653*** (−3.37)	−0.453** (−2.05)	0.062*** (3.84)	−1.007*** (−3.49)	0.071*** (3.65)	−0.835*** (−2.60)
Leverage	2.158 (0.92)	1.705 (0.66)	−0.082 (−0.32)	3.158 (1.14)	−0.188 (−0.58)	3.073 (0.97)
Free cash flow	−1.170 (−0.28)	2.504 (0.56)	0.088 (0.26)	−1.136 (−0.32)	0.107 (0.25)	2.420 (0.61)
Tobin's q	−0.258* (−1.74)	−0.213 (−1.48)	0.040** (2.56)	−0.484** (−2.39)	0.040** (2.25)	−0.428 (−2.07)
Previous market-adjusted return	1.036 (1.19)	0.380 (0.40)	−0.036 (−0.51)	1.237* (1.65)	0.008 (0.10)	0.347 (0.43)
Target characteristics						
Firm size	0.094 (0.48)	0.016 (0.09)		0.110 (0.50)		0.026 (0.12)
Leverage	−2.242 (−1.37)	−1.450 (−0.85)		−1.720 (−0.90)		−1.031 (−0.51)
Free cash flow	0.125 (0.11)	0.001 (0.00)		−0.037 (0.03)		−0.163 (−0.12)
Tobin's q	−0.197* (−1.97)	−0.087 (−0.35)		−0.167 (−0.51)		−0.062 (−0.25)

Table 4 (continued)

Variable	OLS		2SLS			
	(1)	(2)	First stage (3)	Second stage (4)	First stage (5)	Second stage (6)
Previous market-adjusted return	(−1.68) −0.311 (−0.68)	(−0.75) −0.367 (−0.81)		(−1.03) −0.364 (0.74)		(−0.38) −0.375 (−0.75)
Deal characteristics						
Relative deal size	1.122 (1.27)	1.679* (1.78)		1.136 (1.37)		1.834* (1.79)
Industry M&A	5.004 (1.02)	2.119 (0.40)		4.948 (1.06)		1.732 (0.35)
Hostile (dummy)	2.473* (1.78)	2.645* (1.78)		2.175 (1.29)		2.329 (1.40)
High tech (dummy)	−0.533 (−0.91)	−0.456 (−0.74)		−0.325 (−0.50)		−0.284 (−0.41)
Diversifying merger (dummy)	−0.424 (−0.93)	−0.059 (−0.12)		−0.430 (−0.85)		−0.094 (−0.17)
All-cash deal (dummy)	−0.988 (−1.35)	−0.239 (−0.31)		−1.067 (−1.29)		−0.379 (−0.44)
Stock deal (dummy)	−2.487*** (−3.36)	−1.735** (−2.11)		−2.552*** (−3.14)		−1.876** (−2.14)
Constant	9.473*** (5.06)	5.684** (2.55)	−0.424 (−0.73)	22.799** (3.80)	−0.943 (−1.31)	21.226*** (3.58)
Industry and year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
First-stage Cragg and Donald test			(p-value=0.003)		(p-value=0.006)	
Overidentification test				(p-value=0.323)		(p-value=0.216)
Sample size	668	572	668	668	572	572
Adjusted R ²	0.163	0.160	0.145	0.089	0.147	0.081

different from zero, while the constant of the regression in the low CSR acquirer subsample is negative and significant at the 1% level. These results indicate that, unlike combined firms with high CSR acquirers that experience no significant change in post-merger operating performance, combined firms with low CSR acquirers experience deterioration in their post-merger operating performance.

3.3. Long-term post-merger stock returns

In this subsection we examine long-term post-merger stock returns. We first compare the post-merger long-term stock returns of high CSR acquirers with those of low CSR acquirers using a calendar-time portfolio regression approach (Fama, 1998; Ikenberry, Lakonishok, and Vermaelen, 2000). Specifically, following Moeller, Schlingemann, and Stulz (2004), we form equally weighted portfolios of firms that have just completed mergers for each calendar month from 1992 to 2007. We keep these firms in the portfolio for a holding period of 12 months, 24 months, and 36 months relative to the announcement month. We rebalance the portfolio monthly by dropping all firms that have reached the end of their holding period and adding all firms that have just announced a merger. The time series of portfolio excess returns is then regressed on the four factors from the Fama and French (1992, 1993) and Carhart (1997) models,

$$R_{p,t} - R_{f,t} = \alpha + \beta_1(R_{m,t} - R_{f,t}) + \beta_2SMB_t + \beta_3HML_t + \beta_4UMD_t + \varepsilon_t \quad (1)$$

where $R_{p,t} - R_{f,t}$ is the excess return of the acquirer portfolio, $(R_{m,t} - R_{f,t})$ is the market excess return, SMB_t is the size factor,

HML_t is the book-to-market factor, and UMD_t is the momentum factor. The intercept α measures the average monthly abnormal return for the sample.

Panel A of Table 6 reports the long-term post-merger abnormal stock returns of the equally weighted portfolios of all acquirers in the sample. The values of α are insignificant at −0.000, 0.002, and 0.002 for acquirer portfolios with holding periods of one, two, and three years, respectively. Therefore, the average monthly abnormal return for the full sample is statistically indistinguishable from zero. The insignificance of α for the average firm is not consistent with the earlier work of Agrawal, Jaffe, and Mandelker (1992) who find that the average long-run drift for their sample acquirers is significantly negative. We propose two possible explanations for the difference between our findings and theirs. First, our sample period is different from theirs (1992–2007 compared with 1955–1987) and our sample consists of many more events ($N=1,556$ compared with $N=1,164$). Second, when estimating abnormal returns, they adjust only for beta risk and market capitalization, while we adjust for four factors including book-to-market and momentum factors. Our result is consistent with that of Moeller, Schlingemann, and Stulz (2004), who use a similar sample period (1980–2001) and the same method as ours.

To examine whether the long-term post-merger abnormal stock returns are different between high and low CSR acquirers, we divide the acquirers into two subgroups according to the sample median of their adjusted CSR immediately prior to the mergers and form the portfolios separately for these two groups. We then reestimate Eq. (1) separately for

Table 5

Post-merger changes in merged firms' operating performance.

The sample consists of 495 completed US mergers between 1992 and 2007. We obtain the initial sample of mergers from Thomson Financial's Securities Data Company (SDC) Platinum database. Our final sample includes all completed mergers subject to the following selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) the acquirer controls less than 50% of the target's shares prior to the announcement and owns 100% of the target's shares after the transaction, (3) both the acquirer and the target are publicly traded and have stock return and financial data available from Center for Research in Security Prices (CRSP) and Compustat, respectively, (4) the acquirer is covered by the KLD Research & Analytics, Inc. (KLD) STATS database, and (5) the acquirer is not in the financial or utilities industries. The dependent variable is the difference in the change in post-merger operating performance between the combined (acquirer and target) firm and the control firm. The combined firm's pre-merger (post-merger) operating performance is weighted operating cash flow over the assets of the acquirer and target prior to (after) the merger using the acquirer and target's relative total assets as the weights. The pre- and post-merger periods are the two years prior to and after the event year, respectively. We match each acquirer in our sample with a nonacquirer that is in Compustat and KLD STATS using nearest neighborhood (Panel A), Gaussian kernel (Panel B), and local linear regressions (Panel C) matching approaches. The variables used in the matching are adjusted corporate social responsibility (CSR), firm size, leverage, market-to-book ratio, industry dummies (two-digit standard industrial classification code), and year dummies. The constant of the regression measures the abnormal change in operating performance between the pre-merger and post-merger periods. Acquirers are divided into high and low adjusted corporate social responsibility acquirers according to the sample median of adjusted CSR. The *t*-statistics are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Independent variable	Dependent variable = difference in post-merger operating performance between the combined firm and the control firm	
	Subsample of high adjusted CSR	Subsample of low adjusted CSR
<i>Panel A: Nearest neighborhood approach</i>		
Constant	−0.003 (−0.51)	−0.016** (−2.53)
Difference in pre-merger operating performance between the combined firm and the control firm	0.586*** (11.80)	0.578*** (12.46)
Sample size	250	245
Adjusted R^2	0.357	0.387
<i>Panel B: Gaussian kernel approach</i>		
Constant	−0.000 (−0.10)	−0.014*** (−3.50)
Difference in pre-merger operating performance between the combined firm and the control firm	0.624*** (13.77)	0.523*** (12.70)
Sample size	245	245
Adjusted R^2	0.436	0.397
<i>Panel C: Local linear regressions approach</i>		
Constant	−0.003 (−0.79)	−0.016*** (−3.96)
Difference in pre-merger operating performance between the combined firm and the control firm	0.612*** (14.13)	0.558*** (13.55)
Sample size	250	245
Adjusted R^2	0.444	0.428

these two portfolios. Panels B and C of Table 6 report the results for low and high CSR acquirer portfolios, respectively. We find that the portfolio of low CSR acquirers does not exhibit significant abnormal returns for any of the three holding periods. In contrast, the portfolio of high CSR acquirers earns significantly positive abnormal returns for holding periods of two and three years.

Next, to measure the economic significance of the difference in long-term abnormal stock returns, we form a zero-cost portfolio that buys acquirers with high CSR and sells acquirers with low CSR and examine whether this hedge portfolio strategy generates significantly positive returns. Panel D of Table 6 reports the results for the excess returns on the zero-cost portfolio. The values of α are 0.004, 0.003, and 0.003 for the hedge portfolios with a holding period of one, two, and three years, respectively, all of which are

significant at the 10% level.¹⁸ These results suggest that investors are able to earn as high as 4.8%, 3.6%, and 3.6% annual abnormal returns from their hedge portfolios with a holding period of one, two, and three years, respectively. The results also suggest that the market fails to fully capitalize the benefits of acquirers' social performance at the merger announcement date. Our results are consistent with Edmans (2011, 2012), who shows that firms with high employee satisfaction realize long-term abnormal stock returns, and support the stakeholder value maximization view.

¹⁸ We also employ Chow's test to examine whether the differences in α between the regressions in Panels B and C of Table 6 are statistically significant. We find that the differences are significant at the 10% level or better.

Table 6

Calendar-time portfolio analysis of acquiring firms' long-term abnormal stock returns.

The sample consists of 1,556 completed US mergers between 1992 and 2007. We obtain the initial sample of mergers from Thomson Financial's Securities Data Company (SDC) Platinum database. Our final sample includes all completed mergers subject to the following selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) the acquirer controls less than 50% of the target's shares prior to the announcement and owns 100% of the target's shares after the transaction, (3) the acquirer is publicly traded and has stock return and financial data available from Center for Research in Security Prices and Compustat, respectively, (4) the acquirer is covered by the KLD Research & Analytics, Inc. STATS database, and (5) the acquirer is not in the financial or utilities industries. For the calendar-time portfolio regression analysis of an acquirer's long-term abnormal returns, we follow the approach used by Ikenberry, Lakonishok, and Vermaelen (2000). Specifically, we form equally weighted portfolios of acquirers that complete the merger and keep them in the portfolio for a pre-specified holding period (12, 24, and 36 months) relative to the announcement month. Portfolios are rebalanced monthly by dropping all acquirers that reach the end of their holding period and adding all acquirers that have just announced a merger. Acquirer portfolio abnormal performance is then estimated as the intercept of the following time series regression: $R_{p,t} - R_{f,t} = \alpha + \beta_1(R_{m,t} - R_{f,t}) + \beta_2SMB_t + \beta_3HML_t + \beta_4UMD_t + \varepsilon_t$, where $(R_{p,t} - R_{f,t})$ is the excess return of the acquirer portfolio, $(R_{m,t} - R_{f,t})$ is the market excess return, SMB_t is the size factor, HML_t is the book-to-market factor, and UMD_t is the momentum factor. Panel A reports the results for the portfolios composed of all acquirers in the sample. Panels B and C report the results for the portfolios composed of acquirers with low and high adjusted corporate social responsibility (CSR), respectively. Acquirers are divided into high and low adjusted CSR acquirers according to the sample median of adjusted CSR. Panel D presents results for the zero-cost portfolio that buys acquirers with high adjusted CSR and sells acquirers with low adjusted CSR. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Variable	After one year		After two years		After three years	
	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics
<i>Panel A: Full sample of acquirer portfolios</i>						
α	-0.000	-0.05	0.002	1.21	0.002	1.27
β_{mkt}	1.177	29.45***	1.090	31.62***	1.086	31.87***
β_{SMB}	0.149	3.28***	0.130	3.18***	0.139	3.46***
β_{HML}	0.033	0.62	-0.049	-1.12	-0.012	0.27
β_{UMD}	-0.146	-4.50***	-0.198	-7.39***	-0.213	-8.07***
Adjusted R^2	0.887		0.882		0.883	
Sample size	203		215		216	
<i>Panel B: Subsample of acquirer portfolios with low adjusted CSR</i>						
α	-0.002	-0.98	0.000	0.01	0.001	0.38
β_{mkt}	1.133	22.76***	1.037	25.61***	1.039	27.17***
β_{SMB}	0.214	3.70***	0.125	2.56***	0.166	3.62***
β_{HML}	0.177	2.62***	0.046	0.87*	0.107	2.17**
β_{UMD}	-0.193	-4.78***	-0.228	-7.27***	-0.236	-7.97***
Adjusted R^2	0.790		0.833		0.849	
Sample size	201		213		214	
<i>Panel C: Subsample of acquirer portfolios with high adjusted CSR</i>						
α	0.002	0.95	0.003	2.10**	0.003	1.93*
β_{mkt}	1.229	26.83***	1.114	27.21***	1.127	28.61***
β_{SMB}	0.135	2.60***	0.165	3.41***	0.147	3.16***
β_{HML}	-0.070	-1.15	-0.117	-2.24**	-0.110	-2.20**
β_{UMD}	-0.107	-2.87***	-0.159	-5.00***	-0.200	-6.55***
Adjusted- R^2	0.842		0.847		0.861	
Sample size	203		215		216	
<i>Panel D: Zero-cost portfolios of buying acquirer with high adjusted CSR and selling acquirer with low adjusted CSR</i>						
α	0.004	1.84*	0.003	1.80*	0.003	1.66*
β_{mkt}	0.091	1.72	0.069	1.52	0.797	2.00**
β_{SMB}	-0.039	-0.63	0.077	1.41	0.016	0.35
β_{HML}	-0.225	-3.13***	-0.147	-2.50**	-0.201	-3.91***
β_{UMD}	0.077	1.79	0.063	1.81*	0.029	0.97
Adjusted- R^2	0.095		0.090		0.122	
Sample size	201		213		214	

In untabulated tests, we reestimate the regressions reported in Panel D using the value-weighted portfolio return approach in which we use the market value of equity as the weight. We find that the coefficient estimate on the intercept for a holding period of one year is positive and significant (p -value=0.04) although those on the intercept for holding periods of two and three years become insignificantly positive. These results, together with results reported in Panel D of Table 6, suggest that

the long-term effects of CSR on firm value are stronger for small firms than for large firms, particularly for holding periods of two and three years.

3.4. Likelihood and duration of deal completion

The stakeholder value maximization view also predicts that mergers proposed by socially responsible acquirers have a higher likelihood of being completed and of being

completed in less time. Using a sample of 870 successful and unsuccessful US mergers for which both the targets and the acquirers are covered by the CRSP and Compustat databases, Columns 1 through 6 of Table 7 provide empirical support for the first prediction. Columns 1 and 2 report the results of a probit regression in which the dependent variable is a dummy variable that equals one if the deal is completed and zero otherwise. Both regressions show that the probability of deal completion increases with an acquirer's adjusted CSR. The results do not change when we estimate the models using two-stage probit least squares (2SPLS) regressions (Columns 4 and 6).

The last two columns of Table 7 report the regression results from a proportional hazard Cox model. We use a sample of 765 successful mergers for which both the acquirers and the targets are covered by the CRSP and Compustat databases. The dependent variable is the number of days to complete the deal between the announcement date and the effective date. In both regressions, the hazard ratio for the adjusted CSR measure is significantly greater than one, suggesting that mergers by high CSR acquirers take less time to complete than those by low CSR acquirers. These results are consistent with the stakeholder value maximization view.

4. Robustness tests

To check the robustness of our results, we conduct several additional tests. Below, we briefly summarize the results of these tests.

4.1. Alternative measure of a firm's CSR: analysis using US firms in the FTSE4Good Index

To further examine whether a firm's social performance affects its merger announcement returns, we use US firms in the FTSE4Good Index as an alternative sample of socially responsible firms. The FTSE4Good series measures the performance of firms that meet social and environmental criteria in five categories: (1) environmental sustainability, (2) human rights, (3) countering bribery, (4) supply chain labor standards, and (5) climate change. The FTSE4Good Index consists of six hundred to seven hundred socially responsible firms around the world from 2001 to 2011, of which approximately two hundred firms are US listed firms. After merging the US firms in the FTSE4Good Index with the US firms in the SDC US Mergers and Acquisitions Database, Compustat, and CRSP, we have a sample with 267 mergers.

To examine whether FTSE4Good US firms realize higher merger announcement returns, we use a propensity score matching approach. We choose matching firms from the merged database of SDC and Compustat using the same matching techniques as those used in the analysis of long-term operating performance: nearest neighborhood, Gaussian kernel, and local linear regressions.¹⁹

Panel A of Table 8 reports the differences in CAR (−1, 1) and CAR (−2, 2) between FTSE4Good US firms and matching firms. Following Lee and Wahal (2004) and Bae, Kang, and Wang (2011), we use bootstrapped standard errors to calculate *t*-statistics. The bootstrapping is based on one hundred replications. We find that the differences in CARs between these two groups of firms are positive and significant at the 10% level or better across all three matching techniques.

Panel B of Table 8 reports the results from regressing the CAR (−1, 1) on the FTSE merger dummy (equals one if the merger is made by a FTSE4Good US firm and zero otherwise) and the control variables used in Table 3 for a sample of all completed mergers between 2001 and 2011. We find that the coefficient estimates on the FTSE merger dummy variable are 0.971 and 0.975 in Columns 1 and 2, respectively, both of which are statistically significant.²⁰ These results suggest the announcement return is approximately 0.97% higher for mergers by FTSE4Good US firms than for mergers by non-FTSE4Good US firms. Because FTSE4Good US firms are determined independently from KLD firms, the results using FTSE4Good US firms lend additional support to the stakeholder value maximization view.

4.2. Valuation effects for nonshareholder stakeholders

The important implication of the stakeholder value maximization view is that high CSR firms undertake mergers that benefit their nonshareholder stakeholders, thus leading to greater stakeholder satisfaction than mergers by low CSR acquirers. This implication predicts that high CSR acquirers' nonshareholder stakeholders experience higher merger announcement returns than those of low CSR acquirers. To test this implication, we perform several tests.

First, we examine the CARs of targets' major customers and suppliers. Shleifer and Summers (1988) argue that supplier-customer relations are governed mainly by implicit contracts and, thus, trading partners have an incentive to breach their partner's trust when it is profitable. Because high CSR acquirers have better reputation of honoring implicit contracts than low CSR acquirers, the stakeholder value maximization view suggests that they are less likely to engage in mergers that appropriate the wealth of target customers and suppliers. We use the Compustat Segment Level Customer database to identify a target's major customers and suppliers. Major customers are those who comprise at least 10% of the target's sales, and suppliers are those whose information on sales to the target is available in the Compustat Segment Level Customer database. The results for the major customers and suppliers of the targets are reported in Panels A and B of Table 9, respectively. When there are multiple major customers (suppliers) for the target, we use the market capitalization-weighted portfolio CAR of the multiple

¹⁹ To calculate the propensity score, we use the following firm- and deal-specific characteristics: firm size, leverage, free cash flow, Tobin's *q*, previous market-adjusted return, relative deal size, industry M&A, hostile dummy, high tech dummy, public target dummy, private target dummy, diversifying merger dummy, stock deal dummy, all-cash deal dummy, industry dummies (two-digit code), and year dummies. To ensure the quality of the matching, we drop 2% of observations for which the

(footnote continued)

propensity score density of the matched observations is the lowest (Smith and Todd, 2005).

²⁰ In Column 2, we do not include G-index and scaled wealth-performance sensitivity as the control variables because these variables are available only for large firms and including them in the regression reduces the sample size from 2,379 to 1,154.

Table 7

Likelihood of deal completion and Cox regression analysis of length of days to complete deal.

In Columns 1 through 6, the sample consists of 870 successful and unsuccessful US mergers between 1992 and 2007. We obtain the initial sample of mergers from Thomson Financial's Securities Data Company (SDC) Platinum database. Our final sample includes all mergers subject to the following selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) both the acquirer and the target are publicly traded and have stock return and financial data available from Center for Research in Security Prices and Compustat, respectively, (3) the acquirer is covered by the KLD Research & Analytics, Inc. STATS database, and (4) the acquirer is not in the financial or utilities industries. In Columns 7 and 8, the sample consists of 765 successful US mergers. In Columns 1 and 2, we use a probit regression to estimate the likelihood of a bid success. The dependent variable is a dummy variable that equals one if the deal is completed and zero otherwise. In Column 3 through 6, we use two-stage probit least squares (2SPLS) regression. The dependent variable in the first-stage regression is adjusted corporate social responsibility (CSR) and the dependent variable in the second-stage regression is a dummy variable that equals one if the deal is completed and zero otherwise. The first instrumental variable, religion rank, measures the religion ranking of the state in which the acquirer's headquarters is located. The ranking is based on the ratio of the number of religious adherents in the acquirer's state to the total population in that state. The second instrumental variable, blue state, is a dummy that equals one if a firm's headquarters is located in a blue or Democratic state and zero otherwise. In Columns 7 and 8, we use a nonparametric Cox model to estimate the regressions. The dependent variable is the number of days spent to complete the deal (i.e., the length of days from the announcement date to the effective date). Two-digit standard industrial classification code dummies are used to control for industry fixed effects. The numbers in parentheses for the probit regressions, 2SPLS, and Cox model are *t*-statistics based on standard errors adjusted for heteroskedasticity and acquirer clustering, *t*-statistics based on one hundred-time bootstrapping, and *z*-statistics, respectively. The numbers in brackets are marginal effects. All variables are defined in Table A1. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Variable	Probit		2SPLS				Cox model	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CSR measure								
Adjusted CSR	0.536** (2.20) [0.005]	0.556** (2.03) [0.001]		7.368** (2.54)		11.212*** (2.69)	1.131* (1.68)	1.169** (1.99)
Instrumental variables								
Religion rank			0.003* (1.84)		0.003 (1.48)			
Blue state (dummy)			0.122*** (2.67)		0.111** (1.99)			
Product market competition								
Herfindahl Index		-0.013 (-0.40) [-0.000]			-0.014 (-1.34)	0.097 (0.79)		1.037* (1.41)
Corporate governance								
G-index		0.056 (1.42) [0.000]			0.002 (0.30)	0.060 (0.97)		1.019 (0.95)
Acquirer managerial incentives								
Scaled wealth-performance sensitivity		-0.000 (-1.53) [-0.000]			0.000 (0.04)	-0.000 (-0.18)		1.000* (-1.79)
Other acquirer characteristics								
Firm size	0.755*** (3.83) [0.007]	0.789*** (3.44) [0.002]	0.007 (0.68)	0.616* (1.71)	0.016 (1.16)	0.550*** (2.97)	1.114*** (4.01)	1.094*** (2.70)
MB	-0.037* (-1.83) [-0.000]	-0.032 (-1.30) [-0.000]	0.007 (1.55)	-0.102* (-1.91)	0.011* (1.82)	-0.181** (-2.47)	1.001 (0.11)	1.008 (0.73)
Target characteristics								
Firm size	-0.534*** (-2.78) [-0.005]	-0.528** (-2.52) [-0.001]		-0.539 (-1.47)		-0.578*** (-2.77)	0.843*** (-5.97)	0.848*** (-5.13)
MB	0.039 (1.61) [0.000]	0.029 (1.04) [0.000]		0.035 (0.65)		0.031 (1.02)	0.985** (-2.04)	0.982** (-2.17)
Deal characteristics								
Premium	0.556** (2.44) [0.005]	0.216 (0.90) [0.001]		0.442 (1.08)		0.078 (0.22)	1.000 (-0.01)	1.063 (0.79)
Toehold (dummy)	0.981 (1.56) [0.003]	0.755 (1.03) [0.001]		0.810 (1.08)		0.628 (0.62)	0.652** (-2.08)	0.938 (-0.28)
All-cash deal (dummy)	-0.414** (-1.97) [-0.004]	-0.498** (-2.14) [-0.002]		-0.334 (-0.65)		-0.323 (-0.92)	1.349*** (3.03)	1.314** (2.47)
Tender (dummy)	0.267 (1.14) [0.002]	0.622** (2.34) [0.001]		0.259 (0.61)		0.492 (0.88)	2.204*** (7.19)	2.397*** (7.41)
Hostile (dummy)	-1.515*** (-4.61)	-1.529*** (-4.51)		-1.330* (-1.66)		-1.196 (-1.36)	0.215*** (-4.37)	0.218*** (-3.85)

Table 7 (continued)

Variable	Probit		2SPLS				Cox model	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Diversifying merger (dummy)	[-0.095] -0.015 (-0.07)	[-0.043] -0.360 (-1.31)		-0.048 (-0.17)		-0.405 (-0.92)	1.158 (1.62)	1.231** (1.99)
Multiple acquirer (dummy)	[-0.000] -1.244*** (-6.09)	[-0.001] -1.068*** (-4.73)		-1.258* (-1.71)		-1.208** (-2.39)	0.659** (-2.34)	0.615** (-2.50)
Constant	[-0.051] -0.145 (-0.23)	[-0.013] 3.865*** (4.18)	-0.343* (-1.94)	2.364 (1.52)	-0.193*** (-0.74)	4.815*** (3.27)		
Industry and year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
First-stage Cragg and Donald test			(p-value < 0.001)		(p-value < 0.001)			
Overidentification test				(p-value < 0.001)		(p-value < 0.001)		
Sample size	870	713	870	870	713	713	765	637
Pseudo R ²	0.538	0.594	0.114		0.122			
LR chi-2				367.56		312.89	358.10	320.11

customers (suppliers) as the CAR for the major customer (supplier) of the target. We find that the major customers and suppliers of high CSR acquirers' targets realize higher merger announcement returns than those of low CSR acquirers' targets. For example, the difference in the two groups' mean CARs (-1, 1) for the major customers (median (-2, 2) for the suppliers) of the targets is significant at the 10% level.

Second, we examine the CARs for the bondholders of the acquiring firms using the Trade Reporting and Compliance Engine (TRACE) database. Previous studies show that bondholders of the acquiring firms experience a wealth loss around merger announcement dates (Billett, King, and Mauer, 2004; Bessembinder, Kahle, Maxwell, and Xu, 2010). Following Bessembinder, Kahle, Maxwell, and Xu (2010), we estimate bond CARs as bond returns in excess of value-weighted control portfolios. Specifically, we first obtain intraday bond trading data from the TRACE database and delete trades under \$100,000, canceled trades, corrected trades, and commission trades. Daily bond prices are estimated by weighting individual transaction prices by trading volume. We then form the value-weighted control portfolio of bonds that have the same Moody's rating as the acquirer. Bond rating information is obtained from the Mergent Fixed Income Securities Database (FISD). Finally, we calculate bond CARs by subtracting the return of the value-weighted control portfolio of bonds from the acquirer bond returns. The subsample analysis in Panel C of Table 9 shows that while bondholders of the low CSR acquirers suffer a significant wealth loss, those of the high CSR acquirers do not. Moreover, the difference in mean (median) bond CARs (-1, 1) between high and low CSR firms is significant at the 1% (5%) level.²¹ Thus, the value loss to bondholders due to mergers is severe only when acquiring firms have lower social performance.²²

²¹ The small sample size of target bondholders does not allow us to examine their valuation effect.

²² In untabulated tests, we perform OLS and 2SLS regressions using the stakeholder CARs (-1, 1) reported in Table 9 as the dependent variables. We use the same set of controls used by Fee and Thomas

Next, we investigate whether employees of merged firms experience different post-merger job security depending on acquiring firms' CSR scores. We use the same approach as that used in the test of post-merger changes in operating performance (Panel A of Table 5). In untabulated tests, we find that the constant of the regression in the low CSR acquirer subsample is negative and significant at the 10% level (*t*-statistic=-1.87) and the constant of the regression in the high CSR acquirer subsample is not significant (*t*-statistic=-0.99). These results suggest that low CSR acquirers tend to lay off more (or hire fewer) employees after mergers and high CSR acquirers do not appear to restructure the staff of the merged firm.

Overall, these results indicate that various stakeholders of acquirers and targets benefit more from mergers by high CSR acquirers than by low CSR acquirers, further supporting the stakeholder value maximization view.

4.3. Industry effects

To ensure that our results are not driven by a specific industry classification used in our analysis, we conduct a battery of additional tests. First, previous studies show that mergers occur in waves and strongly cluster by industry (Mitchell and Mulherin, 1996; Harford, 2005). Therefore, if high CSR firms are clustered in specific industries that are systematically different from industries in which low CSR firms are clustered, our industry control using two-digit SIC codes might not be appropriate. To alleviate the concern that mergers cluster by industry, we experiment with three alternative industry classifications: Fama and French (1997) 48 industries, four-digit SIC codes,

(footnote continued)

(2004) for the major customer and supplier CAR regressions and those used by Billett, King, and Mauer (2004) for the bondholder CAR regression. Religion rank and blue state dummy are used as instrumental variables in 2SLS regressions. We find that the coefficient estimates on adjusted CSR and the predicted variable for adjusted CSR are positive and significant at the 10% level or better in all of the regressions except for the target supplier CAR regression.

Table 8

Difference in cumulative abnormal stock returns (CARs) between acquiring firms in the FTSE4Good Index and matching acquiring firms.

In Panel A, the sample consists of mergers by US firms in the FTSE4Good Index and those by matching firms from 2001 to 2011. We match each acquirer in the FTSE4Good Index with an acquirer that is in Compustat and Thomson Financial's Securities Data Company (SDC) but not in the FTSE4Good Index using nearest neighborhood, Gaussian kernel, and local linear regression approaches. The variables used in the matching are firm size, Tobin's q, leverage, free cash flow, market-adjusted return, relative deal size, industry mergers and acquisitions (industry M&A), hostile dummy, high tech dummy, public target dummy, private target dummy, diversifying merger dummy, stock deal dummy, all-cash deal dummy, industry dummies (two-digit standard industrial classification code), and year dummies. The *t*-statistics based on one hundred-time bootstrapping are reported in parentheses and bias-corrected 95% confidence intervals are in brackets. In Panel B, the sample consists of all completed US mergers between 2001 and 2011. We obtain the initial sample of mergers from the SDC Platinum database. Our final sample includes all completed mergers subject to the following selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) the acquirer controls less than 50% of the target's shares prior to the announcement and owns 100% of the target's shares after the transaction, (3) the acquirer is publicly traded and has stock return and financial data available from Center for Research in Security Prices (CRSP) and Compustat, respectively, and (4) the acquirer is not in the financial or utilities industries. The dependent variable is the acquirer's cumulative abnormal return (CAR) from one day before to one day after the merger announcement date. The abnormal return is calculated using the market model. The market model parameters are estimated using two hundred trading days of return data ending 11 days before the merger announcement. The CRSP value-weighted return is used as a proxy for the market return. FTSE merger dummy is equal to one if the acquirer is included in the FTSE4Good Index in the merger year and zero otherwise. Two-digit SIC code dummies are used to control for industry fixed effects. The *t*-statistics in parentheses are based on standard errors adjusted for heteroskedasticity and acquirer clustering. All variables are defined in Table A1. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A: Test of difference in CARs between FTSE4Good Index firms and matching firms

CARs	Nearest neighborhood	Gaussian kernel	Local linear regressions
CAR (−1,+1)	0.654* (1.72) [−0.091, 1.399]	0.515** (2.12) [0.040, 0.990]	0.559** (2.31) [0.085, 1.033]
CAR (−2,+2)	0.736* (1.69) [−0.119, 1.592]	0.612** (2.00) [0.012, 1.211]	0.625** (2.01) [0.014, 1.236]

Panel B: Regression of acquirer CARs (−1, 1) on explanatory variables

Variable	(1)	(2)
Corporate social responsibility measure		
FTSE merger dummy	0.971* (1.88)	0.975* (1.89)
Product market competition		
Herfindahl Index		−0.088 (−1.14)
Other acquirer characteristics		
Firm size	−0.238** (−2.03)	−0.240** (−2.04)
Leverage	0.392 (0.23)	0.380 (0.22)
Free cash flow	−2.886* (−1.75)	−2.894* (−1.75)
Tobin's q	−0.149* (−1.79)	−0.148* (−1.79)
Previous market-adjusted return	−0.505 (−1.28)	−0.510 (−1.29)
Deal characteristics		
Relative deal size	2.300*** (3.50)	2.290*** (3.48)
Industry M&A	−14.988* (−1.91)	−14.826* (−1.89)
Hostile (dummy)	−0.446 (−0.20)	−0.442 (−0.19)
High tech (dummy)	−0.517 (−1.09)	−0.519 (−1.10)
Diversifying merger (dummy)	0.018 (0.05)	0.015 (0.04)
Public target (dummy)	−2.549*** (−4.55)	−2.534*** (−4.51)
Private target (dummy)	0.140 (0.27)	0.166 (0.32)
All-cash deal (dummy)	0.648* (1.68)	0.643* (1.67)
Stock deal (dummy)	−1.173** (−2.51)	−1.184** (−2.53)
Constant	3.842*** (3.09)	4.326*** (3.31)
Industry and year fixed effects	Yes	Yes
Sample size	2,379	2,379
Adjusted R ²	0.069	0.069

Table 9

Cumulative abnormal returns (CARs) for acquirer and target stakeholders around merger announcement dates.

The sample consists of completed US mergers between 1992 and 2007. We obtain the initial sample of mergers from Thomson Financial's Securities Data Company (SDC) Platinum database. Our final sample includes all completed mergers subject to the following selection criteria: (1) the deal value disclosed in SDC is greater than \$1 million, (2) the acquirer controls less than 50% of the target's shares prior to the announcement and owns 100% of the target's shares after the transaction, (3) the acquirer is publicly traded and has stock return and financial data available from Center for Research in Security Prices (CRSP) and Compustat, respectively, (4) the acquirer is covered by the KLD Research & Analytics, Inc. STATS database, and (5) the acquirer is not in the financial or utilities industries. In Panels A and B, the sample is further restricted to acquirers whose targets have large public customers and suppliers, respectively. Information on large public customers and suppliers comes from the Compustat Segment Customer database. Major customers are the firms that account for at least 10% of target sales and suppliers are the firms whose information on sales to the targets is available in Compustat Segment Customer database. In Panel C, the sample is restricted to acquirers with bonds outstanding whose bond information is available in both the TRACE and Mergent FISD databases. Firms are divided into high and low adjusted corporate social responsibility (CSR) firms according to the sample median of adjusted CSR. In Panels A and B, the abnormal stock return is calculated using the market model. The market model parameters are estimated using two hundred trading days of return data ending 11 days before the merger announcement. The CRSP value-weighted return is used as a proxy for the market return. The daily abnormal stock returns are cumulated to obtain the cumulative abnormal return (CAR) from day t_1 before the merger announcement date to day t_2 after the merger announcement date. When the firm has more than one customer (supplier) on the announcement date, we use the market capitalization-weighted portfolio abnormal return of all customers (suppliers) as the customer's (supplier's) abnormal return. In Panel C, the abnormal bond return is computed as the acquirer's bond return minus the value-weighted portfolio return of bonds that have the same Moody's rating as that of the acquirer. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A: CARs (percent) for targets' major customers

CARs	Full sample (N = 143)		Subsample of acquirers with high adjusted CSR: A (N = 73)		Subsample of acquirers with low adjusted CSR: B (N = 70)		Test of difference (A–B)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CAR (–1, 1)	0.102	0.036	0.569	0.279	–0.385	–0.197	0.954*	0.476
CAR (–2, 2)	0.162	0.334	0.395	0.715	–0.080	0.004	0.475	0.711
CAR (–5, 5)	0.742*	1.048	1.121*	0.473*	0.348	1.152	0.773	–0.679

Panel B: CARs (percent) for targets' suppliers

CARs	Full sample (N = 92)		Subsample of acquirers with high adjusted CSR: A (N = 45)		Subsample of acquirers with low adjusted CSR: B (N = 47)		Test of difference (A–B)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CAR (–1, 1)	0.172	–0.848	1.430	–0.316	–1.032	–1.053	2.462	0.737
CAR (–2, 2)	0.434	–0.159	1.494	1.506	–0.580	–1.007	2.074	2.513*
CAR (–5, 5)	–1.020	–1.314*	–0.433	–1.202	–1.583	–1.425	1.150	0.223

Panel C: CARs (percent) for acquirers' bondholders

CARs	Full sample (N = 117)		Subsample of acquirers with high adjusted CSR: A (N = 65)		Subsample of acquirers with low adjusted CSR: B (N = 52)		Test of difference (A–B)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CAR (–1, 1)	–0.058**	–0.059***	0.012	–0.021	–0.146***	–0.105***	0.158***	0.084**
CAR (–2, 2)	–0.032	–0.035**	0.008	–0.035	–0.082**	–0.039**	0.090**	0.004
CAR (–5, 5)	–0.025	–0.003	0.001	–0.000	–0.058**	–0.008	0.059*	0.008

and [Hoberg and Phillips \(2010\)](#) five hundred industry classifications.²³ We find that the results in [Tables 3, 4, 5,](#)

and [7](#) do not change when we use these alternative classifications in either industry control or firm matches, except that the coefficient estimates on adjusted CSR in [Table 7](#) lose their significance when using the [Hoberg and Phillips \(2010\)](#) five hundred industry classification.

Second, because Compustat does not cover privately held firms, the Compustat-based Herfindahl Index could be a less accurate measure of industry concentration compared with the Herfindahl Index calculated using both public and private firms. Therefore, in untabulated tests we experiment with the

²³ As an alternative test, we examine whether the distribution of high CSR firms within industries defined by two-digit SIC codes is significantly different from that of low CSR firms. We find that our sample acquirers are relatively well distributed across different industries except for four industries: chemicals and allied products, industrial machinery and equipment, electronic and other electric equipment, and business services industries. More than 10% of our sample acquirers are in each of these four industries, of which only industrial machinery and equipment has a large unbalanced distribution between high and low CSR firms (i.e., 140 observations compared with 43 observations). For targets, we find clustering in two industries (electronic & other electric equipment and business services), of which business services has a large unbalanced distribution between high and low CSR firms (i.e., 220

(footnote continued)
observations compared with 170 observations). Excluding firms in these industries does not change the results reported in the paper.

Hoberg and Phillips (2010) Herfindahl Index that is computed using both public and private firm information. We obtain results that are similar to those reported in the paper. In addition, to control for the potential effects of target industry competitiveness on the likelihood of deal completion, we include the target Herfindahl Index in the Table 7 regressions and reestimate them. The results remain the same.

Third, we redefine the diversifying merger dummy, industry M&A, and Herfindahl Index included in the regressions using Fama and French 48 industries, four-digit SIC codes, and Hoberg and Phillips (2010) five hundred industry classifications, respectively, and we repeat all analyses in the paper. The results are unchanged.

Overall, these results suggest that industry effects are unlikely to drive our main results presented earlier in this study.

4.4. Alternative explanations

To the extent that the 2SLS regressions cannot completely resolve the endogeneity bias, we perform several additional untabulated tests to rule out alternative explanations for our results. First, using a sample of 106 acquirers in foreign takeovers, Aktas, Bodt, and Cousin (2011) show that acquirer abnormal returns are positively associated with targets' social and environmental performance. This finding suggests that a potential alternative explanation for the positive relation between an acquirer's CSR and CAR is that high CSR acquirers acquire high CSR targets and, hence, the acquirer social performance measure used in our previous analyses simply captures target social performance effects. To investigate this alternative explanation, in untabulated tests we reestimate Regressions 1 and 2 of Table 3 for a small sample of 225 mergers in which target CSR is available in KLD by including both acquirer adjusted CSR and target adjusted CSR as key explanatory variables. We find that while the coefficient estimate on acquirer adjusted CSR is still positive and significant, the coefficient estimate on target adjusted CSR is negative but marginally insignificant (p -value=0.107). As an additional test, we regress the acquirer CAR ($-1, 1$) on the difference between acquirer adjusted CSR and target adjusted CSR. We find that this difference is significantly positively related to acquirer CAR ($-1, 1$) at the 5% level. Therefore, the positive relation between acquirer CSR and abnormal announcement returns is more pronounced when acquirer CSR is higher than target CSR, possibly due to the fact that in this case the acquirer could be more likely to improve on its relations with target stakeholders. This result is similar to that of Wang and Xie (2009), who find that the value creation in M&As increases with the difference in corporate governance between the acquirer and the target (i.e., acquisitions of poorly governed targets made by well-governed acquirers create higher synergistic gains). Overall, these results suggest that our main finding on the positive relation between acquirer CSR and acquirer CAR is not driven by high CSR targets, but rather by high CSR acquirers.

Second, our result could simply reflect the effect of corporate governance or agency cost components of CSR measures on shareholder wealth. To investigate this possibility, we create a new CSR index using two components of the KLD social ratings database that are least likely to be

influenced by a firm's corporate governance or agency costs, namely, environment and product quality and safety, and reestimate the regressions in Table 3 using this new CSR measure. We find that the coefficients on the new CSR measure remain significantly positive and their magnitudes are almost two times larger than those reported in Table 3, suggesting that our results are not mainly driven by the corporate governance or agency cost components of CSR measures. As an alternative test, we exclude corporate governance components when measuring CSR and reestimate the regressions in Table 3. We obtain qualitatively similar results.

Third, higher CSR firms could be firms in more unionized industries than lower CSR firms.²⁴ To the extent that unionization strengthens labor's bargaining power and enhances its collective actions, unions give employees a collective voice through which they can represent their preferences and grievances and, thus, enhance employees' incentives to exert effort (Comptrix and Muller, 2011). Chen, Kacperczyk, and Ortiz-Molina (2012) similarly argue that labor unions can coordinate employees' actions and allow unionized workers to use their power to influence management. Furthermore, unionized workers tend to be locked into the firm with their firm-specific human capital investment, which gives unionized workers strong incentives to monitor management. These arguments suggest that the positive relation between merger performance and adjusted CSR comes more from organized labor than from managerial incentives to take the interests of other stakeholders into consideration. To rule out this alternative explanation, we explicitly control for the industry unionization rate in the Table 3 regressions and find that our main results do not change.

Fourth, firms could invest in CSR activities as a result of pressure from activist shareholders, in which case the positive relation between the CSR measure and merger performance could simply reflect the value-enhancing role of blockholders in mergers (Chen, Harford, and Li, 2007). To address this concern, we control for various measures of an acquirer's ownership concentration in the regressions of stock CARs ($-1, 1$), including a blockholder indicator that takes the value of one if at least one investor holds more than 5% of the firm's outstanding shares and zero otherwise, the Herfindahl Index of institutional fractional holdings, equity ownership by the five largest institutional investors, and an indicator for the top five independent long-term institutional blockholders that takes the value of one if any of the top five institutional investors are investment companies, independent investment advisers, or public pension funds and hold block ownership for at least one year prior to the merger announcement and zero otherwise (Chen, Harford, and Li, 2007). We find that the coefficient estimates on adjusted CSR remain positive and significant.

Finally, if merger opportunities are predictable and managers are aware of the positive effect of CSR on merger

²⁴ The correlation between adjusted CAR and the industry unionization rate is 0.18, significant at the 1% level. The industry unionization rate is measured by the percentage of workforce in an industry covered by unions. The data are downloaded from the website maintained by Barry Hirsch and David Macpherson (<http://www.unionstats.com>).

Table A1

Variable definitions

Below is a detailed description of the construction of all the variables used in the tables.

Variable	Definitions
Adjusted CSR	The sum of yearly adjusted community activities, corporate governance, diversity, employee relations, environmental record, human rights, and product quality and safety KLD STATS corporate social responsibility scores. Adjusted CSR is estimated by scaling the raw strength and concern scores of each category by the number of items of the strength and concern of that category in the year and then taking the net difference between adjusted strength and concern scores for that category.
All-cash deal (dummy)	One if the deal is purely cash-financed and zero otherwise.
Blue state (dummy)	One if a firm's headquarters is located in a blue or Democratic state and zero otherwise. The list of blue states is obtained from http://en.wikipedia.org/wiki/File:Red_state,_blue_state.svg and http://azpundit.com/list-of-the-most-democratic-republican-states/ . The state is considered a blue state if it is listed as a blue state in both websites.
Diversifying merger (dummy)	One if the acquirer and the target have different first two-digit standard industrial classification codes and zero otherwise.
Firm size	Log (book value of total assets).
Free cash flow	Operating income before depreciation – interest expenses – income taxes – capital expenditures, scaled by book value of total assets.
FTSE merger (dummy)	One if the acquirer is included in FTSE4Good Index's list in the year prior to the deal and zero otherwise.
G-index	Governance index constructed by Gompers, Ishii, and Metrick (2003) .
Herfindahl Index	The sum of squared market shares of all Compustat firms in the industry times one hundred.
High tech (dummy)	One if the acquirer and the target operate in both high-tech industries defined by Loughran and Ritter (2004) and zero otherwise.
Hostile (dummy)	One if the deal is reported as hostile in SDC and zero otherwise.
Industry M&A	The value of all corporate control transactions (more than \$1 million) reported by SDC for each two-digit SIC industry and year divided by the total book value of assets of all Compustat firms in the same two-digit SIC industry and year.
Leverage	Book value of debts (sum of current liabilities and long-term debt) divided by market value of assets (total book value of assets minus book value of equity plus market value of equity).
MB	Market value of equity over book value of equity.
Multiple acquirer (dummy)	One if there is more than one acquirer and zero otherwise.
Previous market-adjusted return	Acquirer's buy-and-hold abnormal stock return estimated using two hundred trading days of return data ending 11 days before the merger announcement. The CRSP value-weighted return is used as a proxy for the market return.
Private target (dummy)	One if the firm acquires a privately held target and zero otherwise.
Public target (dummy)	One if the firm acquires a publicly held target and zero otherwise.
Raw CSR	The sum of community activities, corporate governance, diversity, employee relations, environmental record, human rights, and product quality and safety KLD STATS CSR scores.
Relative deal size	Deal value reported in SDC over market value of acquirer equity.
Religion rank	The ranking of the state in which the acquirer's headquarters is located, which ranges between 1 and 50. The ranking is based on the ratio of the number of religious adherents in the acquirer's state over the total population in that state in 2000. A higher religion ranking indicates more religiosity. The data on religiosity come from the Association of Religion Data Archive.
Scaled wealth-performance sensitivity	CEO incentive measure proposed by Edmans, Gabaix, and Landier (2009) . It is measured as the dollar change in CEO wealth for a 1 percentage point change in firm value, scaled by CEO annual pay. The data are obtained from Alex Edmans's website (http://finance.wharton.upenn.edu/~aedmans/data.html).
Stock deal (dummy)	One if the deal is at least partially financed by stocks and zero otherwise.
Tender (dummy)	One if the merger is a tender-offer and zero otherwise.
Tobin's q	Market value of assets (total book value of assets minus book value of equity plus market value of equity) over book value of assets.
Toehold (dummy)	One if the acquirer holds at least 5% of the target shares prior to the merger and zero otherwise.

performance, then firms could choose to optimally adjust their social activities before merger announcements. To mitigate these concerns, we replace adjusted CSR in [Table 3](#) with three-year (four-year) lagged adjusted CSR and reestimate the regressions. We find that the coefficient estimates on three-year (four-year) lagged acquirer adjusted CSR in [Table 3](#) are still significantly positive. These results provide little support for the social activity adjustment explanation but provide additional support for the stakeholder value maximization view.

4.5. Acquisition events

Our analyses thus far do not include acquisition events because target stakeholders in acquisitions might not need to renegotiate their explicit and implicit contracts with the acquirers and, thus, the effects of acquirer CSR on

shareholder wealth are not clear. In this subsection we perform various falsification tests by including acquisition events in our analyses and show that either our results disappear or their significance levels are significantly reduced.

We reestimate all previous regressions using the combined sample of 1,556 mergers and 2,533 acquisitions of assets and subsidiaries, of which 1,281 are subsidiary acquisitions. We obtain the acquisition events using the same sample selection criteria as discussed in Subsection 2.2. When the analyses require target stock return and financial data, we use those of selling firms' subsidiaries. We find that although the coefficient estimate on adjusted CSR in Column 2 of [Table 3](#) becomes insignificant, those on adjusted CSR in Columns 1, 4, and 6 are still significant. The results in [Table 4](#) and 5 largely do not change. In [Table 6](#), the values of α for the hedge portfolios with a

holding period of two and three years become insignificant. Finally, we find that the coefficient estimates on adjusted CSR are not significant in Columns 2 and 6 of Table 7.²⁵

If high CSR firms undertake actions that benefit other stakeholders and thus ultimately benefit shareholders, they should engage in good mergers as well as good acquisitions. Consistent with this view, we find that acquirer CSR is positively related to acquirer announcement returns even when we use a pooled sample of mergers and acquisition, albeit the coefficient estimates on acquirer CSR in some regressions lose their significance. This weakening significance is expected because in some acquisitions, target stakeholders might not need to renegotiate their implicit and explicit contracts with the acquiring (or combined) firms and, as a result, including these acquisitions in the analysis introduces the bias in estimating the regressions (see Subsection 2.2).

Overall, the results in this subsection suggest that including acquisition events in the analyses could add noise and thus prevents us from interpreting the results meaningfully.

5. Summary and conclusion

In this paper we examine two competing views (i.e., the stakeholder value maximization view and the shareholder expense view) about the effect of a firm's social activities on its merger performance. The stakeholder value maximization view predicts that high CSR firms undertake mergers that benefit other stakeholders, thus leading to greater stakeholder satisfaction that ultimately benefits shareholders. In contrast, the shareholder expense view suggests that managers engage in socially responsible activities to help other stakeholders at the expense of shareholders, predicting that the managers of high CSR firms undertake mergers that reduce shareholder wealth.

After correcting for endogeneity bias, we find that compared with mergers by low CSR acquirers, those by high CSR acquirers lead to higher announcement stock returns for acquirers and for value-weighted portfolios of the acquirer and the target, larger increases in long-term operating performance and stock returns, and higher likelihood and shorter duration of deal completion. The positive relation between an acquirer's social performance

and its merger announcement returns is also evident when we capture its social performance using an indicator for whether it is included in the FTSE4Good Index and is robust to a variety of alternative model specifications.

Overall, these results suggest that firms that integrate various stakeholders' interests in their business operation engage in investment activities that enhance their long-term profitability and efficiency, which ultimately increases shareholder wealth and corporate value, supporting the stakeholder value maximization view.

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²⁵ As a further falsification test, we exclude the deals whose values are less than 1% of the acquirer's market value of equity measured on the 11th trading day prior to the announcement date (Moeller, Schlingemann, and Stulz, 2004; Masulis, Wang, and Xie, 2007). The results are similar to the above except that the coefficient estimates on adjusted CSR in Column 1 of Tables 3 and 4 and the value of α for the hedge portfolios with a holding period of one year in Table 6 become insignificant. However, the coefficient estimate on adjusted CSR in Column 2 of Table 7 becomes significant. As additional tests, we experiment with the Table 4 regressions using the stock returns of selling firms that are listed on the stock exchanges to calculate the value-weighted portfolio returns of the acquirer and the target. Out of 1,281 subsidiary acquisitions, 509 subsidiaries have their immediate parent firms that are listed on the stock exchanges. We find that the coefficient estimates on adjusted CSR are not significant irrespective of whether we include the deals whose values are less than 1% of the acquirer's market value of equity.

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