

**Two Essays on Corporate Social Responsibility in Strategic Alliances:  
Formation and Value Creation**

by

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A Thesis Submitted to the Graduate Faculty  
of Rensselaer Polytechnic Institute  
in Partial Fulfillment of the Requirements  
for the degree of  
DOCTOR OF PHILOSOPHY  
Major Subject: Management

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Rensselaer Polytechnic Institute  
Troy, New York

November, 2014  
(For Graduation December 2014)

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# Contents

<b>LIST OF TABLES</b> .....	<b>vi</b>
<b>LIST OF FIGURES</b> .....	<b>viii</b>
<b>ACKNOWLEDGMENTS</b> .....	<b>ix</b>
<b>ABSTRACT</b> .....	<b>xi</b>
<b>1. Introduction</b> .....	<b>1</b>
<b>1.1. Paper 1: Socially responsible companies: The influence of firm’s corporate social responsibility on alliance formation</b> .....	<b>1</b>
<b>1.2. Paper 2: Does firm partnership with socially responsible companies increase value?</b> .....	<b>5</b>
<b>2. Paper 1: Socially responsible companies: The influence of firm’s corporate social responsibility on alliance formation</b> .....	<b>11</b>
<b>2.1. Introduction</b> .....	<b>11</b>
<b>2.2. Literature Review and Hypotheses</b> .....	<b>14</b>
2.2.1. <i>Transaction Cost Economics (TCE)</i> .....	<b>15</b>
2.2.1.1. <i>Firms’ Trustworthiness and CSR</i> .....	15
2.2.1.2. <i>Trust</i> .....	16
2.2.1.3. <i>Corporate Social Responsibility</i> .....	17
2.2.1.4. <i>CSR Link to Firms’ Trustworthiness</i> .....	18
2.2.1.4.1. <i>General Evidence</i> .....	18
2.2.1.4.2. <i>Conceptual Evidence</i> .....	19
2.2.1.4.3. <i>Empirical Evidence</i> .....	20
2.2.2. <i>Resource-Based View (RBV)</i> .....	20
2.2.2.1. <i>CSR and Loyal Customers</i> .....	22
2.2.2.2. <i>CSR and Advertisements</i> .....	23
2.2.2.3. <i>CSR and Information Asymmetry</i> .....	23
2.2.3. <i>CSR and Stakeholder Awareness</i> .....	26
2.2.4. <i>CSR &amp; Alliance Experience</i> .....	27
<b>2.3. Data and Sample</b> .....	<b>29</b>
2.3.1. <i>KLD Database</i> .....	31
<b>2.4. Variables Measurement</b> .....	<b>32</b>

2.4.1. <i>Dependent Variable</i> .....	32
2.4.2. <i>Independent Variables</i> .....	33
2.4.2.1. <i>Corporate Social Responsibility (CSR) Measure</i> .....	33
2.4.2.2. <i>Stakeholder Awareness of Firms' CSR Activities</i> .....	34
2.4.2.3. <i>Firms' Prior Alliance Experience</i> .....	35
2.4.3. <i>Control Variables</i> .....	35
2.4.3.1. <i>Size</i> .....	35
2.4.3.2. <i>Performance</i> .....	35
2.4.3.3 <i>Solvency and Debt Ratios</i> .....	36
2.4.3.4. <i>Financial Constraints</i> .....	36
2.4.3.5. <i>Year Dummies</i> .....	37
2.4.3.6. <i>Industry Dummies</i> .....	37
<b>2.5. Methods</b> .....	<b>38</b>
<b>2.6. Results</b> .....	<b>38</b>
<b>2.7. Robustness Tests</b> .....	<b>47</b>
2.7.1. <i>Corporate Social Responsibility Measure</i> .....	47
2.7.2. <i>Different Regression Tools</i> .....	48
2.7.3. <i>Treatment of Missing Advertising Expenditures</i> .....	48
2.7.4. <i>Firms with Negative Net Worth</i> .....	49
2.7.5. <i>Repeated Alliances</i> .....	49
2.7.6. <i>Sarbanes-Oxley</i> .....	51
2.7.7. <i>Firms' Commitment to CSR</i> .....	52
2.7.8. <i>KLD's Expansion in 2003</i> .....	53
<b>2.8 Conclusions, Limitations, and Further Research</b> .....	<b>54</b>
<b>2.9. Paper 1 References</b> .....	<b>58</b>
<b>3. Paper 2: Does firm partnership with socially responsible companies increase value?</b> .....	<b>67</b>
<b>3.1. Introduction</b> .....	<b>67</b>
<b>3.2. Literature Review and Hypotheses</b> .....	<b>72</b>
3.2.1. <i>Transaction Cost Economics (TCE)</i> .....	72
3.2.1.1. <i>Trust and Firm Value</i> .....	73

3.2.1.2. <i>CSR, Trust &amp; Firm Value</i> .....	77
3.2.2. <i>Resource-Based View (RBV)</i> .....	78
3.2.2.1. <i>Trust</i> .....	79
3.2.2.2. <i>Information Asymmetry</i> .....	80
3.2.3. <i>CSR and Alliances Structure</i> .....	82
3.2.4. <i>CSR and Unequal Partners</i> .....	85
<b>3.3. Research Methods</b> .....	<b>88</b>
3.3.1. <i>Methodology</i> .....	88
3.3.2. <i>Data &amp; Sample</i> .....	89
3.3.2.1 <i>Measures and Subsamples</i> .....	90
3.3.2.2 <i>Cumulative Abnormal Stock Market Returns</i> .....	91
3.3.2.3 <i>Partner’s CSR Rating</i> .....	92
3.3.2.4 <i>Smaller Partners</i> .....	93
3.3.2.5 <i>Size Differential</i> .....	93
3.3.2.6 <i>Nonequity Alliances</i> .....	93
<b>3.4. Results</b> .....	<b>93</b>
<b>3.5. Robustness Checks</b> .....	<b>104</b>
3.5.1. <i>Value-Weighted Index</i> .....	104
3.5.2. <i>Different Sampling</i> .....	105
3.5.2.1. <i>Focal Firms’ CSR Rating</i> .....	105
3.5.2.2. <i>Trust and Reciprocity</i> .....	107
3.5.2.3. <i>Not in KLD</i> .....	107
3.5.3. <i>Size Differential</i> .....	108
<b>3.6. Cross-Sectional Analysis</b> .....	<b>110</b>
<b>3.7. Conclusions, Limitations, and Future Research</b> .....	<b>115</b>
<b>3.8 Paper 2 References</b> .....	<b>120</b>

## LIST OF TABLES

Table 2.1. Companies KLD researchers use to evaluate CSR activities .....	31
Table 2.2. List of variable definitions and sources .....	37
Table 2.3. Descriptive statistics .....	39
Table 2.4. Correlation matrix among major variables .....	40
Table 2.5. Logit regression results of alliance formation .....	43
Table 2.6. Logit regression results for alliance formation, broken into two samples based on prior alliance experience (experienced vs. unexperienced firms).....	46
Table 2.7. Side-by-side comparison between robustness tests and model III from main regression in table 2.5 .....	50
Table 2.8. Logit regression analysis to assess the impact of Sarbanes-Oxley .....	52
Table 2.9. Robustness test controlling for CSR commitment.....	53
Table 2.10. Robustness test on KLD's inclusion of small firms in 2003 .....	54
Table 3.1. Summary statistics of main variables used to identify and isolate subsamples .....	96
Table 3.2. Results of the event study for full sample and firms partnering with companies that are and are not socially responsible.....	96
Table 3.3. Results of event study for different subsamples based on alliance type and partner's CSR .....	98
Table 3.4. Results of the event study for different subsamples based on size and partner's CSR .....	100
Table 3.5. Results of the event study in different subsamples based on size differential and partner's CSR.....	102
Table 3.6. Robustness test: results of the event study for firms partnering with companies that are and are not socially responsible, using CRSP value-weighted index .....	105
Table 3.7. Robustness test: Results of the event study for firms partnering with companies that are and are not socially responsible, after dropping focal firms with positive CSR ratings.....	106
Table 3.8. Robustness test: Results of the event study for firms partnering	

with companies that are and are not socially responsible, after retaining focal firms with positive CSR ratings .....	106
Table 3.9. Robustness test: Results of the event study for firms partnering with companies that are and are not socially responsible, using a different sampling measure of CSR.....	107
Table 3.10. Robustness test: Results of the event study for firms partnering with companies that are and are not socially responsible, after dropping firms with no CSR rating.....	108
Table 3.11. Robustness test: Results of the event study for firms partnering with companies that are and are not socially responsible, using different size-differential scales (one-third for each size differential category instead of bottom quarter, mid half, and top 75 percent) .....	109
Table 3.12. Descriptive statistics and correlation matrix.....	111
Table 3.13. Results of regression models using CAR [-1,+1] as a dependent variable.....	114

## LIST OF FIGURES

Figure 3.1. Number of alliances for each year of the sampling period (1991-2010).....	95
Figure 3.2. Number of alliances in each industry available in our dataset .....	95

## ACKNOWLEDGMENTS

First I want to express my indescribable gratitude to my family for their continued support. They have helped me for so long financially and spiritually, in good and bad times, unconditionally. I cannot describe how much I appreciate them. To my mother, father, wife, sisters, and everyone else in my family, thank you from the bottom of my heart.

I was taught at a young age to respect my teachers, but I have more than respect for Dr. Bill Francis. He is not only my teacher, but also my friend, mentor, advisor, and role model. He never has his door closed to anyone. I never needed to set an appointment with him to discuss anything. His passion for his work and intellectual curiosity made me want to work harder and fed my hunger to accomplish more. Dr. Francis also has the rare gift of being able to remember the smallest details about everyone's work, including my own, despite his huge workload and the variety of demands on his time. In addition to his own work as a professor, he coordinates the Ph.D. program, advises more than half of the students, works on his own publications, solves departmental problems, is the head of the management department, and carries several other responsibilities. A highly regarded professor in his field, Dr. Francis's attention to detail, organization, and methodology are remarkable. He taught me how to think about, investigate, and write about subjects that have broad implications. He made me a better person and scholar. So for all of that and more, thank you Dr. Francis.

I was also fortunate enough to meet Dr. Iftexhar Hasan before he left RPI. Dr. Hasan is known among students for his attention to our futures and performance as researchers. He is patient and has wide knowledge across different disciplines. Although my encounter with Dr. Hasan was brief, I learned quite a bit from him. He inspired me to become a better person and scholar with his humble personality and diversified knowledge. I admire Dr. Hasan to the greatest extent. On more than one occasion he encouraged and guided me both academically and personally. Thank you, Dr. Hasan.

I also want to express my thanks to Dr. Shyam Kumar. I have learned many things from him, such as how to identify good-quality articles properly, read and understand the literature, cooperate with others, and maintain self-discipline. He is an

enthusiastic and engaging teacher who is direct, clear, and passionate. I appreciate everything Dr. Kumar has done for me personally and professionally.

I would like to thank Dr. Qiang Wu for his support, help, and input as a committee member. Dr. Wu's knowledge of corporate social responsibility is a great asset to me, as it is my main construct for this dissertation. The fact that he graduated from RPI gives me comfort as well.

I am fortunate to be at Rensselaer Polytechnic Institute while I pursue my doctorate. For the past four years, I have been surrounded by kind, caring, cooperative, and intelligent people.

Without the help of my friends and fellow students, my experience at RPI would not have been as enjoyable and rewarding as it was. So to my dear friends Suresh (especially), Stacey, Choi, Ning, Ming, Cem, Nethia, Judy, Abe, Ghokan, and all my seniors, thank you. Thanks also to RPI's staff for helping and guiding me through my experience at RPI.

## ABSTRACT

This dissertation consists of two distinct but interconnected essays on corporate social responsibility (CSR) and strategic alliances. In the first essay, we examine the role of firms' CSR activities on firms' likelihood of forming strategic alliances. In the second essay, we investigate the effects of partnering with a socially responsible company on firm value.

Defined as firm collaboration involving exchanging, sharing, or co-developing products, technologies, services, capital, or firm-specific assets to pursue a common set of goals or to meet a critical business need, strategic alliances are important ways for firms to gain multiple benefits. Firms, for example, can overcome market failure, gain market share, learn from one another, access complementary assets, enhance legitimacy, build new competencies, enter new markets, develop new technologies, enhance innovativeness and new product development, and improve early performance. The number of strategic alliances has increased substantially over the last two decades, making it one of the most prevalent organizational forms in the market.

Similarly, corporate social responsibility (CSR) has been getting increased attention from both academics and practitioners alike, due to its multiple benefits and managers' rapid integration. Scholars define CSR broadly as firm activities that appear to support or advance social causes that go beyond the interest of the firm and that which is required by the law.

The literature on CSR is vast, but its role in strategic alliances is almost nonexistent. Many researchers and practitioners argue that CSR is an important element of organizations' success and decision-making processes. Yet its existence in the strategic alliance literature is limited to partnerships with nongovernmental organizations (NGO).

Using both transaction cost economics (TCE) and resource-based view (RBV) as our theoretical platform for both essays, we argue in the first essay that CSR can increase firms' likelihood of forming alliances. Drawing from corporate social responsibility (CSR) literature, we posit that positive/good CSR activities can measure firms' trustworthiness. We also believe that CSR can provide information about the company,

thereby reducing information asymmetry, and can attract loyal customers via successful product-differentiation strategy and advertising.

Our analysis of 24,320 firm-year observations for 4,134 firms and 4,457 alliances over the 1991-2010 period indicates that the greater a firm's positive/good CSR is, the more likely it is to form alliances. This relationship increases at a decreasing rate. We also find that the impact of firms' positive/good CSR activities on alliance formation is weaker for firms with alliance experience. Finally, our results show that firms with no prior alliance experience tend to rely on advertising intensity to make stakeholders aware of their CSR activities, hence increasing its impact on alliance formation.

Researchers, however, find that the partners in most strategic alliances fail to capture the value created from such activities. Despite its popularity across different disciplines and its impact on firm value, studies of corporate social responsibility (CSR) are almost nonexistent within the strategic-alliance and value-creation literature.

Accordingly, we examine in the second essay the impact of firms' partnerships with socially responsible companies on firm value. We argue that firms forming alliances with socially responsible companies experience higher cumulative abnormal returns than firms partnering with companies that are not socially responsible. We also argue that small partners and nonequity alliances have higher abnormal returns when partnering with socially responsible companies; large partners and equity alliances do not. Finally, we propose that the larger the size difference between partnering firms, the greater the CSR's impact of the partner on firm value for the smaller partner. Applying an event-study approach to 902 observations or 451 announcements of strategic alliances over 1991-2010, our analysis supports our hypotheses.

We analyze 451 alliances of 759 companies over the 1991–2010 period and find that partnering with socially responsible firms positively affects value creation. We also find that when relational risk is high and other control systems are lacking, CSR affects firm value. The results show that in nonequity alliances, firms partnering with socially responsible companies experience higher cumulative abnormal returns than firms partnering with companies that are not socially responsible; however, in equity alliances, a partner's CSR does not affect firm value. Examining smaller partners produces similar results.

## 1. Introduction

### 1.1. Paper 1: Socially responsible companies: The influence of firm's corporate social responsibility on alliance formation

Over the last two decades, the number of alliance formations increased dramatically, making strategic alliances one of the most prevalent organizational forms in the market (Gulati, 1995a; Chung *et al.*, 2000; Kale *et al.*, 2002; Hoffmann, 2007; Rothaermel and Boeker, 2007; Oxley *et al.*, 2009). The percentage of publicly traded firms, for example, that engage in alliances in the U.S. software industry alone increased from 32 percent to 95 percent during the 1990s (Lavie, 2007). Accordingly, scholars explore this phenomenon primarily in terms of motives (e.g., Glaister and Buckley, 1996; Tsang, 1998), antecedents (e.g., Gulati, 1995b; Ahuja, 2000; Wang and Zajac, 2007; Lin *et al.*, 2009), benefits (e.g., Krishnan, Martin, and Noorderhaven, 2006; Lin *et al.*, 2009; Kumar, 2010), and association/impact on other firms (e.g., Lavie, 2007; Oxley *et al.*, 2009).

Similarly, corporate social responsibility (CSR), defined broadly as firms' activities that support or promote social causes beyond the interest of the firm and that which is required by the law (Waldman *et al.* 2006), has been getting increased attention from both practitioners and scholars alike (McWilliams *et al.*, 2006). Cheng *et al.* (2014), for example, note a CEO study by UN Global Compact-Accenture (2010) in which 93 percent of 766 CEOs assert CSR as a critical component of organization's success. A survey by the Economics Intelligence Unit (2005) shows that 88 percent of 136 executives and 65 investors to proclaim CSR as a central or important factor in their decision-making process.

A cursory overview of the literature shows most investigations concerning CSR mainly focus on either the motivation behind its adoption by corporations (e.g., Benabou *et al.*, 2010; Godos-Diez *et al.*, 2011; Harjoto *et al.*, 2011; Cheng *et al.*, 2013; Borghesi *et al.*, 2014; Jiraporn *et al.*, 2013), or its impact on the firm (e.g., Luo *et al.*, 2012; Owen *et al.*, 2013; Albuquerque *et al.*, 2013). Scholars such as Heal (2005) and Cheng *et al.* (2014) explain that CSR benefits firms in multiple ways, such as reducing firm risk,

improving relations with regulators, generating brand equity, improving employee productivity, and lowering the cost of capital.

Despite the increased attention and noted benefits, CSR's role in the strategic-alliance literature is almost nonexistent and limited to firms partnering with nongovernmental organizations (NGOs), also known as social alliances. Researchers such as Jamali *et al.* (2011) and Pam (2012) explain that firms ally with nongovernmental organizations to enhance their legitimacy and/or the effect of their CSR activities (Baur *et al.*, 2011; Jamali *et al.*, 2011). Amran *et al.* (2014) also note that nongovernment organizations within this context of social alliances play an important monitoring and enforcement role. We, on the other hand, examine how firms' CSR activities affect the likelihood of forming alliances.

Using a transaction cost economics (TCE) perspective and resources-based view (RBV) as our theoretical platforms, we postulate that firms' CSR activities play a significant role in alliance formation. Lockett and Thompson (2001) suggest that there are occasions when combining TCE and RBV is desirable in analyzing the choices made by the firm, one of which involves joint ventures.

From a TCE viewpoint and drawing from CSR literature, we postulate that CSR plays an active role in alliance formation because it indicates firms' trustworthiness, which is believed to be critical in strategic alliances (Killing, 1988; Ring and Van De Ven, 1992; Krishnan, Martin, and Noorderhaven, 2006). Trust, according to TCE, reduces transaction costs (Gulati, 1995a; Dyer and Chu 2003; Krishnan *et al.*, 2006) and mitigates relational risk (Kale *et al.*, 2000; Child, 2001; Das and Teng, 2001; Lui and Ngo, 2004), thus making it a key factor in alliance formation (Gulati, 1995b; Ring *et al.*, 1992).

From an RBV perspective, on the other hand, we posit that CSR can increase firms' likelihood of forming alliances because it gives the partners access to firms' specific resources, such as loyal customers (attained through successful product differentiation strategy) and unique advertising mechanisms, thereby reducing firms' systematic risk (Albuquerque *et al.*, 2013) and increasing firm value. Scholars such as McWilliams *et al.* (2006) and Cheng *et al.* (2014) explain that CSR can act as an

advertising mechanism, increasing demand for a firm's products and services and reducing consumer pricing sensitivity.

We also postulate that CSR provides potential partners with the necessary information to evaluate other firms' capabilities, qualities, and skill sets, hence increasing its likelihood of forming alliances. The literature shows that firms' CSR activities reduce information asymmetry (Cho *et al.*, 2013; Cheng *et al.*, 2014), which researchers find to increase firm's likelihood of forming alliances (Owen *et al.*, 2013). In sum, whether as an initiator or a recipient of strategic alliance offers, firms can increase their chances of forming alliances by engaging in CSR activities.

Using data from Kinder, Lydenberg, Domini, and Co. (KLD); Securities Data Company (SDC); Center for Research in Security Prices (CSR); and Compustat, we examine whether a firm's positive CSR activities affects its likelihood of forming alliances. Given recent evidence (Servaes and Tamayo, 2012; Madsen *et al.*, 2014) showing that stakeholder awareness significantly affects CSR effectiveness, we investigate how stakeholder awareness of firm CSR affects the relationship between a firm's positive/good CSR rating and its likelihood of being a partner in an alliance.

In addition, based on Gulati's (1995b) claim that trust can emerge from firms' networks of prior alliances and provide an access point to other firms' information, we examine the moderating impact of alliance experience on the relationship between firms' positive/good CSR rating and alliance formation. Researchers such as Fang *et al.* (2012) and Kumar and Park (2012) believe that alliances provide specific information about partnering firms' quality, skill set, riskiness, and resources. Firms' alliance experience thus makes CSR's role redundant. We therefore posit that the moderating effect of stakeholder awareness of CSR on the relationship between firms' positive/good CSR activities and alliance formation is weaker for firms with alliance experience.

Using 24,320 firm-year observations for 4,134 firms and 4,457 alliances over the 1991–2010 period, we find that a firm's positive/good CSR rating is positively associated with alliance formation. This association is significant for all firms across all models. Additionally, we find that the impact of a firm's positive/good CSR rating on alliance formation increases at a decreasing rate.

Our investigation also reveals that the impact of a firm's good CSR activities on alliance formation is weaker for firms with alliance experience. Finally, we find that the moderating effect of stakeholder-known CSR on the relationship between firms' positive CSR activities and alliance formation is weaker for firms with alliance experience. Further analysis shows that the moderating impact of stakeholder awareness of CSR on the relationship between firms' positive CSR and alliance formation is positive and significant only for firms with no alliance experience.

This investigation to our knowledge is thus the first to examine the role of CSR within the strategic alliance context, opening up a new venue of research. Our findings are useful to academics and practitioners in multiple ways. Academically speaking, this paper is the first to examine the role of CSR on alliance formation, hence highlighting the importance of CSR as a strategic tool. The study also highlights the significance of firms' prior alliance experience as a moderator of the relationship between CSR and alliance formation.

The paper contributes to the CSR literature by providing further evidence of the value of CSR. Similarly, it emphasizes the role of stakeholder awareness of CSR activities in CSR's effectiveness. In terms of managerial implications, the paper offers practitioners a tool for detecting and/or indicating their firms' trustworthiness, which in turn facilitates their alliance-formation decisions. The investigation also emphasizes CSR's role as an outlet of information, reducing information asymmetry. Finally, this study helps managers recognize situation(s) in which stakeholders' awareness of CSR is necessary.

## **1.2. Paper 2: Does firm partnership with a socially responsible company increase value?**

The growing prevalence of strategic alliances, as evidenced by the sharp increase in alliance formation over the last 20 years (Gulati, 1995a; Chung *et al.*, 2000; Kale *et al.*, 2002; Rothaermel & Boeker, 2007; Oxley *et al.*, 2009) has attracted attention from many scholars in multiple disciplines (Rever & Koza, 2000). According to a Booz-Allen and Hamilton report, the number of new alliances increased to 20,000 during 1987–1992 from 5,100 alliances and 750 during 1980–1987 and 1970s, respectively (Harbison & Pekar, 1998). More recently, a report by the Organization for Economic Cooperation and Development (OECD) (Kang and Sakai, 2001) highlights the dramatic increase in strategic alliance activity from 1,050 alliances in 1989 to 8,660 in 1999. Additionally, many empirical investigations show that strategic alliances create value for the participating firms (e.g., McConnell & Nantell, 1985; Woolridge & Snow, 1990; Koh *et al.*, 1991; Chan *et al.*, 1997; Das, Sen, and Sengupta, 1998; Anand & Khanna, 2000; Kale *et al.*, 2002). Anand and Khanna (2000), for instance, report that cumulative abnormal returns after the announcement of firms' alliance formation are 1.61 percent for joint ventures and 3.13 percent for nonequity alliances. Accordingly, Contractor and Lorang (2002) explain that strategic alliances are not a fad or a phenomenon that is only here to stay, but is something that is set to grow rapidly.

Despite these findings, however, strategic alliance partners often do not capture the value created from such partnering activities (Anand & Khanna, 2000; Kale *et al.*, 2002; Das & Teng, 2003; Sampson, 2005; Gulati *et al.*, 2009). Anand & Khanna (2000) emphasize the difficulty in strategic alliances' value creation process, as evidenced by the publication of numerous scholars reporting the failure rate of alliances and the large number of firms that fail to realize the potential gain in value from such collaborations (see, for example, Kale *et al.*, 2002; Park & Russo, 1996; Coopers and Lybrand, 1986; Auster, 1986; Kogut, 1989; Porter 1987; Harrigan 1988). Using Chan *et al.* (1997) and Crutchley *et al.* (1991), Gulati (2009) states that only half of the partners in a strategic alliance receive positive market reactions. In view of this, most related studies investigate the factors and conditions that influence firms' ability to create value within strategic alliances (e.g., Das, Sen, and Sengupta, 1998; Anand & Khanna, 2000; Gulati, 2009).

Scholars are paying more attention to firms' corporate social responsibility (CSR) in recent years, as more firms are engaging in such activities and acknowledging their importance (Ali *et al.*, 2014). CSR is believed to benefit companies in more than one way. For example, CSR can reduce firm risk, improve relations with regulators, generate brand equity, provide better access to valuable resources, reduce information asymmetry, indicate firm trustworthiness, and improve employee productivity (Heal, 2005; Ali *et al.*, 2014; Cheng *et al.*, 2014). Consequently, scholars examine the impact of these activities on firms' profitability and find that CSR improves performance, ultimately creating value for shareholders. Waddock & Graves (1997), Lev *et al.* (2010), and Xin *et al.* (2013) find empirical evidence that further supports the positive impact of CSR on firm performance and value.

Recently supporting this stream of the literature, for example, Cheng *et al.* (2014) find that socially responsible firms face lower capital constraints, which enable firms to undertake profitable projects leading to increases in firm value. Harjoto *et al.* (2001), on the other hand, find that CSR improves firms' performance, measured as return on assets, and shareholder value, calculated using firms' Tobin's *q*, because it reduces the conflict of interest between managers and stakeholders.

Although the strategic-alliance literature on firm value is vast and extensive, researchers pay less attention to the impact of firms' CSR activities on firm performance and/or value within the alliance context. Researchers within this stream of literature mainly focus on the causes of value creation (McConnell & Nantell, 1985), types of alliances (Koh *et al.*, 1991; Chan *et al.*, 1997), asymmetric value gains among partnering firms (Kumar, 2007), alliance experience (Anand & Khanna, 2000; Kale *et al.*, 2002; Gulati *et al.*, 2009), and other factors influencing the value from strategic alliances, such as partners' relative size (Das *et al.*, 1998), cooperative behavior and value of partners' resources (Kumar, 2010), and information asymmetry (Rever *et al.*, 2000). The role of CSR within the strategic-alliance literature, however, is limited to alliances between profit and nonprofit organizations (i.e., nongovernmental organizations) (Ali *et al.*, 2014). Consequently, in this study we investigate how allying with socially responsible companies affects firm value.

Jensen and Meckling (1976) note to Coase's (1937) theory of the firm and explain that firms are a nexus of contracts that strategic alliances are no exception to. Owen *et al.* (2013), for example, define strategic alliances as contractual agreements among independent firms focusing on mutually beneficial activities. According to the extant literature, however, contracts are inherently incomplete because of the contracting parties' inability to predict all current and future contingencies (Hart, 2001). Trust thus in a partner's intention and capability to fulfill and adhere to a contract is essential. Xin *et al.* (2013) note that firms investing in CSR tend to have stronger reputations for keeping their promises and fulfilling commitments in contracts (whether explicit or implied).

Using transaction cost economics (TCE) and resource-based view (RBV), we postulate that firms benefit from partnering with socially responsible companies through multiple channels such as trust and information asymmetry, increasing firm value. Ali and Francis (2014) claim that CSR can indicate and/or measure trustworthiness. The authors present general, conceptual, and empirical evidence linking the two constructs together (i.e., CSR and trust). Using Sarbanes-Oxley as an exogenous shock for trust, Ali and Francis (2014) provide further evidence of the link between CSR and trust. In terms of information asymmetry, Cho *et al.* (2013) reveal that firms' CSR reduces information asymmetry. Scholars explain that CSR encourages firms to voluntarily disclose information, increasing transparency (Cho *et al.*, 2013; Cheng *et al.*, 2014).

From a TCE perspective, CSR can lower transaction costs, mitigate partners' opportunistic behavior, and alleviate problems arising from incomplete contracts via trustworthiness. Strategic alliance researchers find trust to be critical for alliances' success (Kale *et al.*, 2000; Dyer & Chu, 2003; Krishnan, Martin & Noorderhaven, 2006). Dyer & Chu (2003) explain that when trust is present, planning for all future contingencies is unnecessary, as alliance partners are confident that the other parties will behave fairly. Based on TCE's logic, the higher the asset specificity and opportunism, the more complex the contract between partnering firms becomes, making writing, monitoring, and enforcing contracts more difficult and costly (Barthelemy and Quelin, 2006). Accordingly, trusting a partnering firm *ex ante* is important for reducing these costs (Gulati, 1995a; Dyer & Chu, 2003; Krishnan, Martin, & Noorderhaven, 2006;

Hansen, Hoskisson, and Barney, 2008), thereby increasing superior information-sharing among allied partners and ultimately raising performance (Dyer & Chu, 2003).

Within the realm of RBV, CSR can increase firm value by indicating trustworthiness and providing potential investors and other stakeholders with firm-specific information. Hansen *et al.* (2008) note that highly detailed contracts can constrict partnering firms and as a result force them to forsake potential benefits and opportunities. Firms that trust their partners, however, can increase their value by properly identifying and utilizing opportunities arising from combining resources that are otherwise unavailable or hidden (Hansen *et al.*, 2008), and actively cooperating with partners instead of focusing on protecting core capabilities (Kale *et al.*, 2000; Hansen *et al.*, 2008).

Sometimes, however, firms are unable to properly identify the required capabilities and/or assets not because the partnering firm is hiding those resources, but because of the lack of information and vagueness surrounding them (Hansen *et al.*, 2008). From investors' point of view, reducing information asymmetry is important, as they might not have enough information or the ability to evaluate firms, especially when they are engaged in complicated projects that require certain insights or knowledge (Kumar and Park, 2012). Due to CSR's ability to reduce information asymmetry and provide firm-specific information, we posit that CSR affects the value of partners in strategic alliances.

The evidence of a connection between CSR and firm value does not stop there. A recent investigation by Xin *et al.* (2013), for example, finds a spillover effect among the benefits of transacting with socially responsible firms. The authors show that merging with high CSR acquirers relative to low CSR acquirers results in higher returns on the value-weighted portfolios for both the acquirers and the targets, larger increases in post-merger long-term operating performance and long-term stock returns, and a significant positive impact on the wealth of other stakeholders, such as the target's customers and suppliers. Ali *et al.* (2014) argue that firms are more likely to form alliances when they engage in positive CSR activities because doing so highlights their trustworthiness and valuable resources. The authors note that partnering firms also gain when customers spill over from their partners.

However, previous investigations such as Hart (2001) and Gulati (1995a) suggest that alliance partners turn to corporate governance (equity) for help with unforeseen future contingencies and aligning partners' interests. Rever *et al.* (2000) and Kumar (2007) both argue that equity alliances alleviate evaluation uncertainties when high information asymmetry exists. Researchers thus believe that nonequity alliances are riskier than equity alliances in controlling partners' opportunistic behavior (e.g., Gulati, 1995a; Oxley, 1997; Casciaro, 2003; Das & Rahman, 2010) and the vagueness or uncertainty of partner resources. Consequently, we examine the impact of CSR on firm value for both equity and nonequity alliances.

Similarly, Dickson *et al.* (2006) and Yang *et al.* (2014) argue that writing, executing, and enforcing complex contracts in order to control partners' opportunism is an unrealistic task for already resource-strained smaller firms (e.g., Dickson *et al.*, 2006; Yang *et al.*, 2014). Moreover, smaller firms are less likely to possess enough capabilities and resources to properly evaluate partner's resources *ex ante*. We therefore assess the impact of CSR on firm value based on firm size and size differentials for allied partners.

Employing an event-study methodology, which is widely used across different disciplines as well as in the strategic management literature (MacKinlay, 1997; Gulati *et al.*, 2009), we set firms' announcement of strategic alliances as the unit of analysis and measure stock market abnormal returns around the time of the event as an indication of the value created by the alliance.

We analyze 451 alliances of 759 companies, giving us 902 observations over the 1991–2010 period. The results show that partnering with socially responsible companies positively affects value creation. We also find that when relational risk is high and other control systems are lacking, namely nonequity alliances and smaller partners, CSR affects firm value. The results show that in nonequity alliances, firms partnering with socially responsible companies experience higher cumulative abnormal returns than firms partnering with companies that are not socially responsible; however, in equity alliances, a partner's CSR does not affect firm value. Examining smaller partners produces similar results.

Although our analysis indicates that a partner's CSR has no role in creating value for larger partners, we find that smaller partners have higher cumulative abnormal returns

if they form alliances with socially responsible companies. More important, we find that as the size difference between the two partners increases, the impact of a partner's CSR on a smaller partner's value increases as well.

To our knowledge, this investigation is the first to examine the role of partners' CSR in firm value creation associated with strategic alliances. Our study also provides empirical evidence of the importance of CSR in nonequity alliances. More specifically, the study supports the inference that trust is an efficient control mechanism. Researchers argue that firms in nonequity alliances are more prone to risk because nonequity alliances lack control mechanisms compared to equity-based alliances (Gulati, 1995a; Oxley, 1997; Das & Rahman, 2010). From an information-asymmetry perspective, our findings support the argument that equity alliances are better in dealing with valuation uncertainties (Rever *et al.*, 2000; Kumar, 2007).

Another contribution of this study comes from its support of the benefits of CSR. There is a large debate among scholars regarding the actual benefits of CSR. Xin *et al.* (2013) note that scholars find mixed evidence of its impact on firm performance. Our work complements Xin *et al.* (2013) and shows that partnering with socially responsible firms does affect firm value.

In terms of managerial implications, this paper finds that investors favor partnering with socially responsible companies, thereby raising firm value. In addition, the study provides practitioners with a tool for identifying trustworthy partners and a possible method for obtaining firm-specific information.

## **2. Paper 1: Socially responsible companies: The influence of firm's corporate social responsibility on alliance formation**

### **2.1. Introduction**

Over the last two decades, the number of alliance formations increased dramatically, making strategic alliances one of the most prevalent organizational forms in the market (Gulati, 1995a; Chung *et al.*, 2000; Kale *et al.*, 2002; Hoffmann, 2007; Rothaermel and Boeker, 2007; Oxley *et al.*, 2009). The percentage of publicly traded firms, for example, that engage in alliances in the U.S. software industry alone increased from 32 percent to 95 percent during the 1990s (Lavie, 2007). Accordingly, scholars explore this phenomenon primarily in terms of motives (e.g., Glaister and Buckley, 1996; Tsang, 1998), antecedents (e.g., Gulati, 1995b; Ahuja, 2000; Wang and Zajac, 2007; Lin *et al.*, 2009), benefits (e.g., Krishnan, Martin, and Noorderhaven, 2006; Lin *et al.*, 2009; Kumar, 2010), and association/impact on other firms (e.g., Lavie, 2007; Oxley *et al.*, 2009).

Similarly, corporate social responsibility (CSR), defined broadly as firms' activities that support or promote social causes beyond the interest of the firm and that which is required by the law (Waldman *et al.* 2006), has been getting increased attention from both practitioners and scholars alike (McWilliams *et al.*, 2006). Cheng *et al.* (2014), for example, note a CEO study by UN Global Compact-Accenture (2010) in which 93 percent of 766 CEOs assert CSR as a critical component of organization's success. A survey by the Economist Intelligence Unit (2005) shows that 88 percent of 136 executives and 65 investors to proclaim CSR as a central or important factor in their decision-making process.

A cursory overview of the literature shows most investigations concerning CSR mainly focus on either the motivation behind its adoption by corporations (e.g., Benabou *et al.*, 2010; Godos-Diez *et al.*, 2011; Harjoto *et al.*, 2011; Cheng *et al.*, 2013; Jiraporn *et al.*, 2013; Borghesi *et al.*, 2014), or its impact on the firm (e.g., Luo *et al.*, 2012; Owen *et al.*, 2013; Albuquerque *et al.*, 2013). Scholars such as Heal (2005) and Cheng *et al.* (2014) explain that CSR benefits firms in multiple ways, such as reducing firm risk, improving relations with regulators, generating brand equity, improving employee productivity, and lowering the cost of capital.

Despite the increased attention and noted benefits, CSR's role in the strategic-alliance literature is almost nonexistent and limited to firms partnering with nongovernmental organizations (NGOs), also known as social alliances. Researchers such as Jamali *et al.* (2011) and Pam (2012) explain that firms ally with nongovernmental organizations to enhance their legitimacy and/or the effect of their CSR activities (Baur *et al.*, 2011; Jamali *et al.*, 2011). Amran *et al.* (2014) also note that nongovernment organizations within this context of social alliances play an important monitoring and enforcement role. We, on the other hand, examine how firms' CSR activities affect the likelihood of forming alliances.

Using a transaction cost economics (TCE) perspective and resource-based view (RBV) as our theoretical platforms, we postulate that firms' CSR activities play a significant role in alliance formation. Lockett and Thompson (2001) suggest that there are occasions when combining TCE and RBV is desirable in analyzing the choices made by the firm, one of which involves joint ventures.

From a TCE viewpoint and drawing from CSR literature, we postulate that CSR plays an active role in alliance formation because it indicates firms' trustworthiness, which is believed to be critical in strategic alliances (Killing, 1988; Ring and Van De Ven, 1992; Krishnan, Martin, and Noorderhaven, 2006). Trust, according to TCE, reduces transaction costs (Gulati, 1995a; Dyer and Chu, 2003; Krishnan *et al.*, 2006) and mitigates relational risk (Kale *et al.*, 2000; Child, 2001; Das and Teng, 2001; Lui and Ngo, 2004), thus making it a key factor in alliance formation (Ring *et al.*, 1992; Gulati, 1995b).

From an RBV perspective, on the other hand, we posit that CSR can increase firms' likelihood of forming alliances, because it gives the partners access to firms' specific resources, such as loyal customers (attained through successful product differentiation strategy) and unique advertising mechanisms, thereby reducing firms' systematic risk (Albuquerque *et al.*, 2013) and increasing firm value. Scholars such as McWilliams *et al.* (2006) and Cheng *et al.* (2014) explain that CSR can act as an advertising mechanism, increasing demand for a firm's products and services and reducing consumer pricing sensitivity.

We also postulate that CSR provides potential partners with the necessary information to evaluate other firms' capabilities, qualities, and skill sets, hence increasing its likelihood of forming alliances. The literature shows that firms' CSR activities reduce information asymmetry (Cho *et al.*, 2013; Cheng *et al.*, 2014), which researchers find to increase firm's likelihood of forming alliances (Owen *et al.*, 2013). In sum, whether as an initiator or a recipient of strategic alliances offers,, firms can increase their chances of forming strategic alliances by engaging in CSR activities.

Using data from Kinder, Lydenberg, Domini and Co. (KLD); Securities Data Company (SDC); Center for Research in Security Prices (CSRP); and Compustat, we examine whether a firm's positive CSR activities affects its likelihood of forming alliances. Given recent evidence (Servaes and Tamayo, 2012; Madsen *et al.*, 2014) showing that stakeholder awareness significantly affects CSR effectiveness, we investigate how stakeholder awareness of firm CSR affects the relationship between a firm's positive/good CSR rating and its likelihood of being a partner in an alliance.

In addition, based on Gulati's (1995b) claim that trust can emerge from firms' networks of prior alliances and provide an access point to other firms' information, we examine the moderating impact of alliance experience on the relationship between firms' positive/good CSR rating and alliance formation. Researchers such as Fang *et al.* (2012) and Kumar and Park (2012) believe that alliances provide specific information about partnering firms' quality, skill set, riskiness, and resources. Firms' alliance experience thus makes CSR's role redundant. We therefore posit that the moderating effect of stakeholder awareness of CSR on the relationship between firms' positive/good CSR activities and alliance formation is weaker for firms with alliance experience.

Using 24,320 firm-year observations for 4,134 firms and 4,457 alliances over the 1991–2010 period, we find that a firm's positive/good CSR rating is positively associated with alliance formation. This association is significant for all firms across all models. Additionally, we find that the impact of a firm's positive/good CSR rating on alliance formation increases at a decreasing rate.

Our investigation also reveals that the impact of a firm's good CSR activities on alliance formation is weaker for firms with alliance experience. Finally, we find that the moderating effect of stakeholder-known CSR on the relationship between firms' positive

CSR activities and alliance formation to be weaker for firms with alliance experience. Further analysis shows that the moderating impact of stakeholder awareness of CSR on the relationship between firms' positive CSR and alliance formation is positive and significant only for firms with no alliance experience.

This investigation to our knowledge is thus the first to examine the role of CSR within the strategic alliance context, opening up a new venue of research. Our findings are useful to academics and practitioners in multiple ways. Academically speaking, this paper is the first to examine the role of CSR on alliance formation, hence highlighting the importance of CSR as a strategic tool. The study also highlights the significance of firms' prior alliance experience as a moderator of the relationship between CSR and alliance formation.

The paper contributes to the CSR literature by providing further evidence of the value of CSR. Similarly, it emphasizes the role of stakeholder awareness of CSR activities in CSR's effectiveness. In terms of managerial implications, the paper offers practitioners a tool for detecting and/or indicating their firms' trustworthiness, which in turn facilitates their alliance-formation decisions. The investigation also emphasizes CSR's role as an outlet of information, reducing information asymmetry. Finally, this study helps managers recognize situation(s) in which stakeholders' awareness of CSR is necessary.

## **2.2. Literature Review and Hypotheses**

Although the literature contains an overwhelming number of theories and models justifying strategic alliances (Das & Teng, 2000; Grant & Baden-Fuller, 2004), strategic-alliance researchers refer to TCE and RBV as the most common theories explaining strategic alliances (Eisenhardt and Schoonhoven, 1996; Kogut, 1988; Das and Teng, 2000; Yasuda, 2005; Kumar *et al.*, 2012). A number of scholars such as Lockett *et al.* (2001) and Tan and Mahoney (2006) argue that combining TCE and RBV provides a better understanding of various firms' strategic decisions. Lockett *et al.* (2001) and O'Brien *et al.* (2014) explain that TCE complements RBV very well because it prescribes the optimal form of governance structure given the resources and capabilities the firms invest in. Put differently, separating decisions about the use of resources from decisions

about governance structure is sometimes impossible. Accordingly, we utilize both TCE and RBV to get a better understanding of CSR's effects on alliance formation.

### ***2.2.1. Transaction Cost Economics (TCE)***

The main premise of TCE is that firms value cost minimization, particularly with regard to production and transaction expenses (Williamson, 1981; Kogut, 1988; Yasuda, 2005). In other words, the traditional theory of strategic alliances suggests that firms enter alliances to reduce transaction costs (Eisenhardt and Schoonhoven, 1996). Yet, according to Judge and Dooley (2006), the transaction-cost theory presumes that opportunism is a central problem in an alliance because alliances consist of firms with different histories, organizational cultures, and long-range objectives. That increases the risk of opportunistic behavior, which in turn creates a need for monitoring. Accordingly, this raises transaction costs and thus undermines the goal of reducing costs in the first place. Consequently, firms choose their mode of transacting (e.g., make, buy, or ally) based on cost minimization and opportunism.

Relying on these theoretical arguments about TCE, we posit that firms' CSR activities influence the likelihood that they will form alliances because CSR indicates firms' trustworthiness, hence reducing both transaction costs and opportunism.

#### ***2.2.1.1. Firms' Trustworthiness and CSR***

The strategic-alliance literature has long recognized the importance of relational factors (Harrigan, 1985; Krishnan, Martin, and Noorderhaven, 2006)—more specifically, trust in strategic alliances (Killing, 1988; Ring and Van De Ven, 1992; Krishnan, Martin, and Noorderhaven, 2006). Alliances scholars explain that trust reduces transaction costs in strategic alliances (Gulati, 1995a; Dyer and Chu, 2003; Krishnan, Martin, and Noorderhaven, 2006) and mitigates relational risk (Kale *et al.*, 2000; Child, 2001, Das & Teng, 2001; Lui & Ngo, 2004). Yet, few investigations examine trust in a pre-alliance context.

Nonetheless, there is a widespread belief in the literature that trust is a valuable factor influencing the propensity to form strategic alliances. In their highly cited

theoretical paper, for example, Ring and Van De Ven (1992) highlight the importance of trust and risk on alternative forms of governance, namely hierarchy, market, recurring, and relational. The authors argue that when trust is high, firms tend to form recurring or relational contracts, depending on perceived risk. Gulati (1995b), on the other hand, argues that previous alliances create a network in which members enforce trust among themselves. His investigation shows these networks to be positively associated with the probability of forming future alliances. In another investigation, Gulati (1995a) shows that trust built from previous alliances influences alliances' governance structures.

From another perspective, Williamson's (1985; 1999) work on TCE reveals the role of trust in alliance formation the same way it highlights opportunistic behavior among firms. Opportunistic behavior thus results in a "lemons problem." More precisely, firms cannot distinguish between opportunistic and nonopportunistic firms *ex ante*, making it harder to form alliances because they cannot distinguish the good from the bad.

Applying Akerlof's (1970) model in our context, however, should shed some light on a solution. Based on that model, there are two kinds of firms in the market: those that behave opportunistically (which Akerlof calls the "bad used cars" or "lemons") and those that behave less opportunistically (which Akerlof calls "good used cars"). Accordingly, the literature suggests that for a company to avoid "lemons," it needs to indicate its trustworthiness.

Based on general, conceptual, and empirical evidence, we contend that CSR can measure trustworthiness. To illustrate such relationship, however, we first need to define CSR and trust independently. Then we provide general evidence from the literature linking CSR to firms' trustworthiness. Afterward, we present significant conceptual and empirical evidence relating CSR to the different dimensions of trust.

#### **2.2.1.2. Trust**

Various disciplines define trust as an expectation that another person's word, whether verbal or written, is reliable (Rotter, 1971; Dwyer *et al.*, 1987; Hagen *et al.*, 1998). The notion of trust is especially valuable when there is vulnerability. Mayer *et al.* (1995) thus define trust as the willingness to be vulnerable to another party based on the expectation that the other party will perform a particular action that is important to the

truster—that is, keep a promise—regardless of the ability to control or monitor that party. Therefore, in situations where other control systems are lacking, trust is necessary (Schoorman *et al.*, 2007).

Researchers offer many different definitions of trust, but one of the most common is based on the antecedents of trust (Sako, 1991; Lewicki and Bunker, 1996; Child, 2001). These antecedents, although labeled differently in strategic alliance literature, fall into three groups: calculative, value-based, and cognitive. In calculative trust, which is founded on economic bases, one expects the other party to keep its word to avoid a diminished reputation or other costs that arise in case of defection (Shapiro *et al.*, 1992; Gulati, 1995b; Child, 2001). Value-based trust depends on identification. Within this category, trust is created when one party identifies values that are compatible with the other party's values and expects that party to stand by those values (Child, 2001; Lui and Ngo, 2004; Castaldo, 2007). Cognitive trust is based on objective criteria consisting of the actual resources and the performance history of alliance partners. It is based on recognizing the trustee's aptitude and capability to carry out specific activities in a satisfactory fashion (Child, 2001; Lui and Ngo, 2004). It hinges on explicit knowledge of the trustee's traits, past behavior, or skills.

### ***2.2.1.3. Corporate Social Responsibility***

The European commission defines CSR as “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis” (Commission of the European Communities, 2001). The roots of CSR, however, go back to the 1950s and to Howard Bowen's (1953) book *Social Responsibilities of the Businessman* (Carroll, 1999; Souto, 2009; Hai-Yan *et al.*, 2012). Bowen describes CSR as a manager's obligation to implement policies, make decisions, and behave in a way that supports the objectives and values society considers desirable. According to Souto (2009), however, this concept of CSR is still growing and confusing at the same time; many scholars define CSR differently since Bowen first introduced it in 1953.

Today, most scholars adopt Carroll's (1979) definition of CSR (Kim *et al.*, 2012; Tian *et al.*, 2011); consequently, it is the definition most frequently mentioned in the

literature. Carroll (1979) distinguishes among responsibilities based on four categories: (1) economics, which entails satisfying consumer needs, providing employment and decent wages, and generating capital for growth-inducing investments; (2) legalities, which involves obeying laws and regulations; (3) ethics, which entails adopting moral codes of conduct, discerning between right and wrong, and not harming others; and (4) philanthropy, which involves actively contributing to community welfare.

#### ***2.2.1.4. CSR Link to Firms' Trustworthiness***

##### ***2.2.1.4.1. General Evidence***

There is an overall consensus in the CSR literature relating a firm's positive/good CSR activities to trust. When the stakeholder-company relationship is not as close (e.g., when stakeholders have fewer interactions with the company), the relationship quality may manifest itself as increased levels of trust and commitment (Bhattacharya *et al.*, 2009). Bhattacharya *et al.* (2009) also note that a company's CSR activities can indicate its care toward individuals, stimulating a trustworthy relationship with stakeholders. This relationship in turn benefits the company (Bhattacharya *et al.*, 2009).

Consistent with the aforementioned argument, researchers such as Gao *et al.* (2014) find that CSR constrains insider trading among managers. They argue that a firm's commitment to social good builds a reputation of caring for society and refraining from corporate greed. This reputation, in turn, imposes additional costs (internal and external) on managers engaging in activities that conflict with the image of doing good (Gao *et al.*, 2014).

Referring to Klein and Leffler's (1981) seminal work, Gao *et al.* (2014) explain that this image or reputation of doing good is an informal enforcement mechanism against opportunism. Thus, if socially responsible firms engage in illegal activities such as insider trading, the negative publicity would impair the firm's positive image, thereby damaging managers' personal interests that are tied to the image of the firm. They add that when firms engage in CSR activities, they cultivate a corporate culture of "do no evil," which imposes higher internal costs on executives when they deviate from that norm.

In line with the culture argument in Gao *et al.* (2014), Hoi and co-authors (2013) argue that CSR acts as a shared belief within a firm about the right course of action, which takes into account economic, social, environmental, and other externalized impacts of company actions. The authors' investigation reveals that in some firms the corporate culture promotes less responsible CSR activities and more aggressive tax avoidance, while in other firms a different culture promotes responsible CSR activities and less aggressive tax avoidance. Researchers also find supporting evidence that socially responsible firms are "less likely (1) to manage earnings through discretionary accruals, (2) to manipulate real operating activities, and (3) to be the subject of SEC investigations, as evidenced by Accounting and Auditing Enforcement Releases against top executives" (Kim *et al.*, 2012).

#### **2.2.1.4.2. Conceptual Evidence**

Using one of Carroll's (1979) four responsibility categories, we can make a connection between ethics and value-based trust. Being socially responsible indicates a firm's commitment to its society and stakeholders. Having two firms that adhere to the same values satisfies the definition of value-based trust, which in turn validates our connection between it and CSR. In other words, a firm can trust another firm based on the values they share.

Similarly, another connection exists between CSR and trust when using Carroll's (1979) economic-responsibility category of CSR, which entails satisfying consumer needs, providing employment and decent wages, and generating capital for growth-inducing investments. If a company, for example, goes beyond the industry's quality and safety standards and still makes a profit, then one can gain a great deal of information about that company's culture, skill-set, and capacity. In other words, only a unique capability allows a company to maintain high safety and quality standards and still stay competitive. This capability thus satisfies the requirements for cognitive trust, which is based on the truster's explicit knowledge of the traits, past behavior, or aptitudes of the trustee.

Another conceptual link between CSR and trust exists when one looks at the many benefits of CSR. According to Souto (2009), one of these benefits is "building a

reputation as a responsible business; linked to increasing market share, maintaining key personnel and directing investors' confidence towards CSR." Such a relationship or benefit indicates that CSR reflects calculative trust, in which the truster is convinced that the trustee wants to avoid a diminished reputation or other costs associated with defection.

#### **2.2.1.4.3. Empirical Evidence**

Many scholars find evidence linking CSR and trust from different stakeholder perspectives. Hansen *et al.* (2011), for example, find a significant and positive correlation between perceived CSR and employees' trust toward their organizations. Others, on the other hand, find a positive relationship between customers' trust and firms' CSR activities (Stanaland and Lwin, 2011; Tian *et al.*, 2011).

It seems necessary, however, to highlight a possible concern regarding CSR and trust. Some argue that moral factors do not motivate firms' investments in CSR and that the intent of such activities is to deceive others and ultimately gain economic benefits. Accordingly, firms with positive CSR do not necessarily indicate trustworthiness.

Deceiving others, however, is not as simple and straightforward as it may seem, especially when well-informed and involved stakeholders are in the picture. Regardless of the company's intention, it can still suffer economic losses. Souto (2009) explains that socially responsible firms have the benefit of a reputation for being socially responsible, which in turn is linked to increasing market share and maintaining key personnel. Consequently, a firm should be less likely to behave opportunistically when it is part of an alliance, fearing the costs of betrayal on its reputation. Consistent with this argument, Gao *et al.* (2014) find a negative and significant association between CSR and executives' insider trading profits. The authors state that their finding is "inconsistent with CSR acting as an insurance against the adverse effects of informed trading."

#### **2.2.2. Resource-Based View (RBV)**

Referring to firms as bundles of resources in her seminal work, Penrose (1959) explains that resources are what make the services and products a firm sells and consequently determine the size of a firm. Although some scholars distinguish between

appropriable resources (e.g., physical) from less tangible assets (e.g., organization routines and capabilities), others separate static resources from dynamic resources (Lockett *et al.*, 2001). According to Barney (1991), however, resources are generally defined as human (e.g., skilled employees and knowledge), physical (e.g., machinery), and organizational (e.g., planning). Wernerfelt (1984) notes that firms can gain sustainable competitive advantages by acquiring and managing these resources.

In contrast to transaction cost logic, RBV emphasizes the value maximization of the firm via combining and utilizing resources, rather than cost minimization (Das & Teng, 2000). Strategic alliances are thus perceived as vehicles that firms can use to gain access to valuable resources they lack and are necessary for survival or dominance in the marketplace (Day, 1995; Varadarajan & Cunningham, 1995; Lambe *et al.*, 2002). In a general theoretical model of strategic alliances proposed by Najmaei and Sadeghenajad (2009), each firm starts with a range of resources that may be insufficient to achieve a goal or objective leading to a competitive advantage. The authors explain that the resources of each firm produce capabilities that can be shared or pooled in a strategic alliance, which in turn leads to growth in firms' core competencies, creating a competitive advantage.

Using RBV as their theoretical platform, scholars such as Barney (1991), Das & Teng (2000), Najmaei and Sadeghenajad (2009), and Peteraf, (1993) note that firms derive competitive advantages from valuable, rare, inimitable, and nonsubstitutable resources as well as the methods they use for organizing these resources. According to Eisenhardt & Schoonhoven (1996), however, obtaining resources that hold all four previously stated characteristics is difficult for one firm to do. In view of that, firms find themselves lagging behind, which is unfavorable or even threatening in environments with high uncertainty. With the market being more globalized, raising the competition in terms of intensity and cost, firms find themselves lacking the necessary resources to compete efficiently (Day, 1995).

According to Isoraite (2009), strategic alliances are appropriate when firms do not have the resources to achieve their objectives with independent, organic growth or acquisitions. Acquiring the necessary resources from the market is not always feasible, as certain desirable resources are not perfectly tradable and others are not tradable at all

(Dierickx & Cool, 1989). Consequently, firms may have to consider leveraging other firms' resources via acquisition, merger or alliances.

A number of researchers, however, believe that acquisitions and mergers are limited means to acquire resources. Wernerfelt (1984), for example, emphasizes that acquisitions or mergers could result in acquiring extra resources that firms do not need. Schillaci (1987) also notes that firms' different management systems or cultures could suffocate or deteriorate required resources, raising the risks associated with mergers and acquisitions. Wernerfelt (1984) explains that for resources to be effective, they need to fit well with each other and the firm.

We posit that CSR impacts firms' likelihood of forming alliances, as it provides access not only to valuable resources such as other firms' loyal customers, which were obtained through successful product differentiation strategies and a unique advertising mechanisms, but also to information on these resources, thereby decreasing information asymmetry and enabling firms to properly evaluate their potential partners' capabilities and skill sets.

#### ***2.2.2.1. CSR and Loyal Customers***

A big stream of literature regarding strategic alliances examines the spillover effect of certain strategies on partnering firms. Simonin and Ruth (1998), for example, examine how consumers' attitudes toward individual brands change when they're bundled with other brands. Within this stream of literature, Bourdeau *et al.* (2007) note firms engaging in cooperative branding strategies grew 40 percent annually. They explain and show in a customer service context that consumers carry attitudes and emotions about one service provider into their interactions with another partner. Put differently, the authors show that when consumers perceive one company's service quality to be high, they tend to evaluate its partners more favorably and hence exhibit higher intentions to reuse their services.

Accordingly, it is possible for firms to benefit from their partners' positive CSR activities via their base of loyal customers and product differentiation strategies, increasing sales. Albuquerque *et al.* (2013) model the investment in CSR as a mechanism

to build customer loyalty, which takes the form of low price elasticity. To support their idea, Albuquerque *et al.* (2013) refer to Creyer and Ross (1997), Auger *et al.* (2003), and Pelsmacker *et al.* (2005), showing that products with social features positively affect consumers' purchasing intentions and willingness to pay premium prices. They argue and find that CSR decreases firms' systematic risk, increasing firm value. They explain that if a firm's product differentiation strategy is successful, consumers should be willing to buy more or pay higher prices for products with CSR features.

#### **2.2.2.2. CSR and Advertisements**

Following the same logic, firms can gain access to unique advertising mechanisms, which could increase consumer demand and lower consumers' price sensitivity. In their investigations, Cheng *et al.* (2014) and McWilliams *et al.* (2006) claim that CSR can be that advertising mechanism. The authors explain that because CSR disclosure is voluntary, firms might use annual reports on social responsibility and similar disclosures as advertising.

According to McWilliams *et al.* (2006), CSR advertising can be broken down into informative and persuasive advertisements. Persuasive advertising is the attempt to positively influence consumer tastes for products with social features; informative advertising merely provides information about firms' CSR activities. Referring to Milgrom and Roberts (1986), McWilliams *et al.* (2006) note that high levels of CSR advertising can signal product quality.

#### **2.2.2.3. CSR and Information Asymmetry**

Research shows that strategic alliances certify firms' quality and growth opportunities (Fang *et al.*, 2012; Kumar and Park, 2012). Kumar and Park (2012) explain that under situations of high information asymmetry, potential outside investors do not have enough information; in some cases, if firms are engaged in complicated projects that require certain insights or knowledge, investors may not be able to gauge firms' quality level. Accordingly, the authors posit that alliances signal quality and potential growth for the firms involved. On a similar note, Fang *et al.* (2012) refer to Podolny (1993), explaining that evaluators routinely consider the characteristics of a firm's partners when

evaluating their investment opportunities. The authors further explain that alliances could result in information spillover, increasing information flow among firms, which may inform stakeholders (or lenders in their context) about the riskiness, quality, and future prospects of partnering firms.

The assumption, however, is that partnering firms have the required and proper information to evaluate a firm's quality, risk, and growth opportunities before they enter the partnership. For an organization to properly evaluate and hence form an alliance with another firm, it requires a sufficient amount of information about that firm and/or its resources. Hansen, Hoskisson, and Barney (2008) define information asymmetry within strategic alliances as the information about firm-specific resources that are to be committed to the alliance and the degree in which these resources can be evaluated, described, and identified *ex ante*. These authors argue that some resources are difficult to identify and evaluate because they might be surrounded by vagueness or secrecy. For example, two firms may decide to form an alliance to produce a certain product that they know consumers need but are unsure of the design or the necessary inputs needed. Accordingly, the firms need to combine their design efforts and capabilities assets to make this product a reality. In other words, information asymmetry in strategic alliances occurs when the partnering firms possess unequal information about the quality and compatibility of their resources (Lin, 2006).

From this perspective, Owen *et al.* (2013) explain that low information asymmetry can result in reduced uncertainty, which in turn encourages alliance formation. They add that information such as knowledge of accounting practices, political events, corporate culture, investor protection, and institutional quality are required when evaluating potential foreign investments. Their investigation shows that the formation of international alliances is negatively associated with information asymmetry. Accordingly, reducing information asymmetry is key for alliance formation.

The CSR literature reveals a significant and negative association between CSR activities and information asymmetry (Cho *et al.*, 2013). Cho *et al.* (2013) and Cheng *et al.* (2014) explain that CSR encourages firms to make voluntary disclosures, increasing transparency, which reduces information asymmetry. Madsen *et al.* (2014) argue that CSR represents a key type of firm action that provides stakeholders with information

about firms' priorities and intentions, leading to inferences of firm quality and benevolence. Cho *et al.* (2013) further note that CSR reflects managers' ethical concerns and drives transparency and reliable financial reporting. They also argue that firms' CSR activities can be a sign of better monitoring and resource provision by corporate boards.

In sum, we posit that CSR not only indicates firms' trustworthiness, which reduces transaction costs and opportunism, but also provides information on firms' resource quality and skill set, and serves as an access point to resources such as loyal customers attained through successful product differentiation strategies and unique advertising mechanisms.

Accordingly, we theorize a positive relationship between firms' positive CSR activities and its likelihood of forming an alliance. In other words:

*H1a: The higher the firm's positive/good CSR activities, the more likely it is to form an alliance compared to firms with no or bad CSR activities.*

The nature of this relationship, however, is most likely nonlinear. Gulati (1995b), for example, proposes that the effect of firms' prior alliance interactions, which arguably measures trust, on firms' likelihood of forming alliances is not monotonic. Otherwise, the assumption is not compatible with the idea that the number of possible alliances between two firms is limited. More important, it disregards the notion that beyond a certain point, firms' repeated alliances with one another provide diminishing amounts of information to the potential partner(s). On the same note, Wuyts and Geyskens (2005) emphasize that beyond a certain level, the closer the buyer and supplier relationship becomes (i.e., the more trust the partners build), the less a firm gains in long-term benefits.

Applying the same logic to CSR, the relationship between firm's CSR activities and alliance formation is nonlinear. Accordingly, we hypothesize that:

*H1b: Good/positive CSR ratings increase a firm's likelihood of forming an alliance at a decreasing rate.*

### **2.2.3. CSR and Stakeholder Awareness**

According to Servaes and Tamayo (2012), in the literature, CSR is a product that customers value when they are informed about it. Drawing from strategy, marketing, and business ethics literature, the authors thus establish two disconnected facts about CSR: customers consider firms' CSR activities when making purchase decisions, and customers are generally unaware of firms' CSR activity.

Servaes and Tamayo (2012) add that the lack of customer awareness of companies' CSR activities limits customers' ability to respond to these initiatives. Consumers with more awareness of firms' CSR activities are therefore more likely to have positive attitudes toward the sponsoring firms and their products (Tian *et al.*, 2011). Consistent with Servaes and Tomayo's (2012) findings, a recent empirical investigation by Madsen *et al.* (2014) investigating the mediating role of stakeholder attention on the relationship between CSR and firm financial performance finds that for CSR to be effective, stakeholders must be aware of it first.

Some might argue, however, that the notion of stakeholders' awareness of CSR in Servaes *et al.* (2012) and Madsen *et al.* (2014) is not applicable in our context of strategic alliances. The logic is that firms usually if not always research or gather information on their potential partners, hence eliminating the need for stakeholder awareness of such activities. Although this logic may seem sound at first, it does not always represent real-world scenarios. For example, a firm entering an alliance might have a large pool of potential candidates. Researching all of these candidates to find a suitable partner(s) is not efficient or effective. Thus, stakeholder awareness of firms' activities becomes valuable. Consequently, we posit that stakeholder awareness of firms' CSR activities moderates the relationship between a firm's positive/good CSR activities and its likelihood of forming an alliance.

*H2: When stakeholder awareness of firms' CSR activities increases, the positive relationship between those positive/good CSR firms and the likelihood of alliance formation increases.*

#### **2.2.4. CSR & Alliance Experience**

Most scholars in the strategic alliance literature agree on the inherent difficulty of managing alliances. Allied partners could be fundamentally different in terms of their governance structures, missions, managerial styles, and practices, making communication and coordination more challenging and conflict more plausible (Kale *et al.*, 2002; Sampson, 2005; Lin, 2012). However, some researchers (e.g., Gulati, 1995b; Kale *et al.*, 2002; Deitz *et al.*, 2010; Lin, 2012) consider prior alliance experience a central factor not only for alliance formation, but also for alliance success and/or stability.

The logic behind these claims and studies comes from treating alliance experience as a capability that a company develops over the years (Kale *et al.*, 2002). The authors claim that it enhances firms' alliances by (1) leveraging both explicit and implicit knowledge from prior and existing alliances, (2) keeping stakeholders apprised of new and successful events in alliances, (3) enhancing coordination, communication, and support among allied partners, and (4) monitoring and evaluating alliance performance.

To date, however, the literature mostly treats alliance experience as a way for firms to develop specific systems, procedures, and personnel to manage the diversity and complexity of alliances more successfully (Kale *et al.*, 2002; Sampson, 2005; Deitz *et al.*, 2010; Lin, 2012). Gulati (1995b), on the other hand, views firms' alliance experience in a different light. He explains that prior alliance experience can function as a doorway to an independent community or network where firms can gain access to other firms' information. Gulati describes these networks as effective referral systems through which potential partners can become aware (or more aware) of one another. More important, Gulati (1995b) claims that this type of network is a crucial basis for enforceable trust, as economists and sociologists highlight. "The anticipated utility from both a tie with a given partner and those with shared partners motivates good behavior. Each partner's awareness that the other has much to lose from behaving opportunistically enhances its confidence in the other" (Gulati, 1995b).

Accordingly, we postulate that the positive impact of firms' good CSR activities on alliance formation is mitigated for firms with prior alliance experience. As discussed in the previous section, to form alliances, it is essential for allying firms to have relevant information about each other and their resources (Owen *et al.*, 2013). We noted

previously that CSR could provide such information(Cho *et al.*, 2013; Cheng *et al.*, 2014; Madsen *et al.*, 2014), which would increase the likelihood of forming alliances. This function of CSR, however, becomes redundant and less important for firms with alliance experience, as these previous alliances create a network in which firms can gain access to information about potential partners' capabilities and skill set (Gulati, 1995b).

Consistent with this notion, Fang *et al.* (2012) and Kumar *et al.* (2012) argue that alliances provide information on the partnering firms' qualities and capabilities. Kumar *et al.* (2012) explain when forming alliances, firms signal to outside stakeholders their possession of desirable resources that could potentially lead to growth opportunities. In addition, Fang *et al.* (2012) note that alliances can provide information to potential lenders as they increase information flow among firms and result in information spillover. In sum, firms' prior alliances can provide firm specific information, such as: quality, capabilities and resources, growth opportunities, and riskiness.

From a trust standpoint, Gulati (1995b) argues that the network of previous alliances enforces trust among its members. Hence, trustworthiness signals that CSR sends are less necessary when a firm has previously formed alliances. Put differently, a firm that has alliance experience does not need to indicate its trustworthiness as much as a firm with no alliance experience. Assuming that firms with alliance experience are adhering to the network's rules and are not behaving opportunistically, as Gulati (1995b) claims, they demonstrate trustworthiness and as a result do not need to distinguish themselves from opportunistic firms, unlike firms that have no prior alliances and are not part of a social network. As such, we hypothesize that the following:

*H3a: The positive relationship between a firm's positive/good CSR rating and alliance formation is weaker for firms with alliance experience.*

Following this logic, a firm with prior alliance experience would not need to make others more aware of its CSR activities to showcase or indicate its trustworthiness, capabilities, quality, and skill sets. New entrants into the strategic alliance markets, on the other hand, may need to compensate for not being in the aforementioned networks, as they provide a pool of candidates and critical information on potential partners.

Accordingly, firms experienced in strategic alliances do not benefit from increasing stakeholders' awareness of their CSR activities. Thus, we hypothesize that:

*H3b: Stakeholder awareness of firms' CSR activities has a weaker moderating impact on the probability of forming alliances for firms with alliance experience.*

### **2.3. Data and Sample**

Our data come from various archival databases. CSR ratings are from Kinder, Lydenberg, Domini, and Co. (KLD). Firms' alliance information is from Securities Data Company (SDC), and all accounting variables are from Compustat.

Prior studies typically use KLD's data to measure firms' CSR activities. Many scholars refer to KLD's dataset as the best currently available for measuring CSR (Waddock and Graves, 1997; Benson and Davidson, 2010; Anderson *et al.*, 2012; Kim, *et al.*, 2012; Cho *et al.*, 2013). Several investigations also find that the KLD dataset exhibits robust construct validity around its underlying measures (e.g., Mattingly and Berman, 2006; Scharfman, 1996). Compared to other databases, KLD has several other advantages, such as (1) rating firms with an objective and clearly defined set of criteria, (2) applying the ratings consistently across firms, (3) employing knowledgeable and independent staff from the rated companies, and (4) ensuring that the CSR strategies are implemented rather than stated or declared (Ioannou and Serafeim, 2010; Zyglidopoulos *et al.* 2012). Accordingly, we use the KLD database ratings to measure our CSR construct.

In terms of alliance data, the SDC database is the most common in empirical studies (Sampson, 2007; Schilling, 2009); it focuses on publicly announced interfirm alliances, including joint ventures. Schilling (2009) reports that SDC collects data from U.S. Securities and Exchange Commission (SEC) filings, trade publications, wires, and news sources. The author adds that SDC covers the widest range of sectors.

Consistent with the alliance-formation literature, we only include alliances that have actually formed; we exclude reports of probable future alliances. For simplicity and to avoid unforeseen complications, we also exclude alliances with more than two

partners. Additionally, we omit alliances that terminate or expire within a year of their formation.

Both the KLD and SDC databases use six-digit CUSIP numbers as firm identifiers in the year that the alliance occurs or CSR activities are evaluated. Compustat, on the other hand, uses the firm's last known nine-digit CUSIP number as the firm identifier. Accordingly, we use the Center for Research in Security Prices (CRSP) database to retrieve the last-known six-digit CUSIPs of the firms and hence are able to obtain each firm's financial information from Compustat.

One problem with the KLD database is the absence of firms' CUSIPs for years prior to 1995. For those firms, we use several steps to obtain their Compustat unique identifier. First, we use the company's name to obtain its six-digit CUSIP number from CRSP and Compustat. Because some firms change their names, we are not able to retrieve all firms' CUSIPs. Consequently, we use Edgar to obtain the company's last known name and use that to search for the firm's last-known six-digit CUSIP number. However, we are still unable to obtain CUSIPs for a small number of firms that are not in the Compustat or CRSP databases; accordingly, we drop those firms from our sample and manually verify our results.

Because alliance data is most reliably available from 1990 forward in SDC (Sampson, 2007; Schilling, 2009) and KLD's coverage of firms' CSR activities starts in 1991, our sample contains the entire KLD database (1991 to 2010). Consequently, our initial sample consists of 32,452 firm-year observations for the 1991–2010 period. After merging the KLD dataset with Compustat, we identify and exclude a number of firms from our sample either because (1) they did not have CUSIPs or (2) they have been evaluated more than once within the same year in KLD. We drop firms operating in the financial industry, reducing our sample to 25,486 firm-year observations. In cases where firms announce multiple alliances within the same year, we retain only the first alliance and drop the rest. Later we add the dropped alliances back into our sample to test the sensitivity of our results. Finally, we drop all firms with missing financial information, along with one outlier found in the debt ratio variable, reducing our sample to 24,320 firm-year observations for 4,134 firms and 4,457 alliances over the 1991–2010 period.

### 2.3.1. KLD Database

KLD is a Boston-based investment research company specializing in tracking firms' CSR activities. Since 1991, KLD uses a mixture of surveys, financial statements, articles in the popular press and academic journals, government reports, companies' websites, media, and CSR reporting to evaluate companies' social activity (Siegel *et al.*, 2007; Ioannou and Serafeim, 2010; Kim *et al.*, 2012; Cho *et al.*, 2013). According to the KLD manual, the KLD database provides a table of data on S&P 500 firms and Domini 400 for 1991 forward. KLD has expanded its coverage universe twice: once in 2001 to include the largest 1,000 U.S. companies, and once more in 2008 to include the largest 3,000 U.S. companies. The table below, taken from the KLD manual, shows these expansions in more detail.

**Table 2.1. Companies KLD researchers use to evaluate CSR activities**

<b>Universe of Coverage</b>	<b>1991–2000</b>	<b>2001</b>	<b>2002</b>	<b>2003–2007</b>	<b>2008–present</b>
S&P 500 Index	X	X	X	X	
Domini 400 Social Index	X	X	X	X	
1,000 Largest U.S. Public Companies by Market Capitalization		X	X	X	
Large-Cap Social Index			X	X	
2,000 U.S. Public Small-Cap Companies				X	
Board Market Social Index				X	
3,000 Largest U.S. Public Companies by Market Capitalization					X

KLD researchers provide a snapshot of the companies' CSR profiles at calendar year end. Data for the companies' previous-year CSR activity is generally available by early February. KLD's CSR ratings are designed primarily as binary variables.

More precisely, the KLD database evaluates firms' CSR activities using approximately 80 indicators in seven major areas: community, corporate governance, diversity, employee relations, environment, human rights, and product. In addition to these seven major areas, KLD statistics cover six other controversial industries (alcohol, gambling, firearms, military, nuclear power, and tobacco) that researchers usually exclude from their CSR investigations (Mishra and Modi, 2013). For each of the aforementioned seven major categories, on the other hand, the KLD database reports CSR strengths and concerns.

KLD researchers use a series of dummy variables to identify various CSR strengths or concerns, whereby a value of 1 indicates that the firm's CSR has a particular strength or concern, and a value of 0 indicates that the firm's CSR does not have the particular strength or concern. For example, KLD evaluates a firm's employee relations based on 12 subcategories, seven of which are strengths (union relations, no-layoff policy, cash profit-sharing, employee involvement, retirement benefits, health and safety, and other strengths) and five of which are concerns (union relations, health and safety, workforce reduction, retirement benefits, and other concerns).

If firm A, for example, has four of the seven strengths, it receives a value of 1 for each of those strengths and 0 for the other three, giving its employee-relation score a 4 out of the maximum value (7). On the other hand, if firm A performs badly under two of the five subconcerns of employee relations, firm A receives a 1 for each of those two subconcerns and 0 for the other three, giving its employee-relation concerns a score of 2 out of the maximum value (5).

## **2.4. Variables Measurement**

### ***2.4.1. Dependent Variable***

We define strategic alliances as short- or long-term voluntary collaborations between organizations, involving exchange, sharing, or co-development of products, technologies, services, capital, or firm-specific assets to pursue a common set of goals or to meet a critical business need (Gulati, 1995a, 1995b, 1999; Parkhe, 1993).

This paper examines factors that affect firms' likelihood of forming alliances in each period of the investigation. As such, the unit of analysis in this paper is the firm-

year. A record for each firm in each year over the period covered in the sample indicates whether the firm has entered into an alliance. Hence, alliance formation is a dichotomous variable that equals 1 if the firm forms an alliance in a particular year and 0 otherwise.

## **2.4.2. Independent Variables**

### **2.4.2.1. Corporate Social Responsibility (CSR) Measure**

Following the CSR literature, our measure of CSR includes six of the seven major categories (community, corporate governance, diversity, employee relations, environment, and product) that KLD reports. We exclude the human rights category from our sample, as the KLD database does not introduce it until 2002 and it does not apply to most companies. The human rights category relates to controversies in South Africa, Northern Ireland, Burma, and Mexico, where few firms operate. Information in this category is often missing in the KLD database (Strike *et al.*, 2006; Ioannou and Serafeim, 2010; Hong *et al.*, 2012; Kim, *et al.*, 2012; Cho *et al.*, 2013; Mishra and Modi, 2013).

CSR researchers typically use KLD to construct different measures of CSR. Some studies create a net value measure of CSR by subtracting CSR concerns from CSR strengths (Siegel and Vitaliano, 2007; Hong *et al.*, 2012; Kim *et al.*, 2012; Pam, 2012; Servaes and Tamayo, 2012), and others create a simpler measure of CSR by summing CSR strengths and concerns independently from each other (Waddock and Graves, 1997; McGuire *et al.*, 2003; Strike *et al.*, 2006; Ioannou and Serafeim, 2010; Benson and Davidson, 2010; Erhemjamts *et al.*, 2011; Zyglidopoulos, *et al.* 2012; Cho *et al.*, 2013; Mishra and Modi, 2013).

Even though the net-value measure of CSR is more appealing than simply summing CSR strengths and concerns, the literature does not use it much. Scholars believe that subtracting CSR concerns from CSR strengths could lead to a loss of information and hence provides no meaningful measure of CSR (Erhemjamts *et al.*, 2011; Cho *et al.*, 2013). A firm, for example, with six CSR strengths and five concerns is the same as a firm with two CSR strengths and one concern under that method.

McGuire *et al.* (2003) point to the empirical evidence in the literature suggesting that strengths tend to offset weakness, which is not considered when constructing the net value measure of CSR. In the same vein, Ioannou and Serafeim (2010) discuss the lack of

universally accepted weights for each CSR component (e.g., community, product, etc.). In other words, weights or importance of strengths and different CSR categories are absent when using a net-value measure of CSR.

Notably, the number of KLD indicators or subcategories that measure CSR strengths and concerns varies from year to year in the KLD database. For example, KLD uses six indicators for community strengths in 1995 and seven in 2007. Accordingly, we create a scale for each category in KLD (e.g., product, community and employee) for each year, using the maximum number of strengths applicable for that category. Going back to our earlier example, if a firm has four strengths in the community category in 1995 and 2007, its scale would be  $4/6 = 0.66667$  and  $4/7 = 0.571$ , respectively. The community-strength scale in 2007 would be slightly lower than 1995 due to the additional strength indicator used in 2007.

Consequently, our measure of a firm's positive/good CSR rating is the aggregate of the firm's six-dimension scale of CSR strengths. As discussed, we first calculate the scale for each of the six categories for each firm in our sample and then calculate an index of the six scales' strengths as an indicator of positive/good CSR for firm  $i$  in year  $t$ . Even though we did not use the overall measure of CSR in our main regressions, we still use it to test our results' sensitivity and robustness. Results for this overall measure are available in the robustness section of the paper.

#### ***2.4.2.2. Stakeholder Awareness of Firms' CSR Activities***

Servaes and Tamayo (2012) argue that advertising intensity increases customer awareness and prompts them to become further informed about the firms' CSR activities. The authors' investigation supports their claim that "firms that advertise more receive more press coverage, suggesting that advertising enhances awareness about the company" (Servaes and Tamayo, 2012). We follow Servaes and Tamayo (2012) and measure stakeholder awareness of CSR activities by using firms' advertising intensity. Advertising intensity is a company's advertising expenditures divided by its sales. Conducting some explorative analysis, however, we find that approximately 61.4 percent of our data is missing advertising-expenditure data. We follow the literature and solve the missing-variable problem by first replacing the missing advertising expenditure with a

value of 0. For further robustness we, also, remove those observations (with missing advertising expenditures) and check the sensitivity of our analysis.

#### ***2.4.2.3. Firms' Prior Alliance Experience***

Consistent with prior empirical investigations, we measure firms' prior alliance experience by counting the alliances that a firm is involved in prior to a given year (from 1990 forward). These alliances can be of any kind (equity or nonequity) and type, such as marketing, manufacturing, or supply.

#### ***2.4.3. Control Variables***

We include several variables to ensure the robustness of our results and control for alternative factors that may influence the formation of ventures between firms. Following prior investigations in alliance formation, we control for time, sector, and firm-level attributes.

##### ***2.4.3.1. Size***

Controlling for size is essential to isolate and avoid spurious age effects due to the expected positive correlation between a firm's age and size; doing so reduces the threat of unobserved heterogeneity (Rothaermel and Boeker, 2007). Larger firms may have a higher tendency to enter alliances, leading scholars to conclude that the quest for market power may be an important consideration in alliance formation (Gulati, 1999). Size is still a control variable in these investigations, despite its mixed results on such ties (e.g., Gulati, 1995a, 1995b; Rothaermel and Boeker, 2007; Wang and Zajac, 2007). Gulati (1999) attributes such behavior to the possibility that size might have a nonlinear relationship with alliance formation. Subsequently, we control for size and measure it using the log of firms' total assets.

##### ***2.4.3.2. Performance***

Overall performance is generally a valuable factor in predicting firm behavior (Gulati, 1999) and more specifically interfirm strategic choices (Wang and Zajac, 2007).

The heightened proclivity of poorly performing firms to seek alliances for the purpose of improving their performance leads some researchers to conclude that firm performance is an important factor in alliance formation (Gulati, 1995b; Wang and Zajac, 2007). Gulati (1995b) also note that firms with good performance may seek alliances to leverage some of their success.

Return on assets (ROA) is one of the most common indicators for firm performance in the literature. Accordingly, we use ROA, which is calculated by dividing operating income before depreciation by total assets.

#### ***2.4.3.3 Solvency and Debt Ratios***

Firms may form alliances to share the costs of new projects, especially those involving large resource outlays and risks (Gulati, 1995b). Consequently, firms' financial liquidity is a viable factor in alliance formation.

It might be necessary, however, to first distinguish between solvency and long-term debt ratios when examining firms' financial liquidity. Solvency often reflects a firm's ability to meet its immediate financial obligations, but the long-term debt ratio reflects the firm's long-run financial obligations. We use the quick ratio, which equals current assets minus inventory, divided by current liabilities, as our measure of solvency. We calculate debt ratio by dividing long-term debt by total assets.

#### ***2.4.3.4. Financial Constraints***

Strategic alliances are often a means to gain access to resources a firm might lack but must acquire to be able to continue its operations (Day, 1995; Varadarajan and Cunningham, 1995; Lambe *et al.*, 2002). Scholars, in turn, generally believe firms' financial resources are an important predictor of their propensity to form alliances (Gulati, 1999; Chang, 2008). The idea is that financially constrained firms are more likely to form strategic alliances because they need to fund their projects and/or operations.

Drawing from the finance literature, we measure firms' financial constraints using Standard & Poor's long-term domestic issuer credit rating (e.g., Almeida *et al.*, 2004; Denis *et al.*, 2010). The premise is that firms with access to the debt market have more options to raise funds, indicating their financial capabilities. Thus, we create a binary

variable *unconstrained*, which equals 1 if the firm has a long-term credit rating (signifying its ability to access and raise funds from the debt market); it equals 0 otherwise.

#### 2.4.3.5. Year Dummies

We include a series of dummy variables to capture any temporal trends that may affect alliance formation.

#### 2.4.3.6. Industry Dummies

We include industry dummy variables for each firm to control for specific industry characteristics that may affect firm behavior and alliance formation. We use the first digit of each firm's SIC code to create the industry dummies.

Table 2.2 provides a summary of variables in the analysis, along with their sources. All accounting variables lag one fiscal year.

**Table 2.2. List of variable definitions and sources**

Variable Name	Definition	Source
Alliance	Whether a firm has entered into an alliance in a given year	SDC
Goodcsr rating	The sum of the average CSR strengths	Calculated (using KLD)
Goodcsr <sup>2</sup>	goodcsr*goodcsr	Calculated
Awareness	Advertising expenditures divided by sales	Calculated (using Compustat)
CSR interaction with awareness	Goodcsr* awareness	Calculated (using KLD and Compustat)
Firm's prior alliance experience	Cumulative total alliances the firm has entered until the previous year	Calculated (using SDC)
Size	Log of total assets	Compustat
Unconstrained (financially unconstrained firms)	Whether a firm has access to the debt market (indicated by firms' S&P long-term domestic issuer credit rating)	Calculated (using Compustat long-term credit rating)
Performance	Firm's ROA, calculated as operating income before depreciation, over total	Calculated (using Compustat)

	assets	
Debt ratio	Long-term debt divided by total assets	Calculated (using Compustat)
Solvency	A firm's quick ratio, which is defined as current assets minus inventory divided by current liabilities	Compustat
Year dummy	A dummy variable for each year, 1991 to 2010	Calculated
Industry dummy	A dummy variable for each industry based on first digit of SIC code	Calculated (using CRSP)

## 2.5. Methods

We employ a logit regression model to estimate the impact of positive/good CSR ratings on the probability of alliance formation, controlling for firm-level characteristics, time, and industry. Scholars investigating the probability of alliance formation (a dichotomous dependent variable) with firm-year as the unit of analysis use logit models more frequently as their analytical tool (e.g., Gulati, 1995b). Nevertheless, we test the robustness of our results using different regression techniques (i.e., Fama-MacBeth and random-effect logistic regression) and provide the results in the robustness section.

We estimate a series of models, starting with controls, and then introduce blocks of conceptually related variables. We also use an interaction term to investigate whether the relationship between a firm's good CSR rating and its likelihood of alliance formation varies with alliance experience and/or with stakeholder awareness of the firm's CSR activities.

Next, we divide the sample into two groups (firms with prior alliance experience and firms with no prior alliance experience) to more thoroughly investigate the effect of experience on the relationship between the moderating variable (*awareness*) and good CSR's impact on alliance formation. Finally, we cluster all of our logit regressions by firm because our sample contains companies that form multiple alliances over the years of coverage.

## 2.6. Results

Tables 2.3 and 2.4 provide descriptive statistics for the variables and the correlation matrix among variables, respectively. The correlations among our key variables in table 2.4 suggest no significant multicollinearity problems. However, looking at the descriptive analysis in table 2.3, some concerns arise for a few constructs, namely performance, debt, solvency, and awareness. Some firms have high performance (measured as ROA) ratios of approximately 431 percent and low ratios of -355 percent, which are highly unlikely in real-world situations. After further investigation, we find that some of those firms to have a negative net worth.

Accordingly, we use two steps to ensure the robustness of our analysis. First, we Winsorize performance by 1 percent on both tails. Second, in our robustness check we drop observations with negative net worth from our sample. We similarly Winsorize both *awareness* and *solvency* at the 1 percent level because of the high kurtosis that characterizes these variables. We find one outlier with a debt ratio of 6.88, which we drop from our sample.

**Table 2.3. Descriptive statistics**

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
Alliance	24321	0.192	0.394	0	1
Good CSR	24321	0.270	0.413	0	5.064
Alliance intensity	24321	5.490	24.655	0	675
Total assets (in millions)	24321	4989.2	14184.020	2.421	355935
Debt ratio (Long-term debt/total assets)	24321	0.195	0.211	0	6.879363
ROA	24321	0.118	0.163	-3.545	4.305399
Quick ratio	24321	1.855	2.536	0.017	57.733
Advertising exp./sales	24321	0.014	0.088	0	12.5
S&P long-term domestic issuer credit rating	24321	0.333	0.471	0	1

**Table 2.4. Correlation matrix among major variables**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Alliance	1								
(2) Good CSR	0.17*	1							
(3) Alliance intensity	0.25*	0.38*	1						
(4) Total assets	0.22*	0.40*	0.26*	1					
(5) Debt ratio	-0.04*	-0.03*	-0.05*	0.24*	1				
(6) ROA	0.01	0.10*	0.03*	0.22*	-0.01	1			
(7) Quick ratio	-0.01	-0.09*	-0.02*	-0.33*	-0.18*	-0.23*	1		
(8) Advertising exp./sales	0.01	0.02*	0.01	-0.03*	-0.00	-0.05*	-0.01	1	
(9) S&P long-term domestic issuer credit rating	0.06*	0.23*	0.11*	0.53*	0.25*	0.10*	-0.22*	-0.01	1

\*Significant  $p < 0.01$

Tables 2.5 and 2.6 present logistic regression analysis of alliance formation. We use a hierarchical regression approach in which we add our independent variables in blocks to the base model (model I) that contains only the control variables. Hence, we construct an organized system for testing our hypotheses. For example, model II tests the relationship stated in hypothesis 1a, model III tests hypothesis 1b, and so forth. This approach is widely implemented in prior research (e.g., Gulati, 1995a; Chung *et al.*, 2000; Rothaermel and Boeker, 2008; Lin *et al.*, 2009).

In models II and III, we assess the impact of firms' positive/good CSR ratings and its diminishing effects on the probability of forming an alliance, respectively. We also test the impact of stakeholder awareness of firms' CSR activities on the relationship between CSR and alliance formation in model IV. As for testing the impact of alliance experience on the (1) relationship between firm's CSR activities and alliance formation, and (2) the moderating effect of "stakeholder awareness" on CSR and alliance formation, models V and VI address these investigations respectively. In all six regression blocks in table 2.5, each model represents significant improvement over the baseline model (at  $p < 0.01$  or smaller). All of the coefficients in tables 2.5 and 2.6 are in marginal-effects format.

In hypothesis 1a, we postulate that a firm's positive/good CSR rating increases the probability of forming an alliance. *Ceteris paribus*, the results across all models (tables 2.5 and 2.6) show that positive/good CSR is significant (at  $p < 0.01$  or less) and positively associated with the probability of alliance formation. Model II (table 2.5), which specifically tests hypothesis 1a, indicates that a one-unit increase in a firm's positive/good CSR rating increases the probability of that firm forming an alliance by 0.0169.

These results indicate that the higher a firm's CSR rating, the more likely it is to form an alliance, supporting hypothesis 1a. We argue in hypothesis 1b, however, that the impact of CSR on alliance formation increases at a decreasing rate. The squared term of *goodcsr* in model III is significant (at  $p < 0.01$ ) and negatively correlated with the likelihood of alliance formation, supporting hypothesis 1b.

Model IV (table 2.5) tests hypothesis 2, which address how stakeholder awareness of firms' CSR activities affects the relationship between positive/good CSR ratings and

alliance formation. The interaction term of *goodcsr* and stakeholder awareness in model IV is insignificant, not supporting hypothesis 2.

**Table 2.5. Logit regression results of alliance formation**

<b>Variables</b>	<b>Model I</b>	<b>Model II</b>	<b>Model III</b>	<b>Model IV</b>	<b>Model V</b>	<b>Model VI</b>
<b>Control Variables</b>						
S&P lt. credit rating	-0.016** (0.007)	-0.016** (0.007)	-0.016** (0.007)	-0.016** (0.007)	-0.016** (0.006)	-0.016** (0.007)
Debt ratio	-0.076*** (0.018)	-0.071*** (0.018)	-0.069*** (0.019)	-0.068*** (0.018)	-0.065*** (0.018)	-0.068*** (0.018)
ROA	-0.199*** (0.024)	-0.199*** (0.024)	-0.206*** (0.024)	-0.208*** (0.024)	-0.200*** (0.024)	-0.205*** (0.024)
Log (total assets)	0.034*** (0.003)	0.033*** (0.003)	0.033*** (0.003)	0.034*** (0.003)	0.031*** (0.003)	0.033*** (0.003)
Quick ratio	0.008*** (0.001)	0.007*** (0.001)	0.007*** (0.001)	0.008*** (0.001)	0.007*** (0.001)	0.008*** (0.001)
Alliance intensity	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.008*** (0.001)	0.006*** (0.001)
<b>Predictor Variables</b>						
Good CSR		0.017* (0.009)	0.069*** (0.016)	0.067*** (0.016)	0.035*** (0.012)	0.059*** (0.016)
Good CSR <sup>2</sup>			-0.037*** (0.012)	-0.036*** (0.012)	0.003 (0.007)	-0.027** (0.012)
Awareness				0.340*** (0.116)		0.365*** (0.092)
CSR *Awareness				-0.143 (0.227)		
CSR*Intensity					-0.002*** (0.000)	
CSR*Intensity*Awareness						-0.020*** (0.006)

Year dummy*	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy*	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24320	24320	24320	24320	24320	24320
Improvement over base model ( $\Delta\chi^2$ )		3.13*	18.45***	30.87***	71.54***	46.23***

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Marginal effects; Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

We argue in hypothesis 3a that a firm's positive/good CSR rating has a weaker effect on alliance formation for firms with alliance experience. As for hypothesis 3b, we postulate that a firm with prior alliance experience does not need to advertise its CSR activities to highlight its trustworthiness or its resources and capabilities compared to those with no alliance experience. To test hypothesis 3a, we interact alliance experience with firms' positive/good CSR activities in model V (table 2.5). To test hypothesis 3b, we first create a three-way interaction between alliance experience, firms' positive/good CSR activities, and stakeholder awareness in model VI (table 2.5).

To better understand the impact of the hypothesized relationship, we split our sample into two subsamples (experienced and unexperienced firms) and run our main regression on both samples. More specifically, we first drop those firms that formed alliances prior to the year of concern, leaving only firms with no alliance experience, and then we run our main regressions on this subsample (represented in the second column in model VII, table 2.6). Afterward, we drop those firms with no prior alliance experience, leaving only firms with experience. We run our regressions on this subsample as well (represented in the first column in model VII, table 2.6).

Model V tests hypothesis 3a, which addresses the weaker impact of positive/good CSR on alliance formation for experienced firms; it finds that the interaction term between positive/good CSR rating and alliance intensity is significant (at  $p < 0.01$ ) and negatively associated with alliance formation. The results in model V thus indicate that for firms with alliance experience, CSR activities have a weaker impact on alliance formation, supporting hypothesis 3a.

Similarly, in model VI (table 2.5) we find the three-way interaction term between firms' positive CSR activities, alliance intensity, and stakeholder awareness to be significant (at  $p < 0.01$ ) and negatively correlated with alliance formation. To better understand the meaning behind the interaction term in model VI (table 2.5), we look at the interaction term of *goodcsr* and stakeholder awareness in model VII (table 2.6). The interaction term in this model is positively significant (at  $p < 0.10$ ) for firms with no alliance experience but is insignificant for those with experience (model VII, table 2.6). This suggests that firms with no prior alliance experience are more likely to form alliances when their stakeholders are aware of their positive/good CSR activities.

Conversely, the results also show that firms with alliance experience do not benefit from increasing stakeholders' awareness via advertising intensity of their CSR activities, thus supporting hypothesis 3b.

**Table 2.6. Logit regression results for alliance formation, broken into two samples based on prior alliance experience (experienced vs. unexperienced firms)**

	Model VII	
	Experience	No Experience
S&P lt. credit rating	-0.052*** (0.017)	-0.004 (0.003)
Debt ratio	-0.160*** (0.043)	-0.018* (0.010)
ROA	-0.318*** (0.055)	-0.067*** (0.013)
Log (total assets)	0.061*** (0.006)	0.011*** (0.001)
Quick ratio	0.018*** (0.003)	0.002** (0.001)
Good CSR	0.109*** (0.020)	0.011* (0.005)
Awareness	0.504* (0.288)	0.122*** (0.045)
CSR*Awareness	-0.394 (0.463)	0.156** (0.078)
Year dummy*	Yes	Yes
Industry dummy*	Yes	Yes
Observations	10945	13371

Marginal effects; Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Consistent with earlier research, firms' prior alliance experience is significant (at  $p < 0.01$ ) and positively associated with the likelihood of alliance formation across all models. This indicates that the more alliance experience a firm gains, the more likely it is to enter into one. *Size* (log of total assets) and *solvency* (quick ratio) are also significantly positive across all models, suggesting their positive influence on the likelihood of a firm entering an alliance. *Debt ratio* and *performance* (ROA), on the other hand, are significant and negatively associated with firm's likelihood of forming an alliance.

Additionally, in almost all of our models we find a significant, negative association between financially unconstrained firms and the probability of forming an alliance ( $P < 0.01$  or less); this is not the case, however, for firms with no alliance experience. This suggests that financially unconstrained firms are less likely than financially constrained firms to form alliances.

## **2.7 Robustness Tests**

We conduct a number of additional tests to determine the sensitivity and robustness of our results. Tables 2.7 and 2.9 display a side-by-side comparison of these robustness tests and of model III in table 2.5 (our main regression model).

### ***2.7.1. Corporate Social Responsibility Measure***

In our main regression models, we measure CSR by summing the averages of the CSR strengths. We use this measure instead of the overall measure because it has fewer problems, as discussed in section 2.4.2.1. Regardless, however, scholars still use the net value of CSR (subtracting concerns from strengths) in their investigations. Assuming that the previously discussed issues associated with the overall measure of CSR are minimized when considering different industries and/or stakeholders, we use a net measure of CSR as one of our robustness tests.

We construct an overall measure of CSR by first summing the average of positive and negative CSR activities independently. Second, we subtract the calculated total concerns from the calculated total strengths to create a net measure of CSR. Finally, because we only hypothesize about positive/good CSR ratings, we replace all negative values of the net measure, which result from step two, with zeros.

Column (ii) in table 2.7 shows the impact of the overall CSR measure and its effect on firms' probability of forming alliances. Consistent with our main model, the results in column (ii) show that CSR is significant and positively associated with firms' likelihood of forming an alliance. It also shows that CSR increases at a decreasing rate. In other words, the results of our main regressions still hold when using a different measure of CSR.

### ***2.7.2. Different Regression Tools***

Using an unbalanced panel dataset, we employ a logit regression analysis in our main models to test the effect of the independent variables on the probability of firms' forming an alliance. We control for firm-level characteristics as well as industry and time to assess the impact of CSR on firms' likelihood of alliance formation.

There is a possibility, however, that firms differ in their propensity to form alliances because of unobserved factors that our independent variables do not capture. If this noise is systematic for the same units over time, it could cause an autocorrelation. Accordingly, we use the random-effects logit model, as well as Fama-MacBeth, to address the problem of unobserved heterogeneity over time.

Fama-MacBeth is a very popular procedure in corporate finance literature when dealing with autocorrelation (Petersen, 2009). A simple way to explain how Fama-MacBeth functions is to break it down into two steps. "In the first step, for each single time period a cross-sectional regression is performed. Then, in the second step, the final coefficient estimates are obtained as the average of the first step coefficient estimates" (Caskey, n.d.).

We re-estimate our main regression, model III of table 2.5, using Fama-MacBeth and random-effects logit models. These findings are reported in columns (iv) and (iii), respectively. Comparing the coefficients' significance and direction of the two different analytical tools with our main regression shows consistent results. Accordingly, our findings still hold when using a different analytical tool that is aimed to solve the autocorrelation problem.

### ***2.7.3. Treatment of Missing Advertising Expenditures***

Earlier in our main regressions, we set advertising expenditures equal to 0 when the data is missing, consistent with prior literature. To determine the robustness of our findings, however, we use an alternative approach in dealing with these missing values. Specifically, we remove all observations for which advertising expenditures are missing and re-estimate model III of table 2.5. We report the results of this approach in column (v) of table 2.7.

The results are very similar to those of our main regression. Our key independent variable (*goodcsr*) is significant and positively associated with the likelihood of alliance formation, supporting hypothesis 1a. The squared term of CSR, however, is insignificant in column (v) table 2.7.

#### **2.7.4. Firms with Negative Net Worth**

We noted our concern about some observations' negative net worth, even though we Winsorized performance by 1 percent on both tails to address unrealistically high and low ROA ratios. Usually, firms with negative net worth are on the edge of bankruptcy, which could lead to desperate behavior. It is also very unlikely that these firms are able to form alliances or invest in CSR. Putting all of this together, these observations may bias our results.

Accordingly, we remove firms with negative net worth and re-estimate our main regression (model III in table 2.5). We report the results of this re-estimation in column (vi) of table 2.7. Consistent with our main model, the impact of positive/good CSR is significant and positively correlated with firms' likelihood of forming alliances (hypothesis 1a) (column vi of table 2.7). Also, CSR is increasing at a decreasing rate (hypothesis 1b) (column vi of table 2.7). In other words, the results of our main regression still hold after removing firms with negative net worth.

#### **2.7.5. Repeated Alliances**

As mentioned, when firms announce multiple alliances within the same year, we only keep the first of these alliances to avoid biasing our results. In this section, however, we bring those alliances back into the sample and test the sensitivity of our analysis. The results are mostly consistent with our main hypothesis showing good/positive CSR to be significant (at  $p < 0.05$ ) and positively associated with alliance formation (model vii, table 2.7). Even though the squared term of CSR is negatively correlated with alliance formation, it is insignificant.

**Table 2.7. Side-by-side comparison between robustness tests and model III from main regression in table 2.5**

This table compares robustness tests and model IV from our main regression in table 2.5. Model (i) represents our main regression model from table 2.5, in which we perform a logit regression analysis of the impact of CSR on alliance formation. Model (ii) displays the result of a logit regression analysis of the impact of an overall measure of CSR (where CSR concerns are subtracted from CSR strengths) on firms' likelihood of forming alliances. Model (iii) shows a random-effect logit regression analysis of the impact of CSR on alliance formation. Model (iv) displays the impact of CSR on alliance formation using Fama-MacBeth regression analysis. Model (v) shows the impact of CSR on alliance formation after dropping observations with missing advertising expenditures. Model (vi) presents the impact of CSR on alliance formation after dropping firms with negative net worth. Model (vii) tests the influence of firm's positive CSR activities on alliance formation after adding back the repeated alliances that some firms formed within the same year.

	(i) Main Model	(ii) Overall Measure of CSR	(iii) RE Logit	(iv) Fama- MacBeth	(v) No Missing Ad	(vi) No Negative Net Worth	(vii) Repeated Alliances
Good CSR	0.644*** (0.151)	0.562*** (0.176)	0.620*** (0.140)	0.156*** (0.024)	0.657*** (0.205)	0.618*** (0.156)	0.335** (0.132)
Good CSR <sup>2</sup>	-0.343*** (0.112)	-0.44** (0.173)	-0.304*** (0.076)	-0.065*** (0.018)	-0.159 (0.117)	-0.348*** (0.117)	-0.077 (0.060)
Constant	-7.924*** (0.674)	-8.156*** (0.683)	-8.741*** (0.685)	-0.386*** (0.067)	-9.134*** (1.216)	-8.187*** (0.727)	-8.592*** (0.808)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24320	24320	24320	24320	9382	23462	32216

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### 2.7.6. Sarbanes-Oxley

In section 2.2.1.4., we explain how CSR is a measure of firms' trustworthiness based on general, conceptual, and empirical evidence. To further support this link between CSR and trust, we use Sarbanes-Oxley Act as an exogenous factor.

An increasing number of fraudulent activities committed by high-profile companies (e.g., Enron, WorldCom, Global Crossing, and Tyco) have eroded public confidence in corporate governance, the financial reporting process, and audit functions. The Sarbanes-Oxley Act of 2002 was an attempt to regain confidence and trust in American corporations and the accounting profession (Cohen *et al.*, 2008), making it a good exogenous event for trust. This bill, for example, implements very severe penalties for fraudulent financial activities, increases the independence of outside auditors, and in general forces companies to be more transparent.

In order for businesses to rebuild stakeholder trust, principle-centered leadership and organizational transparency are essential (Bandsuch *et al.*, 2008). Accordingly, firms may have become more trustworthy after the enactment of Sarbanes-Oxley in 2002. Because we argue that CSR captures firms' trustworthiness, we expect the impact of CSR on alliance formation to be smaller after 2002 (the passage of Sarbanes-Oxley). The logic behind this argument is that after Sarbanes-Oxley, which increased transparency (and, as a result, trust among stakeholders), firms need to rely less on CSR as an indication of trust to assess other firms' opportunistic behavior.

Consequently, we examine the impact of Sarbanes-Oxley as a moderating variable on the relationship between positive/good CSR rating and the probability of alliance formation (while controlling for the same factors presented in the main regression). We create a dummy variable, *SOX*, which equals 1 if the company data appears after 2002, and 0 for the data before 2003. The results are reported in table 2.8.

The interaction term of *SOX* and *CSR* is significant (at  $p < 0.01$ ) and negatively associated with the probability of forming an alliance (model 1, table 2.8). This supports our claim that firms rely less on CSR as an indication of firms' trustworthiness after the enactment of Sarbanes-Oxley in 2002.

**Table 2.8. Logit regression analysis to assess the impact of Sarbanes-Oxley**

This table provides the results of the logit regression analysis to assess the impact of Sarbanes-Oxley as a moderating variable on the relationship between positive/good CSR rating and the probability of alliance formation. The model controls for firm characteristics, which include performance, size, solvency, debt ratio, financial constraints, and prior alliance experience. A year dummy variable exists for each year of coverage. We also create an industry dummy variable for each industry based on the first digit of the SIC code. *SOX* is a dummy variable that indicates if a firm's data is from a time after or before *SOX*'s passage in 2002.

	<b>Model (1)</b>
	<b>SOX</b>
Good CSR	0.368*** (0.107)
After SOX	-3.587*** (0.389)
SOX*Good CSR	-0.425*** (0.140)
Constant	-4.644*** (0.604)
Controls	Yes
Year Dummy	Yes
Industry Dummy	Yes
Observations	24320

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### **2.7.7. Firms' Commitment to CSR**

So far, we find that the higher a firm's positive/good CSR rating is, the more likely it is to form an alliance. We, also, find in the previous robustness check (Sarbanes-Oxley) that CSR behaves consistently with trust, indicating that it is a good measure of trust.

Accordingly, a commitment to CSR may strengthen a firm's trustworthiness indicators. In other words, the longer a firm invests in CSR, the stronger its trustworthiness indicator becomes. As such, we need to distinguish between the effect of a firm's commitment to CSR and higher CSR ratings on the strength of a firm's indication of trustworthiness. We control for the commitment to CSR and re-estimate model III in table 2.5 to test the sensitivity and robustness of our results.

We measure the commitment to CSR by using the number of years a firm has been evaluated in KLD. More specifically, we create a dummy variable, *KLD2year*,

which equals 1 if the firm has been evaluated in KLD database for two years, and 0 otherwise. We report the results in column 2 of table 2.9.

The results in column 2 of table 2.9 show that a positive/good CSR rating is significant and positively correlated with a firm's likelihood of forming an alliance, which is consistent with our main finding (column 1, table 2.9). The squared term of positive/good CSR is also significant and negatively associated with the probability of forming alliances. In other words, even after controlling for the commitment to positive/good CSR, the results of our main regressions still hold.

**Table 2.9. Robustness test controlling for CSR commitment**

Column (1) represents our main regression model from table 2.5, in which we perform a logit regression analysis of the impact of positive/good CSR on alliance formation. Column (2) shows a logit regression analysis of the impact of good/positive CSR on a firm's likelihood of forming an alliance while controlling for the firm's commitment to CSR, which is measured by the number of years a firm has been in KLD.

	(1) Main Model	(2) Controlling for <i>KLD2year</i>
Good CSR	0.630*** (0.150)	0.682*** (0.154)
Good CSR <sup>2</sup>	-0.333*** (0.114)	-0.369*** (0.116)
kld2year		0.190*** (0.057)
Constant	-7.991*** (0.670)	-8.150*** (0.666)
Controls	Yes	Yes
Year Dummy	Yes	Yes
Industry Dummy	Yes	Yes
Observations	24320	24320

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### 2.7.8. KLD's Expansion in 2003

Over the sample period, the construction of the KLD dataset undergoes substantial changes, with the most dramatic taking place in 2003. Specifically, KLD mostly covers large firms in the years 1991–2002 to evaluate firms' CSR activities (table

2.1). Yet, in 2003 KLD researchers expanded their coverage and included 2,000 U.S. public small-cap companies. This expansion, however, might bias our sample, as most of our observations during the first years of analysis include large firms only. Large firms could have access to more resources and hence have better CSR ratings than smaller firms.

Consequently, we separate our sample into two time periods: 1991–2002, and 2003–2010. We run our regression on both samples, and the results remain qualitatively unchanged across both samples (table 2.10).

**Table 2.10. Robustness test on KLD’s inclusion of small firms in 2003**

Column (1) represents our main regression model taken from table 2.5, in which we perform a logit regression analysis of the impact of positive/good CSR on alliance formation. Column (2) shows a logit regression analysis of the impact of good/positive CSR on a firm’s likelihood of forming an alliance, after dropping observations in 1991–2002, which include mostly large firms. We repeat the same analysis over 1991–2002 (the ones we drop earlier in column 2) to evaluate our analysis on these large firms alone (in column 3).

	(1) Main Model	(2) After 2002	(3) Before 2003
Good CSR	0.644 <sup>***</sup> (0.151)	0.705 <sup>***</sup> (0.172)	0.657 <sup>***</sup> (0.243)
Good CSR <sup>2</sup>	-0.343 <sup>***</sup> (0.112)	-0.262 <sup>***</sup> (0.100)	-0.389 <sup>**</sup> (0.196)
Constant	-0.343 <sup>***</sup> (0.112)	-7.13 <sup>***</sup> (0.62)	-6.008 <sup>***</sup> (0.455)
Controls	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes
Observations	24320	17485	6832

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## 2.8 Conclusions, Limitations, and Further Research

Although CSR is getting increased attention from scholars across different disciplines, its role in strategic alliance literature is scarce. Prior investigations on alliances focus on firm partnerships with nongovernmental organizations (NGO) (e.g.,

Amran *et al.*, 2014; Baur *et al.*, 2011; Jamali *et al.*, 2011), paying little attention to the role of firms' CSR activities.

As we argue in this investigation, CSR can measure firms' trustworthiness, making it an eligible and important factor in alliance formation. Additionally, CSR can give firms access to other firms' information and unique resources such as loyal customer bases achieved via successful product differentiation strategies and advertising mechanisms (McWilliams *et al.*, 2006; Cho *et al.*, 2013; Albuquerque *et al.*, 2013; Cheng *et al.*, 2014). Our investigation thus expands the strategic alliance literature from its current focus of partnering with NGOs and introduces the role of firms' own CSR activities within the alliance context. That is, CSR is a good signal for alliance formation. More specifically, we examine the impact of firms' positive CSR activities on alliance formation. We also examine the moderating impact of stakeholder awareness of firms' CSR activities on the aforementioned relationship. Finally, we test the previous two analyses with respect to firms' prior alliance experience.

Previous studies on alliances often view trust in a postalliance context and pay little attention to its role before alliances form. Gulati (1995b), however, notes that social networks from prior alliances can enhance the trust between firms and thus affect their tendencies to form alliances. Accordingly, Gulati (1995b) is limited to firms with alliance experience only. It is not logical to assume that firms with no alliance experience are unable to indicate their trustworthiness.

Additionally, Gulati incorporates firms' resource interdependence in his argument regarding network structure, making the interpretation of his results more difficult. His measure of trust, established from repeated alliance interactions, depends on the success and failure of those prior alliances (Ring *et al.*, 1992). Our work could extend the knowledge of this subject (trust in alliance formation) by explicitly testing the impact of CSR, which measures firms' trustworthiness, on alliance formation regardless of firms' prior alliance experience.

Empirical investigations of trust within the alliance literature are limited, mainly because of the difficulties associated with operationalizing trust (Dyer and Chu, 2003). Based on general, conceptual, and empirical evidence from the CSR literature, this paper uses CSR as a measure of trust. Our work also provides further evidence to the link

between CSR and trust, using Sarbanes-Oxley as an exogenous shock of trust. Our results show that the impact of firms' positive CSR activities on alliance formation is greater before SOX.

Using a sample of 24,320 firm-year observations for 4,134 firms and 4,457 alliances over the 1991–2010 period, we find that a firm's likelihood of being a partner in an alliance increases with good CSR. Thus, to the extent that CSR is a proxy for trust, this finding supports the idea that CSR is a factor in alliance formation. In terms of resources, the results provide further evidence that CSR can increase a firm's likelihood of forming alliances, as they showcase (1) the firm's attractive resources, such as loyal customers and effective advertising, and (2) the ability to provide firm-specific information, reducing information asymmetry. We also find that the impact of a firm's positive CSR on alliance formation increases at a decreasing rate.

Building on Fang *et al.* (2012), Kumar *et al.* (2012), and Gulati's (1995b) argument that a network of prior alliances enhances trust among firms and provides firm specific information, we postulate that firms with prior alliance experience do not need CSR to indicate their trustworthiness or provide information about the quality of their resources, their capabilities, or their riskiness in order to enhance the likelihood of being a partner in an alliance. Our findings support our claim and reveal a significant negative impact of alliance experience on the relationship between CSR and alliance formation.

Using advertising as a method to increase the awareness of CSR (e.g., Servaes and Tamayo, 2012) we find that the moderating impact of stakeholder awareness of CSR on the relationship between firms' positive CSR and alliance formation is weaker for firms with alliance experience. Further analysis shows that for firms with no prior alliance experience, the use of advertising intensity to make stakeholders aware of their CSR activities significantly increases their probability of forming an alliance. This furthers our understanding of firms' CSR activities and the need for firms to use advertising intensity when they lack alliance experience.

In terms of managerial implications, our results offer a number of suggestions: first, managers can use firms' positive/good CSR rating to indicate or detect others' trustworthiness. Managers seeking alliances can also use advertising intensity when they

do not have any prior alliance experience to enhance their indication of trustworthiness and provide information about their firms' capabilities and resources.

A possible limitation of this work is that we use the KLD database, which only includes a specific list of companies. Companies do not necessarily stop their CSR activities if they are not included in the KLD database. This explains the positive coefficient of *KLD2year* in our robustness check.

Another possible limitation is our measure of CSR. Even though we follow the most common method in the literature, CSR measurement is still in its infancy. In particular, a more specific construct needs to take into account the significance of positive and negative CSR performance and properly weight it. It also does not deem any of the seven categories of CSR as more important for different industries. A firm, for example, might value environmental issues more heavily than employee relations in a specific industry.

Our work suggests several avenues for future investigations. One can, for example, test the market reaction to alliances formed when one of the partners is a socially responsible company. Because CSR measures firms' trustworthiness, that kind of investigation can add to the vast literature of trust in strategic alliances by comparing alliance performance for firms that form alliances with trust as an explanatory factor to firms that form alliances without indicating or detecting opportunistic behavior. This comparison could give value to trust as an important factor *ex-ante* for alliance success/performance.

Following Servaes and Tamayo (2012), we see great potential in exploring the available channels through which firms deliver their CSR activities or indicate their trustworthiness. In our current research, advertising intensity measures stakeholder awareness. However, firms with positive indications of trust or CSR involvement might wish to communicate this information actively through a different channel. A firm, for example, might prefer to communicate its trustworthiness through a network of prior alliances relative to other channels (such as advertising intensity) in specific situations. Consequently, future research may investigate the effectiveness and/or creditability of these channels.

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### **3. Paper 2: Does firm partnership with a socially responsible company increase value?**

#### **3.1. Introduction**

The growing prevalence of strategic alliances, as evidenced by the sharp increase in alliance formation over the last 20 years (Gulati, 1995a; Chung *et al.*, 2000; Kale *et al.*, 2002; Rothaermel & Boeker, 2007; Oxley *et al.*, 2009) has attracted attention from many scholars in multiple disciplines (Rever & Koza, 2000). According to a Booz-Allen and Hamilton report, the number of new alliances increased to 20,000 during 1987–1992 from 5,100 alliances and 750 during 1980–1987 and 1970s, respectively (Harbison & Pekar, 1998). More recently, a report by the Organization for Economic Cooperation and Development (OECD) (Kang and Sakai, 2001) highlights the dramatic increase in strategic alliance activity from 1,050 alliances in 1989 to 8,660 in 1999. Additionally, many empirical investigations show that strategic alliances create value for the participating firms (e.g., McConnell & Nantell, 1985; Woolridge & Snow, 1990; Koh *et al.*, 1991; Chan *et al.*, 1997; Das, Sen, and Sengupta, 1998; Anand & Khanna, 2000; Kale *et al.*, 2002). Anand and Khanna (2000), for instance, report that cumulative abnormal returns after the announcement of firms' alliance formation are 1.61 percent for joint ventures and 3.13 percent for nonequity alliances. Accordingly, Contractor and Lorang (2002) explain that strategic alliances are not a fad or even a phenomenon that is only here to stay, but is something that is set to grow rapidly.

Despite these findings, however, strategic alliance partners often do not capture the value created from such partnering activities (Anand & Khanna, 2000, Kale *et al.*, 2002; Das & Teng, 2003; Sampson, 2005; Gulati *et al.*, 2009). Anand & Khanna (2000) emphasize the difficulty in strategic alliances' value creation process, as evidenced by the publication of numerous scholars reporting the failure rate of alliances and the large number of firms that fail to realize the potential gain in value from such collaborations (see, for example, Kale *et al.*, 2002; Park & Russo, 1996; Coopers and Lybrand, 1986; Auster, 1986; Kogut, 1989; Porter 1987; Harrigan 1988). Using Chan *et al.* (1997) and Crutchley *et al.* (1991), Gulati (2009) states that only half of the partners in a strategic alliance receive positive market reactions. In view of this, most related studies investigate

the factors and conditions that influence firms' ability to create value within strategic alliances (e.g., Das, Sen, and Sengupta, 1998; Anand & Khanna, 2000; Gulati, 2009).

Scholars are paying more attention to firms' corporate social responsibility (CSR) in the recent years because more firms are engaging in such activities and acknowledging their importance (Ali *et al.*, 2014). CSR is believed to benefit companies in more than one way. For example, CSR can reduce firm risk, improve relations with regulators, generate brand equity, provide better access to valuable resources, reduce information asymmetry, indicate firm trustworthiness, and improve employee productivity (Heal, 2005; Ali *et al.*, 2014; Cheng *et al.*, 2014). Consequently, scholars find that CSR improves performance, ultimately creating value for shareholders. Waddock & Graves (1997), Lev *et al.* (2010), and Xin *et al.* (2013) find empirical evidence that further supports the positive impact of CSR on firm performance and value.

Recently supporting this stream of the literature, for example, Cheng *et al.* (2014) find that socially responsible firms face lower capital constraints, which enable firms to undertake profitable projects leading to increases in firm value. Harjoto *et al.* (2001), on the other hand, find that CSR improves firms' performance, measured as return on assets, and shareholders' value, calculated using firms' Tobin's q, because it reduces the conflict of interest between managers and stakeholders.

Although the strategic-alliance literature on firm value is vast and extensive, researchers pay less attention to the impact of firms' CSR activities on firm performance and/or value within the alliance context. Researchers within this stream of literature mainly focus on the causes of value creation (McConnell & Nantell, 1985), types of alliances (Koh *et al.*, 1991; Chan *et al.*, 1997), asymmetric value gains among partnering firms (Kumar, 2007), alliance experience (Anand & Khanna, 2000; Kale *et al.*, 2002; Gulati *et al.*, 2009), and other factors influencing the value from strategic alliances, such as partners' relative size (Das *et al.*, 1998), cooperative behavior and value of partners' resources (Kumar, 2010), and information asymmetry (Rever *et al.*, 2000). The role of CSR within the strategic-alliance literature, however, is limited to alliances between profit and nonprofit organizations (i.e., nongovernmental organizations) (Ali *et al.*, 2014). Consequently, in this study we investigate how allying with socially responsible companies affects firm value.

Jensen and Meckling (1976) note to Coase's (1937) theory of the firm and explain that firms are a nexus of contracts that strategic alliances are no exception to. Owen *et al.* (2013), for example, define strategic alliances as contractual agreements among independent firms focusing on mutually beneficial activities. According to the extant literature, however, contracts are inherently incomplete because of the contracting parties' inability to predict all current and future contingencies (Hart, 2001). Trust thus in a partner's intention and capability to fulfill and adhere to a contract is essential. Xin *et al.* (2013) note that firms investing in CSR tend to have stronger reputations for keeping their promises and fulfilling commitments in contracts (whether explicit or implied).

Using transaction cost economics (TCE) and resource-based view (RBV), we postulate that firms benefit from partnering with socially responsible companies through multiple channels such as trust and information asymmetry, increasing firm value. Ali and Francis (2014) claim that CSR can indicate and/or measure trustworthiness. The authors present general, conceptual, and empirical evidence linking the two constructs together (i.e., CSR and trust). Using Sarbanes-Oxley as an exogenous shock for trust, Ali and Francis (2014) provide further evidence of the link between CSR and trust. In terms of information asymmetry, Cho *et al.* (2013) reveal that firms' CSR reduces information asymmetry. Scholars explain CSR encourages firms to voluntarily disclose information, increasing transparency (Cho *et al.*, 2013; Cheng *et al.*, 2014).

From a TCE perspective, CSR can lower transaction costs, mitigate partners' opportunistic behavior, and alleviate problems arising from incomplete contracts via trustworthiness. Strategic alliance researchers find trust to be critical for alliances' success (Kale *et al.*, 2000; Dyer & Chu, 2003; Krishnan, Martin & Noorderhaven, 2006). Dyer & Chu (2003) explain that when trust is present, planning for all future contingencies is unnecessary, as alliance partners are confident that the other parties will behave fairly. Based on TCE's logic, the higher the asset specificity and opportunism, the more complex the contract between partnering firms becomes, making writing, monitoring, and enforcing contracts more difficult and costly (Barthelemy and Quelin, 2006). Accordingly, trusting a partnering firm *ex ante* is important for reducing these costs (Gulati, 1995a; Dyer & Chu, 2003; Krishnan, Martin, & Noorderhaven, 2006;

Hansen, Hoskisson, and Barney, 2008), thereby increasing superior information-sharing among allied partners and ultimately raising performance (Dyer & Chu, 2003).

Within the realm of RBV, CSR can increase firm value by indicating trustworthiness and providing potential investors and other stakeholders with firm-specific information. Hansen *et al.* (2008) note that highly detailed contracts can constrict partnering firms and as a result force them to forsake potential benefits and opportunities. Firms that trust their partners, however, can increase their value by properly identifying and utilizing opportunities arising from combining resources that are otherwise unavailable or hidden (Hansen *et al.*, 2008), and actively cooperating with partners instead of focusing on protecting core capabilities (Kale *et al.*, 2000; Hansen *et al.*, 2008).

Sometimes, however, firms are unable to properly identify the required capabilities and/or assets not because the partnering firm is hiding those resources, but because of the lack of information and vagueness surrounding them (Hansen *et al.*, 2008). From investors' point of view, reducing information asymmetry is important, as they might not have enough information or the ability to evaluate firms, especially when they are engaged in complicated projects that require certain insights or knowledge (Kumar and Park, 2012). Due to CSR's ability to reduce information asymmetry and provide firm-specific information, we posit that CSR affects the value of partners in strategic alliances.

The evidence of a connection between CSR and firm value does not stop there. A recent investigation by Xin *et al.* (2013), for example, finds a spillover effect among the benefits of transacting with socially responsible firms. The authors show that merging with high CSR acquirers relative to low CSR acquirers results in higher returns on the value-weighted portfolios for both the acquirers and the targets, larger increases in post-merger long-term operating performance and long-term stock returns, and a significant positive impact on the wealth of other stakeholders, such as the targets' customers and suppliers. Ali *et al.* (2014) argue that firms are more likely to form alliances when they engage in positive CSR activities, because doing so highlights their trustworthiness and valuable resources. The authors note that partnering firms also gain when customers spill over from their partners.

However, previous investigations such as Hart (2001) and Gulati (1995a) suggest that alliance partners turn to corporate governance (equity) for help with unforeseen future contingencies and aligning partners' interests. Rever *et al.* (2000) and Kumar (2007) both argue that equity alliances alleviate evaluation uncertainties when high information asymmetry exists. Researchers thus believe that nonequity alliances are riskier than equity alliances in controlling partners' opportunistic behavior (e.g., Gulati, 1995a; Oxley, 1997; Casciaro, 2003; Das & Rahman, 2010) and the vagueness or uncertainty of partner resources. Consequently, we examine the impact of CSR on firm value for both equity and nonequity alliances.

Similarly, Dickson *et al.* (2006) and Yang *et al.* (2014) argue that writing, executing, and enforcing complex contracts in order to control partners' opportunism is an unrealistic task for already resource-strained smaller firms (e.g., Dickson *et al.*, 2006; Yang *et al.*, 2014). Moreover, smaller firms are less likely to possess enough capabilities and resources to properly evaluate partner's resources *ex ante*. We therefore assess the impact of CSR on firm value based on size and size differentials between the allied partners.

Employing an event-study methodology, which is widely used across different disciplines as well as in the strategic management literature (MacKinlay, 1997; Gulati *et al.*, 2009), we set firms' announcement of strategic alliances as the unit of analysis and measure stock market abnormal returns around the time of the event as an indication of the value created by the alliance.

We analyze 451 alliances of 759 companies, giving us 902 observations over the 1991–2010 period. The results show that partnering with socially responsible companies positively affects value creation. We also find that when relational risk is high and other control systems are lacking, namely nonequity alliances and smaller partners CSR affects firm value. The results show that in nonequity alliances, firms partnering with socially responsible companies experience higher cumulative abnormal returns than firms partnering with companies that are not socially responsible, but in equity alliances, a partner's CSR does not affect firm value. Examining smaller partners produces similar results.

Although our analysis indicates that a partner's CSR has no role in creating value for larger partners, we find that smaller partners have higher cumulative abnormal returns if they form alliances with socially responsible companies. More important, we find that as the size difference between the two partners increases, the impact of a partner's CSR on a smaller partner's value increases as well.

To our knowledge, this investigation is the first to examine the role of partners' CSR in firm value creation associated with strategic alliances. Our study also provides empirical evidence of the importance of CSR in nonequity alliances. More specifically, the study supports the inference that trust is an efficient control mechanism. Researchers argue that firms in nonequity alliances are more prone to risk because nonequity alliances lack control mechanisms compared to equity-based alliances (Gulati, 1995a; Oxley, 1997; Das & Rahman, 2010). From an information-asymmetry perspective, our findings support the argument that equity alliances are better in dealing with valuation uncertainties (Rever *et al.*, 2000; Kumar, 2007).

Another contribution of this study comes from its support of the benefits of CSR. There is a large debate among scholars regarding the actual benefits of CSR. Xin *et al.* (2013) note that scholars find mixed evidence of its impact on firm performance. Our work complements Xin *et al.* (2013) and shows that partnering with socially responsible firms does affect firm value.

In terms of managerial implications, this paper finds that investors favor partnering with socially responsible companies, thereby raising firm value. In addition, the study provides practitioners with a tool for identifying trustworthy partners and a possible method for obtaining firm-specific information.

## **3.2. Literature Review and Hypotheses**

### **3.2.1. Transaction Cost Economics (TCE)**

According to the main premise of transaction cost economics (TCE), firms choose their mode of transacting (e.g., make, buy, or ally) based on cost minimization. This choice is in turn influenced by which option has the lowest production and transaction costs (Williamson, 1981; Kogut, 1988; Yasuda, 2005). Williamson (1981) notes that transaction costs rise because of firm's bounded rationality and opportunism, causing

friction in markets. Subsequently, bounded rationality exists because of humans' inability to adapt and act optimally thanks to the complexity of their environments (Simon, 1991).

Coase's (1937) theory of the firm suggests that firms form to internalize market functions and avoid transaction costs. This internalization, however, of market functions could lead to increases in production costs due to management issues, such as agency problems and management efficiency. Coase (1937) explains, for example, that entrepreneurs' efficiency in managing and directing resources or factors decreases as firm size increases, causing firms to choose market transactions instead of internalization. The author also notes the unnecessary and costly effort of integrating another firm when only part of or a product of the targeted company is needed. Coase (1937) explains that firms may choose not to expand when marginal costs outweigh marginal benefits. Accordingly, firms in these situations form strategic alliances because they are hybrid transactions that are somewhere between the market and the firm (Chen & Chen, 2003; Kogut, 1988). Firms are thus more likely to choose the option that minimizes transaction and production costs (Williamson, 2010).

As with any other transaction, however, alliances require contracts, which in a strategic alliance context are very important safeguarding mechanisms. Using TCE as their theoretical platform, Barthelemy and Quelin (2006) explain that contracts become complex due to high asset specificity and opportunism. They further clarify on the issue and note that the higher the complexity of the contract, the more expensive it becomes to write, monitor, and enforce. Barthelemy and Quelin explain that when the number of clauses in the contract becomes more complex, the higher the ex post costs are because of the expenses required to (1) ensure partners' fulfillment of contractual agreements, and (2) enforce contractual clauses. Faems and co-authors (2008) further emphasize that TCE identifies complex contracts as mechanisms to safeguard against opportunistic behavior and facilitate coordination via precise division of labor, simplification of the decision-making process, and dispute resolution.

### ***3.2.1.1. Trust and Firm Value***

Broadly defined, interorganizational trust is an organization's expectation that another company will not act opportunistically (Bradach & Eccles, 1989; Gulati &

Nickerson, 2008), but rather competently and dutifully (Bstieler & Hemmert, 2010). This definition implies that trust has two dimensions: reliance on the competencies of the other partner, and reliance on the commitment of the other partner to the duties associated with the alliance.

Das and Teng (2001) create a theoretical model of alliance trust that consists of two dimensions: goodwill trust, which is related to perceived relationship risk in the alliance, and competence trust, which is related to perceived performance risk. Vanpoucke and Vereecke (2010) define goodwill trust as the degree to which one partner is interested in the other partner's welfare and is motivated to pursue mutual gains. This goodwill, or relationship-trust dimension, is primarily subjective and depends on one partner's belief that the other partner will not unfairly exploit the relationship to advance its own interests. In contrast, competence trust is based on more objective criteria consisting of the actual resources and performance history of alliance partners. Lui and Ngo (2004) suggest that these two dimensions of trust create a parallel between strategic alliances and general business partnerships in which trust involves the expectation that a partner can and will fulfill all the agreed-upon obligations.

Many scholars across the different disciplines acknowledge that contracts are incomplete by nature (Barthelemy and Quelin, 2006). Drawing from economic and finance literature, Hart (2001) explains that the term *incomplete* refers to a contract that fails to lay out all future contingencies. He further emphasizes that over time, unforeseen or unplanned eventualities could arise. In other words, predicting such contingencies is not possible, as the future is simply too unclear (Hart, 2001).

Trust, on the other hand, can mitigate the shortcomings of incomplete contracts. Empirical findings suggest that trust can mitigate relational risk in strategic alliances (Kale *et al.*, 2000; Child, 2001; Das & Teng, 2001; Lui & Ngo, 2004). Relational perspectives, as Faems *et al.* (2008) point out, promote a more relational governance strategy in which partners rely on trust for coordination and safeguarding against opportunistic behavior. According to the authors, trust is as an alternative to contracts when it comes to governance, because it assures partners that knowledge and information will be used for the greater good and that partners are more likely to engage in extensive informal communication and information sharing. As such, coordination can be

subsequently achieved by mutual adjustment and not by contractual systems and procedures (Faems *et al.*, 2008).

Zaheer *et al.* (1998) and Dyer & Chu (2003) show theoretically and find empirically that trust can lower negotiating, contracting, searching, monitoring, and enforcement costs, thereby lowering firms' overall expenses and ultimately giving them efficiency advantages in the marketplace. Dyer & Chu (2003) note that transaction costs are divided into *ex ante* costs (searching and contracting) and *ex post* costs (monitoring and enforcement). They argue that in high-trust situations, the parties spend less time on contracting because they are confident that the payoff will be divided fairly, making planning for all future contingencies unnecessary.

The authors further explain that because trust promotes the expectation that partners will reciprocate, each party grants more concessions, creating negotiating efficiency. Dyer & Chu (2003) also argue that negotiation is more efficient in the presence of trust because the parties are confident that the other organization will not misrepresent the information provided. In high-trust situations, transacting partners also spend less time and resources on monitoring their partners and enforcing their contracts (Dyer & Chu, 2003). In sum, when using TCE as the main theoretical platform, researchers find that trust lowers transaction costs and provides superior information sharing between partners, ultimately increasing their performance (Dyer & Chu, 2003; Zaheer *et al.*, 1998).

Some researchers argue, however, that certain costs limit value creation (Das, Sen, and Sengupta, 1998). That is, a firm may incur further costs in its attempt to develop certain relational factors (e.g., trust), which could ultimately offset the firm's decision to form an alliance (Das & Teng, 2003). Krishnan *et al.* (2006) argue that firms may have to cultivate trust in a strategic alliance, incurring real costs during the process. Although firms rarely consider these costs, they could outweigh the benefits from an alliance. The costs associated with sanctions necessary to control alliance partners that engage in opportunistic behaviors could also exceed the financial benefits of the alliance, thereby reducing the value of the alliance (Gulati & Sytch, 2008). Firms, for example, might need to exercise mutual forbearance or pass up short-term interests for the sake of cooperation (Das & Teng, 2003). Others might need to show good faith by lowering or loosening up

on enforcement and/or monitoring their partners to build trust, exposing them to opportunistic behavior.

Kale and co-authors (2000) explain that trust between partnering firms comes from the individuals in both firms, which is fostered through continuous interaction and close personal ties. These relationships, however, require not only pleasant interactions, but also time, care, effort, and opportunities to build personal ties. Companies might also need to dedicate a specific department (or personnel) to resolve conflicts that could be avoided if both parties trust each other. Accordingly, trust *ex ante* is likely key to determining not only the formation of the alliance, but also its survival and/or success.

Further evidence in the literature highlights the importance of trust as an initial condition in strategic alliances and its effect on their success. An empirical investigation, for example, by Deitz *et al.* (2010) shows that trust is most influential upon newer joint ventures' stability and cooperation, while resource complementarity is more critical in older joint ventures. Additional results indicate that trust between partners with less joint venture experience is more critical for attaining joint venture outcomes. On another note, other researchers observe that partners in strategic alliances assess three things: (1) the likelihood that the alliance will create value, (2) the partner's behavior in terms of trustworthiness and forthrightness, and (3) the partner's adjustment capability (Doz, 1996). KPMG's alliance survey has also shown that firms recognize trust as an important factor in partner selection (Wildman, 1998).

Das & Teng (2003) argue that while the alliance process significantly influences alliance performance, the initial characteristics of the partners are essential if not more important. The authors reason that if one starts off with shortcomings, it would be difficult, but not impossible, to achieve the original goal. Accordingly, although they emphasize the importance of managing the process, they propose that having an advantageous head start is at least equally critical. Supporting their claim, the authors refer to Doz's (1996) empirical work, which finds that the initial conditions of alliances strongly influence learning processes and alliance performance. Arino *et al.* (1998) further note that partners' initial characteristics drive the evolution of collaborative agreements; no amount of relationship-building will compensate for misspecification in this area.

### **3.2.1.2. CSR, Trust & Firm Value**

Although researchers generally establish the existence of two dimensions of trust, a difficulty in the literature emerges from differences in the terms and measures used to assess the dimensions of trust. Gulati and Sytch (2008), for example, identify relationship or goodwill trust as dispositional trust and consider the construct to include behaving in a predictable manner in addition to avoiding opportunistic behaviors. This approach is narrower than the definition Krishnan, Martin, and Noorderhaven (2006) use, in which relational trust is the belief that the partner will not exploit opportunities at the expense of a partner. The differences in construct definition create variability in the measures and instruments used to assess trust. In their paper, Dyer and Chu (2003) explain the limited empirical investigations of trust in strategic alliances and the complexity of the multifaceted definition of trust, as well as the hardships in operationalizing this difficult construct.

Based on general, conceptual, and empirical evidence, however, a recent paper by Ali and Francis (2014) argue that CSR can measure firms' trustworthiness. The authors, for example, note that CSR is generally linked to "good" firms that are less likely to engage in illegal and/or unethical activities such as insider trading (Gao *et al.*, 2014), aggressive tax avoidance (Hoi *et al.*, 2013), and earnings management (Kim *et al.*, 2012).

Ali and Francis (2014) also emphasize that CSR is conceptually linked to trust in multiple ways. For instance, firms can foster a trusting relationship with another company when both share and adhere to the same ethical values mandated by CSR. They also note that if firms can invest in CSR and still operate competitively in the market, it can then provide information about its capabilities, quality, and skill sets to its stakeholders. In other words, the firm creates a certain perception of competence trust.

Empirically, corporate social responsibility (CSR) is linked to trust from different stakeholder perspectives (Ali *et al.*, 2014). The authors note Hansen *et al.* (2011), Stanaland and Lwin (2011), and Tian *et al.* (2011), who find a link between CSR and employees' trust as well as CSR and consumers' trust. Additionally, Ali and Francis (2014) find that CSR behaves consistently with trust. Employing Sarbanes-Oxley in their analysis as an exogenous shock of trust, the authors examine whether CSR behaves

differently after the act is passed. Their results show significant evidence proving that CSR is a good measure of firms' trustworthiness.

Additional evidence in the literature indicates that CSR has a positive impact not only on firm value, but also on other stakeholders, which in our alliances context are the partnering firms. Xin *et al.* (2013), for example, investigate the impact of CSR on stakeholder-value maximization within mergers and acquisitions. The authors argue that because socially responsible firms are more likely to keep their contractual commitments and promises, stakeholders are more willing to contribute resources and efforts to the firm, raising profitability and efficiency. This in turn results in greater alignment of shareholder and stakeholder interests. Their results support their arguments and show that merging with high CSR acquirers creates (1) higher merger returns on the value-weighted portfolio for both the acquirers and the targets, (2) larger increases in post-merger long-term operating performance and long-term stock returns, and (3) a significant positive impact on the wealth of other stakeholders such as targets' customers and suppliers.

### ***3.2.2. Resource-Based View (RBV)***

Contrary to TCE, which focuses on cost minimization, RBV centers on value maximization through the accumulation of resources (Das & Teng, 2000; Barthelemy and Quelin, 2006). According to this perspective, firms are viewed as bundles of resources (Penrose, 1959), yet those are not the only important factors. Barthelemy and Quelin (2006) explain that the interaction among resources is more important than the resources themselves.

Strategic alliances help companies leverage other firms' resources, thus helping them attain valuable assets necessary for survival or dominance in the marketplace (Day, 1995; Varadarajan & Cunnungham, 1995; Lambe *et al.*, 2002). Najmaei and Sadeghenajad (2009) argue in their theoretical model of strategic alliances that each firm starts with a range of resources. These resources, however, may not be sufficient to achieve a goal or objective that leads to a competitive advantage. Acquiring desirable and necessary resources from the market is not always feasible, as such resources are not perfectly tradable if they are tradable at all (Dierickx & Cool, 1989). Najmaei and Sadeghenajad (2009) thus emphasize that to create a competitive advantage, a firm needs

to share or pool the capabilities produced by each firms' resources, leading to growth in firms' core competencies.

### **3.2.2.1. Trust**

Hansen, Hoskisson, and Barney (2008) claim that managers usually face a difficult paradox between their need to minimize opportunism and the desire to maximize gains within strategic alliances. Achieving this objective simultaneously, however, is not as easy as it may seem. The authors explain that detailed contracts or governance mechanisms aimed at minimizing such opportunistic behaviors tend to constrain gain maximization as well, and vice versa.

To better explain their argument, Hansen *et al.* (2008) present an example of two firms forming an alliance with firm one possessing technologies A, B, and C, and firm two possessing technologies D, E, and F. The objective of the alliance is to form a new technology, G, and both firms decide they need technologies A and D to form the new technology. In order to avoid exposing the partner to other proprietary technologies and prevent any opportunistic behavior, both firms agree to construct a detailed contract or adopt a governance mechanism forbidding the other firm to access these technologies. Although this situation allows for the possibility of gaining from combining resources A and B, both firms forsake the opportunities that might exist from developing new and unanticipated technologies by combining the rest of their resources. It is also possible that the resources required for developing new technology G are not technologies A and D, but B and E. By restricting access to other information, the partnering firms could prevent themselves from developing the new technology and may ultimately fail to realize the objective of the alliance.

Scholars suggest that trust is the key to solving such paradox. Similar to the Hansen *et al.* (2008) paradox, Kale *et al.* (2000) identify a common dilemma in strategic alliances known as the "learning race." In this dilemma, firms are torn between preventing partners from stealing their core knowledge and seeking to learn from them. The authors, however, find that relational capital, which refers to the mutual trust, respect, and friendship at the individual level between alliance partners, solves the

dilemma, enabling firms to achieve both objectives simultaneously (learning and protecting the firm from the risk of appropriation).

Trust thus can affect partners' performance within the RBV perspective. Firms can realize higher gains and/or seize new opportunities by combining other resources openly as Hansen *et al.* (2008) show in their example. Trust can also raise partners' performance by allowing partnering firms to actively cooperate instead of focusing on protecting core knowledge. Hansen *et al.* (2008) note that trust does not eliminate the threat of opportunism, but rather addresses opportunistic concerns independently from any transaction attribute or governance arrangement. Finally, the authors emphasize that trust is costly to imitate due to causal ambiguity and social complexity.

#### **3.2.2.2. Information Asymmetry**

Information asymmetry is defined in the literature as firms' ability to identify, describe, and/or value the resources to be shared within the alliance (Hansen, Hoskisson, and Barney, 2008). Rever and Koza (2000), however, explain that that some resources are difficult to value when they reside in an organizational context with a unique culture and different routines. These resources become even harder to value when they are entrenched and shared among different divisions rather than isolated within a semi-autonomous division.

Hansen *et al.* (2008) add that such resources can be also challenging to identify as they might be surrounded by vagueness or secrecy. Going back to our earlier example in section 3.2.2.1, if firm 1 did not disclose enough information about all its technologies or kept one of them a secret, firm 2 then cannot properly identify potential opportunities from combining resources with this technology. In another example, if two firms decide to form an alliance to satisfy a specific consumer need but are uncertain of the design or the necessary inputs needed, a proper valuation and identification of both firms' design capabilities and efforts is required.

The literature shows CSR to be significant and negatively associated with information asymmetry (Cho *et al.*, 2013). The logic is that firms engaging in CSR activities are encouraged to voluntarily disclose information, increasing transparency (Cho *et al.*, 2013; Cheng *et al.*, 2014). Information regarding firms' resources and

capabilities, for example, can be obtained through firms' CSR annual reports or CSR advertisements. Companies can gather specific information on firm's processes and/or products, when they market the social features of these products and/or services. Cho *et al.* (2013) and Madsen *et al.* (2014) argue that CSR represents a key type of firm action, providing stakeholders with information about firms' ethical concerns, priorities, and intentions, leading to inferences of firm quality.

Reducing information asymmetry to outside stakeholders is also essential for firm value. Due to stakeholders' inability to evaluate firms' resources under high information asymmetry, potential outside investors might not properly evaluate firms' quality and capabilities (Kumar and Park, 2012). The authors explain that this problem of evaluation is amplified when firms are engaged in complicated projects that require certain insights or knowledge. Thus, reducing information asymmetry is critical for firm value in strategic alliances. The logic is that investors need to properly evaluate the contributions or merits of partnering with a specific company and whether it can add value and increase performance. Referring to Podolny (1993), Fang *et al.* (2012) note that evaluators normally consider the partnering firms' characteristics when evaluating their investment opportunities.

In sum, CSR can affect firm value within the strategic alliance context by indicating firms' trustworthiness. In the TCE context, trust reduces transactional cost, opportunism, and mitigates problems arising from incomplete contracts (Zaheer *et al.*, 1998; Kale *et al.*, 2000; Child, 2001; Das & Teng, 2001; Dyer & Chu, 2003; Lui & Ngo, 2004), while in RBV trust solves the learning race dilemma or cost-minimization and gain-maximization paradox (Kale *et al.*, 2000; Hansen *et al.*, 2008). Being able to identify trustworthy firms ex-ante saves the company from the costs associated with either the failure of the alliance due to trust issues or the cultivation of trust after alliances are formed (Das & Teng, 2003). Under the RBV perspective, trust allows firms to identify and seize opportunities by combining resources that are otherwise unavailable (Hansen *et al.*, 2008), and actively cooperate instead of focusing on protecting core capabilities (Kale *et al.*, 2000).

In addition, CSR can reduce information asymmetry on firm-specific resources, allowing partnering firms to properly identify and evaluate the required capabilities

and/or assets to be shared. This in turn enables partnering firms to better recognize potential opportunities and/or achieve alliance objectives. Additionally, reducing information asymmetry makes it feasible for outside stakeholders to better evaluate firms' resources and their contributions to the alliance, thereby increasing firm value. Accordingly, we hypothesize that allying with a socially responsible company creates more value for the firms.

*H1: Firms forming alliances with socially responsible companies are more likely to experience increases in value than firms forming alliances with companies that are not socially responsible at the time of the alliance announcement.*

### **3.2.3. CSR and Alliances Structure**

The most common approach to a typology of strategic alliances in the literature is a structure model that classifies an alliance based on how its members formally construct their relationships. The literature also indicates that a strategic alliance can take various forms depending on the purpose of the alliance and the nature of the agreement (Judge & Dooley, 2006). There is little agreement in the literature as to the specific number of strategic alliance structures. To simplify the analysis of strategic alliance structures, researchers often divide them into two basic categories: joint ventures or equity alliances (which can include minority equity alliances) and contractual alliances (also known as nonequity alliances) (Yoshino & Rangan, 1995; Das & Teng, 2000; Teng & Das, 2008; Das & Rahman, 2010).

A joint venture is a separate entity that is owned by the alliance partners (Teng & Das, 2008); a minority equity alliance is an interfirm relationship in which one firm has a minority equity stake in another firm or all firms in the alliance have a minority equity stake in each other (Das & Rahman, 2010). The nonequity strategic alliance, on the other hand, is a contractual alliance that has the lowest level of structural integration compared to equity-based alliances (Teng & Das, 2008). There are many forms of nonequity alliances, including but not limited to affiliate marketing, technology or product

licensing, joint research and development projects, franchising, and distributor relationships (Das & Teng, 2000; Isoraite, 2009).

Many scholars such as Gulati (1995a), Oxley (1997), Faems *et al.* (2008), and Das & Rahman (2010) argue that alliance structure plays an important role in curbing opportunistic behavior. Gulati (1995a), for example, argues that TCE can justify the formation of strategic alliances as well as the alliance structure. The author claims that when transaction costs are high, the alliance takes a form that is closest to that of a hierarchal structure. Gulati (1995a) adds that opportunistic behavior is one of the salient forms of transaction costs. Faems *et al.* (2008) also explains that such a theory assumes alliance partners tend to act opportunistically as asset specificity and uncertainty increases. Accordingly, the initial structural design of an alliance is critically important to its performance (Faems *et al.*, 2008).

Given the impossibility of predicting all future contingencies, as well as specifying them in contracts, and given that important decisions are made in response to these contingencies, Hart (2001), among others, points to equity as a possible solution to incomplete contracts. He explains that with equity comes voting rights, which equity holders can ultimately use to make decisions. Within the strategic alliance literature, equity alliances may help align the interests of alliance members (Gulati, 1995a).

Researchers such as Gulati (1995a), Oxley (1997), and Das & Rahman (2010) believe corporate governance – equity alliances – deals with opportunistic behavior more effectively. The logic is partially based on equity alliances' high exit costs, which make it difficult to withdraw from an alliance due to specific investments or mutual hostage situations (Gulati, 1995a; Das & Rahman, 2010). Firms in nonequity alliances, on the other hand, face a number of difficulties due to potential opportunistic behavior. They must convince allies to make significant investments, they must share or develop new technologies knowing that a property-rights disagreement may occur, and they must be comfortable sharing knowledge with unrelated firms (Gulati, 1995a). Das & Rahman (2010) note that partner firms are more likely not to jeopardize a relationship if they have equity stakes in the alliances.

Partners behaving opportunistically cannot expect cooperation from allies in the withdrawal procedure. Accordingly, scholars suggest that equity alliances have two types

of controls: hierarchy (e.g., policies, staffing, reporting, and procedures) and ownership control (Gulati, 1995a; Das & Teng, 1998). Das & Rahman (2010) point to Deeds & Hill (1999) as well as Gulati (1995a) to support the general notion that equity alliances mitigate opportunistic behavior in strategic alliances. They also refer to Dyer & Singh (1998) and Luo (2007) to support the mutual hostage argument, which could be financial (reflected by equity) or symmetric (reflected by investing in specialized assets).

In terms of information asymmetry, partnering firms can employ an equity-base alliance structure in anticipation of any problems that may arise from firms' possession of unequal information. Rever *et al.* (2000) and Kumar (2007), for example, claim that equity alliances can alleviate evaluation uncertainties under situations of high information asymmetry. Rever *et al.* (2000) explain that in situations of information asymmetry, equity alliances mitigate the firm's need to engage in costly efforts to reduce valuation uncertainties. The authors' investigation provides support to their claim and shows that the market reacts positively to joint ventures under situations of high information asymmetry.

Accordingly, we postulate that CSR has no role in equity alliances. Put differently, we argue that firms forming equity-based alliances don't need CSR as much, because equity alliances align the partners' interests, deal with contingencies that are not specified in the initial contract, are more effective for curbing opportunistic behavior, and are better suited to deal with information asymmetry (Gulati, 1995a; Hart, 2001; Oxley, 1997; Rever *et al.*, 2000; Kumar, 2007; Das & Rahman, 2010). Subsequently, we hypothesize that:

*H2: In equity-based alliances, the value of firms allying with socially responsible companies is not significantly different from the value of firms partnering with companies that are not socially responsible.*

Although equity alliances involve hierarchal and ownership control, nonequity alliances have neither and thus rely solely on contractual controls (Gulati, 1995a; Das & Teng, 1998). As mentioned, contracts are inherently incomplete because firms cannot predict all future contingencies. Consequently, the importance of trust increases. For

example, Schoorman *et al.* (2007) note that when other control mechanisms are lacking, trust is important. Similarly, Gulati (1995a) argues that trust is an alternative form of control that can mitigate opportunistic behavior: “contract is one mechanism for making behavior predictable, and another is trust.” Casciaro (2003) note that due to the lack of control mechanisms, this part of the literature assumes that nonequity alliances require higher levels of trust than equity alliances to control opportunistic behavior effectively. Gulati (1995a) finds that partners tend to give up the hierarchical control offered by equity alliances in favor of the trust-based flexibility of nonequity alliances that is built through past alliances with a particular firm

In cases of high information asymmetry, firms in nonequity alliances are more vulnerable to the risks associated with valuation uncertainties than firms in equity alliances are; firms in equity alliances have equity stakes and voting rights to make decisions. Consequently, we posit that CSR has an active role in value creation within nonequity alliances. In other words, we hypothesize that:

*H3: In nonequity alliances, firms allying with socially responsible companies are more likely to experience higher increases in firm value relative to firms allying with companies that are not socially responsible.*

#### **3.2.4. CSR and Unequal Partners**

Formulating a detailed and fair contract between two entities is not as simple as it may seem, especially when one has more resources for the task. The extant literature, for example, points to the inherent difficulty and cost of writing, executing, and enforcing the complex contracts that are necessary for controlling potential opportunism, which are very difficult to accomplish for already resource-constrained small firms (Dickson *et al.*, 2006; Yang *et al.*, 2014).

Yang *et al.* (2014) explain that strategic alliances are more critical to smaller firms, which in turn increases their vulnerability in contract design, interorganizational learning, and outcome sharing. Yang and co-authors (2014) note on Alvarez and Barney (2001) that the majority of small firms are unfairly treated and that their performance and long-term survival are at risk. Dickson *et al.* (2006) also argue that because R&D

alliances require participants to invest in transaction-specific assets and require renegotiation over time as research evolves, smaller firms are more vulnerable to “hold-up” behavior. They attribute such situations to the smaller firms’ frequent limitations in terms of experience, creditability, and potential partners. Dickson *et al.* (2006) find that size significantly mitigates the relationship between the attributes of the small and medium-size enterprise’s (SME’s) institutional environment and managers’ perception of opportunistic behavior within their R&D alliances.

Prior research on interfirm partnerships and firm values suggest that size plays an active role in determining abnormal returns. For example, McConnell & Nantell (1985), Koh & Venkatraman (1991), Chan *et al.* (1997), Das, Sen, and Sengupta (1998), and Chang *et al.* (2008) reveal that smaller firms on average experience higher abnormal returns relative to their larger counterparts in an alliance. Researchers explain that larger firms often enter such alliances to gain access to the smaller firms’ technological know-how and research abilities (Koh & Venkatraman, 1991; Das, Sen, and Sengupta, 1998), while smaller firms enter such relationships for multiple reasons: (1) access to resources, such as capital, logistics, distribution, product manufacturing, marketing forces, and funds, (2) social legitimacy, and (3) as a buffer against their liability of newness. These reasons thus enhance their chances of survival and boost their sales growth (Kalaigianam *et al.*, 2007; Chang *et al.*, 2008; Yang *et al.*, 2014).

Researchers find empirical evidence of the importance of mitigating smaller partners’ relational risk within strategic alliances to increase firm value. Yang *et al.* (2014), for example, suggest that smaller firms have lower abnormal returns in exploration alliances relative to exploitation alliances, which ensure well-defined returns. They argue that smaller firms are more prone to appropriation risks in exploration alliances, as larger firms may outlearn the smaller firms, causing lower abnormal returns for the smaller partners. However, the authors find that when small firms manage their alliances with large firms through proper alliance governance, they increase their valuations from exploration alliances with larger firms.

In terms of information asymmetry, it is logical to assume that the smaller partner is less likely to have the necessary resources and capabilities to properly identify, evaluate, and collect information on partners’ resources and capabilities relative to the

larger partner. Following this, the smaller partner is also ill positioned to deal with valuation uncertainties that are associated with information asymmetry regarding the potential partnering firm's resources and capabilities as such activities are costly.

Consequently, we posit that the impact of CSR is more prominent among smaller firms, and hypothesize that:

*H4: Among smaller partners, firms forming alliances with socially responsible companies are more likely to experience increases in value than firms forming alliances with companies that are not socially responsible at the time of the alliance announcement.*

Similarly, we argue that larger firms within strategic alliances are relatively less vulnerable to relational risk and are better suited to deal with valuation uncertainties under high information asymmetry. That is, larger firms have more resources, capabilities, and means to fend off their smaller counterparts' potential opportunistic behavior and properly evaluate partner's resources and capabilities (reducing information asymmetry). Consequently, we thus hypothesize that:

*H5: Among larger partners, firms allying with socially responsible companies do not differ compared to other large-partner value-forming alliances with companies that are not socially responsible.*

There is, however, a difference when comparing two companies that are greatly different from each other in terms of size. In reality, firms are usually different sizes, so it is not strange to have partners of different sizes forming alliances. Accordingly, it is more realistic to look at the extent to which firms are different from each other rather than simply isolating smaller and larger firms. It is logical to assume that firms could have the same capabilities and resources when the difference in size between the two partners is not that great. However, as this difference between the two partners' sizes grows, the difference in resources and capabilities becomes apparent. Nonetheless, this size differential could only be beneficial to larger firms. That is, larger firms are more capable

of fending off opportunistic behavior and dealing with valuation uncertainties about partners' resources and capabilities; smaller partners are not. Therefore, we posit that the effect of CSR on the value of smaller firms increases as the size difference between the partners increases.

*H6: The larger the size differential between partners, the more value increases for smaller partners allying with socially responsible companies versus other smaller partners partnering with companies that are not socially responsible.*

### **3.3. Research Methods**

#### **3.3.1. Methodology**

The empirical methodology adopted for this paper's investigation follows an event-study approach, which is used extensively in finance, economics, accounting, management, law, and marketing research to assess the value implications of a specific event (e.g., the release of firm-specific information) (MacKinlay, 1997; Das, Sen, and Sengupta, 1998). Compared to direct productivity-related measures, which may take many months or years of observations, the usefulness of the event-study approach given market rationality comes from the fact that security prices immediately reflect the effects of an event (MacKinlay, 1997). In other words, given informationally efficient markets in the event-study approach, firm's security prices reflect any new information. Consequently, the value of any disclosure and its impact on a firm can be readily calculated by examining the price changes surrounding the release of the information (Das, Sen, and Sengupta, 1998).

Even though event studies are widely used across different disciplines, some researchers criticize this methodology, which relies on the efficient-market hypothesis. They claim that markets are at best semi-strong-form efficient and that initial responses to strategic events could be very inaccurate (Kale *et al.*, 2002). Kale *et al.* (2002) and Koh *et al.* (1991) alleviate these concerns by showing a strong positive correlation between short-term abnormal return and firms' performance as reported qualitatively by

firms' managers. Kale *et al.* (2002) claim their study is the first to support the efficient-market hypothesis in a strategic-alliance context.

### **3.3.2. Data & Sample**

We investigate the role of CSR on firms' value creation when forming strategic alliances over 1991–2010. Accordingly, our unit of analysis is the announcement of strategic alliances. Strategic alliances are generally defined as any short- or long-term voluntary partnership between organizations, which involves exchanging, sharing, or codeveloping products, technologies, services, capital, or firm-specific assets to pursue a common set of goals or to meet a critical business need (Gulati, 1995a, 1999; Parkhe, 1993).

Using several archival databases, we collect data on alliances from Securities Data Company (SDC); CSR ratings are from Kinder, Lydenberg, Domini & Co. (KLD). Firms' accounting variables and stock market information are from Compustat and Center for Research in Security Prices (CRSP) databases, respectively. Most scholars in the strategic-alliance literature use the SDC database for alliance data (Sampson, 2007; Schilling, 2009). Schilling (2009) reports that the SDC database covers the widest range of sectors and collects data from U.S. Securities and Exchange Commission (SEC) filings, trade publications, wires, and news sources. Similarly, CSR scholars mostly use the KLD database for measuring CSR activities (Ali & Francis, 2014).

These scholars also note that KLD is the best database currently available for measuring CSR (Waddock & Graves, 1997; Benson & Davidson, 2010; Anderson *et al.*, 2012; Kim, *et al.*, 2012; Cho *et al.*, 2013). Compared to other databases, KLD has several advantages, such as (1) rating firms with an objective and clearly defined set of criteria, (2) applying the ratings consistently across firms, (3) employing knowledgeable and independent staff from the rated companies, and (4) ensuring that the CSR strategies are implemented rather than stated or declared (Ioannou & Serafeim, 2010; Zyglidopoulos *et al.* 2012).<sup>1</sup>

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<sup>1</sup> For a detailed description of the KLD database and its CSR rating, see Ali & Francis (2014).

The reasons our sampling period starts in 1991 and ends in 2010 are (1) alliance data is most reliably available from 1990 and beyond in SDC (Sampson, 2007; Schilling, 2009) and (2) KLD's coverage of firms' CSR activities starts in 1991. We exclude alliances with more than two partners in order to investigate the hypothesized differential impacts and avoid unforeseen complications. Consequently, our initial sample includes 212,602 firm announcements (106,306 alliances) over 1991–2010.

To obtain stock information and accounting data, we exclude alliances involving international and private companies. We drop strategic alliances in the financial sector (i.e., firms with SIC codes beginning with 6). We only retain firms that have share codes 10 or 11, indicating that CRSP data information is for securities or ordinary common shares and not certificates, American Depository Receipts (ADRs), and shares of beneficial interest (SBIs) for companies incorporated outside the U.S., American trust companies, closed-end funds, or real estate investment trusts.

In order to include an event (an announcement of a strategic alliance) in our sample, the stock price data must be available for the dates around the event in the CRSP database. Additionally, if a firm announces another alliance within six months of the previous announcement date, we drop the subsequent event from the sample to avoid contaminating our estimation of firms' expected returns during that event. Finally, we exclude alliances where neither partner has a CSR rating. Consequently, our sample includes 451 alliances of 759 companies, giving us 902 observations.

### ***3.3.2.1 Measures and Subsamples***

Testing our hypotheses requires breaking our sample out by size, size differential, type (equity versus nonequity), and partner's CSR rating, allowing us to compare the subsamples' cumulative abnormal returns.

### 3.3.2.2 Cumulative Abnormal Stock Market Returns

To estimate the incremental value creation for each firm in the alliance, we use a market-based model to predict firms' returns over the event window (MacKinlay, 1997).<sup>2</sup> We set the date on which a firm announces its strategic alliance as the event date ( $t = 0$ ). We estimate the market model (equation 1) for the period (-100,-15):

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it} \quad (1)$$

where  $R_{it}$  is the actual return of firm  $i$  on day  $t$ , and  $R_{mt}$  is the corresponding daily, equally weighted market-return index for the S&P 500<sup>3</sup>,  $\alpha_i$  and  $\beta_i$  are model parameters, and  $\epsilon_{it}$  is the error term. We use the resulting estimates to predict firm  $i$ 's daily return during the event window [-1, +1]:

$$\hat{R}_{it} = \hat{\alpha}_i + \hat{\beta}_i R_{mt} \quad (2)$$

Where  $\hat{R}_{it}$  is the predicted return for firm  $i$  during the event window, and  $\hat{\alpha}_i + \hat{\beta}_i$  are the model estimates. To calculate firms' abnormal returns during the event window, we subtract the predicted return, calculated earlier in the market model (equation 2), from firms' actual returns during the event:

$$AR_{it} = R_{it} - \hat{R}_{it} \quad (3)$$

We then compute the cumulative abnormal return for firm  $i$  during the event window using:

$$CAR_i = \sum_{\tau} AR_{it} \quad (4)$$

Where  $\tau$  ranges from -1 to +1. The selection of this small event window is due to the recommendation of a number of scholars (e.g., Socher, 2004; Kalaignanam, 2007; and Gulati, 2009), who point to the advantages of smaller event windows in event-study methodology. For example, Socher (2004) explains that larger event windows could severely reduce the power of the test statistic, and that the market-efficiency hypothesis states that stock prices react instantaneously to events. Similarly, Gulati *et al.* (2009) state that a smaller event window demonstrates a conservative approach, which excludes any unrelated events occurring prior to or following the event date. He further explains that

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<sup>2</sup> MacKinlay (1997) explains that the gain from using models other than market-based models, such as multifactor, CAPM, and APT models, is limited and small.

<sup>3</sup> We later use value-weighted index as a robustness check. For detail, see robustness check section.

empirical research (such as Crutchley *et al.*, 1991) finds that smaller event windows are more effective in capturing market responses than larger windows.

### **3.3.2.3 Partner's CSR Rating**

To examine our hypotheses, we first need to identify socially responsible companies, which we define as those with positive/good CSR activities. Following Ali *et al.* (2014), we measure firms' CSR activities by aggregating the average of CSR strengths. Ali & Francis (2014), however, explain that there is no standard measurement of firms' CSR activities; some use a net-value measure of CSR by subtracting CSR concerns from CSR strengths (e.g., Siegel & Vitaliano, 2007; Hong *et al.*, 2012; Kim *et al.*, 2012; Servaes and Tamayo, 2012), while others sum CSR strengths and concerns independently from each other (e.g., Waddock & Graves, 1997; McGuire *et al.*, 2003; Strike *et al.*, 2006; Ioannou & Serafeim, 2010; Benson & Davidson, 2010; Erhemjamts *et al.*, 2011; Zyglidopoulos, *et al.* 2012; Cho *et al.*, 2013; Mishra and Modi, 2013).

Comparing the pros and cons of the two methods, Ali & Francis (2014) measure firms' CSR activities by summing average of CSR strengths, as they have fewer disadvantages than the net value measure in their investigation. Additionally, when conducting their sensitivity analyses to determine the role of firms' CSR activities in alliance formations, the results did not change when using the net value measure of CSR.

Consistent with the CSR literature, we measure CSR activities using six of the seven major criteria (community, corporate governance, diversity, employee relations, environment, and product) that KLD reports. We exclude the human rights category from our sample because the KLD database does not introduce it until 2002, and it does not apply to most companies. The human rights category relates to controversies in South Africa, Northern Ireland, Burma, and Mexico, where few firms operate. The number of KLD's rating indicators for each of KLD's seven criteria varies from year to year (Ali & Francis, 2014). For example, KLD uses six indicators for community criteria in 1995 and seven in 2007. Accordingly, we create a scale for each criterion in KLD (e.g., product, community, and employee) for each year, using the maximum number of indicators applicable for that criterion. Hence, we calculate firms' CSR ratings by aggregating the six-dimension scale of CSR strengths. After merging the alliances dataset with KLD's,

there was a number of firms that did not exist in KLD. For those observations with no CSR ratings, we replace the missing values with 0s. We control for this replacement later in the robustness check section.

Finally, we create a binary variable, *positive partner*, indicating whether a firm has formed an alliance with a socially responsible company. In other words, *positive partner* equals 1 if the focal firm has formed an alliance with a socially responsible company, and 0 otherwise.

#### **3.3.2.4 Smaller Partners**

Before identifying smaller partners, we first need to measure firm size, which we do by taking the log of firm's total assets. Consequently, following Chang *et al.* (2008) we identify the smaller partner in the alliance by taking the log of the announcing firm's size divided by its partner's size. We then create a dummy variable, *smaller*, which equals 1 if a firm's relative size is negative (indicating it is the smaller partner) and 0 otherwise.

#### **3.3.2.5 Size Differential**

Size differential is measured by taking the absolute value of the difference between partner size and firm size. Based on this measure, we then identify three quartiles within our sample. The lower quartile includes firms with the lowest size differential in our sample (the bottom 25 percent of our sample's observations), the middle quartile includes firms with intermediate size differentials (the middle 50 percent of our sample), and the upper quartile includes firms with high size differential (the upper 25 percent of our sample or the top 75 percent).

#### **3.3.2.6 Nonequity Alliances**

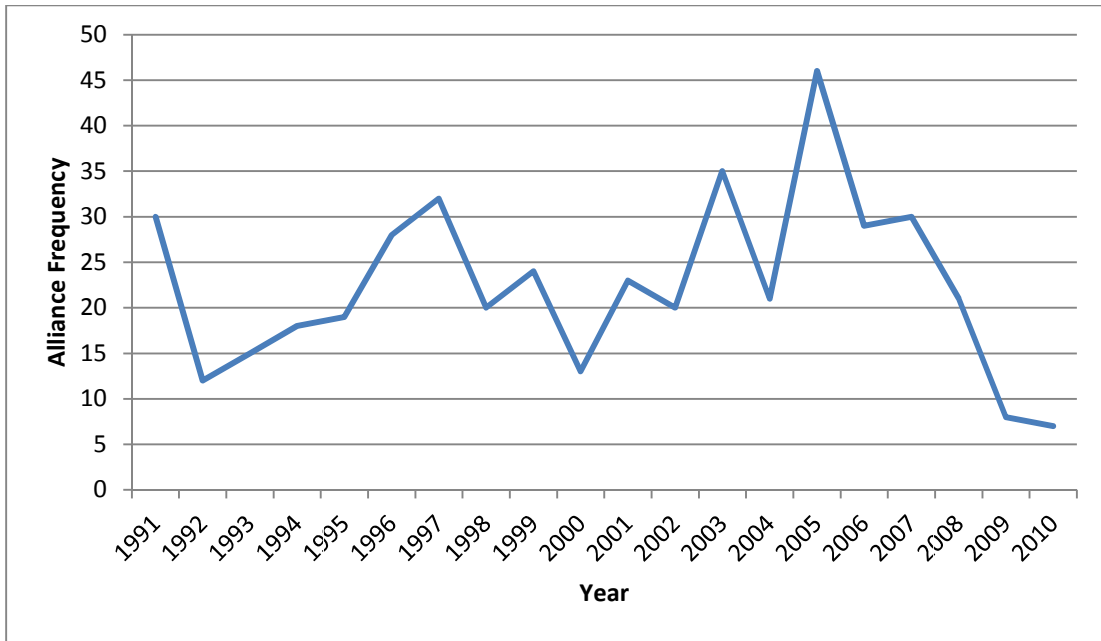
We create a dummy variable that equals 1 if the alliance is a nonequity alliance; it equals 0 otherwise.

### **3.4. Results**

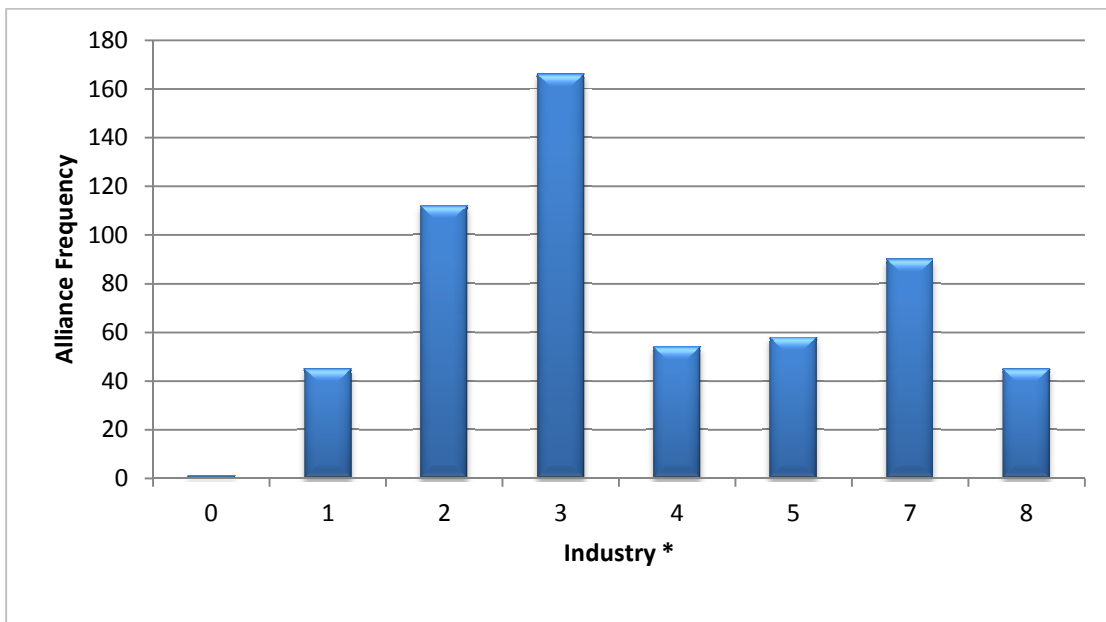
Figures 3.1 and 3.2 show the number of alliances for each year and industry in our sampling period, respectively. The number of alliances in these two figures shows no alarming concerns. Similarly, table 3.1 provides descriptive statistics on the variables used to create our subsamples. According to these statistics, 730 observations (or 81 percent) of our sample reflect alliances where at least one partner has a positive CSR rating (i.e., one positive partner). Of these 730 observations, 142 (19.5 percent) are between two positive CSR firms (i.e., both positive partners). Put differently, out of the 902 observations, 15.74 percent of our sample includes alliances between two positive CSR-rated firms. In terms of partnering with socially responsible firms, 48.34 percent of the sample, or 436 observations, have formed an alliance with a positive CSR rated firm (i.e., positive partner).

The reason we have 730 observations in which at least one partner has a positive CSR compared to 436 observations, is that in the earlier measure there are firms with positive CSR ratings that form alliances with other positive CSR-rated firms. Consequently, the number of firms partnering with socially responsible companies is counted twice. Additionally, the earlier measure takes into account the valuations of both partnering firms. Meaning, the measure counts the value of the socially responsible partnering firm as well as the focal firm that may or may not have a positive CSR rating. Although focal firm's CSR rating is not accounted for in our main analysis, we do control for it later in the sensitivity analysis section.

To clarify these measurements, let us assume that we have an alliance between two companies, A and B, where A has a positive CSR rating and B does not. According to our measure (i.e., firms partnering with socially responsible companies), only firm B would be counted in our measure, while both firms' announcements would be counted in the one positive partner measure (i.e., where at least one of the two partnering firms has a positive CSR rating). Consistent with the literature, table 3.1 shows that 77.2 percent (or 696 firm announcements) of our sample forms nonequity alliances.



**Figure 3.1. Number of alliances for each year of the sampling period (1991–2010)**



**Figure 3.2. Number of alliances in each industry available in our dataset**

\* Industry numbers reflect the first digit of firms' SIC codes: 0 is agriculture, forestry, and fishing and hunting; 1 is mining, oil and gas extraction, and construction; 2 is manufacturing (food, tobacco, apparel, lumber, furniture, textile mill, paper, chemicals, and petroleum refining); 3 is manufacturing (rubber, leather, stone, clay, glass, electronics, transportation equipment, measuring instruments, metal industries and products, and other manufacturing industries); 4 is transportation, communication, electric, and gas and sanitary services; 5 is wholesale and retail trades; 7 is services (hotels and lodging, personal and business services, automotive repair, services and parking, motion pictures, and amusement and recreational services); 8 is services (health, legal, educational, social, museums, galleries and botanical and zoological gardens,

membership organizations, engineering, accounting, research, management services, and services not elsewhere classified).

**Table 3.1. Summary statistics of main variables used to identify and isolate subsamples**

*One positive partner* is a dummy variable that equals 1 if at least one of the two alliance partners has a positive CSR rating. *Positive partner* is a dummy variable that equals 1 when the focal firm partners with a positively rated CSR company; it equals 0 otherwise. *Both positive partners* is a dummy variable that equals 1 if both partners in the alliance are positively rated CSR firms; it equals 0 otherwise. Size is measured using total firm assets in millions of U.S. dollars. Size differential is measured by taking the absolute value of the difference in observation size for partners.

Variable	Observations	Mean	Std. Deviation	Min	Max
One positive partner	902	.809	.393	0	1
Positive partner	902	.483	.50	0	1
Both positive partners	314	.452	.498	0	1
Nonequity	902	.772	.420	0	1
Total assets (\$ in millions)	889	10338.03	65810.88	0.884	1484101
Size Differential	878	2.774	1.941	0.015	9.007

Following the literature and taking the log of total assets alleviates the concern about the high standard deviation for size shown in table 3.1. The size differences among partners (*size differential*) are shown in table 3.1 and range from 0.015 to 9.01, with an average difference of 2.77.

Consistent with the literature, our sample shows that strategic alliances create value, with a significant average cumulative abnormal return of 0.016 ( $P < 0.001$ ), as shown in model A (table 3.2). Oxly *et al.* (2009), McConnell & Nantell (1985), Woolridge & Snow (1990), Koh & Venkatraman (1991), Das, Sen, and Sengupta (1998), and Anand & Khanna (2000) find a positive abnormal return for strategic alliance partners following their alliance announcements, with average positive returns varying from less than 0.01 percent (Das, Sen, and Sengupta, 1998) to 1.78 percent (Anand & Khanna, 2000).

**Table 3.2. Results of the event study for full sample and firms partnering with companies that are and are not socially responsible**

Model A shows the announcement period cumulative abnormal return [-1, +1] for the overall sample; models B and C show the cumulative abnormal return [-1, +1] for firms partnering with socially responsible (i.e., positive partner) companies and companies that are not socially

responsible (nonpositive partner), respectively. Model D presents the difference in means between the two subsamples' CARs.

	<b>Model A</b>	<b>Model B</b>	<b>Model C</b>	<b>Model D</b>
	<b>Overall sample</b>	<b>Positive partner</b>	<b>Nonpositive partner</b>	<b>Difference in means (Model B – Model C)</b>
CAR (-1,+1)	0.016***	0.028***	0.001	0.027***
N	902	436	466	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

To test hypothesis 1, in which we postulate that firms partnering with socially responsible companies experience higher abnormal returns compared to firms allying with companies that are not socially responsible, we break down the sample with respect to CSR rating (i.e., *positive partner*). The results show that firms partnering with socially responsible companies have significantly greater cumulative abnormal returns than firms forming alliances with companies that are not socially responsible (model D, table 3.2). More specifically, although firms partnering with companies that are not socially responsible have insignificant cumulative abnormal returns, allying with socially responsible companies (positive partners) have average significant cumulative abnormal returns of 0.028 with  $P < 0.01$  (models C and B, respectively, table 3.2). Additionally, model D (table 3.2) shows a significant difference between the means of the two subsamples' CARs with  $P < 0.01$  (positive and nonpositive partner). This suggests that investors recognize the relationship between partner's CSR rating and firm value, supporting hypothesis 1.

Consistent also with the literature, our sample shows that nonequity alliances have higher cumulative abnormal returns than equity alliances (Socher, 2004). Nonequity alliances, more specifically, experience a significantly larger cumulative abnormal returns of 0.018 ( $P < 0.01$ ) relative to the insignificant cumulative abnormal returns of equity alliances of 0.001 (models 1 and 2, respectively, panel 1 in table 3.3). The difference in means in model 3 (panel 1, table 3.3) further show the significant difference ( $P < 0.05$ ) between the means of the two subsamples (equity versus nonequity alliances).

In hypothesis 2, we argue that CSR does not affect firm value in equity alliances. To test this hypothesis, we break out our equity sample in terms of CSR (i.e., partnering with firms that are and are not socially responsible). The results show that firms'

cumulative abnormal returns are insignificant for both subsamples (panel 3, models r and t, respectively, table 3.3), supporting hypothesis 2.

Hypothesis 3, on the other hand, states that within nonequity-based alliances firms allying with socially responsible companies have higher abnormal returns than firms forming alliances with companies that are not socially responsible. We break our nonequity alliances sample with respect to partners' CSR rating in order to examine this hypothesis. The results show that in nonequity alliances, firms partnering with socially responsible companies experience significantly larger cumulative abnormal returns compared to firms allying with companies that are not socially responsible (panel 2, model Z, table 3.3). More specifically, our analysis shows that firms partnering with socially responsible companies in nonequity alliances have significant cumulative abnormal returns of 0.035 with  $P < 0.01$  (panel 2, model X, table 3.3), while firms allying with companies that are not socially responsible have insignificant cumulative abnormal returns of 0.002 (panel 2, model Y, table 3.3). Thus, our results support hypothesis 3.

**Table 3.3. Results of event study for different subsamples based on alliance type and partner's CSR**

<i>Panel 1: Comparison of announcement-period cumulative abnormal return [-1, +1] between equity and nonequity alliances.</i>				
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	
	<b>Nonequity Alliances</b>	<b>Equity Alliances</b>	<b>Difference in Means (Model 1 – Model 2)</b>	
CAR (-1, +1)	0.018***	0.001	0.017**	
N	696	206		
<i>Panel 2: Comparison of announcement-period cumulative abnormal return [-1, +1] between firms partnering with companies that are and are not socially responsible in nonequity alliances.</i>				
	<b>Model 1</b>	<b>Model X</b>	<b>Model Y</b>	<b>Model Z</b>
	<b>Nonequity Alliances</b>	<b>Positive Partner in Nonequity Alliances</b>	<b>Nonpositive Partner in Nonequity Alliances</b>	<b>Difference in means (Model X – Model Y)</b>
CAR (-1, +1)	0.018***	0.035***	0.002	0.033***
N	696	334	362	

**Panel 3: Comparison of announcement-period cumulative abnormal return [-1, +1] between firms partnering with companies that are and are not socially responsible in equity alliances.**

	<b>Model 2</b>	<b>Model R</b>	<b>Model T</b>	<b>Model s</b>
	<b>Equity Alliances</b>	<b>Positive Partner in Equity Alliances</b>	<b>Nonpositive Partner in Equity Alliances</b>	<b>Difference in Means (Model R – Model T)</b>
CAR (-1, +1)	0.001	0.004	-0.001	0.005
N	206	102	104	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

In the unequal partner sample (small versus large), our results are consistent with the literature, showing the smaller partner has on average greater cumulative abnormal returns relative to their larger counterparts in strategic alliances (e.g., McConnell & Nantell, 1985; Koh & Venkatraman, 1991; Chan *et al.*, 1997; Das, Sen, and Sengupta, 1998; Chang *et al.*, 2008). In particular, compared to larger partners' insignificant cumulative abnormal returns, smaller partners experience significant cumulative abnormal returns of 0.027, with  $P < 0.01$  (panel 1, models B and A, respectively, table 3.4).<sup>4</sup> Furthermore, we find significant differences among the mean of the two groups' CARs, with  $P < 0.01$  (panel 1, model D, table 4).

We argue in hypothesis 4 that smaller firms forming alliances with socially responsible companies to experience higher CARs relative to smaller firms partnering with companies that are not socially responsible. To test this hypothesis, we divide the smaller partners subsample according to partners' CSR rating. The results in table 3.4 panel 2 show that among smaller partners, firms forming alliances with socially responsible companies have significantly greater cumulative abnormal returns compared to smaller partners allying with companies that are not socially responsible. That is, smaller partners that form alliances with socially responsible companies have on average significant cumulative abnormal returns of 0.035 with  $P < 0.01$  (panel 2, model II, table

<sup>4</sup> The reason the number of smaller firms (439) and larger firms (439) do not add up to the total number of observations in the sample (902) is that some observations are missing financial data.

3.4). Partnering with companies that are not socially responsible results in insignificant cumulative abnormal returns of 0.007 (panel 2, model III, table 3.4). The difference in means in model IV (panel 2, table 3.4), additionally, shows a significant difference ( $P < 0.05$ ) between the means of the two subsamples' CARs, favoring smaller partners with positive CSR partners to smaller partners allying with companies that are not socially responsible. Thus, hypothesis 4 is supported.

On the other hand, we argue in hypothesis 5 that partnering with socially responsible companies does not affect larger firms' values. Similar to the smaller firms' sample, we divide the larger partners' subsample further in terms of partners' CSR rating. The results in table 3.4 panel 3 show that larger partners in general have insignificant cumulative abnormal returns regardless of partners' CSR rating, supporting hypothesis 5.

**Table 3.4. Results of the event study for different subsamples based on size and partner's CSR**

<i>Panel 1: Comparison of announcement-period cumulative abnormal return [-1, +1] for larger and smaller partners.</i>				
	<b>Model A</b>	<b>Model B</b>	<b>Model D</b>	
	<b>Smaller partner in alliance</b>	<b>Larger partner in alliance</b>	<b>Difference in means (Model A – Model B)</b>	
CAR (-1, +1)	0.027***	0.002	0.025***	
N	439	439		
<i>Panel 2: Comparison of announcement-period cumulative abnormal return [-1, +1] among smaller partners allying with firms that are and are not socially responsible.</i>				
	<b>Model A</b>	<b>Model II</b>	<b>Model III</b>	<b>Model IV</b>
	<b>Smaller partner in alliance</b>	<b>Smaller partners allying with positive partner</b>	<b>Smaller partners allying with nonpositive partner</b>	<b>Difference in means (Model II – Model III)</b>
CAR (-1, +1)	0.027***	0.035 ***	0.007	0.028 **
N	439	320	119	
<i>Panel 3: Comparison of announcement-period cumulative abnormal return [-1, +1] among larger partners allying with firms that are and are not socially responsible.</i>				

	<b>Model B</b>	<b>Model II</b>	<b>Model III</b>	<b>Model IV</b>
	<b>Larger partner in alliance</b>	<b>Larger firms partnering with positive partner</b>	<b>Larger firms partnering with non-positive partner</b>	<b>Difference in means (Model II – Model III)</b>
CAR (-1, +1)	0.002	0.008	-0.000	0.008
N	439	107	332	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

In hypothesis 6, we argue that as the size difference between partnering firms increases, the effect of CSR within the alliance becomes more apparent for smaller partners, which results in higher cumulative abnormal returns. To test this hypothesis, we first break our sample into quartiles based on firm size differential (low, intermediate, and high, with low being small size differential and high being large size differential). In the low quartile, the impact of partnering with socially responsible companies on firm value is insignificantly different from allying with companies that are not socially responsible (panel 1, table 3.5). In particular, our results show that in the low quartile, smaller partners' cumulative abnormal returns are significant for firms allying with companies that are and are not socially responsible ( $P < 0.05$ ) (panel 1, models R and T respectively, table 3.5). More important, however, the difference-in-means analysis shows no significant difference in smaller partners' CARs partnering with companies that are and are not socially responsible within the low quartile (panel 1, model S, table 3.5).

In the intermediate quartile, however, smaller partners forming alliances with socially responsible companies have significant cumulative abnormal returns of 0.021 ( $P < 0.01$ ), while smaller partners allying with companies that are not socially responsible have insignificant cumulative abnormal returns of -0.001 (panel 2, models X and Y, respectively, table 3.5). Additionally, the results show a significant difference between the means of the two subsamples' CARs, with  $P < 0.05$  (panel 2, model Z, table 3.5). Similar results appear in the high quartile, where smaller partners with socially responsible counterparts have significant cumulative abnormal returns of 0.073 ( $P < 0.01$ ), and smaller partners forming alliances with companies that are not socially

responsible have insignificant cumulative abnormal returns of 0.011 (panel 3, models Q and W, respectively, table 3.5).

Next, we examine the differences in firms' cumulative abnormal returns for smaller partners forming alliances with socially responsible companies among low, intermediate, and high size differentials to assess the impact of partnering with socially responsible companies on firm value for these three quartiles. Even though there is no significant value difference between low and intermediate quartiles for smaller partners allying with socially responsible companies (panel 4, model G, table 3.5), our analysis shows a significant gain in firm value when comparing partners with low size differential to high, with  $P < 0.05$  (panel 5, model H, table 3.5).

In particular, smaller partners allying with socially responsible companies and that have high size differentials experience a 0.057 increase in value relative to other smaller partners allying with socially responsible companies and low size differential (panel 5, model H, table 3.5). Our analysis also shows similar results between intermediate and high size differentials (panel 6, model K, table 3.5). That is, smaller partners partnering with socially responsible companies and that have high size differentials experience a significant increase of 0.052 in firms' cumulative abnormal returns, with  $P < 0.01$  (panel 6, model K, table 3.5), when compared to other smaller partners partnering with socially responsible companies and have intermediate size differentials. Supporting hypothesis 6, these results indicate that investors recognize the value of partnering with socially responsible companies when a firm is much smaller than its counterpart.

**Table 3.5. Results of the event study in different subsamples based on size differential and partner's CSR**

<i>Panel 1: Comparison of announcement-period cumulative abnormal return [-1, +1] among smaller partners allying with firms that are and are not socially responsible and that have low size differentials with partners.</i>			
	<b>Model R</b>	<b>Model T</b>	<b>Model S</b>
	<b>Smaller partners with positive partner and low</b>	<b>Smaller partners with nonpositive partner and low</b>	<b>Difference in means (Model R – Model T)</b>

	<b>size differential</b>	<b>size differential</b>	
CAR (-1, +1)	0.016**	0.017**	-0.001
N	70	40	
<b><i>Panel 2: Comparison of announcement-period cumulative abnormal return [-1, +1] among smaller partners allying with firms that are and are not socially responsible and that have intermediate size differentials with partners.</i></b>			
	<b>Model X</b>	<b>Model Y</b>	<b>Model Z</b>
	<b>Smaller partners with positive partner and intermediate size differential</b>	<b>Smaller partners with positive partner and intermediate size differential</b>	<b>Difference in means (Model X – Model Y)</b>
CAR (-1, +1)	0.021 ***	-0.001	0.022 **
N	157	62	
<b><i>Panel 3: Comparison of announcement-period cumulative abnormal return [-1, +1] among smaller partners allying with firms that are and are not socially responsible and have high size differentials with partners.</i></b>			
	<b>Model Q</b>	<b>Model W</b>	<b>Model F</b>
	<b>Smaller partners with positive partner and high size differential</b>	<b>Smaller partners with positive partner and high size differential</b>	<b>Difference in means (Model Q – Model W)</b>
CAR (-1, +1)	0.073 ***	0.011	0.062
N	93	17	
<b><i>Panel 4: Comparison of announcement-period cumulative abnormal return [-1, +1] between low and intermediate size differentials of smaller partners allying with socially responsible companies</i></b>			
	<b>Model X</b>	<b>Model R</b>	<b>Model G</b>
	<b>Smaller partners with positive partner and intermediate size differential</b>	<b>Smaller partners with positive partner and low size differential</b>	<b>Difference in means (Model X – Model R)</b>
CAR (-1, +1)	0.021 ***	0.016**	0.005
N	157	70	
<b><i>Panel 5: Comparison of announcement-period cumulative abnormal return [-1, +1] between low and high size differentials of smaller partners allying with socially responsible companies</i></b>			

	<b>Model Q</b> <b>Smaller partners with positive partner and high size differential</b>	<b>Model R</b> <b>Smaller partners with positive partner and low size differential</b>	<b>Model H</b> <b>Difference in means (Model Q – Model R)</b>
CAR (-1, +1)	0.073 ***	0.016**	0.057**
N	93	70	
<i>Panel 6: Comparison of announcement-period cumulative abnormal return [-1, +1 between intermediate and high size differentials of smaller partners allying with socially responsible companies</i>			
	<b>Model Q</b> <b>Smaller partners with positive partner and high size differential</b>	<b>Model X</b> <b>Smaller partners with positive partner and intermediate size differential</b>	<b>Model K</b> <b>Difference in means (Model Q – Model X)</b>
CAR (-1, +1)	0.073 ***	0.021 ***	0.052***
N	93	157	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### 3.5. Robustness Checks

We test the sensitivity of our analysis using different robustness checks. First, we use the CRSP value-weighted index to measure firms' CARs. Second, we use a different sampling measure of partner CSR ratings. Finally, we use a different method to calculate firms' size differentials.

#### 3.5.1. Value-Weighted Index

In this first robustness test we follow the literature and use CRSP's value-weighted index instead of equal-weighted index to measure firms' cumulative abnormal returns (CAR).

Our analysis as shown in table 3.6 reveals results similar to those in our main analysis. That is, firms partnering with socially responsible firms experience significant abnormal returns of 0.029 ( $P < 0.01$ ), while firms cooperating with firms that are not socially responsible experience insignificant abnormal returns of 0.004. Similar to the

main analysis, the difference in means analysis reveals a significant difference between the two subsamples' CARs, favoring firms partnering with socially responsible companies. Hypothesis 1 is thus still supported.

**Table 3.6. Robustness test: results of the event study for firms partnering with companies that are and are not socially responsible, using CRSP value-weighted index**

	<b>Model B</b>	<b>Model C</b>	<b>Model D</b>
	<b>Positive partner</b>	<b>Nonpositive partner</b>	<b>Difference in means (Model B – Model C)</b>
CAR (-1,+1)	0.029***	0.004	0.025***
N	436	466	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### **3.5.2. Different Sampling**

#### **3.5.2.1. Focal Firms' CSR Rating**

In our main analysis, we identified partners' CSR rating without taking into consideration the focal firm's CSR rating. This in turn may bias our sample. In cases, for example, where both partners have positive CSR ratings, the sample of positive partner employed in the main analysis ended up including both observations. In other cases, however, where the focal firm has a positive CSR rating and a partner that is not socially responsible, the sample of firms with nonpositive partners ended up containing those observations. The later subsample also included other firms that are not socially responsible and that allied with a nonpositive CSR company. In short, the CSR rating of the focal firm could actually drive the results of our analysis rather than the partner's CSR. It is plausible for the market to view the partner that has not indicated its trustworthiness via its CSR activities as a possible threat, as it may behave opportunistically. Thus, the nontrustworthy partner could experience higher abnormal returns relative to its trustworthy counterpart due to this possible threat.

Accordingly, we first drop those observations where the focal firm has a positive CSR rating and analyze our data once more. The positive partner subsample here includes firms that are not socially responsible, but their partners are. The nonpositive partner

subsample, however, now includes firms and partners that are not socially responsible. The result of this robustness check is shown in table 3.7.

Second, we do the same investigation among firms and partners with positive CSR ratings. The positive subsamples include positive CSR firms and positive CSR partners only; in the nonpositive subsamples only retain firms and their partners that are not socially responsible. The result of this robustness check is presented in table 3.8.

The analyses of both robustness investigations are consistent with the main examination, supporting hypothesis 1. The results in tables 3.7 and 3.8 show firms partnering with socially responsible companies (i.e., positive partners) to experience significant abnormal returns ( $p < 0.01$ ), while firms allying with companies that are not socially responsible to experience insignificant cumulative abnormal returns. The difference in means analysis in both tables (3.7 and 3.8) provides further support and indicates a significant difference between the two subsamples' CARs, where firms with positive partners have significant larger abnormal returns than firms partnering with companies that are not socially responsible ( $P < 0.01$  and  $P < 0.1$ , respectively).

**Table 3.7. Robustness test: Results of the event study for firms partnering with companies that are and are not socially responsible, after dropping focal firms with positive CSR ratings**

	<b>Model B</b> <b>Positive partner</b>	<b>Model C</b> <b>Nonpositive partner</b>	<b>Model D</b> <b>Difference in means (Model B – Model C)</b>
CAR (-1,+1)	0.034***	0.003	0.031***
N	294	172	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 3.8. Robustness test: Results of the event study for firms partnering with companies that are and are not socially responsible, after retaining focal firms with positive CSR ratings**

	<b>Model B</b> <b>Positive partner</b>	<b>Model C</b> <b>Nonpositive partner</b>	<b>Model D</b> <b>Difference in means (Model B – Model C)</b>
CAR (-1,+1)	0.016***	0.003	0.013*
N	142	172	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### 3.5.2.2. Trust and Reciprocity

Earlier in the paper we argue that CSR affects firm value when a firm allies with a socially responsible company, as CSR indicates partners' trustworthiness. Evidence from the literature, however, shows that trust is reciprocal among team members (Serva *et al.*, 2005), between managers and subordinates (Buttler, 1991), and among partnering firms in nonequity international alliances (Johnson *et al.*, 1996). Researchers explain that "firm's trust of a partner motivates and encourages that partner to trust in return" (Johnson *et al.*, 1996). Hence, it is logical to assume that investors perceive alliances as favorable when at least one of the partners is trustworthy. According to this logic, then, we should not separate socially responsible firms from their nonpositive CSR partners, or vice versa.

Consequently, we create a binary dummy variable, *trusting alliances*, which equals 1 if at least one of the two partners in a strategic alliance is trustworthy; it equals 0 otherwise. The result of this analysis is consistent with the main investigation, supporting hypothesis 1. Strategic alliances that are characterized as trustworthy (i.e., at least one partner has a positive CSR rating) experience higher abnormal returns compared to alliances in which neither partner indicates trustworthiness (table 3.9).

**Table 3.9. Robustness test: Results of the event study for firms partnering with companies that are and are not socially responsible, using a different sampling measure of CSR**

	<b>Model B</b>	<b>Model C</b>	<b>Model D</b>
	<b>Trusting Alliances</b>	<b>Nontrusting Alliances</b>	<b>Difference in Means (Model B – Model C)</b>
CAR (-1,+1)	0.017***	0.003	0.014**
N	730	172	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### 3.5.2.3. Not in KLD

In several alliances, one of the two partners does not have a CSR rating, because they are not in the KLD database (explained earlier in the measurement section). To retain more observations for the analysis, we replace those firms' CSR ratings with 0. Yet, in reality these firms could be socially responsible without being in KLD.

Accordingly, we drop firms with unknown CSR ratings, which we replace with 0s, and reexamine our hypothesis once more. The results for this sensitivity analysis are presented in table 3.10, which shows the same outcomes as the main analysis, providing further support for hypothesis 1. The analysis shows the market reacts positively to firms partnering with socially responsible companies, which experience significant abnormal returns ( $p < 0.01$ ), and it reacts negatively to firms allying with companies that are not socially responsible; they experience insignificant returns. The difference-in-means analysis also shows that firms partnering with positive companies experience significant larger abnormal returns than firms partnering with companies that are not socially responsible ( $P < 0.01$ ).

**Table 3.10. Robustness test: Results of the event study for firms partnering with companies that are and are not socially responsible, after dropping firms with no CSR rating**

	<b>Model B</b>	<b>Model C</b>	<b>Model D</b>
	<b>Positive Partner</b>	<b>Nonpositive Partner</b>	<b>Difference in Means (Model B – Model C)</b>
CAR (-1,+1)	0.015***	0.001	0.014***
N	216	392	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### 3.5.3. Size Differential

In our original model, we isolate our sample in terms of size differential to (1) a low quartile based on the lowest 25 percent of our size differential in the sample, (2) an intermediate quartile, which is based on the middle 50 percent of our size-differential variable, and (3) a high quartile, which is based on the upper 75 percent of our size-differential variable. In some of these subsamples, the number of observations is low. As such, we divide our size-differential variable into three equal quartiles, each with one-third of the size-differential variable. In other words, the low quartile is now based on the lower third of our size-differential variable, while the intermediate and high quartiles are based on the middle and upper thirds of the size-differential variable, respectively.

The result of this analysis is shown in table 3.11. Using this new methodology to create the subsamples did not change our results. In particular, panel 1 shows no

significant improvement in firms' CAR when comparing low and intermediate size differentials. Conversely, however, panels 2 and 3 show significant increases in value when comparing the low or intermediate size differential to high, thus supporting hypothesis 6.

**Table 3.11. Robustness test: Results of the event study for firms partnering with companies that are and are not socially responsible, using different size-differential scales (one-third for each size differential category instead of bottom quarter, mid half, and top 75 percent)**

<i>Panel 1: Comparison of announcement-period cumulative abnormal return [-1, +1] between low and intermediate size differentials of smaller partners allying with socially responsible companies</i>			
	<b>Model X</b>	<b>Model R</b>	<b>Model G</b>
	<b>Smaller partners with positive partner and intermediate size differential</b>	<b>Smaller partners with positive partner and low size differential</b>	<b>Difference in means (Model X – Model R)</b>
CAR (-1, +1)	0.022***	0.013*	0.009
N	105	95	
<i>Panel 2: Comparison of announcement-period cumulative abnormal return [-1, +1] between low and high size differentials of smaller partners allying with socially responsible companies</i>			
	<b>Model Q</b>	<b>Model R</b>	<b>Model H</b>
	<b>Smaller partners with positive partner and high size differential</b>	<b>Smaller partners with positive partner and low size differential</b>	<b>Difference in means (Model Q – Model R)</b>
CAR (-1, +1)	0.063***	0.013*	0.050**
N	120	95	
<i>Panel 3: Comparison of announcement-period cumulative abnormal return [-1, +1] between intermediate and high size differentials of smaller partners allying with socially responsible companies</i>			
	<b>Model Q</b>	<b>Model X</b>	<b>Model K</b>
	<b>Smaller partners with positive partner and high</b>	<b>Smaller partners with positive partner and intermediate size</b>	<b>Difference in means (Model Q – Model X)</b>

	size differential	differential	
CAR (-1, +1)	0.063***	0.022***	0.041**
N	120	105	

Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### 3.6. Cross-Sectional Analysis

To verify our results, we conduct a cross-sectional analysis to examine the association between firms' with socially responsible partners and cumulative abnormal returns. That is, we analyze the abnormal returns for the alliance announcements using OLS regression analysis. The dependent variable for this analysis is firms' cumulative abnormal returns on the announcement date of alliance formation. The main independent variable in the regression is firm's partnership with a social responsible company (i.e., firms with positive CSR ratings).

We follow the literature and control for firm's size-calculated as the log of firms' total assets; market to book value, calculated by multiplying common shares outstanding and closing price and dividing the result by total assets; resource complementarity, which equals 1 if neither partners' SIC codes match, 0.5 if only the first digit of the partners' SEC codes match, 0.33 if two of their SIC codes match, 0.25 if three SICs match, and 0 if both partners' SIC codes matches; alliance intensity, calculated as the number of alliances a firm formed up to the current year of observation; and relative dummy variable, which calculates the size differential between the two partners and equals 1 if the difference in size between the partners falls in the intermediate or high quartiles of the size differential calculated earlier in the paper, and 0 otherwise. We also control for year and industry effects. Because the unit of analysis is firm level, which can form multiple alliances, in this investigation we cluster our regression by firm.

Table 3.12 displays the summary statistics and correlation matrix. The table shows no major concern in terms of correlation among the independent variables. Similarly, table 3.12 does not display any abnormalities in the main independent variables. The mean cumulative abnormal returns, for example, for firms in the sample is 0.014, which is within the range of CARs that are reported in the literature by other scholars such as Oxley *et al.* (2009) with CARs of 1.64 percent, Anand & Khanna (2000) with CAR of 1.78 percent, and Das *et al.* (1998) with CARs less than 0.01 percent.

**Table 3.12. Descriptive statistics and correlation matrix**

CAR is the announcement period cumulative abnormal return over [-1, +1] event window. Positive partner is a dummy variable that equals 1 when a firm forms an alliance with a socially responsible company, and 0 otherwise. Size is the log of firm’s total assets. Resource complementarity is a categorical variable that equals 1 if none of the partners’ sic code matches, 0.5 if both partners have the same first sic digit, 0.33 if both partners share the fist 2 digits of their sic codes, 0.25 if both partners have the same 3 digit sic code, and 0 if both partners have the exact same sic codes. Alliance intensity is the count of firm’s previous alliances up until the year of alliance announcement. Market-to-Book value is measured by (common shares outstanding\* closing price)/total assets. Relative dummy is a dummy variable that equals 1 if a firm has a high or intermediate size differential (calculated earlier) with its partner, and 0 if it has low size differential.

	N	Mean	Standard deviation	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) CAR	902	0.014	0.096	1						
(2) positive partner	902	0.483	0.500	0.140*	1					
(3) Size	889	6.886	2.356	-0.178*	-0.198*	1				
(4) Resource complementarity	902	0.493	0.321	0.018	0.039	-0.015	1			
(5) Alliance intensity	902	6.912	14.908	-0.050	-0.086*	0.287*	-0.029	1		
(6) MB	731	2.097	2.866	0.069	-0.007	-0.324*	-0.022	-0.020	1	
(7) Relative dummy	878	0.749	0.434	0.017	-0.047	-0.107*	0.028	0.038	0.103*	1

\*Significant  $p < 0.01$

The results of the regression are presented in table 3.13. We follow a similar approach to our earlier event analysis in terms of sampling to test or verify our hypothesis. Model 1 in table 3.13 tests the impact of firm's partnering with a socially responsible company on its cumulative abnormal returns. The results show a positive and significant association between the two variables, further supporting our finding in the subsample analysis. This suggests that allying with socially responsible companies is significantly associated with firms' cumulative abnormal returns on the date of the alliance announcement. That is, when firms' form an alliance with a socially responsible company, it experience an increase in cumulative abnormal returns by approximately 0.02 relative to those partnering with non-socially responsible companies.

To test for hypothesis 2 and 3, which predict an insignificant impact of allying with a socially responsible company on firm value in equity alliances and a significant impact in nonequity alliances respectively, we break the sample in terms of alliance structure and run the regression. While the results in model 2 (table 3.13) shows a significant and positive correlation between firm's value and partnering with socially responsible companies in nonequity alliances, we find no significant impact of allying with socially responsible company on firm value in equity base alliances. These results further support our earlier analysis and findings concerning hypotheses 2 and 3. These findings indicate that partnering with a socially responsible company is significantly correlated with firm's positive abnormal returns in nonequity alliances. On the other hand, in equity base alliances this is not the case. Firms in nonequity alliances experience an increase in abnormal returns by 0.024 when partnering with a socially responsible company, relative to others partnering with non-socially responsible companies.

Similar results are found in model 3 (table 3.13) regarding hypotheses 4 and 5, in which we argue respectively that among the smaller partners the impact of partnering with socially responsible companies is positively associated with firm value, while the same is insignificant among the larger partners. To verify these arguments we break the sample in terms of smaller partners and larger partners as shown in model 3 (table 3.13). The results are consistent with our earlier analysis and show a positive and significant correlation between partnering with socially responsible companies and firm value for the smaller partners and insignificant association for the larger partners. These findings thus

suggest that the smaller partners' value increases when partnering with a socially responsible company. This, however, is not true for the larger partner. Smaller partners allying with socially responsible companies experience a 0.03 increase in abnormal returns, relative to other smaller partners partnering with non-socially responsible companies.

Finally, model 4 (table 3.13) test hypotheses 6 that predict a higher gain in firm value for the smaller partner when the size difference between the two partners is large. We break the sample in terms of size differential between the two partners: the high size differential sample includes the smaller partners that fall into the intermediate or high size differential quartiles, which was calculated earlier in the event analysis; while the low size differential includes the smaller partners that have a low size difference with its larger counterpart or fall into the low size differential quartile.

The findings of this regression in model 4 are consistent with the earlier subsample analysis. In particular, the results show a significantly positive association between firm's partnership with socially responsible companies and cumulative abnormal returns for smaller partners with high or intermediate size difference with the larger partner. For smaller firms however with low size differential, partnering with socially responsible companies is not significantly associated with firms' cumulative abnormal returns. In particular, we find smaller partners with high size differential with its partner to experience a significant increase in abnormal returns of 0.05 when partnering with socially responsible companies, relative to other smaller firms with high size differential forming alliances with non-socially responsible companies.

**Table 3.13. Results of regression models using CAR [-1,+1] as a dependent variable**

	Model 1	Model 2		Model 3		Model 4	
	Over all	Equity	Non-equity	Smaller	Larger	High size differential	Low size differential
Positive partner	0.0197*** (0.0068)	0.0102 (0.0109)	0.0237*** (0.0084)	0.0333** (0.0162)	0.0085 (0.0055)	0.0511** (0.0213)	-0.0225 (0.0187)
MB	0.0005 (0.0026)	-0.0009 (0.0012)	0.0016 (0.0039)	0.0002 (0.0031)	0.0020 (0.0018)	0.0003 (0.0032)	0.0009 (0.0069)
Relative dummy	0.0077 (0.0066)	0.0068 (0.0113)	0.0090 (0.0082)	0.0029 (0.0121)	-0.0004 (0.0061)		
Size	-0.0068*** (0.0022)	0.0007 (0.0040)	-0.0070*** (0.0023)	-0.0010** (0.0047)	-0.0029 (0.0018)	-0.0101* (0.0056)	-0.0024 (0.0062)
Resource compl.	0.0039 (0.01175)	-0.0293 (0.0231)	0.0073 (0.0140)	-0.0090 (0.0224)	0.0111 (0.0079)	-0.0156 (0.0293)	0.0020 (0.0221)
Alliance int.	-0.0001 (0.0001)	-0.0005 (0.00075)	-0.0000 (0.0001)	-0.0002 (0.0006)	-0.0001 (0.0001)	-0.0019 (0.0014)	0.0001 (0.0003)
Constant	0.0360 (0.0238)	-0.0051 (0.0343)	0.0337 (0.0220)	0.0121 (0.0461)	0.0260 (0.0232)	0.0434 (0.0562)	0.0573 (0.0473)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.0762	0.2536	0.0808	0.0851	0.1097	0.1031	0.2388
N	722	123	599	357	365	271	86

Standard errors in parentheses  
 \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### 3.7. Conclusions, Limitations, and Future Research

Despite its growing popularity (Rothaermel & Boeker, 2007; Oxley *et al.*, 2009) and the potential to create value (e.g., Anand & Khanna, 2000; Kale *et al.*, 2002), researchers find most alliance partners to fail in realizing this value (Anand and Khanna, 2000; Das & Teng, 2003; Sampson, 2005; Gulati *et al.*, 2009), spurring the interest of academics. Although researchers recognize the importance of CSR, as evidenced by the large number of managers asserting CSR prominence in their decision-making process and firm success (Ali *et al.*, 2014) and its impact on firm value (e.g., Waddock & Graves, 1997; Harjoto *et al.*, 2001; Lev *et al.*, 2010; Xin *et al.*, 2013; Cheng *et al.*, 2014), little research examines its role in strategic alliances and more particularly value creation within a strategic alliance context. To our knowledge, our work is the first to examine the role of CSR on firm value within strategic alliances. The literature on strategic alliances with respect to CSR currently focuses on partnering with NGOs.

Although researchers recognize that trust plays a critical role in alliance performance (e.g., Dyer & Chu, 2003; Krishnan, Martin & Noorderhaven, 2006), empirical investigations concerning this construct on value creation are limited. Dyer & Chu (2003) explain the limited number of empirical studies to the operationalization of trust. Our work thus extends the knowledge of alliances' value creation by examining the impact of partners' CSR ratings, which as we argue measure firm trustworthiness.

Similarly, the paper further supports CSR's role in reducing information asymmetry between partnering firms and other stakeholders. Owen *et al.* (2013) find that by reducing information asymmetry, firms reduce uncertainties and are thus more likely to form strategic alliances. The ability to properly evaluate and identify the required resources for the alliance is an important aspect for the success of the alliance (Rever and Koza, 2000; Hansen, Hoskisson, and Barney, 2008). Kumar and Park (2012) also explain that outside investors may be unable to properly evaluate firms' resources and capabilities when information asymmetry is high.

Using Ali & Francis's (2014) measure of CSR, this research examines the role of CSR ratings, which indicate a partnering company's trustworthiness and transparency, in strategic alliances and firms' value creation. We also investigate the relationship between CSR and firm value for smaller partners with different size differentials, as well as

nonequity alliances, on the premise that in these situations the risk of opportunistic behavior is relatively high and firms' ability to mitigate the impact of evaluation uncertainties, stemming from high information asymmetry, is low.

Employing an event-study methodology for 902 observations or 451 strategic alliance announcements over 1991–2010, we find that firms partnering with socially responsible companies have significantly higher cumulative abnormal returns than firms allying with companies that are not socially responsible. The results thus support the idea that CSR is an influential factor on firm value creation in strategic alliances. It also provides evidence of how investors perceive CSR and its importance in strategic alliances.

Our results contribute to the large debate among scholars regarding CSR benefits and the motives for why managers adopt CSR strategies. Similar to Xin *et al.* (2013), which examines the impact of acquiring firms' CSR on shareholder value, we use strategic alliances to provide further evidence of the positive association between CSR and firm performance. Xin *et al.* (2013) explain that mergers and acquisitions are a good context for their investigation because mergers and acquisition have two unique characteristics. They are important investment decisions that significantly affect shareholder wealth, and they are unanticipated events whose announcement returns can mitigate the causality problem associated with CSR and firm performance. With respect to these two characteristics, strategic alliances are very similar to mergers and acquisition. Our work thus provides further support for CSR's positive effect on firm value.

On another note, a myriad of investigations find that equity is a valuable tool in curbing opportunistic behavior (e.g., Gulati, 1995a; Oxley, 1997; Hart, 2001; Faems *et al.*, 2008; and Das & Rahman, 2010) and dealing with evaluation uncertainties (Rever *et al.*, 2000; Kumar, 2007). Yet, when comparing equity and nonequity alliances in terms of firm value creation, Socher (2004) finds that nonequity alliances have higher abnormal returns, even though scholars believe nonequity alliances are more prone to opportunistic behavior due to their lack of control mechanisms (e.g., Gulati, 1995a, Oxley, 1997; Casciaro, 2003; Das & Rahman, 2010).

Accordingly, we examine the role of CSR ratings in equity and nonequity alliances on firm value. Our results indicate that firms in nonequity alliances with socially responsible companies have greater cumulative abnormal returns than firms allying with companies that are not socially responsible in nonequity alliances. This suggests that firms in nonequity alliances experience higher abnormal returns when partners can trust in each other as indicated by their CSR rating and can thus better deal with evaluation uncertainties and relational risk.

On the other hand, we also find that CSR activities in equity alliances have an ineffective impact on firm value. More specifically, we find that firms' cumulative abnormal returns in equity alliances partnering with socially responsible companies are insignificantly different from other firms' cumulative abnormal returns forming equity-based alliances. Supporting Gulati's (1995a) claim, our findings provide further evidence of trust's role as a control mechanism in strategic alliances based on investor perception. Gulati (1995a) posit that trust is an alternative form of governance. Our results also provide evidence of the role of equity-based alliances in dealing with valuation uncertainties (Rever *et al.*, 2000; Kumar, 2007).

On another note, Dickson *et al.* (2006) and Yang *et al.* (2014) argue that smaller partners within a strategic alliance are more vulnerable to opportunistic behavior and evaluation uncertainties. Regardless of this risk, however, the literature on this subject indicates that smaller partners in an alliance experience higher abnormal returns than their larger counterparts (e.g., McConnell & Nantell, 1985; Koh & Venkatraman, 1991; Chan *et al.*, 1997; Das, Sen, and Sengupta, 1998; and Chang *et al.*, 2008). Consistent with our prediction, we find that smaller partners allying with socially responsible companies in strategic alliances have significantly higher CARs than smaller firms partnering with companies that are not socially responsible. We also find that CSR, indicating firms' trustworthiness and transparency, is insignificant for larger firms in terms of value. This suggests that investors recognize CSR ratings as a major element for smaller partners' value creation because they have a higher potential for relational risk and evaluation uncertainties. This is consistent with the notion in the literature that smaller partners need to mitigate opportunistic behavior to increase firm value (Yang *et al.*, 2014).

We also find that as the size difference between partners increases, the effect of CSR on the smaller partners' value increases as well. In particular, our results show that among low size-differential partners, firms allying with socially responsible companies have insignificantly different CARs than other firms partnering with companies that are not socially responsible. Yet, in intermediate and high size differentials, smaller partners forming alliances with socially responsible companies have significantly higher CARs than smaller firms partnering with companies that are not socially responsible. More important, we find that as smaller firms with socially responsible companies move from low or intermediate size differentials to high size differential, the value of the smaller firms increases as well. These results indicate that as the size difference between partners increases, the more smaller partners need to trust their counterparts and reduce the chances of evaluation uncertainties, which translates into higher CARs.

In terms of managerial implications, our results provide managers as well as investors with a tool to identify alliances that increase firm value. Managers can use CSR to detect trustworthy firms when selecting or approaching a potential partner for strategic alliances and to properly evaluate and identify their resources, thus increasing firm value. Similarly, investors can use partners' CSR activities to measure firms' trustworthiness and properly evaluate the partner's assets and resources, identifying strategic alliances that enhance firm value. In certain situations, managers or investors may need to put more emphasis on CSR, particularly in nonequity alliances or when one partner is significantly larger.

A possible limitation to this study, however, is the measurement of CSR activities. Ali & Francis (2014) note that although measuring firm CSR activities by summing a six-dimension scale of CSR strengths is the most common method in the literature, CSR measurement in the general sense is still in its infant stages. They further explain that this measure does not weight the six CSR dimensions properly in terms of importance to the firm or the industry. A firm, for example, might value environmental issues more heavily than the other five dimensions of CSR for a specific industry.

Our research could be a useful platform for further work exploring alliance value creation. Researchers, for example, can investigate the specific situations in which CSR matters for smaller partners, increasing firm value. Yang *et al.* (2014) argue that smaller

firms have lower abnormal returns in exploration alliances relative to exploitation alliances, which is due to the higher appropriation risk the smaller firms may encounter. Waldman *et al.* (2006) argue that firms engaging in CSR activities are more likely to have transformational intellectual leadership, which Keller (1995) finds accounts for higher project quality.

Future research could also investigate situations in which CSR matters less in nonequity alliances versus equity alliances. Finally, one can look at the role of CSR when firms need to renegotiate the terms and or structures of an alliance. Rever *et al.* (2002) point to two scenarios, namely excessive and insufficient governance (in which there is misaligned collaboration between allied partners). In these two scenarios, firms must renegotiate and alter their governance structures. The first scenario, "excessive governance," for example, occurs when firms form equity alliances for a simple exchange relationship. A firm may use equity-based alliances when nonequity is more appropriate, causing slow decision-making and higher bureaucracy costs. In the second scenario, however, insufficient-governance firms form nonequity alliances for a more complex exchange relationship. In other words, a firm using a nonequity arrangement to govern a commitment-intensive alliance, such as R&D, may be exposed to contractual hazards. Accordingly, we can look at firm value when the wrong type of strategic alliance is being formed.

### 3.8 Paper 2 References

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