

Singapore Management University

## Institutional Knowledge at Singapore Management University

---

Research Collection Lee Kong Chian School Of  
Business

Lee Kong Chian School of Business

---

2-2013

### A new look at the corporate social-financial performance relationship: The moderating roles of temporal and inter-domain consistency in corporate social performance

Heli WANG

*Singapore Management University*, hlwang@smu.edu.sg

Jaepil CHOI

*Singapore Management University*, jaepilchoi@smu.edu.sg

Follow this and additional works at: [https://ink.library.smu.edu.sg/lkcsb\\_research](https://ink.library.smu.edu.sg/lkcsb_research)



Part of the [Business Law, Public Responsibility, and Ethics Commons](#), [Finance and Financial Management Commons](#), and the [Strategic Management Policy Commons](#)

---

#### Citation

WANG, Heli and CHOI, Jaepil. A new look at the corporate social-financial performance relationship: The moderating roles of temporal and inter-domain consistency in corporate social performance. (2013). *Journal of Management*. 39, (2), 416-441. Research Collection Lee Kong Chian School Of Business. Available at: [https://ink.library.smu.edu.sg/lkcsb\\_research/3440](https://ink.library.smu.edu.sg/lkcsb_research/3440)

This Journal Article is brought to you for free and open access by the Lee Kong Chian School of Business at Institutional Knowledge at Singapore Management University. It has been accepted for inclusion in Research Collection Lee Kong Chian School Of Business by an authorized administrator of Institutional Knowledge at Singapore Management University. For more information, please email [libR@smu.edu.sg](mailto:libR@smu.edu.sg).

# A New Look at the Corporate Social–Financial Performance Relationship: The Moderating Roles of Temporal and Interdomain Consistency in Corporate Social Performance

Heli Wang

*Hong Kong University of Science and Technology*

Jaepil Choi

*Sungkyunkwan University and Singapore Management University*

---

*The authors develop the argument that the establishment of good stakeholder relations is influenced not only by a firm's having a high level of corporate social performance but also by its ability to deliver consistent social performance. Therefore, both level and consistency in corporate social performance should have significant financial implications. More specifically, the authors suggest that level and two types of consistency in corporate social performance—temporal consistency and interdomain consistency—interact positively to influence a firm's financial performance. Using a sample of 622 firms and 2,365 firm-year observations based on the Kinder, Lydenberg, Domini, & Co. data, the authors found empirical results supporting this argument. In addition, they found that maintaining consistently good social performance is more important for firms with high levels of knowledge intensity.*

**Keywords:** *corporate social performance; corporate financial performance; temporal consistency; interdomain consistency; knowledge intensity*

---

---

*Acknowledgement: This article was accepted under the editorship of Talya N. Bauer.*

*Corresponding author: Heli Wang, Department of Management, School of Business, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong*

*E-mail: mnheli@ust.hk*

*Corporate social performance* describes a firm's application of its principles of social responsibility; its processes ensuring social responsiveness; and its policies, programs, and observable outcomes as they relate to its societal relationships (Wood, 1991). The relationship between corporate social performance and financial results has been a topic of interest to scholars of organizational research in general and business ethics in particular for more than three decades. However, despite unresolved theoretical debates about whether there is a clear link between these two and, if so, what the direction of the relationship is (e.g., Alexander & Buchholz, 1978; Friedman, 1970; Waddock & Graves, 1997), and despite controversy regarding the validity of some empirical findings (Margolis & Walsh, 2003), most studies have generally found a positive association between the two (for reviews, see Orlitzky, Schmidt, & Rynes, 2003; Roman, Hayibor, & Agle, 1999).

Some recent studies have taken further steps beyond examining the simple social–financial performance relationship. McWilliams and Siegel (2001) developed a supply-and-demand model of corporate social responsibility and argued that corporate social performance is influenced by various factors including a firm's size, diversification, R&D, and market conditions. They concluded that if all these factors are considered, corporate social activities should neither promote nor hinder financial performance. Hillman and Keim (2001) suggested that the subcomponents of corporate social performance have differing impacts on corporate financial performance. Decomposing corporate social performance into stakeholder management and social issue participation, they showed that while stakeholder management affects corporate financial performance positively, social issue participation has a negative effect. Hull and Rothenberg (2008) recently examined innovation and the level of differentiation in the industry as moderators in the relationship between corporate social performance and financial performance. They found that corporate social performance most strongly affects financial performance in low-innovation firms and in industries with little differentiation.

This study attempts to take another step toward a better understanding of the relationship between corporate social and financial performance, exploring the role of *consistency* in corporate social performance and examining its interaction with the *level* of social performance<sup>1</sup> in influencing corporate financial performance. This was motivated by the observation that the level of a firm's social performance varies over time and across its various stakeholder domains. Moreover, these variations differ among firms—some firms have fairly reliable social performance, while others show large variations both over time and across their different stakeholder domains (Agle, Mitchell, & Sonnenfeld, 1999; Frooman, 1999; Porter & Kramer, 2002; Waddock & Graves, 1997). These intra- and interfirm variations in corporate social performance imply that focusing only on the level of corporate social performance may not give a complete picture of the corporate social–financial performance relationship. Previous studies, however, have not taken into account such variations in examining the financial consequences of corporate social activities.

Building on instrumental stakeholder theory, we develop an argument that maintaining high consistency in social practices contributes to stronger firm–stakeholder relationships. In addition, the resource-based view of the firm suggests that because consistent social practices are not easily replicable by competitors, consistency in social performance will generate value for a firm. More specifically, this study examined the moderating effect of consistency in corporate social performance. Previous research has shown that good corporate social

performance is positively related to superior financial results, presumably because it helps establish better stakeholder relations, which in turn garner stakeholder support and cooperation. But good stakeholder relations are not influenced solely by a high level of corporate social performance. The ability to deliver consistent social performance should also have important implications for building valuable relationship assets that constitute important sources of firm competitive advantage. In this study, we examine two types of consistency—temporal consistency and interdomain consistency—and argue that they are most relevant for evaluating the reliability of a firm's social performance. *Temporal consistency* refers to the reliability of a firm's treatment of its stakeholders over time, while *interdomain consistency* indicates consistency in a firm's treatment of its different stakeholder groups. We suggest that both dimensions of consistency in social performance might be expected to interact with a firm's overall level of social performance to predict its financial performance. More specifically, the relationship between the overall level of social performance and financial performance is expected to be stronger when a firm's social performance is more consistent along these two dimensions.

We further examine a boundary condition of the moderating role of consistency in a firm's social practices in the corporate social–financial performance relationship, based on the argument that the interaction between level and consistency in social performance will be more pronounced under conditions in which firms are likely to gain more from maintaining consistently good social practices. In this study, knowledge intensity, or the extent to which knowledge is a key factor in a firm's competitive advantage (Autio, Sapienza, & Almeida, 2000; Coff, 2003), was used to test for any differential benefit from maintaining consistency in social performance. This factor was chosen based on the premise that building good relational assets with stakeholders will generally be more important to firms with higher levels of knowledge intensity (Barney & Hansen, 1994; Cohen & Prusak, 2001; Williamson, 1975, 1985). If so, knowledge intensity should constitute an important determinant of any interaction between the level and the consistency of a firm's social performance and its link with financial outcomes.

This study, then, had two objectives. The first was to explore how level and consistency in corporate social performance might interact to influence financial performance, seeking to show that the relationship between the level of social performance and financial performance, which has been established in many previous studies (Margolis & Walsh, 2003; Orlitzky et al., 2003; Roman et al., 1999), is affected by consistency in social performance. The second objective was to explore for which types of firms the maintenance of consistently good social performance is most important. This was the point of exploring knowledge intensity as a potential influence on the interaction between level and consistency and their relationship with financial results.

## **The Corporate Social–Financial Performance Relationship**

Many previous studies have attempted to examine the relationship between the level of a firm's social performance and corporate financial outcomes (for reviews, see Margolis & Walsh, 2003; Orlitzky et al., 2003; Roman et al., 1999). There are various arguments about how corporate social performance may influence a firm's financial outcomes, but most of them are con-

sistent with the idea that a high level of social performance helps a firm build good relationships with its stakeholders, which in turn enhance the firm's financial performance (Hillman & Keim, 2001; Ruf, Muralidhar, Brown, Janney, & Paul, 2001; Russo & Fouts, 1997).

For example, a firm with a high level of social performance is likely to be perceived by its current employees to have qualities of virtue or moral worth. As a result, those employees will have greater satisfaction and identify more strongly with the firm (Dutton, Dukerich, & Harquail, 1994). Stronger organizational identification further promotes cooperation and prosocial behaviors among employees (Kramer, 1991; O'Reilly & Chatman, 1986; Organ, 1988). Moreover, employees who have strong identification will reveal greater loyalty toward their company and care more about and contribute more to the company's success (Ashforth & Mael, 1989; Hogg & Abrams, 1988).

Corporate social activities also directly help build good relations with a firm's external stakeholders, such as customers, community, and prospective employees. Some customers feel more attached to a firm that takes care of its social and natural environment, and thus, customers respond to corporate social activities by increasing their demand or paying premium prices for the firm's products or services (Dacin & Brown, 1997; McWilliams & Siegel, 2000, 2001). For instance, the 1999 Cone/Roper Cause-Related Trends report revealed that many U.S. residents have a positive image of companies that support a cause that brings social benefit and that they would like to switch brands to ones associated with a good cause, even if doing so may require them to pay a somewhat higher price. In addition, since corporate social activities function as a signal that provides information about what it would be like to work for the firm, socially responsible companies are often perceived as attractive employers by job seekers and thereby are in a position to select a better quality workforce (Backhaus, Stone, & Heiner, 2002; Greening & Turban, 2000; Luce, Barber, & Hillman, 2001; Turban & Greening, 1996). Similarly, the local community in general may provide socially responsible firms with more favorable terms for the use of local infrastructure (Fombrun, 1996).

Based on such arguments, many previous studies have demonstrated a positive relationship between the level of corporate social performance and corporate financial results (e.g., Orlitzky et al., 2003; Roman et al., 1999). Building on their work, we establish the following baseline hypothesis:

*Hypothesis 1:* The level of a firm's social performance is positively related to its financial performance.

## **Consistency in Corporate Social Performance**

The overall level of corporate social performance, however, is just one dimension of a firm's social performance that has an influence on corporate financial performance. Another important dimension is the degree of consistency in the level of social performance.

### *Types of Consistency in Corporate Social Performance*

The level of corporate social performance can certainly vary over time. Stakeholders' perceptions and evaluations of a firm's corporate social practices, upon which firm–stakeholder

relationship resources are built, are likely to be affected naturally by their own past firsthand experiences of how a firm has treated them over time. But it is often the case that an individual stakeholder's firsthand experiences with a firm may be so limited that it is not easy to accurately interpret the firm's motives and predict its future behavior based on firsthand experiences alone (Mitchell, Agle, & Wood, 1997). The stakeholder may therefore look at how the firm treats others in the same stakeholder group. A customer, for example, will naturally use other customers as referents. In this process, temporal variations may be more apparent, so the extent to which the firm treats a particular stakeholder group consistently well over time becomes salient.

In addition, any firm must deal with multiple stakeholder groups (Freeman, 1984), and the levels of its social practices can vary with respect to these different groups. Stakeholders, though, may also look at how the firm treats other stakeholder groups to assess whether it is trustworthy. The various nonfinancial stakeholders—customers, suppliers, employees, the government, and the community as a whole—are often considered as a single group because of the overlap in their incentives and the potential for gains and losses through interacting with them (Clarkson, 1995; Hillman & Keim, 2001). When stakeholders in one domain view those in other domains as sharing some common features, those other stakeholders can be considered as relevant referents (Kulik & Ambrose, 1992). For example, to the extent that some customers identify employees, suppliers, or the community as sharing similar incentives and rewards when interacting with the firm, the customers might use those other stakeholders as referents for evaluating the firm. Indeed, many consumers are more willing to pay premium prices for the products of firms with good relationships with other stakeholders, as in the case of cosmetics firms using animal-free testing, for example, or union-friendly firms. So how a firm treats other stakeholders can influence a particular stakeholder's decisions regarding how she or he interacts with the firm.

Of course, using a firm's past social practices and other stakeholder groups as referent points rests on having enough information about how the firm treats the stakeholders in the past as well as how it treats other stakeholder groups. Indeed, lack of information might have been a barrier in the past, but increasing public attention to and media exposure of corporate social activities in recent years have enabled more efficient information flow. Beyond the media, watchdog groups such as the Council on Economic Priorities and independent service organizations that evaluate firms' performance over time and across a broad range of social activities make information on those activities readily available to the public and to different stakeholder groups. Information sharing among a firm's diverse stakeholder groups is further facilitated by many firms' increased exposure of their socially responsible actions in their marketing activities (e.g., Ben & Jerry's, The Body Shop).

Based on these considerations, this study was designed to examine two aspects of consistency in corporate social performance. *Temporal consistency* refers to the reliability of a firm's social performance over time with respect to a particular stakeholder group or domain. Temporal consistency facilitates a stakeholder group's understanding of a firm by using other group members as referents, as well as through firsthand experience. Good temporal consistency indicates that how a firm treats its stakeholders today strongly predicts how they can expect to be treated tomorrow. If a firm's treatment of a stakeholder group varies markedly with time, the firm's social performance is said to demonstrate low temporal consistency. *Interdomain consistency* describes the degree of consistency in corporate social performance

across multiple stakeholder groups. This again facilitates understanding a firm by using a broadly defined group for reference. A firm shows high interdomain consistency if all of its key stakeholder groups are attended to simultaneously and to a similar degree. In contrast, if a firm treats one or a subset of its key stakeholder groups very well but treats the others very poorly, then it is said to have a low interdomain consistency.

Although consistency in corporate social performance is a new construct in this line of research, the importance of the general concept of consistency has been emphasized by various authors, which provides some additional theoretical basis for our focus here. For instance, Lee, Edmondson, Thomke, and Worline (2004) alluded to the possibility that consistency in a firm's management practices may vary over time, which corresponds to the idea of temporal consistency in our study. In addition, the recent discussion in the stakeholder theory literature about balancing stakeholder interests (Ogden & Watson, 1999; Reynolds, Schultz, & Hekman, 2006) seems to be quite well aligned with our concept of interdomain consistency. Furthermore, it has been found that consistency in various management practices is preferred by employees and by other stakeholder groups over inconsistency. Lee and her colleagues, for example, showed that employees exhibit more positive behaviors—innovative behaviors—beneficial to organizations when organizational conditions show high consistency. The strategic human resource management literature (Delery & Doty, 1996; MacDuffie, 1995) also suggests that consistency among interrelated human resource management practices induces high commitment and loyalty from employees. In addition, several theories in the social psychology literature, such as cognitive dissonance theory (Festinger, 1957) and consistency in decision making (Staw, 1981), argue that people generally share strong norms for consistency and such a preference for consistency affects their behavior to a great extent. Extending this line of argument, we shall argue in the following section that consistency in corporate social performance has implications for determining stakeholders' reactions.

### *The Moderating Effect of Consistency on the Corporate Social–Financial Performance Relationship*

Corporate social performance has been argued to be positively related to corporate financial performance based on the premise that good social performance helps build valuable firm–stakeholder relations and thereby enlists greater stakeholder support and cooperation (Hillman & Keim, 2001; Ruf et al., 2001; Russo & Fouts, 1997). However, the establishment of valuable relational assets does not solely rely on the level of social performance at a point in time but also relies on the degree of consistency in the levels of corporate social performance, both over time and across stakeholder domains.

Good stakeholder relationships are not built overnight. They generally require persistent relationship-building efforts over a long period of time (Fombrun, 1996; Hillman & Keim, 2001). Instrumental stakeholder theory predicts that the quality of a firm's relationship with a particular stakeholder will be directly influenced by the extent to which that stakeholder considers the firm's social activities to be genuine or arranged with self-interest in mind (Berman, Wicks, Kotha, & Jones, 1999; Jones, 1995). Sporadic good treatment without a

consistent pattern is likely to lead to doubts about the firm's true intentions (Lee et al., 2004). In contrast, when a firm treats its stakeholders consistently well in good times and bad, the stakeholders will be more likely to regard the firm's behavior as genuine and predictable. Thus, stronger firm–stakeholder relationships are likely to be built through maintaining consistency in social practices.

Moreover, according to the resource-based view of the firm, valuable relationship assets are difficult to imitate when they incorporate history (the relationship evolves via a path dependency) and when there are time compression diseconomies (it takes time to build relationships through experience and repeated interactions). Therefore, from the resource-based perspective, in order for a relationship to be the source of competitive advantage, it is best built through consistent behavior through repeated interactions (Barney & Hansen, 1994; Gulati, 1995). Relationships built without consistency will generally not be as strong and will be easier for competitors to replicate. Their ability to garner stakeholder support and cooperation will be very much discounted.

This makes maintaining consistent social practices over time important for a firm's building valuable relationship assets with its stakeholders. It then follows that a firm is are likely to achieve better financial performance when good social performance is maintained consistently. Even if social performance is occasionally good, financial performance will be hampered. And of course, if a firm consistently delivers poor social performance, that kind of consistency is unlikely to strengthen its relationship with its stakeholders. There should, therefore, be a positive interaction between temporal consistency and the level of corporate social performance in determining a firm's financial results.

*Hypothesis 2a:* There is a positive interaction between the level of a firm's social performance and its temporal consistency such that corporate financial performance will be best when a firm maintains consistently good social performance over time.

Similar arguments apply to consistency across different stakeholder domains. A firm's relationships with its various stakeholders are often interdependent, suggesting that the quality of its relations with one stakeholder group can influence its relationships with others. Indeed, stakeholders may obtain cues about whether a firm has a genuine interest in their well-being from how the firm treats its other stakeholders (Berman et al., 1999). This indicates that successful relationship building is possible not only by improving a bilateral relationship with one particular stakeholder group but also by simultaneously addressing and meeting the demands and interests of multiple stakeholders (Orlitzky et al., 2003).

Moreover, maintaining consistency across stakeholder domains increases the social complexity of a firm's relationship asset and makes it difficult for rival firms to replicate (Barney, 1986; Nelson & Winter, 1982). It might be relatively easy to imitate how a firm deals with one stakeholder group, but it will normally be much more difficult to simultaneously imitate the entire pattern of its relationships with multiple stakeholder groups. We therefore have the following:

*Hypothesis 2b:* There is a positive interaction between the level of a firm's social performance and its interdomain consistency such that corporate financial performance will be best when a firm maintains consistently good social performance with respect to many of its stakeholders.



### *Knowledge Intensity as a Boundary Condition*

The preceding arguments highlight the general benefits of maintaining consistently good social performance. But maintaining consistently good social practices comes with significant commitment and costs, so not all firms will benefit equally from doing so. One key differentiating factor determining which firms will get more benefit from consistency in social performance is a firm's knowledge intensity—the extent to which knowledge is a key factor in a firm's competitive advantage (Coff, 1997; Kogut & Zander, 1992). We shall argue below that knowledge-intensive firms are more likely to benefit from maintaining consistently good social practices than firms with low knowledge intensity, as building good stakeholder relations is more important for them.

According to the resource- or knowledge-based view of the firm arguments (Coff, 1999; Kogut & Zander, 1992, 1996), knowledge assets are among the most important class of firm resources that contribute to a firm's competitive advantage. Good stakeholder relations enable firms to acquire knowledge assets more effectively. First, knowledge-intensive firms generally invest heavily in research and development (Coff, 2003; Cohen & Levinthal, 1990), which require significant amounts of specialized human capital from their key employees (Collins & Porras, 1994). Good employee relations help a firm develop such specialized human capital through increased employee cooperation and commitment (Adler, 2001). Second, knowledge-intensive firms often need to be closely engaged with only a few suppliers and customers, so high-quality relationships based on long-term relational contracts with these key stakeholders facilitate the firm's knowledge acquisition and exploitation (Barney & Hansen, 1994; Yli-Renko, Autio, & Sapienza, 2001). In addition, a good relationship with the community enables a firm to attract better quality human resources (Fombrun, 1996), which are again critical for knowledge-intensive firms.

The above arguments are also consistent with a key argument of transaction cost economics (Williamson, 1975, 1985). The difficulty of evaluating knowledge- or R&D-related exchanges and the concerns about opportunism resulting from monitoring difficulties increase the transaction costs associated with such exchanges (Gulati, 1995), making the role of good relationships more crucial in such situations. As consistently good social performance helps develop good stakeholder relations, it encourages stakeholders to exert effort to assist the firm in deploying its knowledge assets while minimizing their concerns about being taken advantage of. Therefore, cooperative relationships with internal and external stakeholders would be expected to enhance a knowledge-intensive firm's financial performance (Cohen & Prusak, 2001).

Lastly, high knowledge intensity is also likely to make general relationship building with stakeholders more difficult. Such firms' research projects are usually complex and highly confidential. The complexity and secrecy of the knowledge may prevent stakeholders from fully understanding the firm and its long-term goals and may therefore make it difficult for them to anticipate how the firm will treat them. More important, the social impact of such R&D on the community, the environment, the employees and the customers cannot easily be objectively assessed (Anton & Yao, 1994; Bhattacharya & Chiesa, 1995). Such difficulties in building good stakeholder relations inherent to knowledge-intensive firms render those good relations more valuable. Thus, maintaining consistently good social practices that help build good relations becomes more important for high knowledge-intensive firms.

In sum, the higher a firm's knowledge intensity, the more important it is to maintain good stakeholder relations and thus the greater the benefit that might be available from maintaining consistently good social performance, both over time and across different stakeholder domains.

*Hypothesis 3a:* As a firm's knowledge intensity increases, the positive interaction between temporal consistency and the level of corporate social performance in influencing corporate financial performance becomes stronger.

*Hypothesis 3b:* As a firm's knowledge intensity increases, the positive interaction between inter-domain consistency and the level of corporate social performance in influencing corporate financial performance becomes stronger.

## Method

### *Data and Sample*

Data from Kinder, Lydenberg, Domini, & Co., Inc. (KLD) were used to construct measures of corporate social performance. KLD data are widely used in business and society research and are considered to be the best data available for compiling a comprehensive measure of corporate social performance (Graves & Waddock, 1994; Hillman & Keim, 2001; Waddock & Graves, 1997). KLD's ratings have been found to have better construct validity than other similar measures (Sharfman, 1996) because they are not substantially influenced by a firm's financial success (Szwajkowski & Figlewicz, 1999). Moreover, KLD's staff members are rating experts who are not affiliated with any of the rated companies, so the rating process is independent and objective.<sup>2</sup> Since 1991, KLD has been compiling social performance data for firms in the S&P 500, the DSI 400,<sup>3</sup> and more recently, the Russell 3000 in terms of 13 issues: community, corporate governance, diversity, employee relations, environment, human rights, product, alcohol, tobacco, gambling, firearms, nuclear power, and military contracting. The profiles rate each firm in terms of strengths and concerns in each dimension, except for involvement in alcohol, tobacco, gambling, firearms, nuclear power, and military contracting, where only the concerns are evaluated.

This study examined the KLD social performance of firms belonging to the S&P 500, the DSI 400, or both during the 10-year period from year 1991 to 2000. This sample period was chosen because U.S. firms experienced stable economic growth and thus a reasonably smooth operating environment during this period. KLD social performance data were then collated with S&P's COMPUSTAT series to obtain matching information on corporate financial performance and on other explanatory and control variables. Since corporate social performance information from each of 5 consecutive years was used to calculate the temporal consistency measure (see below for more details), the final panel data for regression analysis included observations that covered 6 years from 1995 to 2000. After deleting observations for which the other key variables were missing from the COMPUSTAT series, the number of firms in the final sample was 622, and the complete data set contained 2,365 firm-year observations. On average, each firm appeared in the data for 3.8 years.

## Measures

*Corporate financial performance.* The measure of corporate financial performance used in this study was Tobin's  $q$ . Using such a market-based financial performance measure helped overcome the commonly recognized drawbacks associated with accounting-based measures such as return on assets and return on equity (Fisher & McGowan, 1983; Hillman & Keim, 2001). First, it is difficult to determine the appropriate time lag for the impact of consistent social practices on financial performance. Second, measuring the performance impact over a long period of time requires careful attention to other factors that may also affect accounting-based performance, but they are generally difficult to evaluate and control for using the available data (Fisher & McGowan, 1983). So to facilitate the analysis, Tobin's  $q$  was used as the dependent variable in this study. For similar reasons, some previous studies on corporate social performance (e.g., Hillman & Keim, 2001) also used a market-based performance measure instead of accounting-based measures.

Following the methods of Chung and Pruitt (1994), we approximated Tobin's  $q$  using the firm's market-to-book ratio.<sup>4</sup> This measure has been shown to explain over 96% of the variance in a more sophisticated Tobin's  $q$ , which would involve arbitrary assumptions about depreciation and inflation rates for the calculation of the assets' replacement values (Lindenberg & Ross, 1981). The market value numerator was the year-end market value of the firm's common stock plus the book value of its preferred stock and debt. The book value denominator was the year-end total assets. The firm's market value was used as the numerator based on the assumption that stock market investors hold rational expectations about the extent to which the present value of a firm's future profits varies as a function of the firm's actions taken today. The data source for the Tobin's  $q$  calculation was the COMPUSTAT series.

*Level of corporate social performance.* The variables relating to corporate social performance were assessed based on five dimensions from the KLD data: community, diversity, employee relations, environment, and product. These five dimensions were chosen because they were likely to be of greatest concern to the key stakeholder groups, which are usually the main focus in stakeholder management studies (Berman et al., 1999; Johnson & Greening, 1999; Mitchell et al., 1997). Managing relationships with these stakeholders through corporate social involvement in these dimensions has been considered to have the most important implications for corporate financial performance (Hillman & Keim, 2001).

As each of the five dimensions involves a number of strengths and concerns in the KLD index, the total number of concerns was subtracted from the total number of strengths to arrive at a net score for each dimension (Graves, Waddock, & Kelly, 2005). Take the employee relations dimension as an example. If a firm was hypothetically credited with three "strengths" for profit sharing, retirement benefits, and employee involvement, but two "concerns" about union relations and workforce reductions, then the firm's net score on the employee relations dimension would be one (three strengths minus two concerns). A similar calculation was done for each dimension. In the KLD ratings, the number of evaluation criteria for each of the five dimensions varies. For example, for the community dimension,

a firm's strengths are evaluated in terms of seven aspects, while the concerns are assessed using four aspects. For the product dimension, the strengths and concerns are each evaluated in terms of four aspects. To accommodate such differences, and thus to make the scores across dimensions directly comparable, each dimension was standardized in terms of standard deviations from the sample mean, indicating performance relative to peers. The overall level of corporate social performance was computed by taking the average of the standardized scores on the five dimensions (Hillman & Keim, 2001; Mitchell et al., 1997).

*Consistency in corporate social performance.* Since no previous work has provided measures of consistency in social performance for us to refer to, we created the measures ourselves. Variation in the sample mean of corporate social performance over time would be one simple measure, but if the simple variance is used, firms that have improved their social performance over time will appear to have an inconsistent corporate social performance simply because the mean is a poor statistic for estimating temporal trends (cf. Sorensen, 2002). Instead, the latest five years of social performance scores in each stakeholder domain (including the data year) were regressed against time to obtain the regression coefficients (i.e., the slopes) and their standard errors. This approach has been used in previous studies to take into account temporal trends in calculating environmental uncertainty (e.g., Boyd, 1995; Dess & Beard, 1984; Keats & Hitt, 1988; Simerly & Li, 2000; Wholey & Brittain, 1989). This yielded a set of five coefficients and standard errors for the five stakeholder domains. Changing the sign of the standard error then produced an index of temporal consistency in each dimension of social performance (i.e., the lower the standard error of the regression coefficient for a certain dimension, the greater the temporal consistency in that dimension). Overall temporal consistency scores were then calculated for each firm by taking the average of the temporal consistency values for the five domains.

In contrast, the issue related to trends is not relevant for interdomain consistency. Thus, a simple variance approach should be sufficient. More specifically, we measured interdomain consistency by calculating the variance in the normalized social performance scores for each of the five dimensions of social performance (Harrison & Klein, 2007).

*Knowledge intensity.* Knowledge intensity was measured in terms of the dollar amount of the firm's R&D expenditure scaled by total firm sales (Coff, 2003; Cohen & Levinthal, 1990). To avoid a dramatic decrease in the total number of observations due to frequent instances of missing R&D data in the COMPUSTAT series, zeros were inserted to replace any missing values, on the assumption that when firms do not report R&D expenditures it is generally because the values are nonexistent or minimal (Morck & Yeung, 1991; Villalonga, 2004). This assumption is supported by the fact that fewer missing values were observed in R&D-intensive industries.<sup>5</sup>

*Control variables.* In addition to the above-mentioned main dependent and explanatory variables, firm size and debt ratio might be expected to have an influence on corporate social and financial performance (Ullmann, 1985; Waddock & Graves, 1997). Therefore, they were included in the regressions as control variables.<sup>6</sup> Given the positive skewness in firm size, the natural logarithm of total assets was used as a proxy. As a result of natural log transformation,

the skewness in firm size has been reduced from 5.75 to 0.32. A firm's debt ratio was the ratio of its long-term debt to its total assets.

Note that in developing the measure of temporal consistency, five years of social performance scores were regressed against time to obtain the regression coefficient (i.e., the slope or trend) and its standard error (the inverse of consistency). An improving trend in social performance was hypothesized to be associated with better financial performance, compared to a decreasing trend. Therefore, the regression coefficient, CSP trend (in which CSP stands for the level of corporate social performance), was included as an additional control variable. Lastly, since earlier studies (Graves & Waddock, 1994; Waddock & Graves, 1997) showed that clear differences in social performance exist among industries, industry dummy variables (defined at the two-digit standard industrial classification level) were included as additional controls. The data source for these control variables was the COMPUSTAT series.

### *Estimation Method*

To address any concerns about the autocorrelation and unobserved heterogeneity that often arise with panel data, standard techniques for panel data analysis were applied. A Hausman test (Hausman, 1978) was first conducted to determine the appropriate estimation method. The results showed that significant correlations existed between the error and the regressors, suggesting that firm-fixed effects models were to be preferred over random effects models for statistical analysis. To test the robustness of the findings, the results reported here were also compared with those obtained using a random effects model. While the signs of the coefficients were largely consistent, the magnitudes and significance levels from the fixed effects model were systematically lower than those from the random effects model. Hence, the reported estimates using the fixed effects model are considered to be conservative. To further correct for any potential autocorrelation in the time-series data that might lead to biased parameter estimates, and to control for effects that might vary over time but be constant across firms, a time-fixed effect was also included by adding year dummy variables.

The final model estimated was thus,

$$Y_{it} = \alpha_i + \gamma_t + \beta_1 \text{CSP}_{i(t-1)} + \beta_2 \text{Cons}_{i(t-1)} + \beta_3 \text{RD}_{i(t-1)} + \beta_4 \text{CSP}_{i(t-1)} \\ \times \text{Cons}_{i(t-1)} + \beta_5 \text{CSP}_{i(t-1)} \times \text{Cons}_{i(t-1)} \times \text{RD}_{i(t-1)} + \beta_6 X_{i(t-1)} + \varepsilon_{i(t-1)},$$

in which  $Y_{it}$  is the corporate financial performance (Tobin's  $q$ ) for firm  $i$  in year  $t$ , and  $\alpha_i$  and  $\gamma_t$  represent the firm- and time-fixed effects, respectively. Also included in the equation are Cons (consistency in corporate social performance), CSP (level of corporate social performance), RD (knowledge intensity), their associated interactions, and  $X$  (the other control variables). Of main interest are  $\beta_1$ ,  $\beta_4$ , and  $\beta_5$ , the coefficients on the level of corporate social performance ( $\text{CSP}_{i(t-1)}$ ), on its interactions with consistency in CSP ( $\text{CSP}_{i(t-1)} \times \text{Cons}_{i(t-1)}$ ) and on the three-way interaction among level, consistency, and R&D intensity ( $\text{CSP}_{i(t-1)} \times \text{Cons}_{i(t-1)} \times \text{RD}_{i(t-1)}$ ). Please also note that the key independent variables, including both measures of consistency, are 1-year lagged with respect to the dependent variable. In fact, the temporal consistency measure

**Table 1**  
**Descriptive Statistics and Correlation Matrix**

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Corporate financial performance (Tobin's <i>q</i> )	2.23	1.61							
2. Level of corporate social performance (CSP)	0	0.52	.14*						
3. Temporal consistency in CSP	-0.10	0.06	.10*	.05*					
4. Interdomain consistency in CSP	-0.78	0.87	.13*	.10*	.43*				
5. CSP trend	-0.01	0.14	-.02	-.01	.01	.07*			
6. R&D	0.02	0.04	.46*	.12*	.07*	.10*	.07*		
7. Firm size	8.15	1.29	-.22*	-.06*	-.39*	.04	.02	-.14*	
8. Debt ratio	0.18	0.13	-.30*	-.11*	-.06*	-.10*	-.04	-.29*	.12*

Note:  $N = 2,365$ . The variables involved in the interaction terms were centered when used in the regressions; those shown here are not centered.

\* $p \leq .05$ .

is calculated based on KLD scores in the five years prior to the financial performance measure. These time lags greatly reduce any potential concern about reverse causality.

## Results

Table 1 shows the descriptive statistics and a correlation matrix for the main variables. The two measures of consistency in corporate social performance were positively correlated with each other and with firm financial performance. Interestingly, the two measures of consistency in social performance were positively correlated with the level of corporate social performance. As expected, R&D intensity was positively associated with corporate financial performance, while firm size and debt ratio both showed negative relationships.

Table 2 presents the results of the firm-fixed effect multiple regression analyses testing the hypothesized relationships between the level of corporate social performance and financial performance; the moderating role of consistency in social performance; and the three-way interaction among level of social performance, consistency in social performance, and knowledge intensity. In particular, Models 1, 2, and 3 present estimates of the relationships with temporal consistency in corporate social performance as the consistency measure; Models 4, 5, and 6 provide similar estimates with interdomain consistency as the consistency measure.

Models 1 and 4 report the results when the models included only the main effects of the explanatory and control variables. Firm size showed a significant negative association with Tobin's *q* in all of the models, showing that larger firms were more likely than smaller firms to generate lower market returns. As would be expected, debt ratio was negatively associated with Tobin's *q*, while knowledge intensity (as proxied by R&D expenditure) showed a significant positive association. Moreover, the effects were consistent across all the models.

**Table 2**  
**Firm-Fixed Effect Estimates of the Determinants of Corporate**  
**Financial Performance (Tobin's *q*)**

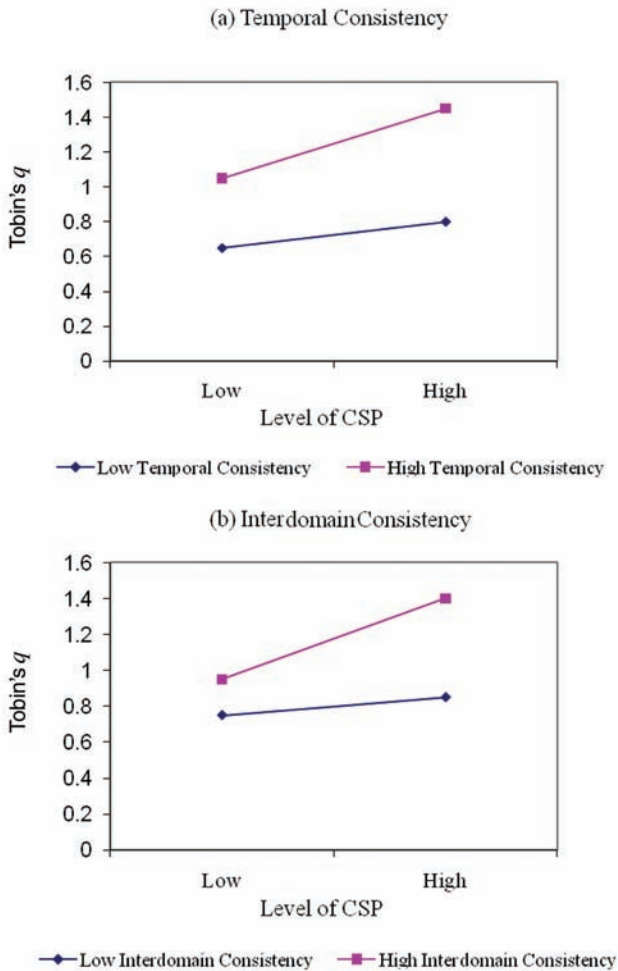
Variable	Temporal Consistency			Interdomain Consistency		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Firm size	-0.10*** (0.02)	-0.13*** (0.02)	-0.12*** (0.02)	-0.11*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)
Debt ratio	-1.95*** (0.25)	-2.40*** (0.25)	-2.44*** (0.25)	-2.42*** (0.25)	-2.39*** (0.25)	-2.38*** (0.26)
Level of corporate social performance (CSP) trend	0.41 (0.35)	0.42 (0.35)	0.42 (0.35)			
R&D	16.6*** (0.85)	16.7*** (0.87)	17.1*** (0.87)	16.8*** (0.86)	16.9*** (0.85)	15.8*** (0.89)
Level of CSP	<b>0.36***</b> <b>(0.06)</b>	<b>0.28***</b> <b>(0.06)</b>	<b>0.28***</b> <b>(0.06)</b>	<b>0.30***</b> <b>(0.06)</b>	<b>0.29***</b> <b>(0.06)</b>	<b>0.28***</b> <b>(0.06)</b>
Consistency in CSP	4.05*** (0.63)	4.33*** (0.65)	4.41*** (0.67)	0.22*** (0.03)	0.21** (0.03)	0.20** (0.03)
Level of CSP × Consistency		<b>1.98<sup>†</sup></b> <b>(1.10)</b>	<b>1.85<sup>†</sup></b> <b>(1.11)</b>		<b>0.15**</b> <b>(0.05)</b>	<b>0.14*</b> <b>(0.06)</b>
Consistency × R&D			47.2** (18.1)			-4.38*** (0.98)
Level of CSP × R&D			0.56 (1.80)			0.99 (2.01)
Level of CSP × Consistency × R&D			<b>91.1***</b> <b>(30.5)</b>			<b>4.72**</b> <b>(1.64)</b>
Adjusted <i>R</i> <sup>2</sup>	.28	.29	.31	.28	.29	.32

Note: *N* = 2,365. Standard errors are shown in parentheses. Industry controls were included in all models but are not shown. Numbers in bold show the coefficients for the key explanatory variable and its associated interaction terms. <sup>†</sup>*p* ≤ .10. \**p* ≤ .05. \*\**p* ≤ .01. \*\*\**p* ≤ .001.

In line with the results of previous studies (e.g., Waddock & Graves, 1997) that used KLD data to examine corporate social–financial performance relationships, a positive relationship was evident between the level of corporate social performance and Tobin's *q*. And the results remained quite robust even when other interaction terms were included. Therefore, the results support Hypothesis 1, our baseline hypothesis. Interestingly, the direct relationship between both measures of consistency and Tobin's *q* was also found to be positive and significant. This seems to be consistent with our argument that overall a firm's financial performance improves with its consistency in corporate social performance.

Models 2 and 5 added the interaction between the level of corporate social performance and consistency in the performance to test Hypotheses 2a and 2b. The predictive power of the level of social performance for corporate financial results was positively correlated with both temporal and interdomain consistency in social performance, although the moderating effect of interdomain consistency was more significant than that of temporal consistency (*p* < .01 vs. *p* < .10). In particular, the significantly positive interactions between level and consistency in social performance in both models indicate that firms that maintain consistent social practices both over time and across stakeholder domains benefit more from their

**Figure 1**  
**Two-Way Interactions Between Level of Corporate Social Performance (CSP) and Consistency in CSP**



social activities than those less consistent. It is worth noting that the increases in effect size from adding the two-way interactions are fairly small (in both models, adjusted  $R^2$ s increase by only about .01). However, given that this effect is on top of that of the level of corporate social performance and that the dependent variable is a market-based performance measure—Tobin's  $q$ —we believe the moderating role of consistency in social performance is still quite meaningful.

To corroborate this finding, we plotted the result of the two-way interactions, following the procedure described by Aiken and West (1991). Figure 1 shows the simple slope analysis of



the two-way interaction effects based on Models 2 and 5 in Table 2. The figures demonstrate clearly that although the overall effect of the level of corporate social performance on firm market value is positive, the effect is stronger with a high level of consistency in terms of both the temporal and interdomain dimensions. We also calculated simple slopes of the regression lines. This showed that when temporal consistency in the level of corporate social performance is low (1 standard deviation below the mean), the simple slope of the relationship between the level of corporate social performance and Tobin's  $q$  was 0.16, but when temporal consistency in the level of corporate social performance is high (1 standard deviation above the mean), the slope increases to 0.40. Similarly, the simple slopes changes from 0.16 to 0.42 for low and high levels of interdomain consistency. Therefore, Hypotheses 2a and 2b were supported. It is worth noting that the increase in effect size by adding the two-way interaction is fairly small (adjusted  $R^2$ s increase by only about .01). However, given that this effect is on top of the level of corporate social performance and that the dependent variable is market-based performance measure—Tobin's  $q$ —we believe the moderating role of consistency in social performance is still quite meaningful.

Models 3 and 6 added a three-way interaction term among level of social performance, consistency in social performance, and knowledge intensity in order to test the argument that the benefit of maintaining consistently good social practices is greater for firms with higher knowledge intensity (Hypotheses 3a and 3b).<sup>7</sup> Also consistent with our predictions, the three-way interaction terms were positive and significant in both models. We again plotted the results of the three-way interactions in Figures 2 and 3 to investigate the detailed patterns of the interactions.

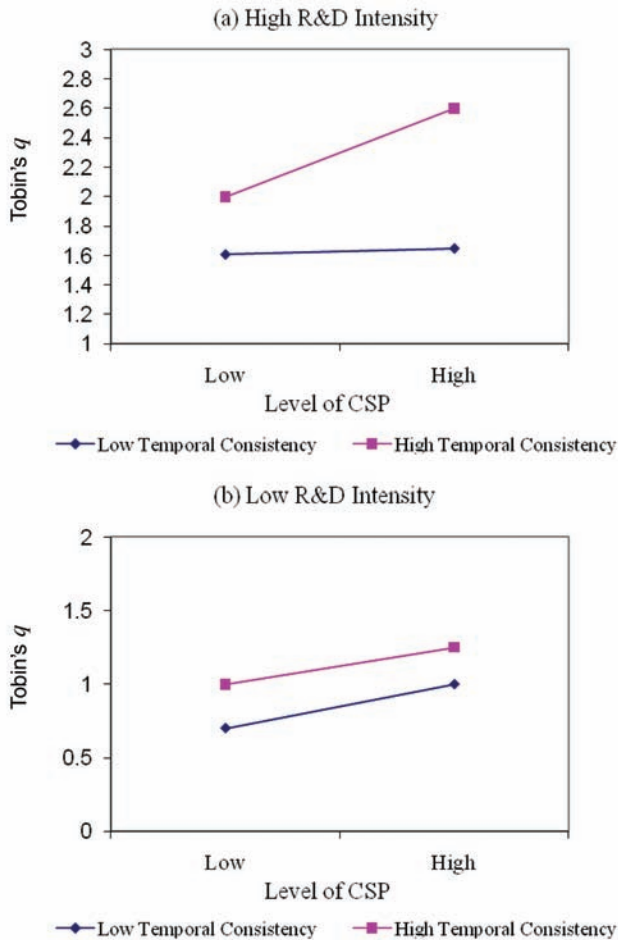
Plots were developed for Tobin's  $q$  regressed on different levels of corporate social performance and consistency in social performance for two levels of knowledge intensity: low (1 standard deviation below the mean) and high (1 standard deviation above the mean). Both plots (a) and (b) in Figures 2 and 3 show that knowledge intensity has a moderating effect such that the relationship between maintaining consistently good corporate social performance and Tobin's  $q$  is stronger when knowledge intensity is high than when it is low. This supports Hypotheses 3a and 3b, predicting that firms with a high level of knowledge intensity benefit the most from maintaining consistently good social practices. Further analyses indicated that for firms with consistently high levels of temporal consistency in good social performance, Tobin's  $q$  increases by 0.11, which is about 5% of the mean of Tobin's  $q$ , if knowledge intensity increases by 1 standard deviation. For interdomain consistency, Tobin's  $q$  increases by 0.09, which is about 4% of the mean of Tobin's  $q$ , with the same increase in knowledge intensity.

Moreover, almost all of the independent and interaction effects that were significant in Models 2 and 5 remained significant in Models 3 and 6.

## Discussion

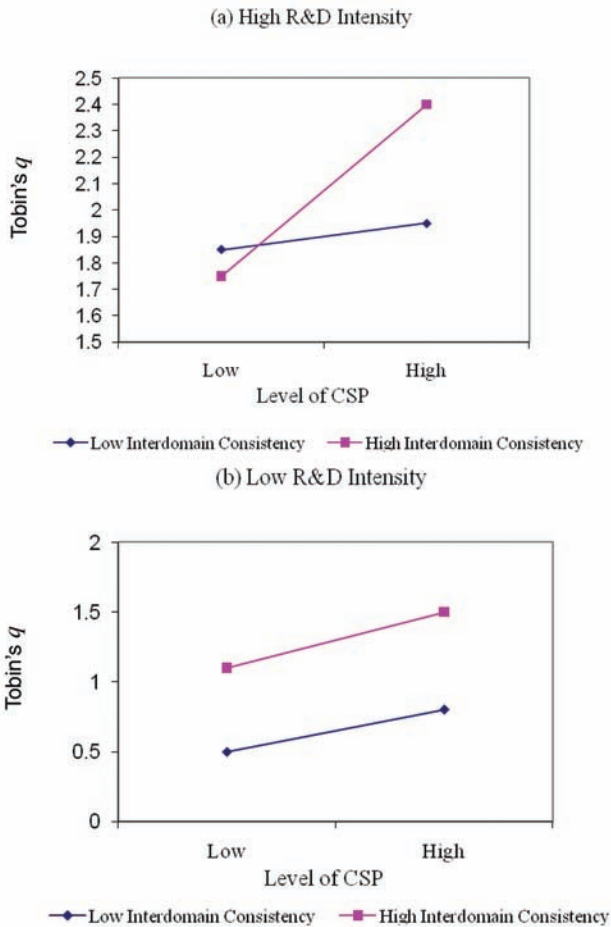
A central aim of this study was to introduce the concept of consistency in corporate social performance and to present an analysis of how it interacts with the level of social performance to predict corporate financial performance. In particular, we argued that consistency in social performance, both over time and across different stakeholder domains, should have

**Figure 2**  
**Three-Way Interactions Among Level of Corporate Social Performance (CSP), Temporal Consistency, and R&D Intensity**



a positive moderating effect on the corporate social–financial performance relationship. In addition, knowledge intensity was hypothesized to further influence the moderating effect of consistency in corporate social performance: As the value of good stakeholder relations increases with knowledge intensity, the financial benefit from maintaining consistently good social performance is also expected to increase. In general, the empirical results supported these arguments.

**Figure 3**  
**Three-Way Interactions Among Level of Corporate Social Performance (CSP), Interdomain Consistency, and R&D Intensity**



The corporate social–financial performance relationship has long been a topic of debate (Margolis & Walsh, 2003), but it appears that the prevailing empirical evidence supports a positive association between the two (Orlitzky et al., 2003; Roman et al., 1999). Our finding that the level of corporate social performance has a positive and significant relationship with corporate financial performance is also consistent with the existing evidence. More interesting, it was found that this positive relationship was quite robust even after we controlled for consistency in social performance, a previously unidentified factor (see Table 2 for details). In addition, controlling for R&D intensity did not change this positive relationship, a finding

that seems to contradict that of McWilliams and Siegel (2000). One potential reason for the difference in findings could be that corporate social performance was measured as a dummy variable in their study but as a continuous variable in our study. The fact that an analysis using continuous variables has generally stronger statistical power than one using dummy variables (Cohen & Cohen, 1983) lends more credence to our finding.

This has been the first study we are aware of to introduce the concept of temporal and interdomain consistency in a firm's social performance. While some recent studies have attempted to deal with changes in corporate social activity over time, they were unable to fully capture the temporal dynamics of social performance. McWilliams and Siegel (2000), for example, computed averages of social performance over several years. This study went beyond their approach by formulating a new construct, temporal consistency, to directly investigate temporal trends in corporate social performance.

The literature on stakeholder theory views a firm as a nexus of relationships with its various stakeholders (Donaldson & Preston, 1995; Freeman, 1984; Jones, 1995; Post, Preston, & Sachs, 2002). One important implication of this approach is that any effect on financial performance of the relationship with one stakeholder group should be examined in the context of the firm's other stakeholder relationships. But no research has directly considered interrelationships across stakeholder domains. This study attempted to fill this gap by developing a measure of interdomain consistency and examining its influence on the relationship between the level of social performance and financial results.

The finding that the corporate social–financial performance relationship is positively moderated by consistency in corporate social performance suggests that the relationship between social and financial performance is not as simple and straightforward as previous studies have supposed. To fully understand the financial implications of corporate social performance, it is necessary to look into not only how actively a firm involves itself in such actions (i.e., the level of corporate social performance) but also how consistently it performs.

Lastly, there has been little systematic theoretical analysis of the firm-level conditions under which firms best benefit from their social practices and good relations with their stakeholders (with the exception of Hull & Rothenberg, 2008). This study sheds some light in this area by demonstrating that the extent to which a firm benefits from maintaining consistently good social practices varies with its knowledge intensity. Since maintaining good stakeholder relations is particularly crucial to a knowledge-intensive firm, the benefit of a consistently high level of corporate social performance would be greater for such a firm.

A number of suggestions for future research stems from the limitations of this study. First, the concept of consistency in social performance has been little studied, so more conceptual and empirical research is clearly needed to more clearly understand its role. While this study emphasized the benefits of maintaining consistency in firms' social practices, some counterarguments may also be plausible. Mitchell and his colleagues (1997), for example, have suggested that it may not be desirable to keep a high consistency across multiple stakeholder domains, as the stakeholders differ in terms of their power and urgency.<sup>8</sup> In addition, the differential treatment across multiple stakeholders may be more desirable when a firm needs strategic flexibility to adapt to rapid changes in its operating environment. Given that such potentially conflicting views exist about the value of consistency in social performance, it

would be worthwhile to further examine this issue in future studies, both conceptually and empirically. We also suggest a need for better empirical measures of consistency in corporate citizenship.

Second, this study examined consistency at the firm level. It would be interesting to further investigate each individual stakeholder domain separately (particularly with respect to temporal consistency) because different stakeholder groups may relate to a firm differently (Wood & Jones, 1995). To this end, research should be devoted to detailing the idiosyncratic nature of the relationship between a firm and each of its stakeholder groups. Such an endeavor should involve further elaborating a stakeholder theory of the firm that is able to explain the unique contribution of each stakeholder group to a firm's success (Post et al., 2002) and the financial implications of consistency in maintaining the good relationships with each stakeholder group. Research on stakeholder saliency (Agle et al., 1999; Mitchell et al., 1997) may serve a theoretical basis for such an endeavor.

Third, this study investigated a key boundary condition of the moderating role of consistency in a firm's social practices in the corporate social–financial performance relationship: knowledge intensity. This variable was chosen because it is arguably the most critical differentiating factor across firms, according to the resource- or knowledge-based view of the firm (Coff, 1999; Kogut & Zander, 1992, 1996). Meanwhile, our arguments suggest that it has important influence on the degree to which a firm benefits from consistency in corporate social performance. However, this does not exclude the possibility that some other firm or industry characteristics also serve as valid boundary conditions. For instance, a firm with ample slack resources may have more bargaining power with its stakeholders, helping it to feel less constrained by the need to maintain consistently good social performance to promote transaction efficiency. Similar effects might also be expected when a firm's industry is highly concentrated such that a few oligopolists enjoy strong bargaining power. Thus, more research is necessary to identify other firm or industry characteristics that may affect the importance of consistency in social performance.

Another potential concern is that the data analyzed in this study cover only a period of sustained economic growth (1991–2000). Might the importance of consistency in social performance be different in an economic downturn? Certainly most firms' social spending might be greatly influenced by the amount of their slack resources (Seifert, Morris, & Bartkus, 2004). In economic downturns, it will be much more difficult to maintain consistently good social performance, although at such times stakeholders may be sympathetic to the firm's difficulties. It would be interesting to examine how overall economic conditions affect the value of consistency. In the recent worldwide financial crisis, could it be that even knowledge-intensive firms no longer benefit from maintaining consistently good social practices?

Another direction for future research would involve exploring the broader aspects of consistency and their financial implications. This study examined only temporal and inter-domain consistency. These two aspects of consistency are perhaps the most straightforward and can be considered as the most relevant for practicing managers, but there are other consistency dimensions that await further exploration. Coherence between a firm's social practices and its other policies might well be influential, for example. Future research might address how a firm's social performance fits with generic strategies such as cost leadership or product differentiation. Yet another dimension of consistency worth exploring might be

the degree of consistency in social performance across the multiple business units of a diversified firm. Does consistency in good social performance across business units entail synergies or economies of scope?

Future research might also go beyond social activities to examine the value of consistency in other aspects of a firm's operations. In fact, such studies seem to be burgeoning in micro-level organizational research. There have recently been studies of *climate strength*, which refers to the degree of dispersion in climate perceptions among a group (similar to our construct of consistency; Colquitt, Noe, & Jackson, 2002; Lindell & Brandt, 2000; Schneider, Salvaggio, & Subirats, 2002). Results so far suggest that climate strength moderates the relationship between climate perceptions and performance outcomes. A similar line of reasoning can be employed in macrolevel research. For example, future research might profitably explore consistency in leadership, R&D funding, and so on, and how the degree of consistency may interact with the levels of these variables to affect a firm's financial performance.

The results of this study also have some important implications for managers. The positive interaction demonstrated between the level and the consistency of social practices in predicting a firm's financial performance suggests that in addition to delivering an overall high level of corporate social performance, managers will usually be better off keeping the firm's social policy and behavior consistent. Specifically, it would not be desirable to aim for levels of corporate social performance based only on the firm's current amount of its slack resources. Rather, it should be wise to save some resources in good years so that a comparable level of corporate social performance can be maintained even when resources are constrained.

Of course, managers need to adjust their firms' social spending depending on specific firm characteristics. For example, our arguments and results suggest that firms with a high level of knowledge assets should be particularly concerned about maintaining consistency in their social performance in order to build strong stakeholder relations. Given the importance of maintaining consistency for knowledge-intensive firms, managers in such firms may even, in some circumstances, consider making some trade-offs in resource allocation between social causes and other areas of expenditures such as marketing and advertising. This is in stark contrast with the typical practice of many corporations in which social actions generally have the last priority in terms of resource allocation.

Furthermore, to maximize the benefits of consistency in corporate social performance, managers should do their best to ensure that stakeholders know how consistent a firm's social spending has been. Although stakeholders can in theory collect such information themselves through many alternative channels, some aspects of social activities may not be fully appreciated without appropriate public relations on the part of the firm.

## **Conclusion**

Overall, the results of this study suggest that in understanding the relationship between corporate social performance and corporate financial performance, focusing solely on the level of social performance is limited; consistency in social performance, both over time and across stakeholder domains, influences the corporate social–financial performance relationship.

Therefore, it is necessary to consider both the level and the consistency of corporate social performance simultaneously to explain the relationship properly. Moreover, there seems to be significant differences in the moderating effect of consistency for firms with different knowledge intensity. Taking into consideration each firm's features may enable researchers to develop a richer understanding of the financial impact of corporate social performance. Given the recent increased interest in this area in the business world, researchers should provide a more comprehensive understanding of corporate social performance and its financial implications. This study may serve as an important step toward that end, and it should open up an array of new research endeavors.

## Notes

1. The term *level of corporate social performance*, which carries exactly the same meaning as *corporate social performance* in previous studies, will be used throughout this article in order to differentiate the level from *consistency in corporate social performance*.

2. Kinder, Lydenberg, Domini, & Co., Inc. (KLD) investigates a variety of sources to assess each company's strengths and weaknesses with respect to each dimension. First, KLD sends an annual questionnaire about corporate social practices to each company's investor relations office. Continuing relationships with the offices are maintained to improve the validity of the data. Second, each firm's financial statements (e.g., annual reports, 10K forms), as well as internal reports about specific social dimensions, are scrutinized. In addition, various external data sources such as articles in the popular press and academic journals, government reports, and other organizations' surveys and ratings are used to verify the ratings. For the specific evaluation of strengths and/or concerns, KLD uses quantitative data about each dimension (e.g., corporate giving over 1.5% of trailing three-year net earnings before taxes) to derive more objective ratings, where possible. The cutoff point for a positive or negative rating and the interpretation of qualitative criteria (e.g., innovative giving programs to support nonprofit organizations) are based on the judgment of KLD staff members, who have weekly meetings to ensure consistency in ratings across companies and over time.

3. The DSI 400 is the Domini 400 Social Index, the accepted benchmark for measuring the impact of social screening on financial performance. Launched in May 1990, the DSI is the first benchmark for equity portfolios subject to multiple screens. KLD publishes a statistical review of the DSI each month. It contains performance data, financial statistics, and rankings of the companies in the index.

4. We also tried to use the L-B  $Q$ , a more complicated version of Tobin's  $q$  developed by Lewellen and Badrinath (1997) and used by Lee and Tompkins (1999). The results were very similar. The detailed results are available upon request.

5. Taking all the industries in the COMPUSTAT database as an aggregate, the frequency of missing values in R&D spending is about 77%. However, the frequency decreases in R&D-intensive industries (e.g., 53% in the pharmaceutical industry, 57% in the semiconductor industry) and increases in less-R&D-intensive industries (e.g., 82% in agriculture production-crops, 96% in crude petroleum and national gas). We tested two alternative ways of treating the missing R&D data. First, we used industry average R&D intensity instead of zeros to replace missing values; second, we kept only observations with nonmissing R&D expenditures. The results, however, remained consistent with those when the missing values were replaced by zeros. The results are available upon request.

6. In addition, we attempted to control for the potential influence of other types of consistency, such as consistency in R&D and advertising, in the main model equation. We computed consistency in R&D using an approach similar to the temporal consistency computation (standard errors of the regressions of five years of R&D expenditures with respect to time). The test results suggest that consistency in R&D was not a significant predictor. But adding this additional consistency measure did not affect our key findings associated with consistency in CSP. We also tried to assess the value of consistency in advertising. Unfortunately, because much of the data on advertising expenditures was missing in the COMPUSTAT database, we were unable to obtain enough meaningful observations to run regression analyses. Owing to these ambiguous results, we decided to keep our model parsimonious by not incorporating consistency in R&D in the main equation.

7. Please note that in order to have complete empirical models, the interaction between consistency and R&D, as well as between the level of corporate social performance and R&D, were added in Models 3 and 6.
8. We would like to thank an anonymous reviewer for this insightful idea on the negative effect of consistency.

## References

- Adler, P. S. 2001. Market, hierarchy, and trust: The knowledge economy and the future of capitalism. *Organization Science*, 12: 215-234.
- Agle, B. R., Mitchell, R. K., & Sonnenfeld, J. A. 1999. Who matters to CEOs? An investigation of stakeholder attributes and salience, corporate performance, and CEO values. *Academy of Management Journal*, 42: 507-525.
- Aiken, L. S., & West, S. G. 1991. *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Alexander, G., & Buchholz, R. 1978. Corporate social responsibility and stock market performance. *Academy of Management Journal*, 21: 479-486.
- Anton, J., & Yao, D. 1994. Expropriations and inventions: Appropriable rents in the absence of property rights. *American Economic Review*, 84: 190-209.
- Ashforth, B. E., & Mael, F. 1989. Social identity theory and the organization. *Academy of Management Review*, 14: 20-39.
- Autio, E., Sapienza, H. J., & Almeida, J. G. 2000. Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, 43: 909-924.
- Backhaus, K. B., Stone, B. A., & Heiner, K. 2002. Exploring the relationship between corporate social performance and employer attractiveness. *Business and Society*, 41: 292-318.
- Barney, J. B. 1986. Organizational culture: Can it be a source of sustained competitive advantage? *Academy of Management Review*, 11: 656-665.
- Barney, J. B., & Hansen, M. H. 1994. Trustworthiness as a source of competitive advantage. *Strategic Management Journal*, 15: 175-190.
- Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. 1999. Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. *Academy of Management Journal*, 42: 488-506.
- Bhattacharya, S., & Chiesa, G. 1995. Proprietary information, financial intermediation, and research incentives. *Journal of Financial Intermediation*, 4: 328-357.
- Boyd, B. K. 1995. CEO duality and firm performance: A contingency model. *Strategic Management Journal*, 16: 301-312.
- Chung, K. H., & Pruitt, S. 1994. A simple approximation of Tobin's  $q$ . *Financial Management*, 23: 70-74.
- Clarkson, M. B. E. 1995. A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of Management Review*, 20: 65-91.
- Coff, R. 1997. Human assets and management dilemmas: Coping with hazards on the road to resource-based theory. *Academy of Management Review*, 22: 374-402.
- Coff, R. W. 1999. When competitive advantage doesn't lead to performance: The resource-based view and stakeholder bargaining power. *Organization Science*, 10: 119-133.
- Coff, R. W. 2003. Bidding wars over R&D-intensive firms: Knowledge, opportunism, and the market for corporate control. *Academy of Management Journal*, 46: 74-85.
- Cohen, J., & Cohen, P. 1983. *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd edition). Hillsdale, NJ: Erlbaum.
- Cohen, D., & Prusak, L. 2001. *In good company: How social capital makes organizations work*. Boston: Harvard Business School Press.
- Cohen, W. M., & Levinthal, D. A. 1990. Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35: 128-153.
- Collins, J. C., & Porras, J. I. 1994. *Built to last*. New York: HarperCollins.
- Colquitt, J. A., Noe, R. A., & Jackson, C. L. 2002. Justice in teams: Antecedents and consequences of procedural justice climate. *Personnel Psychology*, 55: 83-109.



- Dacin, P. A., & Brown, T. J. 1997. The company and the product: Corporate associations and consumer product responses. *Journal of Marketing*, 61: 68-84.
- Delery, J. E., & Doty, D. H. 1996. Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictors. *Academy of Management Journal*, 39: 802-835.
- Dess, G. G., & Beard, D. W. 1984. Dimensions of organizational task environments. *Administrative Science Quarterly*, 29: 52-73.
- Donaldson, T., & Preston, L. E. 1995. The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20: 65-91.
- Dutton, J. E., Dukerich, J. M., & Harquail, C. V. 1994. Organizational images and member identification. *Administrative Science Quarterly*, 39: 239-263.
- Festinger, L. 1957. *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Fisher, F. M., & McGowan, J. J. 1983. On the misuse of accounting rates of return to infer monopoly profits. *American Economic Review*, 73: 82-97.
- Fombrun, C. J. 1996. *Reputation: Realizing value from the corporate image*. Boston: Harvard Business School Press.
- Freeman, R. E. 1984. *Strategic management: A stakeholder approach*. Boston: Pitman.
- Friedman, M. 1970. The social responsibility of business is to increase its profits. *New York Times Magazine*, September 13: 122-126.
- Frooman, J. 1999. Stakeholder influence strategies. *Academy of Management Review*, 24: 191-205.
- Graves, S. B., & Waddock, S. A. 1994. Institutional owners and corporate social performance. *Academy of Management Journal*, 37: 1034-1046.
- Graves, S. B., Waddock, S. A., & Kelly, M. 2005. How the list is put together: The methodology behind the corporate citizenship rankings. *Business Ethics*. Retrieved February 2009, from <http://www.business-ethics.com/>
- Greening, D. W., & Turban, D. B. 2000. Corporate social performance as a competitive advantage in attracting a quality workforce. *Business and Society*, 39: 254-280.
- Gulati, R. 1995. Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. *Academy of Management Journal*, 38: 85-112.
- Harrison, D. A., & Klein, K. J. 2007. What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review*, 32: 1199-1228.
- Hausman, J. A. 1978. Specification tests in econometrics. *Econometrica*, 46: 1251-1272.
- Hillman, A. J., & Keim, G. D. 2001. Stakeholder value, stakeholder management, and social issues: What's the bottom line? *Strategic Management Journal*, 22: 125-139.
- Hogg, M. A., & Abrams, D. 1988. *Social identifications: A social psychology of intergroup relations and group processes*. London: Routledge.
- Hull, C. E., & Rothenberg, S. 2008. Firm performance: The interactions of corporate social performance with innovation and industry differentiation. *Strategic Management Journal*, 29: 781-789.
- Johnson, R. A., & Greening, D. W. 1999. The effects of corporate governance and institutional ownership types on corporate social performance. *Academy of Management Journal*, 42: 564-576.
- Jones, T. M. 1995. Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review*, 20: 404-437.
- Keats, B. W., & Hitt, M. A. 1988. A causal model of linkages among environmental dimensions, macro organizational characteristics, and performance. *Academy of Management Journal*, 31: 570-598.
- Kogut, B., & Zander, U. 1992. Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*, 3: 383-397.
- Kogut, B., & Zander, U. 1996. What firms do? Coordination, identity, and learning. *Organization Science*, 7: 502-518.
- Kramer, R. M. 1991. Intergroup relations and organizational dilemmas: The role of categorization processes. *Research in Organizational Behavior*, 13: 191-228.
- Kulik, C. T., & Ambrose, M. L. 1992. Personal and situational determinants of referent choice. *Academy of Management Review*, 17: 212-237.
- Lee, D. E., & Tompkins, J. G. 1999. A modified version of the Lewellen and Badrinath measure of Tobin's *q*. *Financial Management*, 28(1): 20-31.

- Lee, F., Edmondson, A. C., Thomke, S., & Worline, M. 2004. The mixed effects of inconsistency on experimentation in organizations. *Organization Science*, 15: 310-326.
- Lewellen, W. G., & Badrinath, S. G. 1997. On the measurement of Tobin's  $q$ . *Journal of Financial Economics*, 44: 77-122.
- Lindell, M. K., & Brandt, C. J. 2000. Climate quality and climate consensus as mediators of the relationship between organizational antecedents and outcomes. *Journal of Applied Psychology*, 85: 331-348.
- Lindenberg, E. B., & Ross, S. A. 1981. Tobin's  $q$  ratio and industrial organization. *Journal of Business*, 54: 1-32.
- Luce, R. A., Barber, A. E., & Hillman, A. J. 2001. Good deeds and misdeeds: A mediated model of the effect of corporate social performance on organizational attractiveness. *Business and Society*, 40: 397-415.
- MacDuffie, J. P. 1995. Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 48: 197-221.
- Margolis, J. D., & Walsh, J. P. 2003. Misery loves companies: Rethinking social initiatives by business. *Administrative Science Quarterly*, 48: 268-305.
- McWilliams, A., & Siegel, D. 2000. Corporate social responsibility and financial performance: Correlation or misspecification? *Strategic Management Journal*, 21: 603-609.
- McWilliams, A., & Siegel, D. 2001. Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, 26: 117-127.
- Mitchell, R. K., Agle, A. R., & Wood, D. J. 1997. Toward a theory of stakeholder identification and salience: Defining the principle of who or what really counts. *Academy of Management Review*, 22: 853-886.
- Morck, R., & Yeung, B. 1991. Why investors value multi-nationality. *Journal of Business*, 64: 165-187.
- Nelson, R., & Winter, S. 1982. *An evolutionary theory of economic change*. Cambridge, MA: Belknap Press.
- Ogden, S., & Watson, R. 1999. Corporate performance and stakeholder management: Balancing stakeholder and customer interests in the U.K. privatized water industry. *Academy of Management Journal*, 42: 526-538.
- O'Reilly, C., & Chatman, J. 1986. Organizational commitment and psychological attachment: The effects of compliance, identification and internationalization on prosocial behavior. *Journal of Applied Psychology*, 71: 492-499.
- Organ, D. W. 1988. *Organizational citizenship behavior*. Lexington, MA: Lexington Books.
- Orlitzky, M., Schmidt, F., & Rynes, S. L. 2003. Corporate social and financial performance: A meta-analysis. *Organization Studies*, 24: 403-441.
- Porter, M. E., & Kramer, M. R. 2002. The competitive advantage of corporate philanthropy. *Harvard Business Review*, 80: 56-68.
- Post, J. E., Preston, L. E., & Sachs, S. 2002. *Redefining the corporation: Stakeholder management and organizational wealth*. Stanford, CA: Stanford University Press.
- Reynolds, S. J., Schultz, F. C., & Hekman, D. R. 2006. Stakeholder theory and managerial decision-making: Constraints and implications of balancing stakeholder interests. *Journal of Business Ethics*, 64: 285-301.
- Roman, R. M., Hayibor, S., & Agle, B. R. 1999. The relationship between social and financial performance: Repainting a portrait. *Business and Society*, 38: 109-125.
- Ruf, B. M., Muralidhar, K., Brown, R. M., Janney, J. J., & Paul, K. 2001. An empirical investigation of the relationship between change in corporate social performance and financial performance: A stakeholder theory perspective. *Journal of Business Ethics*, 32: 143-156.
- Russo, M. V., & Fouts, P. A. 1997. A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 40: 534-559.
- Schneider, B., Salvaggio, A. N., & Subirats, M. 2002. Climate strength: A new direction for climate research. *Journal of Applied Psychology*, 87: 220-229.
- Seifert, B., Morris, S. A., & Bartkus, B. R. 2004. Having, giving and getting: Slack resources, corporate philanthropy, and firm financial performance. *Business and Society*, 43: 135-161.
- Sharfman, M. P. 1996. The construct validity of the Kinder, Lydenberg, & Domini social performance ratings data. *Journal of Business Ethics*, 15: 287-296.
- Simerly, R. L., & Li, M. 2000. Environmental dynamism, capital structure and performance: A theoretical integration and an empirical test. *Strategic Management Journal*, 21: 31-50.
- Sorensen, J. B. 2002. The strength of corporate culture and the reliability of firm performance. *Administrative Science Quarterly*, 47: 70-91.
- Staw, B. M. 1981. The escalation of commitment to a course of action. *Academy of Management Review*, 6: 577-587.

- Szwajkowski, E., & Figlewicz, R. E. 1999. Evaluating corporate performance: A comparison of the *Fortune* reputation survey and the Socrates social rating database. *Journal of Managerial Issues*, 11: 137-154.
- Turban, D. B., & Greening, D. W. 1996. Corporate social performance and organizational attractiveness to prospective employees. *Academy of Management Journal*, 40: 658-672.
- Ullmann, A. A. 1985. Data in search of a theory: A critical examination of the relationships among social performance, social disclosure, and economic performance of U.S. firms. *Academy of Management Review*, 10: 540-557.
- Villalonga, B. 2004. Intangible resources, Tobin's  $q$ , and sustainability of performance differences. *Journal of Economic Behavior and Organization*, 54: 205-230.
- Waddock, S. A., & Graves, S. B. 1997. The corporate social performance–financial performance link. *Strategic Management Journal*, 18: 303-319.
- Wholey, D. R., & Brittain, J. 1989. Characterizing environmental variation. *Academy of Management Journal*, 32: 867-882.
- Williamson, O. E. 1975. *Markets and hierarchies: Analysis and anti-trust implications*. New York: Free Press.
- Williamson, O. E. 1985. *The economic institutions of capitalism: Firms, markets, relational contracting*. New York: Free Press.
- Wood, D. 1991. Corporate social performance revisited. *Academy of Management Review*, 16: 691-718.
- Wood, D. J., & Jones, R. E. 1995. Stakeholder mismatching: A theoretical problem in empirical research on corporate social performance. *International Journal of Organizational Analysis*, 3: 229-267.
- Yli-Renko, H., Autio, E., & Sapienza, H. J. 2001. Social capital, knowledge acquisition, and knowledge exploitation in technology-based firms. *Strategic Management Journal*, 22: 587-613.