

The Debate over Doing Good: Corporate Social Performance, Strategic Marketing Levers, and Firm-Idiosyncratic Risk

Marketers and investors face a heated, provocative debate over whether excelling in social responsibility initiatives hurts or benefits firms financially. This study develops a theoretical framework that predicts (1) the impact of corporate social performance (CSP) on firm-idiosyncratic risk and (2) the role of two strategic marketing levers, advertising and research and development (R&D), in explaining the variability of this impact among different firms. The results show that higher CSP lowers undesirable firm-idiosyncratic risk. Notably, although the salutary impact of CSP is greater in firms with higher (versus lower) advertising, a simultaneous pursuit for CSP, advertising, and R&D is harmful with increased firm-idiosyncratic risk. For theory, the authors advance the literature on the marketing–finance interface by drawing attention to the risk-reduction potential of CSP and by shedding new light on some critical but neglected roles of strategic marketing levers. They also extend CSP research by moving away from the long-fought battle for a universal CSP impact and toward a finer-grained understanding of when some firms derive more risk-reduction benefits from CSP. For practice, the results indicate that the “goodwill refund” of CSP is not unconditional. They also empower marketers to communicate more effectively with investors (i.e., doing good to better manage the risk surrounding firm stock prices).

Keywords: corporate social responsibility, stock risk, marketing–finance interface, advertising, research and development

Corporate social responsibility (CSR) is a topic of “hot debate” in the business world today. On the one hand, a rapidly growing number of companies are “neck deep in social responsibility initiatives, spending billions, tackling everything from AIDS in Africa to deforestation in Brazil” (Yang 2007, p. 109; see also Bonini, Mendonca, and Oppenheim 2006). Managers presume that good corporate social performance (CSP) earned by engaging in the right initiatives (e.g., cause-related marketing, corporate philanthropy, green marketing, minority support programs) enhances firm performance.¹ Indeed, existing research has

¹Whereas CSR refers to the programs or initiatives in which a firm engages (e.g., cause-related marketing), CSP refers to stakeholders’ assessments of those programs and/or initiatives. Other scholarly research (Barnett 2007; McWilliams and Siegel 2001) has similarly distinguished between CSR and CSP, as we discuss in greater detail subsequently.

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suggested that CSP delivers various benefits that marketers covet, such as customer satisfaction and loyalty, customer–firm identification, and favorable firm image (Brown and Dacin 1997; Luo and Bhattacharya 2006), all of which help boost firm performance, according to proponents of CSR.

On the other hand, skepticism abounds regarding the merits of CSR. Along with the rise in CSR initiatives, there has been a growing number of contemptuous voices. According to the economic “Friedman-esque” view, shareholders entrust managers with their investment solely to maximize long-term returns, not so that managers can use the proceeds to underwrite their urge to better the world (Friedman 1970). Indeed, because social responsibility programs not only can be costly but also can compete for a firm’s limited financial resources with other critical marketing instruments, such as advertising and research and development (R&D), critics claim that CSP does not improve the firm’s long-term stock wealth.

It is no wonder, then, that CSR “seems like an apple-pie virtue, but it’s actually quite controversial” (Grow, Hamm, and Lee 2005, p. 77). At the heart of this provocative debate, the burning question on companies’ minds today is whether CSR, if done right, is worthwhile: Does it hurt or benefit firms financially to excel in CSR initiatives? Would the financial community react differently to CSP for firms with different advertising and R&D intensities? Answers to these questions are important and powerful because both investors and managers are eager to know whether the mar-

ket values CSP and, thus, whether the “goodwill refund” of investing in CSR initiatives is in the mail.

This study disentangles the debate by relating CSP to stock price volatility, a widely accepted measure of firm stock risk (Hamilton 1994). In responding to recent calls for marketing to be relevant to the world of finance (see the Marketing Science Institute Research Priorities 2006–2008; McAlister 2006), most extant studies have examined whether marketing variables influence the size and growth of stock returns (Luo 2009; Rust et al. 2004; Srinivasan and Hanssens 2009). However, less attention has been paid to the risk or volatility associated with stock returns. This lack of attention in the literature is significant because a firm’s long-term shareholder value is influenced not only by the expected size and growth of stock returns (i.e., the first moment) but also by stock price volatility (i.e., the second moment; Srivastava, Shervani, and Fahey 1998). Specifically, stock volatility is an important metric because higher volatility implies greater investment risk and more vulnerable future cash flows (Fama and French 1992; Markowitz 1952). Thus, without addressing volatility, financially savvy managers are not sure “whether expected returns offer adequate compensation for the inherent level of risk” (Anderson 2006, p. 587).

Against this background, we develop and test a theoretical framework that hypothesizes (1) the impact of CSP on firm-idiosyncratic risk and (2) the role of two strategic marketing levers, advertising and R&D, in explaining the variability of this impact among different firms. Contributing to the literature, our framework is among the first in marketing research to theorize that CSP, advertising, and R&D all affect firm-idiosyncratic risk both independently and in tandem. We propose and show that CSP helps reduce firm-idiosyncratic risk, even after we control for a host of accounting, financial, and marketing variables. Additional analyses show that CSP also reduces firm systematic risk (McAlister, Srinivasan, and Kim 2007), thus shoring up more robust evidence for the stock risk implications of CSP. To the extent that high stock risk is undesirable, this research not only extends research on the marketing–finance interface by drawing much needed attention to the risk-reduction potential of marketing instruments but also offers practitioners a strategic lever—namely, engaging in CSR practices, such as cause-related marketing, to manage financial risk surrounding a firm’s stock price.

A key element of our theoretical framework is that a firm’s strategic marketing levers, such as advertising and R&D, can help account for the variability in CSP’s impact on idiosyncratic risk. Both scholarly research and the trade press suggest that CSP can have differential effects on idiosyncratic risk, contingent on firm-specific strategic activities, such as R&D and advertising. In other words, equal investments in CSR among different firms may not generate equal amounts of risk-reduction benefits. Consider General Motors and Toyota. Although both are in the same industry with similar competitive settings, if they were to contribute \$100 million each to efforts such as clean energy and fuel-efficient vehicles, it is unlikely that they would experience identical risk-reduction benefits. A reason for this variability in CSP’s impact is that Toyota has developed a relatively

stronger firm capability in value creation activities (R&D) with its top-selling Prius hybrid than some of the laggards, such as General Motors.

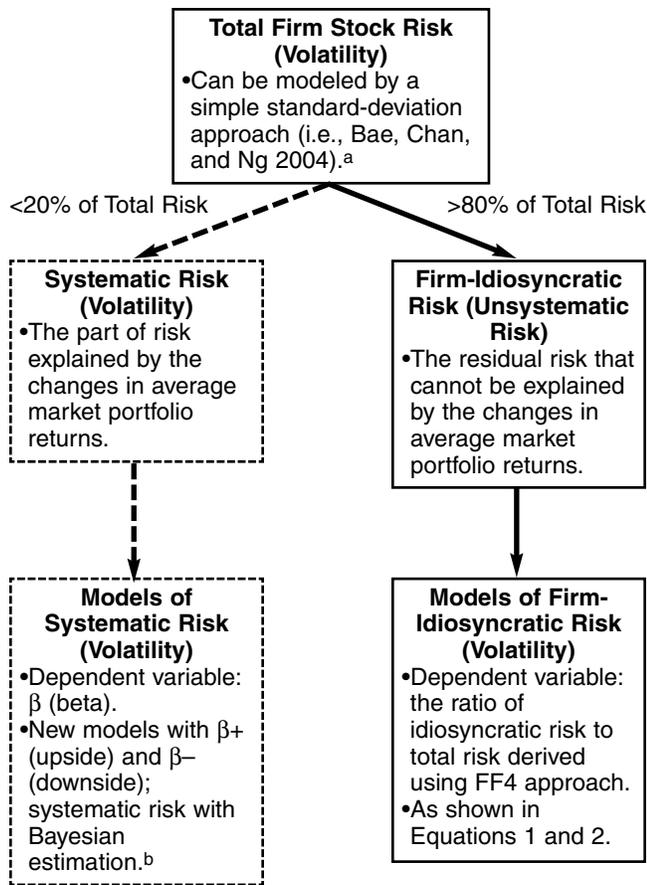
Indeed, McAlister, Srinivasan, and Kim (2007) note that R&D and advertising are inherently related to firm systematic risk. Similarly, McWilliams and Siegel (2001) contend that R&D and advertising provide a firm-specific context for the CSP–firm performance linkage. As such, our framework also explains why differences in advertising and R&D may account for variability in the risk-reduction potential of CSP. This distinctive feature of our framework is important for two reasons. First, it sheds light on the debate over doing good and advances CSR research by moving away from the long-fought battle for a universally positive or negative impact of CSP (Margolis and Walsh 2003) toward a finer-grained quest for when some firms can derive more risk-reduction benefits from CSP than others. Second, it provides a unique opportunity to contribute to the marketing strategy literature: We are the first to reveal the additional benefits and costs of strategic marketing levers in influencing the risk-reduction potential of CSP—that is, the two- and three-way interactions among advertising, R&D, and CSP in affecting risk. Indeed, prior studies examining the impact of CSR on firm performance (e.g., Boutin-Defresne and Savaria 2004; McGuire, Sundgren and Schneeweis 1988) have ignored the possible role of advertising and R&D, a concern that strategy researchers have voiced (McWilliams and Siegel 2000). Similarly, prior studies on the outcomes of advertising and R&D (see McAlister, Srinivasan, and Kim 2007; Mizik and Jacobson 2003) have not included CSP. We fuse these two seemingly disparate research streams by studying the integrative effects of CSP, advertising, and R&D on stock risk and thus extend the marketing strategy literature as well.

In what follows, we review the finance literature on stock risk. We then develop a set of hypotheses that link CSP, advertising, and R&D to firm-idiosyncratic risk. We test this framework with secondary data sets: Specifically, we combine CSP data for a sample of *Fortune*’s Most Admired Companies (MACs) with other marketing and financial data from COMPUSTAT and the Center for Research in Security Prices (CRSP). We then examine the relationship between CSP and systematic risk following McAlister, Srinivasan, and Kim’s (2007) model. We conclude with a discussion of the findings’ implications for theory and practice.

Background on Firm Risk

Firm stock risk is a fundamental metric in finance (Hamilton 1994). Greater risk, as implied by increased firm stock price volatility, may suggest vulnerable and uncertain cash flows in the future, which not only throws corporate capital budgeting into disarray but also induces higher costs of capital financing, thus damaging firm stock wealth in the long run. As the flow chart in Figure 1 shows, a firm’s total risk or volatility has two parts: systematic and idiosyncratic. While the former is the firm’s sensitivity to the changes in market returns or to news of broad market changes (e.g., inflation) that are common to all stocks, the latter (our focus

FIGURE 1
Flow Chart of Firm Stock Risk



$$^a \text{Total risk (volatility) SD} = \sqrt{\frac{1}{n} \sum_{t=1}^n (r_t - r_{\text{mean}})^2}$$

$$^b \text{Upside systematic risk} = \beta^+ = \frac{\text{cov}(r_i, r_m | r_m > r_f)}{\text{var}(r_m | r_m > r_f)}, \text{ and downside systematic risk} = \beta^- = \frac{\text{cov}(r_i, r_m | r_m < r_f)}{\text{var}(r_m | r_m < r_f)}, \text{ where } r_i \text{ is stock return for firm } i, r \text{ is the average market return, and } r_f \text{ is the risk-free rate according to the FF4 model (Ang et al. 2006).}$$

Notes: Solid line designates support from the finance literature for the models used to implement the data analyses for the main purpose of this study (CSP and firm-idiosyncratic risk).

in this study) reflects the risk associated with firm-specific strategies, such as CSP, after we account for the marketwide variation.

Recently, financial economists Ang and colleagues (2006) have empirically shown that firm-idiosyncratic risk is priced by investors in financial markets. They note (p. 261) that, all else being equal, “there is a strongly significant difference of -1.06% per month between the average returns of the quintile portfolio with the highest idiosyncratic volatility and the quintile portfolio with the lowest idiosyncratic volatility stocks.” In other words, firm-idiosyncratic risk is related to firm value. Furthermore, firm-idiosyncratic risk accounts for a greater share of total stock risk. Goyal and Santa-Clara (2003, p. 980) report that

“idiosyncratic risk constitutes almost 85% of the average stock variance measure, while systematic risk constitutes only 15%.” Echoing this, Gaspar and Massa (2006, p. 3131) find that “the share of idiosyncratic volatility is about 81%, while that of systematic volatility is only about 19%.”

Indeed, because of asymmetric information, market inefficiency, and transaction costs, Brown and Kapadia (2007, p. 2) note that “corporate risk managers pay attention to and carefully manage unsystematic risk.” As such, firm-idiosyncratic risk matters in stock markets, and there is robust evidence in support of the importance of examining firm-idiosyncratic risk for managers and investors alike. Indeed, a rapidly expanding stream of research in finance relates firm-idiosyncratic risk to profitability (Wei and Zhang 2006), institutional ownership (Xu and Malkiel 2003), growth options (Cao, Simin, and Zhao 2008), new listings (Brown and Kapadia 2007), and corporate governance (Ferreira and Laux 2007).

Given this financial value of firm-idiosyncratic risk, our primary focus is on CSP as a driver of firm-idiosyncratic risk. In doing so, we follow a finance study by Ferreira and Laux (2007). In their comprehensive study, Ferreira and Laux suggest that firm-idiosyncratic risk is related to the following factors (all of which we control for):

- Profitability, measured as return on asset: Because profitability has information content for a firm’s future cash flow streams, it has a significant impact on firm-idiosyncratic risk.
- Profits volatility, measured as the volatility of return on asset: Because volatility of profits can signal the uncertainty of firm future cash flows, it affects firm-idiosyncratic risk.
- Leverage, measured as the ratio of long-term debt to total assets: Because a firm’s capital structure with debt financing may affect its future cash flows through interest payments, leverage influences firm-idiosyncratic risk.
- Market-to-book ratio, measured as the ratio of market value of equity to book value of equity: This ratio captures the value of intangible assets, which may also have some implications for firm-idiosyncratic risk.
- Market capitalization, measured as the log of total equity capitalization: This variable controls for size effects on firm-idiosyncratic risk.
- Dividend pay, measured as dividend dummy that equals 1 if the firms pay dividends and 0 if otherwise: Because dividend payment is valued by investors and shareholders, it influences firm-idiosyncratic risk.
- Firm age, measured as the log of the number of months since the stock’s inclusion in CRSP: This variable controls for the effects of organizational cycle and evolution on firm-idiosyncratic risk.
- Firm diversification, measured as a dummy variable that equals 1 if a firm operates in multisegments and 0 if otherwise: Diversification controls for the effects of a firm’s strategic choices and diversifying operations on firm-idiosyncratic risk.

We control for these predictors of firm-idiosyncratic risk when relating CSP, advertising, and R&D to firm-idiosyncratic risk.

Hypothesis Development

In this section, we develop a theoretical framework. In essence, our framework predicts (1) the impact of CSP on

firm-idiosyncratic risk and (2) the role of two strategic marketing levers, advertising and R&D, in explaining the variability of this impact among different firms.

CSP

By and large, CSR initiatives refer to corporate prosocial behaviors. They are manifested in a wide variety of organizational programs, ranging from cause-related marketing, corporate philanthropy, and green marketing practices to any activities that are intended to protect and improve societal welfare. We define CSP as a company's overall performance in these diverse corporate prosocial programs in relation to those of its leading competitors in the industry (Brown and Dacin 1997; Luo and Bhattacharya 2006; Varadarajan and Menon 1988).

Corporate social responsibility initiatives are related to but different from CSP in several aspects. First, the former refers to firms' programs and investments in responsibility/sustainability, while the latter represents stakeholders' assessment of the overall quality of those programs and investments (McWilliams and Siegel 2000). Second, the former captures the noncumulative, one-time involvement in corporate prosocial behaviors, while the latter can be a "proxy for a firm's cumulative, historical involvement" in these behaviors (Barnett 2007, p. 797). Third, the former is a non-competition-based construct, while the latter is relative to the competition in the industry. While firms invest in CSR initiatives, CSP, as the measure of firms' aggregated historical social performance relative to competition, is what stakeholders reward the firms for and, therefore, what is potentially linked to firm financial performance.

Various theoretical bases, such as the resource-based view of the firm (Barney 1986), stakeholder theory (Clarkson 1995), risk management theory (Godfrey 2005), and institutional theory (Handelman and Arnold 1999), have been used to link CSP, advertising, and R&D to firm performance. Although each of these perspectives provides some useful insights for our hypothesis development, given that our dependent variable is an indicator of risk, we primarily draw on risk management theory.

Before delving into our hypotheses, we need to address the issue of which stakeholder group (e.g., consumers, employees, investors) reacts to firm initiatives in CSP to influence firm-idiosyncratic risk. Some studies in this area have focused primarily on investor reactions (e.g., Bansal and Clelland 2004), whereas others have highlighted the role of customers (e.g., McWilliams and Siegel 2001). Following Clarkson (1995), we believe that all primary stakeholders of the firm—customers, employees, investors, suppliers, and regulators—are potentially affected by a firm's CSR initiatives (and advertising and R&D). As a simple example, firms invest in these initiatives to generate market-based intangible assets, such as reputational capital (Fombrun, Gardberg, and Barnett 2000) and brand and customer loyalty (Luo and Bhattacharya 2006), which in turn reduce uncertainty about firms' future earnings and therefore influence investor behavior. How do investments in CSR initiatives lead to market-based intangible assets? Notably, recent research in stakeholder marketing (Bhattacharya and Korschun 2008) suggests interdependencies not only between

the firm and various stakeholder groups but also among stakeholder groups themselves, such that a firm's CSR initiatives may make its employees more customer focused (Korschun 2008), which in turn fosters customer loyalty and stability of cash flows. We also know from sociological role theory that being a customer is only one part of a person's identity; the same person could also be a parent, an employee, an investor, and so forth. Thus, a "customer" who would ordinarily buy the lowest-priced brand may not do so if he or she is a parent and learns that the product was manufactured by underage children in sweatshop conditions (Daub and Ergenzinger 2005). Finally, to the extent that the actions of primary stakeholders are affected by media reports and actions of special interest groups, these secondary stakeholders (Clarkson 1995) are also relevant for our study of firm-idiosyncratic risk.

CSP and Firm-Idiosyncratic Risk

To understand the possible relationship between CSP and firm-idiosyncratic risk, we turn to risk management theory and the responsibility literature in marketing.² In a nutshell, the risk management perspective (Godfrey 2005) proposes that (1) CSR programs may generate positive moral capital among communities and stakeholders, (2) moral capital can provide "insurance-like" protection for the firm, and (3) this insurance-like protection contributes to the firm's shareholder wealth.

More specifically, the risk management perspective suggests that CSR initiatives generate "moral capital"—the outcome of the process of assessment, evaluation, and imputation by stakeholders of the firm's CSR activities (Godfrey 2005, p. 777). Viewed this way, a track record of superior CSP relative to competitors gauges the degree of the firm's cumulative moral capital. This moral capital creates "relational wealth" in different forms among different stakeholder groups—namely, brand faith and credibility among customers, affective commitment among employees, legitimacy among communities and regulators, trust among suppliers and partners, and higher attractiveness and dependability for investors (Varadarajan and Menon 1988).³ Importantly, this moral capital has value because it disposes

²A premise in the relationship between CSP and firm-idiosyncratic risk is that the market reacts to CSP information. Margolis and Walsh (2003) support this premise.

³As evidenced in the recent market downturn, do-good investments hold up better and suffer less economic loss than the general financial market's returns according to Morningstar and Bloomberg financial services (Kalwarski 2008, p. 15). Partly because of these risk-reduction benefits of CSP, socially responsible investment funds, such as those that avoid tobacco, defense, or other stocks for ethical reasons, are becoming more popular among individual and institutional investors. Some prominent examples of these funds include Cleantech Index of 75 stocks, Domini Social Equity Fund, Domini PacAsia Social Equity, Domini EuroPacific Social Equity, PowerShare's WilderHill Clean Energy Portfolio, Barclay's iShares, KLD Select Social Index, and Domini European PacAsia Social Equity Fund. Rising investor demand for information on CSP as an assessment of firm long-term value has also sparked great interest at Goldman Sachs, UBS, and other brokerages and financial institutions.

stakeholders to hold beliefs about the firm that, in turn, influence stakeholders' behaviors toward the firm. Prior research in marketing echoes the notion that CSP promotes customer–company identification that leads to favorable customer attitudes and behaviors toward the company (Brown and Dacin 1997). Furthermore, Sen, Bhattacharya, and Korschun (2006) and Bhattacharya, Sen, and Korschun (2008) show that better CSP positively affects the attitudes of employees and investors toward the firm. Overall, the better a firm's CSP is relative to competition, the more favorable is the corporate evaluation in the eyes of various stakeholder groups, and thus the higher is the moral capital for the firm.

In turn, moral capital provides firms insurance-like protection of shareholder wealth by creating a reservoir of goodwill and mitigating negative stakeholder assessments. Godfrey (2005) argues that superior CSP relative to competition enables the firm to gain insurance-like protection in two main ways: (1) The degradation of relationship-based intangible assets is tempered by positive moral capital (e.g., loyalty suffers to a lesser extent, less trust is violated), and (2) stakeholders impose less severe sanctions on the firm (when bad acts occur) than in the absence of positive moral capital.⁴ As Bansal and Clelland (2004, p. 95) note, "in the event of a crisis, CSR can help to protect and decouple the illegitimate activity from the rest of the organization." In protecting the company and its public image, CSP relieves regulatory pressure and enables the firm to insulate itself from scrutiny. Echoing this, Peloza (2006, p. 53) notes that "social responsibility actions act as an insurance policy that can provide safety nets and mitigate harm from negative events." Luo and Bhattacharya (2006) argue that better CSP ratings improve customer satisfaction, which then leads to decreased volatility in firms' future cash flows because healthy customer relationships not only provide firms with better opportunities (i.e., more promise of loyalty from customers and collaboration from strategic partners) but also help "insulate firms from competitors' efforts and from external environmental shocks" (Gruca and Rego 2005, p. 116). As such, better CSP helps the firm build a bulwark against future loss of economic value, likely reducing the risk and vulnerability of future cash flows.

Overall, this discussion suggests that all else being equal, superior CSP over competitors helps the firm through tougher times with more stable future cash flows and less volatile firm stock prices, thus lowering firm-idiosyncratic risk.⁵

H₁: All else being equal, the higher a firm's CSP relative to competition, the lower is the firm-idiosyncratic risk.

⁴Specifically, Godfrey (2005) notes that moral capital fulfills the core function of an insurance contract by building a reservoir of positive attributions, which can effectively mitigate assessments of "immoral" thinking and create a compelling case for leniency in punishment that protects against the future loss of economic value when stakeholders are adversely affected in the event of a crisis.

⁵Echoing our theoretical logic, the trade press notes that "risk management is the clearest benefit of doing good" (Kher 2005).

CSP, Strategic Marketing Levers, and Firm-Idiosyncratic Risk

Prior studies have also suggested that CSP does not universally produce the same performance impact for all firms. For example, it has been shown that the effects of CSP on consumer relationships and stock returns are heterogeneous, contingent on moderators such as corporate ability (Brown and Dacin 1997; Luo and Bhattacharya 2006), corporate brand dominance (Berens, Van Riel, and Van Bruggen 2005), and companies' marketing strategies (Bhattacharya and Sen 2004, p. 12). Extending this stream of research, we expect that CSP has differential effects on risk, depending on two key strategic marketing levers: advertising and R&D.

We focus on the moderating role of advertising and R&D in the impact of CSP on risk for several reasons. First, both advertising and R&D play a central role in corporate marketing strategy and generate valuable market-based assets. Whereas R&D often stands for value-creating strategic actions, which produce persistent profits and increase firm profitability and stock returns (Mizik and Jacobson 2003), advertising represents value appropriation strategic actions, which can foster brand and customer equity, leading to future sales, profits, and shareholder wealth (Joshi and Hanssens 2009). Srivastava, Shervani, and Fahey (1998) propose that in addition to their short-term effects on firm performance, advertising and R&D create intangible market-based assets that can boost long-term cash flows while reducing the associated cash flow volatility. Second, both advertising and R&D have direct relevance for stock risk. McAlister, Srinivasan, and Kim (2007, p. 38) argue that advertising can lower firm systematic risk by fostering consumer and distributor loyalty and by providing bargaining power over distributors and that R&D is related to firm systematic risk because firms with higher R&D enjoy "greater dynamic efficiency and greater flexibility in adapting to environmental changes." It would be instructive to understand whether advertising and R&D also help explain the variability in CSP's impact on idiosyncratic risk (issues not addressed in McAlister, Srinivasan, and Kim [2007] or in other studies). Third, prior literature in management has explicitly suggested that the CSP–firm performance link is moderated by firm-specific boundaries, such as advertising and R&D (McWilliams and Siegel 2001). Motivated by these studies, we posit that higher or lower investments in firms' advertising and R&D may account for weaker or stronger risk-reduction implications of CSP.

CSP and advertising. With regard to the way CSP works, the marketing literature suggests that investments in advertising should create an intangible market-based asset for the firm. Mizik and Jacobson (2003) assert that advertising enables a firm to appropriate the value by erecting competitive barriers and extending the duration of competitive advantage. Not surprisingly, several recent studies have suggested that a firm's advertising directly affects stock returns, even after they control for the impact of advertising on sales (Grullon, Kanatas, and Weston 2004; Luo 2008; Luo and Donthu 2006). For example, by creating greater visibility and familiarity, advertising increases both individ-

ual and institutional stock ownership of the firm, thus insulating it from market downturns (McAlister, Srinivasan, and Kim 2007). In other words, advertising goes “beyond the customer” to create spillover effects among other stakeholder groups, leading to supplier concessions, improved employee morale, and reduced risk for investors.

We expect that CSP may induce more (less) decreases in firm-idiosyncratic risk for firms with higher (lower) advertising spending for several reasons. First, compared with firms with lower advertising, firms with higher advertising generate more positive consumer-related responses (i.e., greater market awareness of the company and more aroused interest in its existing products), which make it easier for CSP to generate moral capital and insurance protection (Joshi and Hanssens 2009; Pauwels et al. 2004). Second, firms with higher (versus lower) advertising enjoy more information channels to communicate with investors and financial institutions. Thus, advertising can play an information role in capital markets and induce “higher stock liquidity and greater breadth of stock ownership” (McAlister, Srinivasan, and Kim 2007, p. 38), which makes it possible for superior CSP to generate more favorable responses from various stakeholders and, in turn, to create more positive moral capital and insurance protection benefits. Indeed, drawing on the basic concept of priming and the spreading-activation theory from psychology (Collins and Loftus 1975), we believe that a firm’s advertising can make its CSP information more salient to stakeholders. Advertising is one of the key “communicators of identity” (Bhattacharya and Sen 2003, p. 78) that not only helps inform the firm’s stakeholders about its operations and core values but also, through repetition, helps keep such identity information salient in stakeholders’ minds. A firm’s CSR initiatives are an important component of its identity (Du, Sen, and Bhattacharya 2008). When stakeholders can more easily retrieve such identity-related information from memory, it is more likely that they will hold the firm in higher esteem and help create more moral capital for the firm. In other words, advertising helps solidify the positive moral capital of superior CSP, which in turn provides more insurance-like protection, thus further reducing firm-idiosyncratic risk.

Consider the example of General Electric (GE). A key differentiator of the successful CSR programs at GE that has protected the firm from market downturns relative to its rivals is its design of stunning and creative advertisements about its Ecomagination initiative. By effectively showcasing the steps GE takes to safeguard the environment, these advertisements generate more public trust regarding the company’s strong commitment in developing cleaner technologies for its customers (Pierce 2007). Thus, for firms with higher (versus lower) advertising, superior CSP relative to competitors is more likely to generate moral capital-based insurance protection and, therefore, lower firm-idiosyncratic risk.

H₂: CSP induces greater decreases in firm-idiosyncratic risk for firms with higher advertising spending than for firms with lower advertising spending.

CSP and R&D. There is a vast body of literature linking investments in R&D to improvement in long-term firm per-

formance (McWilliams and Siegel 2000). The fundamental premise in this research stream is that R&D is a form of “technical” investment that results in knowledge enhancement and, subsequently, product and process innovation. The innovations resulting from R&D have received significant attention as value creation instruments for firms. Several studies have shown many benefits of R&D investments, including superior market value and higher stock returns (e.g., Chan, Lakonishok, and Sougiannis 2001; Mizik and Jacobson 2003). Furthermore, McAlister, Srinivasan, and Kim (2007) consistently find that firms with higher R&D enjoy lower systematic risk.⁶

As with advertising, given the general financial benefits of R&D, we posit that CSP may induce more (less) decreases in firm-idiosyncratic risk for firms with higher (lower) R&D spending. Specifically, firms with higher (versus lower) R&D may enjoy stronger corporate abilities to innovate and develop new products that satisfy emerging consumer needs (Mizik and Jacobson 2003). In addition, Brown and Dacin (1997) suggest that higher levels of both CSP and corporate innovative ability are important in affecting stakeholders’ perceptions of and identification with the company. For firms with lower R&D and inferior innovative ability, it is likely that CSP may even fail to produce moral capital. This is because there is a lack of pragmatic legitimation (i.e., doubts about a firm’s ability to produce a good product and attributions of misguided priorities) if firms with inferior innovative ability engage in prosocial responsibility programs (Luo and Bhattacharya 2006; see also Suchman 1995). In such instances, social responsibility initiatives can backfire and generate detrimental attributions (i.e., negative word of mouth; Luo 2009; Varadarajan and Menon 1988). In contrast, all else being equal, firms with higher R&D investments can more effectively facilitate process and product innovations, both of which make it easier for CSP to generate insurance-like protection, given that emerging stakeholder needs have been successfully satisfied. Thus, CSP more likely reduces firm-idiosyncratic risk in firms with higher (versus lower) R&D investments.

Toyota is a case in point. Part of the reason Toyota’s CSR efforts are more successful than its rivals, such as Ford or General Motors, is because of Toyota’s stronger R&D-based innovative capabilities, as demonstrated by the top-selling hybrid model (i.e., the Prius is equipped with unique clean technologies and emits only 10% of the harmful pollutants conventional vehicles produce; Porter and Kramer 2006, p. 89). Therefore, for firms with higher (versus lower) R&D, it is more likely that superior CSP relative to competitors leads to more moral capital-based insurance protection and, in turn, to lower firm-idiosyncratic risk.

H₃: CSP induces greater decreases in firm-idiosyncratic risk for firms with higher R&D spending than for firms with lower R&D spending.

⁶Although the main effects of R&D on risk can be positive or negative, our focus here is on the moderating effects of the interaction between CSP and R&D.

CSP, advertising, and R&D. Although advertising and R&D independently facilitate the effects of CSP on firm-idiosyncratic risk, we posit that a push for building CSP, advertising, and R&D market-based assets simultaneously may not work financially. There are several reasons for this. Specifically, there is a “dark side” of CSR. In particular, the core of the negative CSR arguments is best described by the following quotation from the trade press:

But [CSR] can come at the expense of other priorities, such as [R&D], and is rarely valued by Wall Street. It also is misguided. Many corporate executives believe, as economist Milton Friedman does, that the role of business is to generate profits for shareholders—not to spend others’ money for some perceived social benefit. (Grow, Hamm, and Lee 2005, p. 77)

Echoing this sentiment, academic research also points out some tensions between CSR programs’ social and economic dimensions. For example, Sen and Bhattacharya (2001) report that in many instances, stakeholders (e.g., consumers, employees, investors) may perceive a certain “trade-off” between investments in CSR programs and in core competencies of the firm, such as innovative new products and higher brand awareness, which are typically deemed to be more important and should receive higher strategic priority than CSR initiatives (Handelman and Arnold 1999; Luo and Bhattacharya 2006).⁷ The creation of moral capital and its subsequent benefits may be jeopardized in the face of such trade-off perceptions.

We believe that this tension between social and economic dimensions is likely to be exacerbated if the firm pursues all strategic goals by heavily investing in CSP, advertising, and R&D at the same time. Specifically, because a firm often has limited resources, it is difficult, if not infeasible, to pursue all strategic goals at the same time (Mizik and Jacobson 2003). Indeed, the resource-based view of the firm (Barney 1986) suggests that firms must devote resources to support the demands for CSP, advertising, and R&D. Yet organizational resources are not unlimited. Given this real-world limitation, if a firm tries to maximize investment in all domains, it is possible that there will be “resource misallocation” (Luo and Bhattacharya 2006) and subsequent market confusion and uncertainty, thus compromising the creation of moral capital and the insurance-like benefits of CSP. In short, simultaneously pursuing higher CSP, advertising, and R&D may not be beneficial but rather may lead to more undesirable firm-idiosyncratic risk.

H₄: The simultaneous pursuit of CSP, advertising, and R&D leads to increased firm-idiosyncratic risk.

⁷We do not argue that advertising and R&D compete for the same resources. Rather, we suggest that CSP competes for the resources that instead could be invested in advertising and/or R&D. It is difficult to rule out the possibility a priori that more investment in CSP would not come at the expense of less investment in advertising and R&D. In addition, we are not arguing that, when present together, these two variables (advertising and R&D) increase risk. Instead, we expect that simultaneously pursuing higher CSP, advertising, and R&D (i.e., when all three variables present together) may increase idiosyncratic risk.

Data and Measures

To test the hypotheses, we used a comprehensive secondary data set. We assembled this data set from multiple sources, including COMPUSTAT, *Fortune*’s MAC, and the CRSP.

CSP Measure and Data

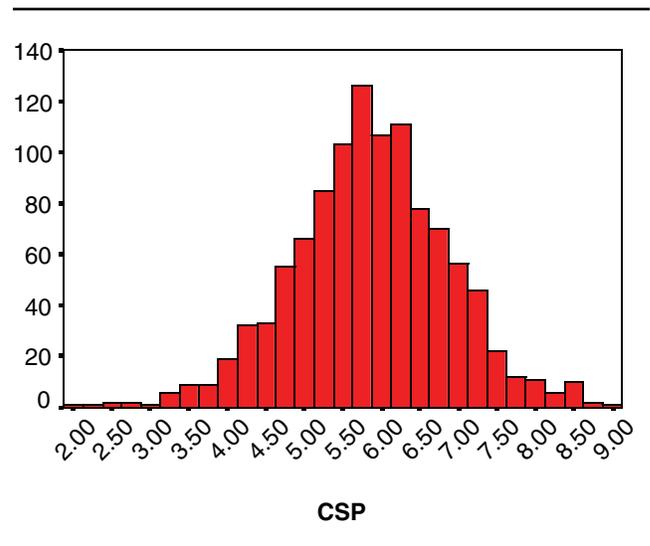
We measured CSP for 2002 and 2003 with *Fortune*’s MAC source. The resultant CSP is defined as a company’s overall performance in CSR programs relative to its leading competitors in the industry. Research across finance (Margolis and Walsh 2003), strategy (McGuire, Sundgren, and Schneeweis 1988), and marketing (Houston and Johnson 2000; Luo and Bhattacharya 2006) provides detailed descriptions on the methodology. In general, this archival MAC source is deemed to be reliable and valid. Houston and Johnson (2000, p. 12) consider this source the best secondary data source available.

Furthermore, the MAC source is comprehensive in measuring CSP because it polls more than 10,000 (rather than a small sample of) executives, directors, and financial securities analysts to rate companies’ CSP. The sampling frame is *Fortune*’s list of 1000 large firms (ranked by sales revenue) across more than 70 industries. The results of the large-scale MAC surveys cover 541 large companies and their CSP in 2002 and 2003, after teasing out the nonresponses and nondeliverable contacts. For each firm-year observation, CSP is rated using an interval scale ranging from 0 to 10. Because there is a reverse causality concern between CSP and financial performance, we parcel out this potential bias using the residual approach that Roberts and Dowling (2002) recommend. We then relate this clean measure of CSP to firm-idiosyncratic risk, derived from the Fama–French four-factor (hereinafter, FF4) approach. Figure 2 presents a histogram of CSP in our data set.

Firm-Idiosyncratic Risk Measure and Data

We estimate idiosyncratic risk for each firm for each year using daily return data. Firm-idiosyncratic risk is typically

FIGURE 2
Histogram of CSP



measured (see, e.g., Durnev., Morck, and Yeung 2004) with the widely accepted FF4 approach (Carhart 1997). The FF4 model generates better estimates of stock returns than the traditional single-factor capital asset pricing model approach (Fama and French 1992, 2006). In particular, the FF4 approach suggests that the return on a typical stock for firm i on day d ($r_{i,d}$) is a function of the common FF4 and the idiosyncratic residual ($u_{i,d}$). The FF4 includes market return (r_d^{MKT}), the difference of returns between small and big stocks (r_d^{SMB}), the difference of returns between high and low book-to-market stocks (r_d^{HML}), and return momentum (r_d^{UMD}).⁸ The residual ($u_{i,d}$) of the model is a measure of firm-idiosyncratic excess return (Ang et al. 2006; Cao, Simin, and Zhao 2008):

$$(1) \quad r_{i,d} = \alpha_i + \beta_i^{MKT} r_d^{MKT} + \beta_i^{SMB} r_d^{SMB} + \beta_i^{HML} r_d^{HML} + \beta_i^{UMD} r_d^{UMD} + u_{i,d},$$

where, α_i is the intercept term and $u_{i,d} = \rho u_{i,d-1} + \delta_{i,d}$. We let $\delta_{i,d}$ be a normal random variable with a mean of 0 and variance of σ_δ^2 . Thus, Equation 1 accounts for serial correlation in the residual term.

Based on Equation 1, our measure of firm-idiosyncratic risk is the variance of the residuals [$1/n \times (\sum_{d=1}^n u_{i,d}^2)$], where n denotes the number of days (i.e., 252) over which the model is estimated in year t for a given firm. Thus, this residual variance term, scaled relative to total firm risk (i.e., the variance of the $r_{i,d}$ values over the year), is $1 - R_{it}^2$, where R_{it}^2 is the coefficient of determination for Equation 1 in a given year for a given firm.⁹ In other words, in line with the finance literature (e.g., Ferreira and Laux 2007, p. 955), our measure of interest is idiosyncratic risk relative to total firm risk. Scaling idiosyncratic risk by total risk accounts for possible industry differences in firms' proneness to economywide shocks and thus is a measure of firm-idiosyncratic risk that is comparable across industries.

⁸ $r_{i,d}$ and r_d^{MKT} are excessive to the risk-free Treasury-bill rate.

⁹The R-square (R_{it}^2) of Equation 1 is a measure of market synchronicity because it gauges the extent to which the variation in the stock return of the company is explained by the variation in the FF4.

Finally, because of the bounded nature of R_{it}^2 , in line with accepted norms in finance, we conduct logistic transformation to obtain the final measure of firm-idiosyncratic risk:

$$(2) \quad v_{it} \equiv \ln \left(\frac{1 - R_{it}^2}{R_{it}^2} \right),$$

where R_{it}^2 is the coefficient of determination of Equation 1 for firm i in year t .

The CRSP source supplied the daily stock price data (252 trading days each year) for deriving firm-idiosyncratic risk. After we obtain the daily stock return for each firm from the CRSP and match it with daily data for the FF4 from French's Web site (see http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html), we calculate firm-idiosyncratic risk for each year using Equations 1 and 2. Note that though we have estimates of firm-idiosyncratic risk for three years, because we have the CSP measure for two years and given the desired lag structure between CSP and firm-idiosyncratic risk, we end up using 1082 observations (for 541 firms across two years) for hypothesis testing. To derive firm-idiosyncratic risk, we use 408,996 (541 firms \times 3 years \times 252 trading days) data points on stock prices and the marketwide factors depicted in Equation 1. Table 1 provides summary statistics of the key variables in our analysis.¹⁰

It is important to account for momentum and reverse causality concerns in Equation 1. For example, firms that are performing well with lower firm-idiosyncratic risk are more likely to engage in CSR, which could reverse the direction of causality. Thus, we followed Carhart's (1997) suggestion and incorporated a "momentum" risk factor in

¹⁰The mean of this logistic transformed idiosyncratic risk measure (from Table 1) is 2.735. If we transform this back to compute R-square, we get $1 - R$ -square of Equation 1 = 93.906%. This is consistent with Ferreira and Laux (2007), who find that the average share of firm-idiosyncratic risk is 93.883%. We also checked the robustness of our firm-idiosyncratic risk results by using weekly stock price data. We find that the firm-idiosyncratic risk results based on daily price data and weekly data are similar (i.e., smallest $r = .922, p < .01$).

TABLE 1
Summary Statistics for Key Measures

| Measures | Data Source | M | SD |
|---------------------------|---------------|-------|-------|
| Firm-idiosyncratic risk | CRSP | 2.735 | 2.053 |
| CSP | Fortune's MAC | 5.859 | 1.018 |
| Profitability | COMPUSTAT | .035 | .104 |
| Profits volatility | COMPUSTAT | .212 | .237 |
| Leverage | COMPUSTAT | .360 | .151 |
| Market-to-book ratio | COMPUSTAT | 1.825 | 1.606 |
| Market capitalization | COMPUSTAT | 16.07 | 2.528 |
| Dividend pay | COMPUSTAT | .625 | .419 |
| Firm age | COMPUSTAT | 3.627 | .811 |
| Firm diversification | COMPUSTAT | .568 | .425 |
| R&D intensity (RD) | COMPUSTAT | .057 | .050 |
| Advertising spending (AD) | COMPUSTAT | .032 | .045 |

the FF4 model in Equation 1. As an additional control for reverse causality, we introduce a time lag between CSP (in year $t - 1$) and firm-idiosyncratic risk (in year t) in our model to ensure that the impact is running from CSP to firm-idiosyncratic risk (Boulding and Staelin 1995).

Hypothesis Testing: Measures, Analyses, and Results

In this section, we present the other measures included in the hypothesis-testing model, our analysis approach, and the hypotheses-testing results. We also report the results pertaining to model robustness tests and additional models.

Other Measures Used in the Hypothesis-Testing Model

In the hypothesis-testing model, we included all the finance variables that Ferreira and Laux (2007, p. 958) control for and that we described in the previous section. We have eight control variables: profitability, profits volatility, leverage, market-to-book ratio, market capitalization, dividend pay, firm age, and firm diversification.

In addition, we have data for advertising stock and R&D intensity. We measured firm advertising as advertising expenses (Data #45) divided by book assets. We measured firm R&D intensity as R&D expenses (Data # 46) divided by book assets. Because of missing data, we include a dummy variable for advertising (ADMISS; missing data = 0, and not missing = 1) and a dummy variable for R&D intensity (RDMISS; missing data = 0, and not missing = 1). We also control for the possible influence of the time trend and conditional heteroskedasticity by constructing a dummy variable for time (0 = 2002, and 1 = 2003).

Analysis Approach

For the analyses, the dependent variable is firm-idiosyncratic risk ($v_{i,t+1}$), as defined in Equation 2. The independent variables are lagged CSP, advertising, R&D, and the control variables:

$$(3) \quad v_{i,t+1} = \eta X_{it} + \pi_{it+1} = \eta_0 + \eta_1 \text{CSP}_{it} + \eta_2 \text{AD}_{it} + \eta_3 \text{RD}_{it} + \eta_4 \text{CSP}_{it} \times \text{AD}_{it} + \eta_5 \text{CSP}_{it} \times \text{RD}_{it} + \eta_6 \text{RD}_{it} \times \text{AD}_{it} + \eta_7 \text{CSP}_{it} \times \text{RD}_{it} \times \text{AD}_{it} + \eta_8 v_{i,t} + \eta_9 \text{Control}(1)_{it} + \dots + \eta_{19} \text{Control}(11)_{it} + \pi_{it+1},$$

where $i = 1, 2, \dots, 541$ firms and $t = 1, 2$ years¹¹; X_{it} = the independent variables modeled; π_{it} = the statistical noise with a mean of 0 and variance of σ_{π}^2 ; CSP = corporate social performance; RD = firm R&D intensity; AD = firm advertising stock; and Control(1)–Control(11) = the eight control variables from finance (profitability, profits volatility, lever-

age, market-to-book ratio, market capitalization, dividend pay, firm age, and firm diversification) described previously, along with our own three additions (dummy variables ADMISS, RDMISS, and Time).

To test the hypotheses in a more parsimonious way, we apply robust regression to alleviate concerns such as heteroskedasticity and autocorrelation. In particular, we specify our robust regression model with the Newey–West covariance matrix as follows:

$$(4) \quad \sum_{nw}^{\wedge} = \frac{T}{T-k} (X'X)^{-1} \Omega (X'X)^{-1},$$

where

$$\Omega = \frac{T}{T-k} \left\{ \sum_{t=1}^T u_t^2 x_t x_t' + \sum_{v=1}^q \left[\left(1 - \frac{v}{q+1} \right) \sum_{t=v+1}^T (x_t u_t u_{t-v} x_{t-v}' + x_{t-v} u_{t-v} u_t x_t') \right] \right\},$$

q (the truncation lag) is the number of autocorrelations used in examining the dynamics of residual u_t , and q is floor $[4(T/100)^{2/9}]$. For the optimization algorithm, we use the quadratic Hill climbing in the robust model. Note also that we mean-centered all the independent variables before conducting the regression analysis.

Hypothesis-Testing Results

The correlation results in Table 2 indicate some preliminary support for the relationship between CSP and firm-idiosyncratic risk. The correlation between CSP and firm-idiosyncratic risk is negative and significant ($r = -.133, p < .01$), as we expected.

To test the hypotheses formally, we rely on the robust regression results, which we discuss next. In testing our hypotheses, we adopt a stepwise approach. Model 1 is the simplest model; in this model, we only add CSP to the control variables to observe its relationship to firm-idiosyncratic risk. In Model 2, we also add the hypothesized moderators—advertising, R&D, and the respective interaction terms. Models 3 and 4 are random coefficient counterparts to Models 1 and 2.

In H_1 , we expect a negative influence of CSP on firm-idiosyncratic risk. For Model 1 in Table 3, the robust regression results lend support for this prediction because lagged CSP indeed decreases firm-idiosyncratic risk ($b = -.205, p < .01$). Thus, the data support H_1 ; CSP helps reduce firm-idiosyncratic risk. In other words, CSP can indeed provide insurance-like protection and help stabilize the firm's future cash flows, as we expected.

H_2 predicts that CSP induces greater (lesser) decreases in firm-idiosyncratic risk for firms with higher (lower) advertising spending. For Model 2 in Table 3, the results suggest that CSP has a stronger negative influence (CSP \times AD: $b = -.046, p < .05$) on firm-idiosyncratic risk in firms with higher advertising spending.¹² Thus, H_2 is supported.

¹¹By including the lagged dependent variable as an independent variable, our model is more conservative in testing the impact of CSP than the corresponding Ferreira and Laux (2007) model. Additional analyses show that the impact of CSP on idiosyncratic risk does not change with the lagged dependent variable in the model or without it. Our model results also hold when we use variance of residuals in Equation 1 without logistic transformation, adding more evidence for our conclusion.

¹²The incremental variance explained by adding the mean-centered interaction terms was statistically significant ($\Delta R^2 = .059$,

TABLE 2
Correlations Among Key Variables Used in Hypothesis Testing

| | Hypotheses | Firm-Idiosyncratic Risk | CSP | R&D Intensity | Advertising Spending |
|-------------------------|---------------------------------|-------------------------|-------|---------------|----------------------|
| Firm-idiosyncratic risk | DV | 1.000 | | | |
| CSP | H ₁ | -.133 | 1.000 | | |
| R&D intensity | H ₂ , H ₄ | -.052 | -.091 | 1.000 | |
| Advertising spending | H ₃ , H ₄ | -.098 | .107 | .082 | 1.000 |

Notes: DV = dependent variable used in hypothesis testing. It is the logistic transformed relative idiosyncratic risk. Correlation r-values > .09 are significant at a *p*-value of .05.

H₃ predicts that CSP induces greater (lesser) decreases in firm-idiosyncratic risk for firms that are more (versus less) intensive in R&D investment. For Model 2 in Table 3, the interaction item between CSP and R&D intensity (CSP × RD: *b* = -.025) is significant at the *p* < .10 level; thus, H₃ is supported. However, R&D intensity plays a relatively weaker moderating role in the impact of CSP on firm-idiosyncratic risk in this data set.

To test H₄, which predicts that the simultaneous pursuit of CSP, advertising, and R&D is positively related to firm-idiosyncratic risk, we created a three-way interaction term among CSP, R&D, and advertising. For Model 2 in Table 3, the three-way interaction is positive and significant (CSP × AD × RD: *b* = .032, *p* < .10), in support of H₄. This indicates that the negative impact of CSP on firm-idiosyncratic risk is compromised in firms with higher R&D intensity and higher advertising stock. Thus, simultaneously pushing for higher CSP, advertising, and R&D can actually be harmful and may induce greater firm-idiosyncratic risk.

Additional Data Analyses and Validity Checks

Reverse causality check. To check the time-based causal direction from CSP to firm-idiosyncratic risk, we conducted Granger-causality tests (Hamilton 1994). The Granger-causality results suggest that CSP indeed Granger-causes decreases in firm-idiosyncratic risk ($F_{\text{Granger-causality}} = 18.056, p < .01$), confirming the predicted causal impact of CSP. Furthermore, we examined the face validity of our estimated firm-idiosyncratic risk results using the Z-score measure from COMPUSTAT. We find that the correlation between Z-score and firm-idiosyncratic risk is indeed significant (*p* < .01).

Random coefficients model estimation. Because unobserved heterogeneity across industries may threaten our results (beyond the observed heterogeneity at the firm, industry, and time levels captured with the control variables), we conduct additional analyses with random coefficients models. This modeling technique allows firm-idiosyncratic risk to vary because of unobserved differences in both the constants (random intercepts) and the impact of CSP on firm-idiosyncratic risk (random slopes) across

industries (*j*), as we show in the Appendix. We report the random coefficients estimation results in Models 3 and 4 in Table 3. Again, these additional results support the impact of CSP on firm-idiosyncratic risk. We find that CSP has a negative impact on firm-idiosyncratic risk in Model 3 (*b* = -.209, *p* < .01), as we expected. In addition, the results in Model 4 suggest that CSP has a stronger negative influence (CSP × AD: *b* = -.067, *p* < .05) on firm-idiosyncratic risk in firms with higher advertising spending. However, R&D does not moderate the influence of CSP on firm-idiosyncratic risk (*p* > .10). The three-way interaction term is positive and significant (CSP × AD × RD: *b* = .036, *p* < .10), as we expected, but at the *p* < .10 level. Again, this finding suggests that the impact of CSP on firm-idiosyncratic risk is compromised in firms that simultaneously pursue higher R&D intensity and higher advertising stock. Overall, these additional analyses support the robustness of the results.

The dark side of high CSP. Prior literature has noted that “too much” CSP may not be optimal in reducing firm-idiosyncratic risk. McWilliams and Siegel (2001) imply that there is an optimal level of CSP, beyond which it is less likely to shield the firm against the uncertainty and vulnerability of future cash flows. At extremely high levels of CSP, the disadvantages of CSR in the context of a firm’s economic purposes may outweigh its benefits (Handelman and Arnold 1999; Smith 2003), thus likely inducing more unstable future profits and less insurance-like protection against firm stock risk. To test this curvilinear effect proposition, we entered CSP-squared in the regression models and indeed found that the CSP-squared was statistically significant (*p* < .01) and positive (i.e., leading to greater [harmful] stock risk). This result implies that it does not pay to depart from an optimal point. After reaching a certain level, CSP may not generate enough social moral benefits to compensate for the incurred financial costs and missed opportunity costs.¹³ This insight also helps reconcile the debate about CSP. Doing enough good, rather than too much good, is the key to stabilizing the volatility of firm stock prices. Thus, going forward, firms should strike a balance in CSR investments so that the net benefits from CSR are optimized for the firm.

$F_{\text{diff}} = 16.39, p < .01$). We also conducted further analyses by scaling other variables, such as AD and RD, to the industry means (i.e., relative to competition in the industry). Our conclusion related to the hypothesis testing does not change. Because the highest variance inflation factor was 4.293 (less than 10.0), it seems that multicollinearity is not a serious threat to our results.

¹³We also used Dow Jones Sustainability Index daily data (January 4, 1999–December 30, 2005) and confirmed that the CSP-squared term was again statistically significant (*p* < .01) and positive at the portfolio level.

TABLE 3
Results of the Impact of CSP on Firm-Idiosyncratic Risk

| Hypotheses | Model 1: Robust Regression Model | | Model 2: Robust Regression Model | | Model 3: Random Coefficients Model | | Model 4: Random Coefficients Model | | |
|----------------------------------|--|--------------|--|--------------|--|--------------|--|--------------|------|
| | Coefficient | Significance | Coefficient | Significance | Coefficient | Significance | Coefficient | Significance | |
| Controls | | | | | | | | | |
| Profitability | .083 | ** | .085 | ** | .086 | ** | .082 | ** | |
| Profits volatility | .0013 | n.s. | .0013 | n.s. | .0011 | n.s. | .0012 | n.s. | |
| Leverage | .307 | *** | .311 | *** | .310 | *** | .309 | *** | |
| Market-to-book ratio | -.0806 | *** | -.0807 | *** | -.0805 | *** | -.0805 | *** | |
| Market capitalization | -.322 | *** | -.327 | *** | -.326 | *** | -.331 | *** | |
| Dividend pay | .132 | *** | .131 | *** | .135 | *** | .133 | *** | |
| Firm age | .043 | ** | .048 | ** | .049 | ** | .048 | ** | |
| Firm diversification | -.176 | ** | -.177 | ** | -.176 | ** | -.181 | ** | |
| RDMISS (dummy) | .421 | n.s. | .427 | n.s. | .425 | n.s. | .423 | n.s. | |
| ADMISS (dummy) | .406 | n.s. | .402 | n.s. | .403 | n.s. | .402 | n.s. | |
| Time (dummy) | .308 | n.s. | .302 | n.s. | .304 | n.s. | .306 | n.s. | |
| Previous firm-idiosyncratic risk | .563 | *** | .567 | *** | .566 | *** | .564 | *** | |
| CSP | H ₁ | -.205 | *** | -.201 | *** | -.209 | *** | -.202 | *** |
| Advertising spending (AD) | | | | -.165 | ** | | | -.165 | ** |
| R&D intensity (RD) | | | | -.117 | n.s. | | | -.095 | n.s. |
| CSP × AD | H ₂ | | | -.046 | ** | | | -.067 | ** |
| CSP × RD | H ₃ | | | -.025 | * | | | -.013 | n.s. |
| CSP × AD × RD | H ₄ | | | .032 | * | | | .036 | * |
| AD × RD | | | | .003 | n.s. | | | .001 | n.s. |
| Adjusted R ² | | .537 | *** | .596 | *** | .539 | *** | .591 | *** |
| Change of R ² | | | | .059 | ** | | | .052 | ** |

* $p < .10$.** $p < .05$.*** $p < .01$.

Notes: We used the Newey–West robust approach to correct for possible heteroskedasticity and autocorrelation biases.

The Impact of CSP on Systematic Risk

Can CSP affect systematic risk of the firm? A recent study by McAlister, Srinivasan, and Kim (2007) emphasizes that systematic risk is an important financial metric of interest to both marketers and investors. Thus, as a complement to our analyses of CSP and idiosyncratic risk, it would be worthwhile to explore whether CSP has a similar impact on systematic risk. If it does, to our knowledge, this research would be the first to show that CSP is also important from the perspective of portfolio risk management. This would add further robustness to our conclusion regarding the stock risk implications of CSP.

As we show in Equation 1, systematic risk (β_i^{MKT}) is the part of firm stock risk that is explained by the changes in average market portfolio returns. The firm's sensitivity to the changes in the market return (r_d^{MKT}) or to news of broad market changes (e.g., inflation, interest rate) is common to all stocks. In contrast, firm-idiosyncratic risk reflects the risk associated with firm-specific strategies (e.g., CSP), after accounting for the marketwide variation.¹⁴

To test the CSP–systematic risk relationship, we follow McAlister, Srinivasan, and Kim's (2007, p. 39) model. In particular, their model tests the impact of advertising and R&D on systematic risk, controlling for several variables (growth, leverage, liquidity, asset size, earnings variability, dividend, age, and competitive intensity). Using two years of data from 541 firms, we replicated their model with all their variables and added CSP. As Table 4 summarizes, CSP has a significant, negative impact on systematic risk ($b = -1.372, p < .01$) in McAlister, Srinivasan, and Kim's model. Thus, CSP also helps reduce systematic risk of the firm, providing more evidence for the effects of CSP on firm stock risk. In addition, consistent with McAlister, Srinivasan, and Kim, we find that lagged advertising spending indeed significantly reduces systematic risk of the firm ($b = -2.719, p < .05$). In contrast to their findings but in line with those of Sorescu and Spanjol (2008), we find that lagged R&D is not related to systematic risk of the firm ($p > .10$).

Overall, our results help extend McAlister, Srinivasan, and Kim's (2007) work in three ways. First, by examining CSP in our context, we respond to their call for "relating other elements of marketing strategy to systematic risk" (p. 46). Second, we carry on their spirit and uncover new benefits of advertising (i.e., lowering both systematic and firm-idiosyncratic risk and gaining more insurance-like protec-

¹⁴If this distinction between the two risk metrics is valid (Miller, Wiseman, and Gomez-Mejia 2002), it is reasonable to believe that the relationship between CSP and firm-idiosyncratic risk is stronger than the relationship between CSP and systematic risk. Furthermore, theoretically, firm-specific strategies can affect systematic risk as long as these strategies are somehow related to the stock market (i.e., when firms buy back their own stocks from the market or issue more stocks or when there is active marketing of initial public offerings [see Cook, Kieschnick, and Van Ness 2006]). Although some studies have found that firm-idiosyncratic marketing strategies affect systematic risk (McAlister, Srinivasan, and Kim 2007), other studies have not (e.g., Sorescu and Spanjol 2008).

TABLE 4
The Impact of CSP on Systematic Risk

| Variables | MSK Model | | MSK Model Plus CSP | |
|-----------------------------|-------------|--------------|--------------------|--------------|
| | Coefficient | Significance | Coefficient | Significance |
| Lagged advertising spending | -3.187 | ** | -2.719 | * |
| Lagged R&D intensity | -.501 | ** | -.329 | n.s. |
| Lagged CSP | Not modeled | — | -1.372 | ** |

* $p < .05$.

** $p < .01$.

Notes: MSK = McAlister, Srinivasan, and Kim (2007, p. 42, Column 1). n.s. = not significant.

tion of firm shareholder wealth through the synergistic interactions between advertising and CSP). Third, we extend the substantive domain of their pioneering study by expanding firm stock risk to include not only systematic risk but also idiosyncratic risk.

Discussion and Implications

Does Wall Street care about CSP? In other words, are firms financially rewarded or punished for excelling in CSR initiatives? While proponents espouse that CSR panders to an increasingly socially conscious consumer population and enables companies to gain insurance-like protection, critics counter that managers should not spend others' money for perceived social good. This debate over doing good has assumed critical significance in practitioners' minds, as more companies engage in CSR initiatives. We directly respond to this debate by theorizing and testing a framework that predicts (1) the impact of CSP on firm-idiosyncratic risk and (2) the role of two strategic marketing levers (advertising and R&D) in explaining the variability of this impact among different firms. Using large-scale secondary data sets, we show that superior CSP relative to competitors is indeed capable of boosting shareholder wealth by lowering the undesirable volatility of firms' stock prices. In addition, although firms with higher advertising intensity derive more risk-reduction benefits from CSP than firms with lower advertising intensity, a simultaneous pursuit for CSP, advertising, and R&D is detrimental financially because of the increased stock risk. We discuss the implications of our findings next.

Implications for Theory

This study extends CSR research. We rigorously demonstrate the relationship between CSP and the risk of firm stock prices in the presence of various finance, marketing, and accounting variables. With the understanding that the finance model (Ferreira and Laux 2007) we built on controls for the relevant finance variables, we believe that this article contributes to the field by showing CSP's robust impact on lowering firm-idiosyncratic risk. This is a material step forward because it addresses a significant research gap clearly identified in the literature: "[A]n important yet

underemphasized benefit from CSR is insurance against negative events that would otherwise harm financial performance” (Peloza 2006, p. 53). In his study, Peloza (2006) also reports that firms with poor CSR reputation suffered stock market declines twice the size of those experienced by firms with positive CSR reputation. Although some studies have suggested that CSP can bestow moral capital to firms that can win the hearts and minds of stakeholders in a reliable and honest way (Brown and Dacin 1997; Godfrey 2005), we are able to quantify empirically the risk-reduction benefits of superior CSP with firm stock prices data, uncovering the economic significance of managing risk through CSP. From our model, a one-standard-deviation increase in CSP reduces our dependent variable by .205 units ($.201 \times 1.018$). Relative to the variability of the dependent variable (2.053), this represents approximately a 10% influence. In other words, our study suggests that by boosting one standard deviation more than average in CSP, firms can reduce their firm-idiosyncratic risk by approximately 10%, which is meaningful (but ignored in the extant literature) from an economic perspective.

We also deepen academic understanding of the interplay between two key strategic marketing instruments and CSR in reducing firm risk. To our knowledge, we are the first to find that different intensities of strategic levers, such as advertising and R&D, can explain the variability in the effects of CSP on firm-idiosyncratic risk among heterogeneous firms. These contingency findings are important for at least two reasons. First, they help disentangle the long-fought dispute over “doing good.” That is, we suggest that though the laudable risk-reduction benefits of CSP are greater in firms with higher (versus lower) advertising intensity, a simultaneous pursuit for CSP, advertising, and R&D may not mesh well and may induce more harmful stock risk. In other words, CSP is not beneficial in all situations but rather is advantageous in some firm contexts and disadvantageous in others. Indeed, prior studies on responsibility have often overlooked firm-specific boundaries that account for variability in the performance implications of CSP. Further research should acknowledge and robustly model the heterogeneous, differential effects of CSP and the trade-offs among various strategic assets to understand this debate more fully. In doing so, future work can advance the understanding of the contingent relationships (i.e., when and why some firms generate more performance benefits of CSP than others). Second, our findings contribute to the strategic marketing literature. Prior research has noted that both advertising and R&D play a critical role in corporate marketing strategy and generate firm value (Joshi and Hanssens 2009; McAlister, Srinivasan, and Kim 2007). We agree and add to the literature by innovatively revealing the additional effects of advertising and R&D in the context of risk-reduction potential of CSP. The effects of two- and three-way interactions among advertising, R&D, and CSP in affecting the risk of stock prices have been largely neglected in the extant literature. Thus, our findings of these interactive effects foster a new perspective that more closely links CSR research, marketing strategy, and shareholder value.

Furthermore, broadly speaking, we advance research on the marketing–finance interface (Luo and Homburg 2008; Srivastava, Shervani, and Fahey 1998) by examining stock risk, an important metric largely ignored in existing marketing literature. Recently, Srinivasan and Hanssens (2009, p. 308) explicitly called for research on the marketing–finance interface to investigate “the stock market impact of [CSR] initiatives.... Do higher levels of [CSR] investments hurt or benefit ... firm valuation?” Our research precisely responds to this call and fits neatly with Marketing Science Institute’s top research priority. Indeed, many financial agencies, such as Morningstar, Standard & Poor’s, and Value Line Research Center, typically track risk metrics in their evaluations of stocks, and investors keep a close eye on security risk barometers. Despite its high relevance to the world of finance, the risk/volatility metric of stock returns has received relatively little attention in marketing research. McAlister, Srinivasan, and Kim (2007) begin to address related issues, such as systematic risk. Again, armed with the understanding that McAlister, Srinivasan, and Kim’s model we followed is valid, we believe that this article also contributes to the literature by showing CSP’s robust impact on lowering firm systematic risk. More generally, while prior marketing literature has typically focused on the level of stock return or the first moment, our work uncovers an important relationship—strategic variables such as CSP may also affect the variability of stock return or the second moment. In this sense, our study, coupled with extant studies (e.g., Luo and Bhattacharya 2006), puts two pieces of the puzzle together and suggests the full strategic importance of CSP: That is, CSP may not only increase the level of future cash flows but also reduce the risk of expected cash flows, both of which help boost firm long-term stock wealth. Therefore, by drawing much-needed attention to the risk-reduction potential of CSP and strategic marketing levers, we help expand the research agenda on the marketing–finance interface.

Finally, we contribute to the finance literature on drivers of firm-idiosyncratic risk. That is, we propose and confirm a strategic marketing instrument (i.e., CSP) as another driver that has been omitted in prior finance literature but that significantly affects stock risk. As such, our work (1) helps bridge the knowledge gap between finance and marketing and (2) enables financial executives or investors to communicate more effectively with marketers in a common language (i.e., both parties may be interested in valuing CSR from the aspect of stock risk).

Implications for Managers and Investors

Marketing strategy can successfully and meaningfully meet Wall Street. Our research suggests that when implemented well, CSR programs and strategic marketing levers can create moral capital and provide an insurance-like protection for the firm’s shareholder wealth. Indeed, “risk management is the clearest benefit of doing good.... Doing the right thing doesn’t only help protect the brand. It also can help secure your future resources and markets” (Kher 2005). However, firms need to guard against being perceived as “cause exploitative” (Drumwright 1996). Research has shown that firms are rewarded for their proso-

cial initiatives only when stakeholders make “intrinsic attributions” about a firm’s motives for engaging in such initiatives (Du, Bhattacharya, and Sen 2007). Thus, by being authentic and sincere in the way they approach and implement CSR programs, managers can enjoy both the opportunity platform and safety net offered by superior CSP and, thus, steady stock returns.

However, although being socially responsible is glorious, practitioners should note that the goodwill refund of CSP is not strictly proportional or unconditional. Corporate social performance does not work in isolation but rather in tandem with other firm strategic instruments. The point for managers is that without the supporting roles of advertising and R&D, the benefits of CSP for stock risk management can be attenuated. Thus, rather than being implemented in a one-off fashion, CSP merits careful consideration as part of the firm’s repertoire of other marketing strategy instruments, such as advertising and R&D.

Indeed, too often, executives pursue a CSR agenda without prudently considering broader contexts of the firm. Disconnected responsibility initiatives not in synergy with firms’ marketing strategy instruments can obscure many opportunities for companies to benefit society and can even lead to more harmful, unintended stock risk (good intentions end up with bad numbers; Porter and Kramer 2006). Flying blind is not recommended for responsible firms with different marketing strategic capabilities. Rather, CSP should permeate the strategic marketing planning and be more closely tied to firm-specific strategic resource budgeting. We urge firms to conduct rigorous research to determine stakeholder perceptions of firm actions and more precisely map how CSP and firm strategic levers interact and align before settling on the appropriate CSR initiatives. In doing so, managers may build a more resilient firm that can leapfrog the competition and better ride out economic downturns.

In conclusion, the supported role of CSP in lowering firm-idiosyncratic risk suggests beneficial effects of CSP for stock risk management purposes. Given the quickly rising social expectations, it has been a “rude awakening for companies that have not embraced a more strategic approach to social responsibility” (Grow, Hamm, and Lee 2005, p. 78). Executives should have less lingering doubt

about CSP and its impact on firm stock prices. Smarter corporate giving (in the form of targeted donations, community support, and employee responsibility alike) can protect brand equity and improve shareholder wealth for many companies, ranging from American Express, to Bank of America, to IBM, to Home Depot, to SAP (Luo and Bhattacharya 2006). We also suggest that without understanding the firm-specific boundaries of marketing strategy instruments, firms can significantly miss the business implications of doing good. In contrast, empowered by a careful integration of CSP with advertising, R&D, and other organizationwide programs, CSR initiatives can be not just good but also gold for managers and investors, given the merits of CSP in promoting and stabilizing firms’ stock prices over time.

Appendix Random Coefficients Model

We specify the random coefficients model as follows:

$$v_{i,t+1} = \xi X_{it} + \omega_{it} = \xi_{0j} + \xi_{1j} \text{CSP}_{it} + \xi_{2j} \text{CSP}_{it} \times \text{RD}_{it} \\ + \xi_{3j} \text{CSP}_{it} \times \text{AD}_{it} + \xi_{4j} \text{AD}_{it} \times \text{RD}_{it} \\ + \xi_{5j} \text{CSP}_{it} \times \text{RD}_{it} \times \text{AD}_{it} + \xi_6 v_{i,t} + \xi_{\text{controls}} \text{Controls}_{it} + \omega_{it},$$

where

$\xi_{0j} = \phi_{00} + \nu_{00j}$ (unobserved heterogeneity in random intercepts),

$\xi_{1j} = \phi_{10} + \nu_{10j}$ (unobserved heterogeneity in random slopes),

$\xi_{2j} = \phi_{20} + \nu_{20j}$ (unobserved heterogeneity in random slopes),

$\xi_{3j} = \phi_{30} + \nu_{30j}$ (unobserved heterogeneity in random slopes),

$\xi_{4j} = \phi_{40} + \nu_{40j}$ (unobserved heterogeneity in random slopes), and

$\xi_{5j} = \phi_{50} + \nu_{50j}$ (unobserved heterogeneity in random slopes).

This random coefficients model can account for unobserved heterogeneity in the data that may exist beyond the observed heterogeneity at the firm, industry, and time levels captured through the control variables.

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