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

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ABSTRACT

Marketers and investors face a hot, provocative debate on whether excelling in social responsibility initiatives hurts or benefits firms financially. This study develops a theoretical framework which predicts (1) the impact of corporate social performance (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. The results show that higher CSP lowers undesirable firm-idiosyncratic risk. Interestingly, while the salutary impact of CSP is greater in firms with higher (vs. lower) advertising, a simultaneous chase for CSP, advertising, and R&D is harmful with increased firm-idiosyncratic risk. For theory, we 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 role of strategic marketing levers. We also extend CSP research by moving away from the long-fought battle for universal impact of CSP 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 more effectively communicate 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 & 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" (*Fortune* 2007; *McKinsey Quarterly* 2006). Managers presume that good corporate social performance (CSP)[1] earned by engaging in the right initiatives (e.g., cause-related marketing, corporate philanthropy, green marketing, minority support programs) enhances firm performance. Indeed, existing research has suggested that CSP delivers various benefits coveted by marketers 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 the proponents of CSR.

On the other hand, plenty of skepticism abounds on the merits of CSR. Along with the rise in CSR initiatives, there have been a growing the number of contemptuous voices. According to the economic Friedmanesque 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 can not only be costly but often compete for a firm's limited financial resources with other critical marketing instruments such as advertising and R&D, critics claim that CSP does not improve the firm's long-term stock wealth.

No wonder then, social responsibility "seems like an apple-pie virtue, but it's actually quite controversial" (*BusinessWeek* 2005a, p. 77). At the heart of this provocative debate, the burning question on companies' minds today is whether social responsibility done right is worthwhile:

[1]While CSR refers to the programs or initiatives that a firm engages in (e.g., cause-related marketing), CSP refers to stakeholders' assessments of those programs and/or initiatives. Other scholarly papers (Barnett 2007; McWilliams and Siegel 2001) have similarly distinguished between CSR and CSP as discussed subsequently.

does it hurt or benefit firms financially to excel in social responsibility initiatives? Would the financial community react differently to corporate responsibility performance 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 market values CSP and thus whether the "goodwill refund" of investing in social responsibility is in the mail.

This study seeks to disentangle this debate by relating CSP to stock price volatility, a widely accepted measure of firm stock risk (Hamilton 1994). In responding to numerous recent calls for marketing to be relevant to the world of finance (MSI Research Priorities 2006-2008; McAlister 2006), most extant studies have looked at 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 not only influenced 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 et al. 1998). Specifically, stock volatility is an important metric as higher volatility implies greater investment risk and more vulnerable future cash flows (Markowitz 1952; Fama and French 1992). 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 which 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 controlling for a host of accounting, financial, and marketing variables. Additional analyses show that CSP also reduces firm systematic risk (McAlister et al. 2007), thus shoring up more robust evidence for the stock risk implications of CSP. To the extent that high stock risk is undesirable, our research not only extends the marketing-finance interface research by drawing much needed attention to the risk-reduction potential of marketing instruments, but also offers practitioners a strategic lever, i.e., 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 CSP may have differential effects on idiosyncratic risk, contingent upon 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 GM and Toyota. While both are in the same industry with similar competitive settings, were each to contribute $100 million to efforts such as clean energy and fuel-efficient vehicles, it is unlikely they would experience identical risk-reduction benefits. One 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 GM.

Indeed, McAlister et al. (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-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 CSP research by moving away from the long-fought battle for universally positive or negative performance impact of CSR (Margolis and Walsh 2003) toward a finer-grained quest for when some firms can derive more risk-reduction benefits from CSR than others. Second, it provides us 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, i.e., the two-and three-way interactions among advertising, R&D, and CSP in affecting risk. In fact, prior studies looking at 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 has been voiced by strategy researchers (McWilliams and Siegel 2000). Similarly, past studies on the outcomes of advertising and R&D (see, e.g., McAlister et al. 2007; Mizik and Jacobson 2005) have not included CSR. Therefore, we fuse these two seemingly disparate research streams by studying the integrative effects of CSR, advertising and R&D on stock risk, and consequently extend the marketing strategy literature as well.

In what follows, we first review the finance literature on stock risk. We then develop a set of hypotheses linking CSP, advertising, and R&D to firm-idiosyncratic risk. This framework is tested with secondary datasets: we marry CSP data for a sample of Fortune's Most Admired Companies with other marketing and financial data from Compustat and CRSP. We then look at the relationship between CSP and systematic risk following the model of McAlister et al. (2007). 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-term. As shown in the flow chart of Figure 1, total risk or volatility of a firm 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 like inflation that are common to all stocks, the latter (our focus in this study) reflects the risk associated with firm specific strategies like CSP after the market-wide variation is accounted for.

----Figure 1 about here---

Recently, financial economists Ang et al. (2006) empirically show that firm-idiosyncratic risk is priced by investors in financial markets. These authors show that all else 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" (p.261). In other words, firm idiosyncratic risk is related to firm value. Further, firm-idiosyncratic risk also accounts for more 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, due to 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 does matter in stock markets, and there is robust evidence supporting the importance of examining firm-idiosyncratic risk for managers and investors alike. In fact, 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 et al. 2007), new listings (Brown and Kapadia 2007), and corporate governance (Ferreira and Laux 2007).

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

- Profitability, measured as return on asset; because profitability has information content for firm future cash flow stream, it would have a significant impact on firm-idiosyncratic risk.
- Profits volatility, measured as the volatility of return on asset; since volatility of profits can signal the uncertainty of firm future cash flows, it would affect 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 firm future cash flows via interest payment, leverage would influence 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 zero otherwise; because dividend payment is valued by investors and shareholders, it would influence 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, a dummy variable that equals 1 if a firm operates in multi-segments and zero otherwise; diversification controls for the effects of firm strategic choices and diversifying operations on firm-idiosyncratic risk.

Therefore, we control for these predictors of firm-idiosyncratic risk when relating CSP, advertising, and R&D to firm-idiosyncratic risk. We propose our hypotheses next.

HYPOTHESIS DEVELOPMENT

In this section, we develop a theoretical framework which 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.

Corporate Social Performance (CSP)

By and large, social responsibility initiatives refer to corporate prosocial behaviors. They are manifested in a wide variety of organizational programs ranging from cause-related marketing, corporate philanthropy, green marketing practices, to any activities that are intended to protect and improve societal welfare. CSP is defined 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).

CSR 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 non cumulative, one-time involvement in corporate prosocial behaviors, whereas the latter can "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. Clearly, while firms invest in CSR initiatives, CSP as the measure of firms' aggregated historical social performance relative to competition should be what stakeholders reward the firms for and, therefore, what is potentially linked to firm financial performance.

As can be imagined, a number of 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. While each of these perspectives provides some useful insights for our hypothesis development, given that our dependent variable is an indicator of risk, we will primarily draw on risk management theory.

Before delving into our hypotheses, we need to address the issue of which stakeholder groups (e.g., consumers, employees, investors) reacts to firm initiatives in CSP so as 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 impacted by a firm's initiatives in CSR (and advertising and R&D). To take a simple example, firms invest in these initiatives to generate market-based intangible assets such as reputational capital (Fombrun et al. 2000) and brand and customer loyalty (Luo and Bhattacharya 2006), which in turn reduce uncertainty about firms' future earnings and, therefore, influence investor behavior. But how do investments in CSR initiatives lead to market-based intangible assets? Interestingly, 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 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 but one part of an individual's identity – the same person could also be a parent, an employee and an investor. Thus, a "customer" who would ordinarily buy the lowest priced brand may not do so if s/he 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 impacted 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 along with the responsibility literature in marketing.[2] In a nutshell, the risk management perspective (Godfrey 2005) proposes that (1) corporate responsibility programs may generate positive moral capital among communities and stakeholders, (2) moral capital can

[2]A premise in the relationship between CSP and firm-idiosyncratic risk is that the market reacts to CSP information. This premise is supported by Margolis and Walsh (2003).

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 in fact gauges the degree of the firm's cumulative moral capital. This moral capital creates "relational wealth" in different forms among different stakeholder groups, i.e., 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 as it disposes stakeholders to hold beliefs about the firm that in turn influence stakeholders' behaviors towards the firm. Prior research in marketing echoes that CSP promotes customer-company identification that leads to favorable customer attitudes and behaviors toward the company (Brown and Dacin 1997). Further, Sen et al. (2006) and Bhattacharya et al. (2008) show that better CSP positively impacts the attitudes of employees and investors towards the firm. Overall, the better a firm's CSP relative to competition, the more favorable the corporate evaluation in the eyes of various stakeholder groups, and thus the higher moral capital for the firm.

Moral capital in turn provides firms insurance-like protection of shareholder wealth by creating a reservoir of goodwill and mitigating negative stakeholder assessments. Godfrey argues

[3]As evidenced in the recent market downturn, do-good investments hold up better and suffer less economic loss than the boarder market's returns according to Morningstar and Boloomberg financial services (BusinessWeek 2008, p.15). Partly due to these risk-reduction benefits of CSP, socially responsible investment funds, such as those that avoid tobacco, defense, or other stocks for ethical reasons, are more and more popular among individual and institutional investors. Some prominent examples of these funds include Cleantech Index of 75 stocks, Domini Social Equity fund, PacAsia Social Equity, EuroPacific social Equity, Power-Share's Wilder Hill Clean Energy Portfolio, Barclay's iShares, KLD Select Social Index, and European Society Equity. 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.

that superior CSP relative to competition enables the firm to gain insurance-like protection in two main ways: (a) the degradation of relationship-based intangible assets is tempered by positive moral capital (e.g., loyalty suffers to a lesser extent, or less trust is violated) and (b) stakeholders impose less severe sanctions on the firm (when bad acts occur) than in the absence of positive moral capital.[4] 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." Indeed, Luo and Bhattacharya (2006) note that better CSP ratings improves customer satisfaction, which then leads to decreased volatility in firms' future cash flows because healthy customer relationships not only provide firms with better opportunity platform (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 to build a bulwark against future loss of economic value, likely reducing the risk and vulnerability of future cash flows.

Overall, this discussion suggests that holding other things constant, superior CSP over competitors help enable the firm to ride out tougher times with more stable future cash flows and less volatile firm stock prices, thereby lowering firm-idiosyncratic risk.[5]

H_1. All else equal, the higher a firm's social responsibility performance (CSP) relative to competition, the lower the firm-idiosyncratic risk.

[4]Specifically, 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 bad mind and create a compelling case for leniency in punishment that protects against future loss of economic value when stakeholders are adversely affected in the event of crisis.

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

CSP, Strategic Marketing Levers, and Firm-idiosyncratic Risk

Past studies have also suggested that CSP may 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 upon moderators such as corporate ability (Brown and Dacin 1997; Luo and Bhattacharya 2006), corporate brand dominance (Berens et al. 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 upon 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. (1) 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 creation 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 et al. (1998) propose that, in addition to their short-term effects on firm performance, advertising and R&D create intangible market-based assets which can boost long-term cash flows while reducing the associated cash flow volatility. (2) Both advertising and R&D have a direct relevance with stock risk. McAlister et al. (2007) argue that advertising can lower firm systematic risk by fostering consumer and distributor loyalty and by providing bargaining power over distributors, and 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" (p. 38). 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 by McAlister et al. 2007 or other studies). (3) Prior literature in management has explicitly suggested that the CSP-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. Akin to the way in which CSP works, by and large, 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 suggest that a firm's advertising directly affects stock returns, even after controlling for the impact of advertising on sales (Grullon et al. 2004; Luo 2008). For example, by creating greater visibility and familiarity, advertising increases both individual and institutional stock ownership of the firm thereby insulating it from market downturns (McAlister et al. 2007). In other words, advertising goes "beyond the customer" to create spill-over effects among other stakeholder groups and lead 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 to those 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 (vs. 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 et al. 2007, p. 38), which makes it possible for superior CSP to generate more favorable responses from various stakeholders and, hence 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 CSR 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 et al. 2008). When stakeholders are more easily able to 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, thereby further reducing firm-idiosyncratic risk.

Consider the example of General Electric. One key differentiator of the more successful responsibility programs at GE that has protected the firm from market downturns relative to its rivals is that GE has put forth stunning and more creative ads about its Ecomagination initiative. By effectively showcasing the steps GE takes to safeguard the Earth environment these advertisements generate more public trust regarding the company's strong commitment in developing cleaner technologies for the customers (*Marketing News* 2007). Thus, for firms with higher advertising as opposed to lower advertising, it is more likely that superior CSP relative to

competitors can generate more moral capital-based insurance protection and, therefore, lower firm-idiosyncratic risk.

H_2: CSP is likely to induce greater decreases in firm-idiosyncratic risk for firms with higher advertising spending compared to firms with lower advertising spending.

CSP and R&D. There is a vast literature linking investments in R&D to improvement in long-run firm performance (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. A number of studies have shown many benefits of R&D investments including superior market value and higher stock returns (e.g., Chan et al. 2001; Mizik and Jacobson 2003). Further, McAlister et al. (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 suggest that CSP may induce more (less) decreases in firm-idiosyncratic risk for firms with higher (lower) R&D spending. Specifically, firms with higher (vs. lower) R&D may enjoy stronger corporate abilities to innovate and develop new products satisfying 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 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

[6]While the main effects of R&D on risk can be positive or negative, our focus here is on the moderating effects with CSP x R&D.

can backfire and generate detrimental attributions (i.e., negative word of mouth, Luo 2009; Varadarajan and Menon 1988). In contrast, all else 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. Hence, CSP more likely reduces firm-idiosyncratic risk in firms with higher R&D investments as opposed to lower R&D investments.

Toyota is a case in point. Part of the reason that the social responsibility efforts by Toyota are more successful than at rivals such as Ford or GM is because of Toyota's stronger R&D based innovative capabilities as demonstrated by the top-selling hybrid model (electronic/gasoline Prius vehicle which 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 R&D as opposed to lower R&D, it is more likely that superior CSP relative to competitors can lead to more moral capital-based insurance protection and, thus, lower firm-idiosyncratic risk.

H_3: CSP is likely to induce greater decreases in firm-idiosyncratic risk for firms with higher R&D spending compared to firms with lower R&D spending.

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

> "But it [social responsibility] can come at the expense of other priorities, such as research and development, and is rarely valued by Wall Street. It also is misguided. Many corporate executives believe, as economist Milton Freidman does, that the role of business is to generate profits for shareholders—not to spend others' money for some perceived social benefit." (*BusinessWeek* 2005a, p. 77)

Echoing this sentiment, academic research also points out some tensions between responsibility 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 responsibility programs and in core competencies of the firm such as innovative new products and higher brand awareness, which are typically deemed 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 across CSP, advertising and R&D at the same time. Specifically, because a firm often faces 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 CSR, advertising, as well as 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 would be "resource misallocation" (Luo and Bhattacharya 2006) and subsequent market confusion and uncertainty, thereby compromising the creation of moral capital and the insurance-like benefits of CSP.

In short, this discussion suggests that simultaneously pursuing higher CSP, advertising, and R&D may not be beneficial but rather can lead to more undesirable firm-idiosyncratic risk.

H_4: The simultaneous pursuit of CSP, advertising, and R&D leads to increased firm-idiosyncratic risk.

[7]We do not argue that advertising and R&D compete for the same resources. Rather, we suggest that CSP may compete for the resources which could instead be invested in advertising and/or R&D: it is hard 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 these three variables present together) may increase idiosyncratic risk.

DATA AND MEASURES

To test the hypotheses, we used a comprehensive secondary dataset. This dataset is assembled from multiple sources including COMPUSTAT, *Fortune* magazine's "America's Most Admired Corporations" (MAC), and the Center for Research in Security Prices (CRSP).

CSP Measure and Data

We measured CSP for the years of 2002 and 2003 with the MAC source, which is made available by *Fortune* magazine. The resultant CSP is defined as a company's overall performance in social responsibility in relation to those of its leading competitors in the industry. Research across finance (see 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 as reliable and valid. Houston and Johnson (2000, p. 12) consider this source the "best secondary" data source available.

Further, MAC seems comprehensive in measuring CSP because it polls more than 10,000 (rather than a small sample) executives, directors, and financial securities analysts to rate companies' CSP. The sampling frame is Fortune 1,000 large firms (ranked by sales revenue) across more than 70 industries. The results of the large-scale MAC surveys cover 541 large companies on their CSP in years 2002 and 2003 after teasing out the non-responses and non-deliverable contacts of the Fortune large firms. 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 by using the residual approach recommended by Roberts and Dowling (2002). We then relate this clean measure of

CSP to idiosyncratic-firm risk derived from the FF4 model (described below). Figure 2 presents a histogram of CSP in our dataset.

---Figure 2 about here---

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 measured (see, e.g., Durnev et al. 2004) by the widely-accepted Fama-French four-factor approach (FF4; Carhart 1997). The FF4 multi-factor model generates better estimates of stock returns than the traditional single-factor CAPM approach (Fama and French 1992, 2006). Particularly, 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 factors and the idiosyncratic residual (u_{id}). The FF4 factors include market return (r_d^{MKT}),[8] 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}). The residual ($u_{i,d}$) of the model below is a measure of firm-idiosyncratic excess return (Ang et al. 2006; Cao et al. 2007).

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

where, α_i is the intercept term and $u_{i,d} = \rho u_{i,d-1} + \delta_{i,d}$. We let $\delta_{d,i}$ 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*($\sum_{d=1}^{n} u_{i,d}^2$)], where *n* denotes the number of days (i.e., 252) over which the model is estimated in year *t* for a given firm. This residual variance term, scaled relative to total firm risk

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

(i.e., the variance of the r_{id} values over the year) is thus 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 economy-wide shocks and, thus, is a measure of firm-idiosyncratic risk that is comparable across industries.

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) $v_{it} \equiv \ln\left(\frac{1-R_{it}^2}{R_{it}^2}\right)$, 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. Once we obtain the daily stock return for each firm from CRSP and match them with daily data for FF4 factors from French's website (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html), we calculate firm-idiosyncratic risk for each year with equations 1 and 2. Note that although we have estimates of firm-idiosyncratic risk for 3 years, due to the fact that we have the CSP measure for 2 years and given the desired lag structure between CSP and firm idiosyncratic risk, we end up using a total of 1,082 observations (for 541 firms across 2 years) for hypothesis testing. In order to derive firm-idiosyncratic risk, we use a total of 408996 (=541 firms x 3 years x 252 trading days) data points on stock prices as

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

well as the market-wide factors depicted in equation 1. Table 1 provides summary statistics of the key variables in our analysis[10].

---Table 1 about here---

Note that 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 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 the model below so as 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. Results pertaining to model robustness tests and additional models are reported as well

Other Measures used in the Hypothesis Testing Model

In the hypothesis testing model that we describe below, we included all the finance variables controlled for in Ferreira and Laux (2007, p. 958) 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. Firm advertising is measured as advertising expenses (Data #45) divided by book assets. Firm R&D intensity is

[10] The 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 =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).

measured as research & development expenses (Data # 46) divided by book assets. Because of missing data, we include *AD dummy* = dummy variable for advertising (missing data =0, non-missing =1), and *RD dummy* = dummy variable for research & development intensity (missing data =0, non-missing =1). We also control for the possible influence of the time trend and conditional heteroskedasticity by constructing a *Time dummy* (with 0 = year 2002, 1=year 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 control variables as shown below:

$$(3)\ v_{i,t+1} = \eta X_{it} + \pi_{it+1} = \eta_0 + \eta_1 CSP_{it} + \eta_2 AD_{it} + \eta_3 RD_{it} + \eta_4 CSP_{it}*AD_{it} + \eta_5 CSP_{it}*RD_{it}$$
$$+ \eta_6 RD_{it}*AD_{it} + \eta_7 CSP_{it}*RD_{it}*AD_{it} + \eta_8 v_{i,t} + \eta_9 Control(1)_{it} + \ldots + \eta_{19} Control(11)_{it} + \pi_{it+1},$$

where (i=1, 2,…, 541 firms; t=1, 2 years).[11] 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 research & development intensity, *AD* = firm advertising stock, *Control(1)* to *Control(11)* = the eight control variables from finance (profitability, profits volatility, leverage, market-to-book ratio, market capitalization, dividend pay, firm age, and firm diversification) described earlier and our own three additions (*AD dummy*, *RD dummy*, and *Time dummy*).

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

[11] By 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. Our model results also hold when we use variance of residuals in equation 1 without logistic transformation, adding more evidence for our conclusion.

(4) $$\hat{\sum} nw = \frac{T}{T-k}(X'X)^{-1}\Omega(X'X)^{-1},$$

where $\Omega = \frac{T}{T-k}\left[\sum_{t=1}^{T} u_t^2 x_t x_t' + \sum_{v=1}^{q}\left(\left(1-\frac{v}{q+1}\right)\sum_{t=v+1}^{T}(x_t u_t u_{t-v} x_{t-v}' + x_{t-v} u_{t-v} u_t x_t')\right)\right]$, and q (the truncation lag) = the number of autocorrelations used in examining the dynamics of residual u_t and $q = floor\ (4(T/100)^{2/9})$. For the optimization algorithm, we use the quadratic Hill climbing in the robust model. Note also that all the independent variables were mean-centered prior to 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 was negative and significant (r=-.133, p<.01), as expected.

---- Table 2 about here ----

To formally test the hypotheses, we rely on the robust regression results discussed 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 see 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. As reported in 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 seem to 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 expected.

H_2 predicts that CSP would likely induce greater (lesser) decreases in firm-idiosyncratic risk for firms with higher (lower) advertising spending. As reported in Model 2 in Table 3, the results suggest that CSP has a stronger negative influence (CSP*AD: b =-.046; $p < .05$) on firm-idiosyncratic risk in firms with higher advertising spending[12]. Thus, H_2 is supported.

H_3 predicts that CSP would likely induce greater (lesser) decreases in firm-idiosyncratic risk for firms that are more (versus less) intensive in R&D investment. As reported in Model 2 in Table 3, the interaction item between CSP and R&D intensity (CSP*RD: b =-.025) was significant at the $p < .10$ level; thus, H_3 is supported. However, it seems that R&D intensity plays a relatively weaker moderating role in the impact of CSP on firm-idiosyncratic risk in this dataset.

---- Table 3 about here ----

To test H_4, 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. As shown in Model 2 in Table 3, the three-way interaction is positive and significant (CSP*AD *RD: b = .032; $p < .10$) providing support for 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 is actually harmful and may induce higher 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, p.304-305). The

[12] The incremental variance explained by adding the mean-centered interaction terms was statistically significant (ΔR^2=.059, F_{difft}=16.39, p<.01). We also conducted more analyses by scaling other variables like 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.

Granger causality results suggest that CSP indeed Granger-causes decreases in firm-idiosyncratic risk ($F_{Granger\text{-}causality}$ =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 via the control variables), we conduct more analyses with random coefficients models. This modeling technique allows firm-idiosyncratic risk to vary due to unobserved differences in both the constants (random intercepts) and the impact of CSP on firm-idiosyncratic risk (random slopes) across industries (j) as shown in the Appendix. The random coefficients estimation results are reported 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 expected. In addition, the results in Model 4 suggest that CSP has a stronger negative influence (CSP*AD: b =-0.067; 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 expected, but again 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 too High CSP. Prior literature also suggests 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 may less likely 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 the economic purposes of the firm 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). Thus, this additional result implies that it does not pay to depart from an optimal point. CSP, after reaching a certain level, 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 hot debate of 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.

THE IMPACT OF CSP ON SYSTEMATIC RISK

Can CSP affect systematic risk of the firm? A recent study by McAlister et al. (2007) highlights that systematic risk is an important financial metric of interest to both marketers and investors. Thus, as a complement to our analyses surrounding CSP and idiosyncratic risk, it is interesting to explore if CSP has a similar impact on systematic risk or not. If it does, then this research would be the first we know of to show that CSP is also important from the aspect of portfolio risk management. This would add further robustness to our conclusion regarding the stock risk implications of CSP.

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

As shown 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. It is the firm's sensitivity to the changes in the market return (r_d^{MKT}) or to news of broad market changes (i.e., inflation, interest rate, etc.) that are common to all stocks. In contrast, firm-idiosyncratic risk reflects the risk associated with firm specific strategies (e.g., CSP) after accounting for the market wide variation.[14]

To test the CSP-systematic risk relationship, we follow the McAlister et al. (2007, p.39) model. Particularly, their model tested the impact of advertising and R&D on systematic risk, controlling for several variables (growth, leverage, liquidity, asset size, earnings variability, dividend, age, competitive intensity). Using two years of data for 541 firms, we replicated their model with all their variables and added CSP. As summarized in Table 4, we find that CSP has a significant, negative impact on systematic risk (b = -1.372; p < .01) in the McAlister et al. (2007, p.39) 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 et al. (2007), we also 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 Sorescu and Spanjol (2008), we find that lagged R&D is not related to systematic risk of the firm (p >.10).

----- Table 4 about here -----

Overall, our results help extend McAlister et al.'s (2007) paper 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

[14] If this distinction of the two risk metrics is valid (Miller et al. 2002), then it is reasonable to believe that the relationship between CSP and firm-idiosyncratic risk is stronger than the relationship between CSP and systematic risk. Further, 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 IPOs, see Cook, Kieschnick, Ness 2006). While some studies have found that firm-idiosyncratic marketing strategies affect systematic risk (McAlister et al. 2007), other studies have not (e.g., Sorescu and Spanjol 2008).

advertising (lowering both systematic and firm-idiosyncratic risk; synergistic interactions between advertising and CSP in gaining more insurance-like protection of firm shareholder wealth). 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 social responsibility initiatives? While proponents espouse that CSP 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 and more companies engage in social responsibility initiatives. We directly respond to this debate by theorizing and testing a framework which 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. Based on large-scale secondary datasets, we show that superior CSP over competitors is indeed capable of boosting shareholder wealth by lowering the undesirable volatility of firms' stock prices. In addition, while firms with higher advertising intensity derive more risk-reduction benefits from CSP than firms with lower advertising intensity CSP, a simultaneous chase 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

First, this study extends corporate responsibility 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 feel that this paper 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: "an important yet underemphasized benefit from CSR is insurance against negative events that would otherwise harm financial performance… Firms with inferior CSP may suffer stock market declines *twice* the size of those with superior CSP" (Peloza 2006, p.53). 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 empirically quantify the risk-reduction benefits of superior CSP with firm stock prices data, uncovering the economic significance of managing risk via CSP. From our model, one standard deviation increase in CSP would reduce our dependent variable by .205 units (.201*1.018). Relative to the variability of the dependent variable (2.053), this represents about a 10% influence. In other words, our study suggests that, by boosting a standard deviation more than average in CSP, firms could reduce their firm-idiosyncratic risk by about 10%, which is quite 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. (1) They help disentangle the long-fought dispute over "doing good". That is, we suggest that while the laudable risk-reduction benefits of CSP are greater in firms with higher (vs. lower) advertising intensity, a simultaneous

chase 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 advantageous in some firm contexts and disadvantageous in others. Indeed, prior responsibility studies have often overlooked firm-specific boundaries that account for variability in the performance implications of CSP. Future research should acknowledge and robustly model the heterogeneous, differential effects of CSP and the trade-offs among various strategic assets in order to fully understand this debate. In doing so, future work can advance our understanding of the contingent relationships, i.e., when and why some firms generate more performance benefits of CSP than others. (2) Our findings also 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 et al. 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 et al. 1998) by examining stock risk, an important metric largely ignored in existing marketing literature. Recently, Srinivasan and Hanssens (2009, p. 24) explicitly call for research in the marketing-finance interface to investigate "the stock-market impact of CSR initiatives: do higher levels of CSR hurt or benefit firm valuation?" Our research precisely responds to this call and fits neatly with Marketing Science Institute's top research priority. In fact, many financial agencies like 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 et al. (2007) has begun to address related issues like systematic risk. Again, armed with the understanding that the McAlister et al. (2007) model we followed is valid, we feel this paper also contributes to the literature by showing CSP's robust impact on lowering firm systematic risk as well. 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 like CSP may also impact 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 impacts stock risk. As such, our work (a) helps bridge the knowledge gap between finance and marketing and (b) enables financial executives or investors to more effectively communicate 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, corporate responsibility programs and strategic marketing levers can create desirable 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" (*Time* 2005).[15] However, firms need to guard against being seen as "cause exploitative" (Drumwright 1996). Research has shown that firms are rewarded for their prosocial initiatives only when stakeholders make "intrinsic attributions" about a firm's motives for engaging in such initiatives (Du et al. 2007). Thus, by being authentic and sincere in the way they approach and implement social responsibility programs, managers can enjoy both the opportunity platform and safety net offered by superior CSP and, thus, steady stock returns.

However, while being socially responsible is glorious, practitioners should note that the "goodwill refund" of CSP is not strictly proportional or unconditional. CSP does not work in isolation, but rather in tandem with other firm strategic instruments. The point to 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 one-off fashion, CSP merits careful consideration as part of the firm's repertoire of marketing strategy instruments such as advertising and R&D.

Indeed, too often, a social responsibility agenda is pursued by executives without prudently considering broader contexts of the firm. Disconnected responsibility initiatives not in synergy

[15] The trade press also claims that "CSR is a business strategy that provide rewards for companies, communities and the world at large, i.e., higher ROI, increasing rewards for communities and workers, new media and the fight for customers; mindshare, carbon footpirnting reaches supply chains, and new opportunities in environmental markets" (*BusinessWeek* 2008, Sept. 22). Given the ongoing Wall Street crises, former Fed chairman Allen Greenspan warns: "I've been extraordinarily distressed by how badly people in the business handled risk management" (*BusinessWeek* 2008, Sept. 29). Echoing this, we suggest that CSR can be a vital risk management strategy in economic downturns.

with firms' marketing strategy instruments can obscure many opportunities for companies to benefit society and 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 pulse how CSP and firm strategic levers interact and co-align before settling on the appropriate responsibility 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" (*BusinessWeek* 2005a, 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, Bank of America, IBM, 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 organizational-wide programs, social responsibility can be not just good, but gold for managers and investors, given the merits of CSP in promoting and *stabilizing* firms' stock prices over time.

Table 1
Summary Statistics for Key Measures

Measures	Data Source	Mean	Std. Dev.
Firm-Idiosyncratic Risk	CRSP	2.735	2.053
Corporate Social Performance (CSP)	America's Most Admired Corporations" (MAC)	5.859	1.018
Profitability	COMPUSTAT	0.035	0.104
Profits Volatility	COMPUSTAT	0.212	0.237
Leverage	COMPUSTAT	0.360	0.151
Market-to-Book Ratio	COMPUSTAT	1.825	1.606
Market Capitalization	COMPUSTAT	16.07	2.528
Dividend Pay	COMPUSTAT	0.625	0.419
Firm Age	COMPUSTAT	3.627	0.811
Firm Diversification	COMPUSTAT	0.568	0.425
R&D Intensity (RD)	COMPUSTAT	0.057	0.050
Advertising Spending (AD)	COMPUSTAT	0.032	0.045

Table 2
Correlations among Key Variables used in Hypothesis Testing

	Hypotheses	Firm-Idiosyncratic Risk	Corporate Social Performance (CSP)	R&D Intensity	Advertising Spending
Firm-Idiosyncratic Risk	DV	1.000			
Corporate Social Performance (CSP)	H_1	-0.133	1.000		
R&D Intensity (RD)	H_2, H_4	-0.052	-0.091	1.000	
Advertising Spending (AD)	H_3, H_4	-0.098	0.107	0.082	1.000

Note: DV=dependent variable used in hypothesis testing. It is the logistic transformed relative idiosyncratic risk. Correlation r values >0.09 are significant at p-value= .05 level.

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

	Hypo.	Model 1 Robust Regression Model		Model 2 Robust Regression Model		Model 3 Random Coefficients Model		Model 4 Random Coefficients Model	
		Coeff.	Sig.	Coeff.	Sig.	Coeff.	Sig.	Coeff.	Sig.
Controls									
Profitability		0.083	**	0.085	**	0.086	**	0.082	**
Profits Volatility		0.0013	n.s.	0.0013	n.s.	0.0011	n.s.	0.0012	n.s.
Leverage		0.307	***	0.311	***	0.310	***	0.309	***
Market-to-Book Ratio		-0.0806	***	-0.0807	***	-0.0805	***	-0.0805	***
Market Capitalization		-0.322	***	-0.327	***	-0.326	***	-0.331	***
Dividend Pay		0.132	***	0.131	***	0.135	***	0.133	***
Firm Age		0.043	**	0.048	**	0.049	**	0.048	**
Firm Diversification		-0.176	**	-0.177	**	-0.176	**	-0.181	**
RD Dummy		0.421	n.s.	0.427	n.s.	0.425	n.s.	0.423	n.s.
AD Dummy		0.406	n.s.	0.402	n.s.	0.403	n.s.	0.402	n.s.
Time Dummy		0.308	n.s.	0.302	n.s.	0.304	n.s.	0.306	n.s.
Previous Firm-Idiosyncratic Risk		0.563	***	0.567	***	0.566	***	0.564	***
Corporate Social Performance (CSP)	H_1	-0.205	***	-0.201	***	-0.209	***	-0.202	***
Advertising Spending (AD)				-0.165	**			-0.165	**
R&D Intensity (RD)				-0.117	n.s.			-0.095	n.s.
CSP*AD	H_2			-0.046	**			-0.067	**
CSP*RD	H_3			-0.025	*			-0.013	n.s.
CSP*AD*RD	H_4			0.032	*			0.036	*
AD*RD				0.003	n.s.			0.001	n.s.
Adjusted R-squared		0.537	***	0.596	***	0.539	***	0.591	***
Change of R-squared				0.059	**			0.052	**

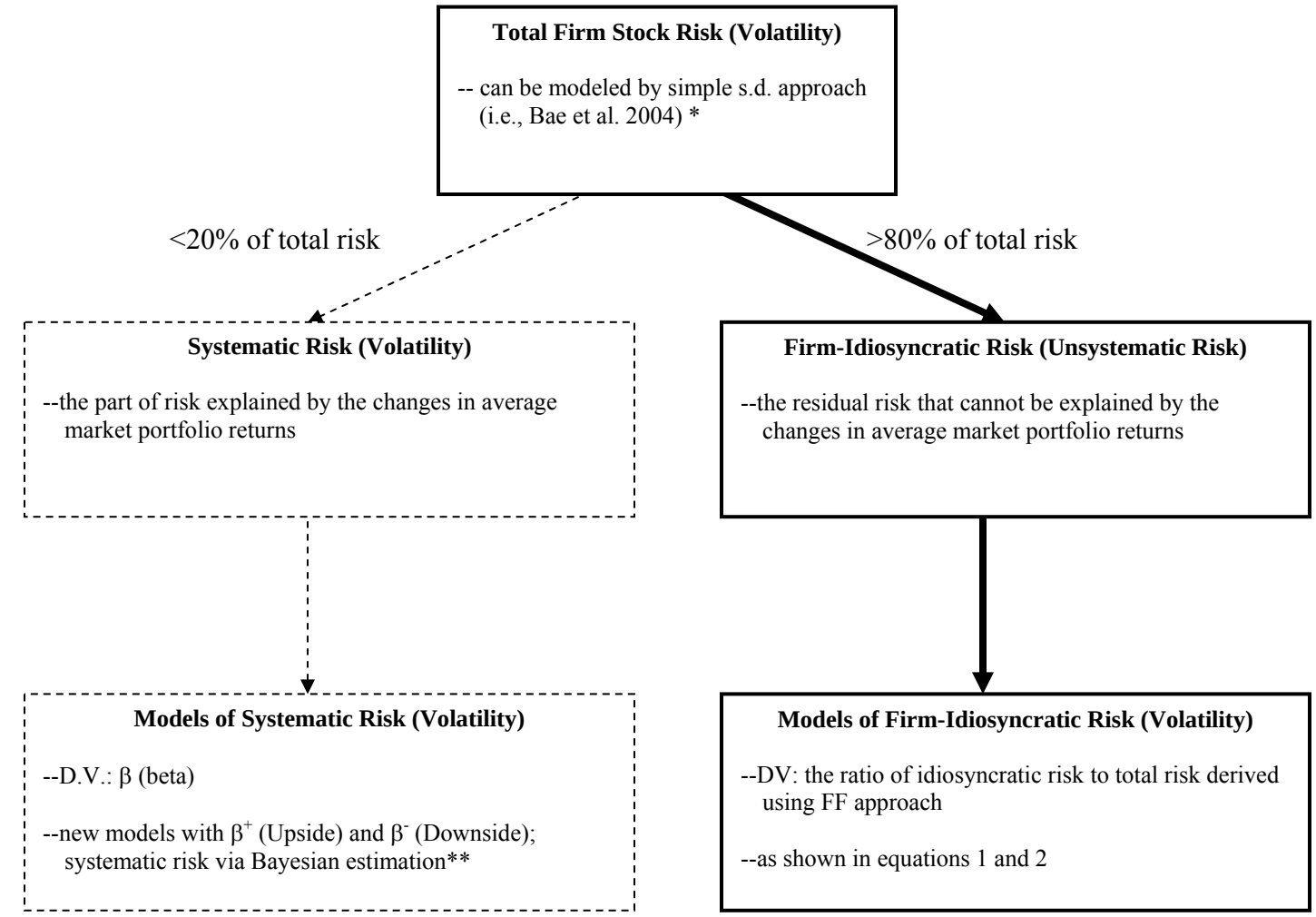
Note: The Newey-West robust approach is used so as to correct possible heteroskedasticity and autocorrelation biases.
*p<.10, **p<.05, ***p<.01

Table 4
The Impact of CSP on Systematic Risk

	McAlister et al. (2007) Model (p. 42, Column 1)		McAlister et al. (2007) Model Plus CSP	
Variables	**Coeff.**	**Sig.**	**Coeff.**	**Sig.**
Lagged Advertising (AD)	-3.187	***	-2.719	**
Lagged R&D Intensity (RD)	-0.501	***	-0.329	n.s.
Lagged Corporate Social Performance (CSP)	*Not modeled*	--	-1.372	***

*** p <.01; ** p<.05

Figure 1
Flow Chart of Firm Stock Risk

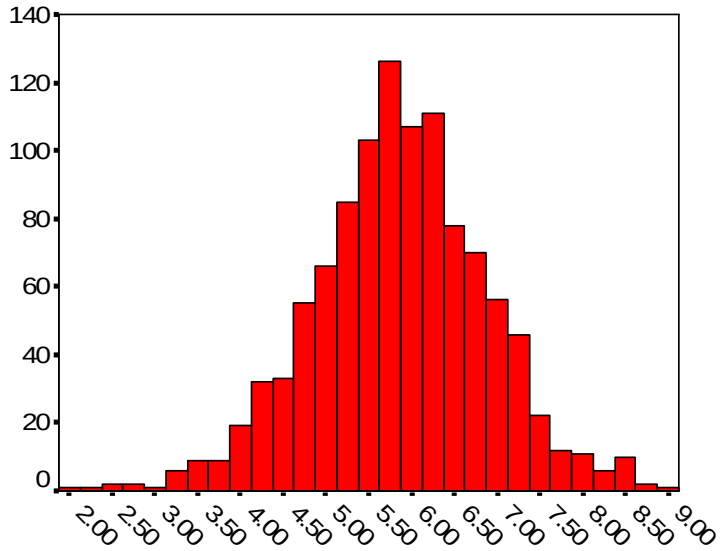


Note: Solid line designates support from the finance literature for the models used to implement the data analyses for the main purpose of this study (CSP and firm-idiosyncratic risk). FF =Fama-French.

* Total Risk (Volatility) *s.d.* = $\sqrt{\frac{1}{n}\sum_{t}^{n}\left(r_i - r_{mean}\right)^2}$,

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

Figure 2
Histogram of Corporate Social Performance (CSP)



Appendix: Random Coefficients Model

The random coefficients model is specified below:

$$v_{i,t+1} = \xi X_{it} + \omega_{it} = \xi_{0j} + \xi_{1j} CSP_{it} + \xi_{2j} CSP_{it} * RD_{it} + \xi_{3j} CSP_{it} * AD_{it} + \xi_{4j} AD_{it} * RD_{it}$$
$$+ \xi_{5j} CSP_{it} * RD_{it} * AD_{it} + \xi_{6} v_{i,t} + \xi_{controls} Controls_{it} + \omega_{it},$$

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

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

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

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

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

$\xi_{5j} = \phi_{50} + \upsilon_{50j}$ (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 via the control variables.

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