Corporate Social Responsibility: The Myopic Barometer?

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ABSTRACT

This paper investigates whether active CSR culture serves as a proxy for non-myopic management. First, we show that significant amount of US firms choose to not improve their CSR activities even when the companies become more profitable. Second, these CSR-related myopic firms are indeed more likely to engage in other types of myopic behaviors (e.g. under investments in marketing, R&D, and capital expenditures). Importantly, the stock market is relatively more efficient in responding to this CSR-related myopia, especially when socially destructive behaviors are not corrected (e.g when it becomes more affordable to firms). However, consistent with existing literature, investors do not tend to penalize failure to notch up 'angelic' CSR activity, even when it could represent myopic actions by firms.

Keywords: CSR, Myopia, Discretionary Investment

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I. INTRODUCTION

Good corporate citizenship is one of the predominant features characterizing the modern age. Critically, managers are faced with the dilemma of enhancing shareholder wealth while equipping their firms with the instruments to navigate the expectations of society . While there are numerous studies that point to the wealth benefits of pro-active CSR activities[1], management is well aware that CSR-related wealth benefits, if any, are generally long-term in its nature. It has been established in literature that, in the presence of information asymmetry, managers have a tendency to focus on short-term goals. Thus, they would overemphasize strategies with immediate payoffs (Bebchuk & Stole, 1993) at the expense of strategies with superior but more distant payoffs—that is, they would engage in myopic management (Mizik, 2010). Would this strategic dilemma drive firms to adopt a passive culture towards CSR activities?

We believe that the factors driving management myopia in other discretionary investments with uncertain distant payoff, such as capital expenditure (CAPEX), research and development (R&D) and marketing (Mktg.), could also affect management's decisions relating to CSR (S. Brammer, Brooks, & Pavelin, 2006;S. J. Brammer & Pavelin, 2006;Harris & Raviv, 1996). Incentive and market pressures on management to massage earnings can induce management to reduce investment in these discretionary activities. Evidence suggests marketing intensity is especially sensitive to myopic investment[2]. Considering the close links between CSR and

[1] See Servaes and Tamayo (2013), Bassen, Meyer and Schlange (2006), McWilliams and Siegel (2001), Lee and Faff (2009)), (Renneboog, Ter Horst and Zhang (2008a) and Renneboog, Ter Horst and Zhang (2008b)), (Flammer (2012), (Jiao (2010) Cho, Lee and Pfeiffer Jr. (2013), and Krueger (2014)).

[2] See Deleersnyder, Dekimpe, Steenkamp, & Leeflang, 2009;Graham, Harvey, & Rajgopal, 2005;Lamey, Deleersnyder, Dekimpe, & Steenkamp, 2007).

advertising (Servaes & Tamayo, 2013) it seems plausible that myopic managers would reduce CSR investment accordingly.

Studying US corporations during the 1991-2009 period, we present empirical evidence that CSR myopia is systematically practiced among the sample firms, and that the market is more efficient at recognizing CSR related Myopia. We show that firms reporting a performance surprise while underinvesting in CSR activities aimed at curbing destructive behavior (measured by *concern*) experience a contemporaneous reduction in their cumulative abnormal return (CAR) of 10 basis points, at 95% significance. The downward adjustment of their CAR continues for four more years and rises to 23 basis points at 95% significance. We also show that CSR myopia is closely related, and perhaps precipitates, other myopic behavior including marketing, R&D, and capital expenditures (see., e.g. Mizik, 2010). Specifically, CSR-myopic firms are more likely to under-invest in marketing, R&D, and capital expenditures suggesting that passive CSR culture is a good indicator for myopia. Specifically, an increase in *concern* (destructive behavior) *increases* the average marginal effect on the likelihood of myopia by 42% for marketing, 37% for R&D and 54% for Capex. Again, *concern* being a measure of the destructive or irresponsible activities a firm might undertake. Another key objective of the current study is to also assess the market's ability to properly value CSR in the face of myopic management and to quantify financial consequences of myopia. Specifically, this study examines the consequences of underinvesting in socially responsible activities or increasing irresponsible/destructive behavior when a firm experiences enhanced financial performance. Our results indicate that myopia does impact firms' risk adjusted performance; the stock market is relatively more efficient in responding to this CSR-related myopia, especially when socially destructive behaviors are not corrected. However, consistent with existing literature, investors do not tend to penalize underinvestment in 'angelic' (*strength*) CSR

activity, even when it could represent myopic actions by firms. We show that firms experience an increase of 11 basis points, at 99% significance, in these situations.

We note that corporate managers can also manipulate performance signals (Stein, 1989) through accounting based earnings management (discretionary accruals manipulation) (Healy & Wahlen, 1999). Empirical works by Chih, Shen, and Kang (2008), Hong and Anderson (2011), and Kim, Park, and Weir (2012) have shown that the (overall) good corporate citizens are less likely to engage in reported earnings management. While such practices could have negative consequences for a firm when uncovered (DuCharme, Malatesta, & Sefcik, 2004), they do not affect the foundations of firm business performance and do not alter either the amount or the temporal flow of true economic profits. Specifically, myopic management, such as: ignoring stakeholder and CSR, foregoing capital expenditure projects, underinvesting in R&D, and cutting marketing will affect the firm's economic position. The change in economic position will alter the flow of expected true economic profits. Myopic management involves altering operational practices that directly affect the business process. When initiated at the top organizational level, myopic management poses particular challenges. This short-term focus could lead to underinvesting in the long run (for exceptions see Bebchuk and Stole (1993)) especially in research and development (Chan, Martin, & Kensinger, 1990), advertising (Mizik, 2010), and capital expenditure (Burton, Lonie, & Power, 1999;Chung, Wright, & Charoenwong, 1998;McConnell & Muscarella, 1985). In turn myopia could affect economic profits. As a result myopic management poses a risk to the firm as this anemia could undermine the firm's position in the market place. We add to the literature from this unexplored angle.

II. LITERATURE REVIEW

Stock price based compensation and incentives for management will result in efficient managerial decisions in the absence of information asymmetry. However, in the presence of information asymmetries the economic outcomes differ significantly from the outcomes of the perfect information models. Under information asymmetry, compensation linked to stock market performance can incentivize managers to manipulate stock prices rather than maximize shareholder wealth.

Troublingly, managers can take actions the principal cannot observe. Narayanan (1985) and Stein (1989) show that managers have the ability to manipulate the earnings flow at the expense of long-term prosperity. The principal might observe the distorted earnings but cannot allot the reported numbers into the 'true' and 'distortion' components. This reduces the principal's ability to use current reported earnings as predictors of future financial performance as these could come at the expense of future performance. Managerial incentives to engage in myopia and manipulate current earnings increase with the importance managers attach to their current period earnings and current stock price.

If managers hold private information, myopic management could occur even if the principal is able to perfectly observe the manager's actions. The stock market may try to infer the private information managers have from firm actions; some managers might manipulate their actions to create a favorable market reaction through signaling. Introduced by (Spence, 1973), signaling models provide a framework that demonstrates how private information can lead to myopia. The market has difficulty determining the true economic prospects of firms. However, the market can infer economic prospects from the firm's investment level (Bebchuk & Stole, 1993;Bizjak, Brickley, & Coles, 1993;Trueman, 1986) or by a specific project type (Hirshleifer, Chordia, & Lim, 2001). Investment decisions act as a signal to the market about the firm's economic state. However,

firms with poor prospects have an incentive to mimic the behavior of good type firms to extract short-term stock market gains. Depending on circumstance, myopic incentives can lead to over/underinvestment or result in a suboptimal choice of a particular project type. Milgrom and Roberts (1992, p. 471) comment that, in general, managers "put too much emphasis on activities that boost short-term performance compared to those whose benefits will be hidden."

The signaling behavior of myopic firms will distort the market equilibrium forcing good firms to invest at an even greater level (lower in the case of better efficiency) to separate themselves from the bad firms. At the extreme, good firms will be unable to credibly signal economic prospects. (Akerlof, 1970)'s lemon's market mechanism (1970) shows under these circumstances good firms will completely forgo an appropriate opportunity, if it requires in need of equity finance (Myers & Majluf, 1984).

Regardless of firms economic position managers have better information or a better ability to evaluate available strategic options than outsiders, allowing myopia to occur even in firms with 'good' prospects. The market uses available public information and forms a general opinion about the best course of actions for a firm as managers cannot credibly reveal their better private information about the firm prospects. Managers incentivized by stock price, may choose projects the stock market believes are in the best interest of the firm (Brandenburger & Polak, 1996) rather than acting on their better private information and making optimal investments for the firm.

(Bizjak et al., 1993) maintain that managers with a greater incentive to maximize current stock price relative to future profits and future stock price are more likely to engage in signal jamming. They also argue that myopia will increase as the probability of the manager departing or retiring from the firms increases.

III. HYPOTHESES DEVELOPMENT

We believe that the factors which inform managements' decisions regarding marketing, R&D, and capital expenditure also inform CSR decisions. Furthermore, we believe that many CSR related activities are interconnected, or part of, the aforementioned activities. As a result, we believe that CSR will be positively correlated with advertising, R&D, and capital expenditure.

H_1: The level of CSR within a firm is positively correlated with advertising, R&D and capital expenditure.

As discussed, incentives for myopic behavior increase with the market's inability to recognize and evaluate the long-term consequences of managerial actions. Managers' choice of tools and strategy to obfuscate myopia is also driven by the market's ability to recognize the impact of these tools and strategies on firms' long-term performance. These informational concerns are particularly pertinent when considering mangers choice to engage in CSR. The evidence within our literature suggests that CSR is inherently mispriced by the market ((Renneboog, Ter Horst, & Zhang, 2008a), (Kempf & Osthoff, 2007), and (Statman & Glushkov, 2009)). Fortunately, timely accurate CSR disclosure or increased visibility in part reduces these asymmetries ((Dhaliwal, Radhakrishnan, Tsang, & Yang, 2012) and (Ramchander, Schwebach, & Staking, 2012)). Notwithstanding these issues, market participants face heterogeneous search costs and processing ability relating to CSR. These differences are compounded by the heterogeneous utility functions among investors (stakeholders) ((Bollen, 2007)). As a result, the asymmetric information or information opacity around CSR ((Cho, Lee, & Pfeiffer Jr., 2013)), coupled with the market's heterogeneous capacity and desire to price the complexities of CSR, could undermine the assumption that all aspects of CSR are uniformly, timely, and linearly priced.

This presents a particular concern when considering myopic behavior by management, as the markets inability to price CSR allows managers to underinvest in CSR for short-term gains with potential long-term consequences. Even if CSR information were perfectly symmetric and freely accessible by market participants, the participants' reaction or non-reaction to the information would be heterogeneous depending on their utility function and the relative score of the firm's CSR. We posit that the asymmetry present in the market's ability to search, process, and value CSR would distort the relationship between CSR and stock price reaction even further.

Do market participants recognize that firms cutting discretionary activities at the same time as they are reporting increased earnings might be engaging in myopic management and that these increased earnings might not be indicative of improved future prospects but might instead be coming at the expense of future performance? If market participants can determine the quality of reported earnings, they should value those earnings systematically lower for those firms with discretionary cuts. If CSR is a proxy for good management, as well as being interconnected with other discretionary investments then CSR should be a good indicator of myopic management. We expect if investors use CSR information to form expectations about a firm's future performance and current state of management, then they are expected to appreciate the possibility that firms cutting CSR investment at the same time as they are reporting increased earnings might be engaging in myopic management and that these increased earnings might not be indicative of improved future prospects but might instead be coming at the expense of future performance. If market participants indeed appreciate this possibility and realize that the "quality" of reported earnings might be lower for firms cutting CSR, they will value such earnings systematically lower than those of other firms with increased profitability.

H_2: Same-year stock returns for firms with myopic CSR will be lower than returns for other firms with increased profitability.

Investors might not appreciate the long-term consequences of CSR cuts or cannot recognize management myopia as it occurs but do so only in the future, when the consequences of spending cuts have affected future profits. If investors struggle to recognize CSR myopia initially and only adjust and incorporate the information in subsequent years; does the potential future negative adjustment outweigh the benefits of higher valuation in the initial period? To the extent that the stock market participants do not fully and immediately appreciate the trade-off between CSR and the reported earnings, or do not fully appreciate the long-term consequences of CSR, there will be a systematic future-term negative adjustment in the valuation of myopic firms.

H_3: Future stock returns for myopic CSR firms, reporting increased earnings, will be lower than the future stock returns for other firms.

Finally, a management team ethically inclined to reduce the firm's negative impact on society, would potentially face a moral conflict with regard to any earnings manipulation. We believe that the factors driving management myopia in capital expenditure, R&D and marketing, could also affect management's decisions relating to CSR. Incentives and market pressures on management to massage earnings can induce management to reduce investment in these discretionary activities. Considering the sensitivity of discretionary expenditures to myopic investment and the close links between CSR and other discretionary activities it seems plausible that myopic managers would reduce CSR investment in accordance with other discretionary activities. If CSR is a proxy for good management, as well as being interconnected with other discretionary investments then CSR should be a good indicator of myopic management. Alternatively, if CSR is not given the same

level of consideration as other discretionary expenditures but, rather is a downstream consequence of upstream discretionary expenditure, then CSR might act as the "canary in the coal mine" indicating a reduction in dictionary expenditure as firms' CSR profiles degrade. CSR should, in either case, be associated with a significant reduction in myopia across marketing, R&D, and capital expenditure. We believe that CSR could act as a myopic barometer potentially signaling myopic behavior.

H_4: An increase in CSR will be associated with a reduction in managerial myopia.

IV. DATA & METHODOLOGY

This study will be principally based on the Environmental Social and Governance (ESG) ratings developed by Kinder, Lydenberg, and Domini. KLD is a proprietary database, which rates securities on the Russell 3000 according to various measures, since 1991. The ratings fall within seven categories relating to community, corporate governance, diversity, employee relations, environment, human rights, and product. The KLD data also rates securities in the Alcohol, Gambling, Firearms, Military, Nuclear Power, and Tobacco industries according to exclusionary screening criteria. Each category has several subcategories representing possible *Strength* or responsible behavior (positive points) and *Concerns* or negative behavior (negative points). KLD analysts rate firms on their various CSR characteristics annually by assigning a binary point to several subcategories within each aforementioned category. It is important to note that *Strength* and *Concern* within each category are not perfect opposites, nor are there equal amounts of possible *Strength* and *Concern* within each category or across categories. We exclude stocks (unless stated) that have been marked as controversial as well as stocks that were examined by KLD but failed to receive a score, in line with literature.

KLD has been extensively covered in the literature, being the basis of many studies relating to CSR.[3] The most popular aggregation method among these studies takes the sum of *Strength* net of *Concerns* for each category as per equation (1) and aggregates this into an overall score as per equation (2).

$$CSR_t^j = \sum_{s=1}^{u_t^j} Strength_s^j - \sum_{r=1}^{k_t^j} Concern_r^j \quad (1)$$

$$ESG_t = \sum_{j=1}^{7} ESG_t^j \quad (2)$$

where ESG_t^j is the aggregated ESG score for category *j*, year *t*. Similarly $Strenght_s^j$ is equal to one if the firm meets *Strength s* in category *j*, otherwise 0; $Concern_r^j$ is equal to one if the firm meets *Concern r* in category *j*, otherwise 0.

As KLD data is binary with a heterogeneous amount of concern and strength criteria allocated across various subcategories, it could be misleading to look at a firm's ultimate score. Firstly, the result of the 'netting off' process would obscure information, as *Concern* and *Strength* are not perfect opposites. Netting off erroneously assumes all binary points are equal and opposite. Secondly, as the number of possible points vary not only across *Concern* and *Strength* categories but also over subcategories as well, it becomes difficult to interpret the meaning of a whole number. In this study, each firm is assigned a percentage of possible points for both *Concern* and *Strength*, referred to as their level of CSR. This allows one to compare a firm's performance across subcategories, between *Strength* and *Concern* and across years.[4] Formally, the aggregation takes the following form in equation (3), with the overall score in equation (4).

[3] See Becchetti & Ciciretti, 2006; Chatterji et al., 2009; Galema et al., 2008; Gillan et al., 2010; Hillman & Keim, 2001; Statman & Glushkov, 2009 for the use of the KLD dataset.

[4] Example: If a firm, a scored one out of the possible four for the Strength section of the Environmental category it would be modified to 0.25. As there were four possible points available, but only 1 point was awarded. Following, if

$$ESG_t^j = \frac{\sum_{s=1}^{u_t^j} strenght_s^j}{u_t^j} - \frac{\sum_{r=1}^{k_t^j} concern_r^j}{k_t^j} \quad (3)$$

$$ESG_t = \sum_{j=1}^{7} \frac{ESG_t^j}{7} \quad (4)$$

The KLD data is matched with data from the Center for Research in Securities Prices (CRSP) for the period beginning 1991 through 2009. We average volume (volume), adjusted price (price), and adjusted shares outstanding (shares outstanding) for each calendar yearend *t*. Furthermore, income statement and balance sheet items are obtained by matching the CRSP data with Compustat through CRSPlink. Size is calculated as the natural logarithm of total assets, leverage is calculated as the total liabilities over total assets, turnover is calculated as the natural logarithm of average monthly volume over shares outstanding at the end of each year *t*. Return on assets and return on equity are calculated as earnings before interest and tax (EBIT) to total assets, and EBIT to book equity, respectively. Tobin's Q is calculated as market value of assets over book value of assets, where market value is equal to total assets plus market equity less book equity. The interest rate is interest expense to total liabilities. Marketing intensity is selling general and administrative expenses less research and development R&D expenses over total assets. R&D intensity is R&D expenditure over total assets, capital expenditure intensity (capex) is capex over total assets. Finally sales growth is calculated as the change in sales at time *t* with respect to *t-1*.[5] To estimate the risk adjusted stock returns we employ The Fama and French (1993, 1996) three-factor plus momentum (Carhart, 1997) model to compute compounded abnormal yearly returns from weekly returns. Specifically compounded abnormal stock return (CAR) is:

$$CAR_{it} = log \sum_{w=1}^{52} [1 + (ret_{iw} - expRet_{iw})] \quad (5)$$

the firm also scored two Concern points (in the Environmental category) from a possible 10, a percentage score of 0.2 would be awarded. Under the binary system the firm would have a net score of minus one (one Strength less two Concern), while as a percentage the firm would have a Net-CSR score of 0.05 (0.25 Strength less 0.2 Concern).

[5] Coded missing values to zero to ensure robust sample size, results are not affected.

where

$$expRet_{iw} = \hat{\beta}_{it}\left(Ret_{Market,w} - Ret_{Riskfree,w}\right) + \hat{s}_{it}(SMB_w) + \hat{h}_{it}(HML_w) + \hat{m}_{it}(MOM_m) \quad (6)$$

and $\hat{\beta}, \hat{s}, \hat{h}$, and $\hat{m}$ come from estimating The Fama and French (1992, 1993) three factor model augmented with momentum (Carhart, 1997) factor[6], for each firm *i*, in year *t*:

$$\left(Ret_{i,w} - Ret_{Riskfree,w}\right) = \alpha + \beta_{it}\left(Ret_{Market,w} - Ret_{Riskfree,w}\right) + s_{it}(SMB_w) + h_{it}(HML_w) + m_{it}(MOM_m) + \varepsilon_{i,w} \quad (7)$$

A. Descriptive statistics

Table I presents the number of firms assessed by KLD for each year matched with CRSPlink. Table II shows the descriptive statistics of the CSR subcategories, while Table III shows the financial characteristics of the firms.

Figure illustrates firm distribution along the Net-CSR continuum. Figure shows the distribution of *Strength*, while Figure shows the distribution of *Concern*, and Table IV shows the average yearly score of *Strength*, *Concern* and *Net-CSR*.

B. Methodology

To identify myopia we focuses on the group of firms that simultaneously report greater-than-normal operating profits (return on assets) and lower-than-normal marketing intensity (Mktg), R&D intensity, capital intensity (Capex), and CSR that is, firms with $\left(ROA_{it} - \widehat{ROA}_{it|it-1}\right) > 0$, $\left(Mktg_{it} - \widehat{Mktg}_{it|it-1}\right) < 0$, $\left(R\&D_{it} - \widehat{R\&D}_{it|it-1}\right) < 0$, $\left(Capex_{it} - \widehat{Capex}_{it|it-1}\right) < 0$, and $\left(CSR_{it} - \widehat{CSR}_{it|it-1}\right) < 0$, where $\widehat{ROA}_{it|it-1}$, $\widehat{Mktg}_{it|it-1}$, $\widehat{R\&D}_{it|it-1}$, $\widehat{Capex}_{it|it-1}$, $\widehat{CSR}_{it|it-1}$ reflect the normal or expected level of profitability, marketing intensity, R&D intensity,

[6]Retrieved from Kenneth French's online data library available at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

capital expenditure, and CSR for firm *i* in period *t*, respectively. These are the firms that might be decreasing their marketing, R&D, Capex, and CSR spending with the intention to inflate reported earnings. To identify potentially myopic firms, it is first necessary to determine the "normal" or expected level of the above mention factors for each firm for each period. The following models represent the intuition behind estimating normal levels of firm earnings, marketing intensity, R&D intensity, Capex intensity, and CSR:

$$ROA_{it} = \alpha_{roa,i} + \phi_{roa} ROA_{it-1} + \beta_{roa} Controls_{i,t} + \psi_t + \delta_i + v_{i,t} \quad (8a)$$

$$Mktg_{it} = \alpha_{mktg,i} + \phi_{mktg} Mktg_{it-1} + \beta_{mktg} Controls_{i,t} + \psi_t + \delta_i + v_{i,t} \quad (8b)$$

$$R\&D_{it} = \alpha_{r\&d,i} + \phi_{r\&d} R\&D_{it-1} + \beta_{r\&d} Controls_{i,t} + \psi_t + \delta_i + v_{i,t} \quad (8c)$$

$$Capex_{it} = \alpha_{capex,i} + \phi_{capex} Capex_{it-1} + \beta_{capex} Controls_{i,t} + \psi_t + \delta_i + v_{i,t} \quad (8d)$$

$$CSR_{it} = \alpha_{csr,i} + \phi_{csr} CSR_{it-1} + \beta_{csr} Controls_{i,t} + \psi_t + \delta_i + v_{i,t} \quad (8e)$$

where $v_{i,t} = \varepsilon_{i,t} + u_{i,t}$ and i =1,….N, t =1,….T. Furthermore, i represents the cross-sectional units, *t* represents the time periods. ROA_{it}, $Mktg_{it}$, $R\&D_{it}$, $Capex_{it}$, and CSR_{it} are profitability, marketing intensity, R&D intensity, capital expenditure intensity, and CSR (either *Strength* or *Concern*) respectively, for firm *i* in period t, and $\alpha_{roa,i}$, $\alpha_{mktg,i}$, $\alpha_{r\&d,i}$, $\alpha_{capex,i}$, and $\alpha_{csr,i}$ are the firm-specific intercepts; ϕ are the estimates of persistence for each dependent variable using their lagged values ROA_{it-1}, $Mktg_{it-1}$, $R\&D_{it-1}$,$Capex_{it-1}$, CSR_{it-1}. $Controls_{i,t}$ are a series of control variables including *Size* (logarithm of total assets), *Leverage* (total liabilities to total assets), *Sales-growth* (sales in time *t* with respect to sales in *t-1* over sales in *t-1*), *Mktg.*(selling, general, and administrative expenses less R&D expenses to total assets), *R&D* (R&D expenses to total assets), *Capex* (capital expenditure to total assets), *Strength, and Concern* (as defined earlier). Naturally, for each set of equations, the dependent variable will not be included in the list of the control variables. ψ_t is the time specific effect; δ_i accounts for the industry specific effect.

Assuming fixed effects, the cross-sectional error term, $v_{i,t}$, contains the following two effects: (1) the unobserved time-invariant, firm-specific effect, $\varepsilon_{i,t}$, and (2) a stochastic error term, $u_{i,t}$, varying across time and cross-section. The time-specific effect is included to capture aggregate shocks, which may appear in any year, similarly the industry effect captures industry specific heterogeneity. The firm-specific effect, $\varepsilon_{i,t}$, is included to capture firm-specific differences, such as managerial ability, geographical location, and other unobserved factors. The unobserved firm-specific effect, $\varepsilon_{i,t}$, is correlated with the explanatory variables but not with the changes in the explanatory variables. We assume the vector of control variables to be endogenous with regard to the dependent variable, with only the time and industry effects treated as exogenous.

In order to obtain consistent and efficient parameter estimates of the models specified in equations 8a-8e, we use the system general method of moments (GMM) approaches originally proposed by Arellano and Bover (1995) and Blundell and Bond (1998, 2000). The GMM method allows for a number of advantages: it exploits the time series element of the data; it controls for firm-specific effects, like the fixed effect method; it also allows for the inclusion of lagged dependent variables as repressors; and controls for the endogeneity of all explanatory variables. The GMM is designed for panel data, which is a cross-section of data over time. As a result of including the time-series dimension of the data, degrees of freedom increase.

The GMM can be used when: (1) N is large but T is small; (2) the explanatory variables are endogenous; and (3) unobserved firm-specific effects are correlated with other repressors. Other estimators do not seem to be as effective. The within-groups estimator results in biased upward parameter estimates in a panel of short length. This occurs since the new lagged dependent variable, after the subtraction of the variable means and the new independent variables after the subtraction of the variable means, is correlated with the new error term. In this case, the Ordinary Least Squares

(OLS) estimator continues to be biased, even when firm-specific effects are eliminated through first differencing. If the number of years in the panel data is small, the problem with this estimator is even more distinct.

Arellano and Bond (1991) show that the following moment conditions hold for the equations in first differences under the assumption that $u_{i,t}$ is not serially correlated and explanatory variables are endogenous: $E(\Delta u_{i,t} y_{i,t-r}) = 0;\ E(\Delta u_{i,t} x_{i,t-r}) = 0$; where $r = 2,\ldots,t\text{-}1$ and $t = 3,\ldots,T$. These conditions make it possible to use, as instrumental variables for the equations in first-differences, lagged values of endogenous variables dated t-2. The first differenced GMM estimator is a more efficient estimator than the Anderson and Hsiao (1981) estimator, according to Arellano and Bond (1991). There is another issue with the first-differenced GMM. If lagged dependent variables and explanatory variables are persistent over time, the lagged levels of these variables, the internal instruments, are weak. This causes a large finite sample bias and weak accuracy.

In response to the weaknesses of the first-differenced GMM, Arellano and Bover (1995) propose the System GMM. This method reduces the biases found in first-differenced GMM and improves its precision, as noted by Blundell and Bond (1998). The reason for these improvements lies in the incorporation of the regression in levels. Variables in levels imply a stronger correlation with the instruments, but a drawback is that firm-specific effects cannot be controlled for. Additional specific instruments must be added to remedy this potential bias. The system GMM uses lagged differences of the independent variable as instruments. The correlation between the error term and levels of explanatory variables is constant over time. This implies that the instruments are valid: $E[X_{i,t+p} * u_i] = E[X_{i,t+q} * u_i]$, for all p and q.

In order to maintain the validity of these instruments, the initial condition, $X_{i,1}$ must comply with the stationarity restriction $E(\Delta X_{i,2\varepsilon_i}) = 0$, according to Arellano and Bover (1995). At this point, $\Delta X_{i,t}$ will correlate with ε_i if and only if $\Delta X_{i,2}$ is correlated with ε_i. Although there is a correlation between the level of right-hand-side variables, $X_{i,t}$ and the firm-specific effect, ε_i, there is no correlation between the differences of right-hand¬side variables, $\Delta X_{i,t}$, and the firm-specific effect, ε_i. A level equation estimator is developed from this new assumption, which exploits more moment conditions. Lagged differences of independent variables, $\Delta X_{i,t-r}$ are used as additional instruments for the equations in levels when $X_{i,t}$ is mean stationary.

Blundell and Bond (1998) show that the moment conditions defined for the first-differenced equation can be combined with the moment conditions defined for the level equation to estimate a system GMM. When an independent variable is acknowledged as endogenous, the moment conditions for the system GMM are as follows:

$$E(\Delta u_{i,t} y_{i,t-r}) = 0;\ E(\Delta u_{i,t} x_{i,t-r}) = 0; \text{ where } r = 2,\ldots,t\text{-}1 \text{ and } t = 3,\ldots,T \quad (9)$$

$$E(v_{i,t} \Delta y_{i,t-r}) = 0; E(v_{i,t} \Delta x_{i,t-r}) = 0; \text{ where } r = 1,\ldots,t\text{-}1 \text{ and } t = 3,\ldots,T \quad (10)$$

The system GMM uses lagged levels of the independent and dependent variables as well as lagged differences of dependent and independent variables as instruments. It does this by connecting the *T*-2 equations from the first-differenced GMM and the *T*-2 equations in levels into one system. According to Yasar et al. (2004), these instruments hold so long as the initial conditions,$Y_{i,1}$, satisfy the stationary restriction $E(\Delta Y_{i,2\varepsilon_i}) = 0$. When both $\Delta X_{i,t}$and $\Delta Y_{i,t}$ are uncorrelated with ε_i both lagged differences of explanatory variables, $\Delta X_{i,t-r}$ and lagged differences of dependent variable, $\Delta Y_{i,t-r}$, are valid instruments for the equations in levels.

In our quest to identify myopia we naturally assume that there is persistence in our dependent variable, in order to determine 'normal' levels. Our estimates of the AR (1) coefficients

on our dependent variables show high levels of persistence, thus, the lagged levels of variables would provide weak instruments for the differences in the first-differenced GMM model. As a result, the system estimator is a more apt method than the first-differenced GMM. Therefore, this paper combines the first-differenced version of our model with the level version of the model for which the instruments used must be orthogonal to the firm-specific effects. To review, the system GMM estimator uses lagged levels of the dependent and independent variables as instruments for the first-difference equation, while for the level version of the model, a lagged difference of these variables are used as instruments.

We estimate the parameters using system GMM with standard errors robust to patterns of heteroskedasticity and autocorrelation within panels; secondly we use the Hansen-J test of over identifying restrictions proposed by Arellano and Bond (1991) to assess whether the instrumental variables are associated with the dependent variable beyond its ability to explain the independent variables. The null hypothesis of the Hansen-J tests states that the instruments are not correlated with the error terms, while the alternative states that the instruments are correlated with the error terms. This test uses a x^2 distribution with (J-K) degrees of freedom, where J represents the number of instruments used and K represents the number of regressors used. Failure to reject the null hypothesis provides evidence that valid instruments are used.

Secondly, this study tests whether serial correlation exists among the error terms, also proposed by Arellano and Bond (1991). Failure to reject the null hypothesis of no second order serial correlation supports our model. Valid orthogonality conditions are used and the instruments are valid. One would expect the differenced error term to be first order serially correlated, although the original error term is not.

After using system GMM to estimate the estimates of persistence, ϕ, for each dependent variable using their lagged values (ROA_{it-1}, $Mktg_{it-1}$, $R\&D_{it-1}$, $Capex_{it-1}$, and CSR_{it-1}). We

estimate predicted dependent variables, $\widehat{ROA}_{it|it-1}$, $\widehat{Mktg}_{it|it-1}$, $\widehat{R\&D}_{it|it-1}$, $\widehat{Capex}_{it|it-1}$, and $\widehat{CSR}_{it|it-1}$. The forecast errors in these models provide the estimates of the deviation of the series from the norm in each period; that is, $\varepsilon_{roa,it} = \left(ROA_{it} - \widehat{ROA}_{it|it-1}\right)$, $\varepsilon_{mktg,it} = \left(Mktg_{it} - \widehat{Mktg}_{it|it-1}\right)$, $\varepsilon_{r\&d,it} = \left(R\&D_{it} - \widehat{R\&D}_{it|it-1}\right)$, $\varepsilon_{capex,it} = \left(Capex_{it} - \widehat{Capex}_{it|it-1}\right)$, and $\varepsilon_{csr,it} = \left(CSR_{it} - \widehat{CSR}_{it|it-1}\right)$. These values are used to classify firms into potentially myopic and no myopic groups. With *Mktg_M.* being a categorical variable taking the value of 1 if $\left(Mktg_{it} - \widehat{Mktg}_{it|it-1}\right) < 0$, otherwise 0. *R&D_M.* being a categorical variable taking the value of 1 if $\left(R\&D_{it} - \widehat{R\&D}_{it|it-1}\right) < 0$, otherwise 0. *Capex_M.* being a categorical variable taking the value of 1 if $\left(Capex_{it} - \widehat{Capex}_{it|it-1}\right) < 0$, otherwise 0. *Str_M.* being a categorical variable taking the value of 1 if $\left(Strength_{it} - \widehat{Strength}_{it|it-1}\right) < 0$, otherwise 0. *Con_M.* being a categorical variable taking the value of 1 if $\left(Concern_{it} - \widehat{Concern}_{it|it-1}\right) > 0$, otherwise 0.

H_2 predicts that market participants appreciate the differences in earnings quality of potentially myopic and non-myopic firms and react less positively to earnings reported by myopic firms immediately. Alternatively H_3 suggests that the financial markets do not distinguish or do not fully appreciate long-term financial consequences CSR activities and are not able to properly price myopic spending cuts until the consequences are realized. To assesses the magnitude of adjustment in the valuation of potentially myopic firms in future years. We determine the total value implications of myopia, including the financial market reaction in the initial period, when the myopic firms presumably realized the benefits of myopic management. We assess the difference in future multiyear cumulative risk-adjusted stock returns for firms with myopic CSR behavior versus benchmark firms when the initial period is taken into account. That is, the following can be estimated:

$$CAR_{it+k|t} = \alpha_i + \beta_{1,k} Myopic_{it} + \beta_2' Controls_{i,t} + \psi_t + \delta_i + v_{i,t}, \quad (11)$$

for k = 0, 1, 2, 3, and 4

where $CAR_{it+k|t}$ is the k-period ahead (i.e., future multi-period) risk-adjusted stock return or for firm *i*, with classification into myopic and non-myopic portfolios occurring at time *t*, and $Myopic_{it}$ is defined as a categorical variable that takes the value of 1 if firm *i* in year *t* was categorized as potentially myopic and 0 if otherwise. If the market captures the impact of myopia in the year it occurs then $\beta_{i,0}<0$ and $0=\beta_{i,1}=\beta_{i,2}=\beta_{i,3}=\beta_{i,4}$. If the market cannot immediately detect myopic behavior but reacts to the future negative consequences then a slow negative adjustment in the valuation of potentially myopic firms should be observed, and then $\beta_{i,0}\geq 0$ *and* $\beta_{i,1}\leq\beta_{i,2}\leq\beta_{i,3}\leq\beta_{i,4}\leq 0$. $Controls_{i,t}$ is a vector of control variables including *Size* (logarithm of total assets), *Leverage* (total liabilities to total assets), *Sales-growth* (sales in time *t* with respect to sales in *t-1* over sales in *t-1*), *M/B* (market value of equity to book value of equity), *Advertising* (advertising expense to sales), *R&D* (R&D expenses to total assets), *Capex* (capital expenditure to total assets), *Strength,* and *Concern.*

H_4 considers whether CSR decreases the likelihood of firms engaging in myopic behavior, as such we specify a logistic model to capture the impact of CSR on the likelihood of a firm being myopic. Specifically:

$$\Pr(Myopic_{it} = 1) = \alpha_i + \beta_1' CSR_{i,t} + \beta_2' Controls_{i,t} + \psi_t + \delta_i + v_{i,t} \quad (12)$$

where $Myopic_{it}$ is defined as a categorical variable that takes the value of 1 if firm *i* in year *t* was categorized as potentially myopic and 0 if otherwise. $'CSR_{i,t}$ is either *Strength,* and *Concern* as defined earlier. $'Controls_{i,t}$ is a vector of control variables including *Size* (logarithm of total assets), *Leverage* (total liabilities to total assets), *Sales-growth* (sales in time *t* with respect to sales

in *t-1* over sales in *t-1*), *Mktg.*(selling, general, and administrative expenses less R&D expenses to total assets), *R&D* (R&D expenses to total assets), *Capex* (capital expenditure to total assets). Naturally, for each set of equations, the dependent variable will not be included in the list of the control variables. Furthermore $F(z) = e^z/(1 + e^z)$ is the cumulative logistic distribution and the likelihood function of the logit is:

$$lnL = \sum_{j \in S} w_j \, lnF(x_j \, b) + \sum_{j \notin S} w_j \, \ln\{1 - F(x_j b)\} \qquad (13)$$

where *S* is the set of all observations j, such that$y_j \neq 0, F(z) = e^z/(1 + e^z)$, and w_j denotes the optional weights. And the margins of the derivatives of the responses (marginal effects) are $dy/d(CSR) = \beta_1$ and $dy/d(Controls) = \beta_2$. For our analysis we only report the marginal effects results at their observed values.

V. RESULTS

A. Identifying Myopia

Equations 8a, 8b, 8c, 8d, and 8e are estimated using a system GMM. The results of this estimation are contained in Table V. All six models document significant persistence levels in the dependent variables. The Hansen-J test statistic indicates that the instruments are not correlated with the error terms, as we do not reject the null. Similarly first order serial correlation exists among the error terms (AR(1)), however no second order serial correlation (AR(2)) is present within our models, as we cannot reject the null of no second order serial correlation supports our model.

Turning to model one, as expected ROA has the lowest level of persistence indicating that it is least dependent on past performance. Both Mktg and R&D, in models two and three, have estimates of persistence in excess of 0.6 indicating previous discretionary expenditures are very persistent through time, significantly higher than those reported by Mizik (2010). We believe the more efficient, unbiased and consistent estimators obtained by System GMM are contrasted with

the Anderson and Hsiao (1982) estimation used by Mizik (2010). Similarly, Capex, in model four, has a high level of persistence, around 0.45. Models five and six indicate that strength and concern have even higher estimates of persistence, 0.82 and 0.71 respectively (all our estimates of persistence are significant at the one percent level). The results reflect the long-term nature of CSR activities. CSR activities tend to take several years to implement and require an ongoing commitment. For example, if a firm opens a crèche for its employees, the cost of staffing and running the crèche would represent an ongoing commitment for the firm, one which would be difficult to undo. Unlike other discretionary activities CSR is often a series of undertakings to placate stakeholders, creating long-term counterparties who could take exception to changes in CSR commitments.

After estimates of $\hat{\alpha}$ and $\hat{\phi}$ are obtained for each series, the predicted dependent variables are computed for profitability($\widehat{ROA}_{it|it-1}$,marketing intensity($\widehat{Mktg}_{it|it-1}$, Capex ($\widehat{Capex}_{it|it-1}$), R&D intensity ($\widehat{R\&D}_{it|it-1}$), and CSR profile ($\widehat{CSR}_{it|it-1}$). The error terms are computed for each firm and each year, and firms are assigned to a 'myopic' group and 'non-myopic' benchmark groups on the basis of the sign of the resultant error term. Sample observations are classified as instances in which myopic management potentially takes place (i.e., $\left(ROA_{it} - \widehat{ROA}_{it|it-1}\right) > 0$ and $(Mktg_{it} - \widehat{Mktg}_{it|it-1}) < 0$, or $(R\&D_{it} - \widehat{R\&D}_{it|it-1}) < 0$, or $(Capex_{it} - \widehat{Capex}_{it|it-1}) < 0$,or $(CSR_{it} - \widehat{CSR}_{it|it-1}) < 0$)

B. Correlations

Our initial analysis focuses on the correlation between our CSR measures and other discretionary corporate activities, usually associated with management myopia. Table VI, Panel A, reports the pairwise correlations and significance values between *Tobin's Q, ROA, Mktg., R&D, Capex, Strength, Concern, Raw Ret.*, and *CAR*. The correlations provide the first indication of the

relationship between performance indicators and the various discretionary expenditures firms might undertake. *Tobin's Q* is significantly correlated with *Mktg*. (0.21), *R&D* (0.32), and *Raw Returns* (0.22), as expected. Alternatively, *ROA* shares a significantly negative correlation with *R&D* (-0.49) indicating that R&D intensity, at least in the short-term, could be quite costly, but should provide long-term benefits. Turning to the discretionary expenditures *Mktg*., *R&D* and *Capex* are all significantly correlated with each other but the correlations are quite small. This would suggest that firms might evaluate and implement discretionary expenditures with regard to a basket of discretionary expenditures, although the interrelatedness is certainly small. Similarly the CSR measures share a significant and large correlation (0.25) between each other, suggesting firms might offset negative behavior with positive behavior. *Strength* is not significantly correlated with the other discretionary activities, except *R&D*, with which it shares an inverse relationship (-0.04). Strength activities do not seem to correlate with Mktg. and Capex. This is surprising as ex ante we would expect Mktg. and strength to correlate, as there is considerable synergy between the two activities. These results, in part oppose our initial hypothesis (H_1). *Concern*, on the other hand, does correlate with all three discretionary activities. *Mktg.* (-0.1) and *R&D* (-0.04) are both negatively and significantly correlated with concern behavior. The presence of socially destructive behavior seems to correlate with a management team who also underinvest in Mktg. and R&D, unlike, *Concern* and *Capex*, who share a positive significant correlation (0.04). We believe the correlation reflects the nature of capital expenditure activities in that big capital expenditure projects can be quite disruptive to local communities and the environment, as such these downstream impacts are reflected in the correlation.[7] These results support our notion that strength and concern activities should not be considered 'opposites' or be 'netted-off'. The simple

[7] Note that we standardize Mktg. R&D and Capex over Total Assets when reporting correlations, correlations between the raw discretionary expenditures and our CSR variables, yield significantly larger results.

correlations clearly indicate that strength activities do not share a significant correlation with other discretionary activities, with the exception being R&D where the relationship is negative. Alternatively concern behavior is significantly correlated with discretionary activities Mktg., R&D, and capex, supporting our initial hypothesis (H_1), however the relationships might not be as straightforward. Panel B of Table VI presents the pairwise correlations between discretionary activities and the myopic indicators, discussed prior. Mktg. is naturally inversely, significantly, and materially correlated (-0.472) with its own myopic indicator (*Mktg_M.*). The correlation would suggest, quite rightly, that firms with greater levels of Mktg. intensity are less associated with underinvestment in marketing. A small but significant correlation exists between Mktg. and strength myopia (*Str_M.*) indicating that firms with significant levels of marketing intensity are less associated with underinvestment in strength, as our *a priori* intuition would suggest (H_1). Conversely, marketing intensity is positively correlated with R&D myopia (*R&D_M.*) and Capex myopia (*Capex_M.*), 0.08 and 0.04 for R&D and Capex respectively. These rudimentary correlations could imply that firms that focus more on marketing, are less likely to optimal invest on other discretionary activities. The correlations indicate that discretionary activities might not be considered equal, or engaged similarly by management; management might focus on one discretionary activity at a time (management preference). Due to information asymmetry, management might act on private information to expand or focus on particular discretionary activities, where they believe the most gains can be captured. This would only be exacerbated by limited funds, as firms prioritize among the basket of discretionary activities.

Conversely R&D intensity is negatively correlated with marketing myopia (*Mktg_M.*) but positively correlated with capex myopia (*Capex_M.*).We believe the results for R&D intensity require greater discussion beyond the scope of this paper, as the rest of our work will show these symptomatic results for R&D seem to be consistent. We conjecture, based on these limited

correlations, that R&D spending comes at the expense of capex funding (leading to potential myopia), but that R&D investment naturally leads to advancements in products, which ultimately require marketing investment. Therefore R&D investment could be the upstream activity of a product launch, the downstream of which would be marketing.

Capital expenditure (*Capex*) is positively and significantly correlated with all forms of myopia except *Capex_M*. and concern myopia (*con_M.*). The correlations confirm our previous assertions that firms might choose between different discretionary activities due to limited funds, the consequence of capex intensity might be myopic investment in other discretionary activities. Of note is the relationship between capex and concern myopia, the negative correlation would suggest that capital expenditure is negatively associated with concern myopia indicating that capex projects perhaps alleviate some of the concern behavior.[8] For example, building a new factory that also reduces workplace injury and environmental impact would be associated with an increase in capex intensity and a reduction in concern. This intuition is supported when considering the correlation between *Capex_M*. and *Con_M*. here the correlation is significantly positive indicating again, that capex anemia is associated with myopic behavior with regard to concern reduction. Conversely, *Capex_M*. is negatively associated with all other forms of myopia. Similarly *Mktg_M*. is negatively associated with all other forms of myopia, except R&D which is negatively associated with capex myopia.

Most intriguing, *Con_M*. is positively associated with all types of non-CSR myopias. These initial correlations would indicate that concern behavior is associated positively with myopic behavior, as it is the only variable consistently positively associated with myopic behavior. Furthermore, other myopia are all generally negatively correlated with each other. This suggests

[8] This correlation contrasts with the results between capex intensity and concern behavior found in Panel A, of Table V.

that firms are unlikely to be myopic in more than one area at a time, supporting the notion that firms prioritize certain discretionary activities over others, with the exception of concern behavior.

C. Myopia and Performance

To assess the magnitude of adjustment in the valuation of potentially myopic firms in future years, we determine the total value implications of myopia, including the financial market reaction in the initial period, when the myopic firms presumably realized the benefits of myopic management. We assess the difference in future multiyear cumulative risk-adjusted stock returns for firms with myopic CSR behavior versus benchmark firms when the initial period is taken into account.

To evaluate the impact of myopia on firm performance we estimate the impact of firms which we classified as myopic in the same year that they report an earnings surprise. Table VII reports the results of estimating equation (11) using CAR, for firms with earnings surprises. The dependent variables are the K^{th} period ahead CAR, such that models one through five represent *K=0,1,2,3,* and *4* for CAR. Turning to model one, current year CAR (*K*=0), only strength myopia (*Str_M.*) and concern myopia (*Con_M.*) are significantly related to CAR, although differently. It would seem other forms of myopia do not have an immediate association with CAR. CSR myopia on the other hand seems to be immediately recognized by the market; however, the response is positive for strength myopia with an associated increase in CAR of 0.011, at one percent significance. This result suggests that investors struggle to value or recognize strength myopia or perhaps see underinvestment in strength activities as appropriate cost-cutting behavior. These results support the notion that signaling behavior by myopic firms could distort the market equilibrium. At the extreme, good firms will be unable to credibly signal economic prospects, as Akerlof's lemon's market mechanism (1970) shows under these circumstances good firms will completely forgo an appropriate opportunity (Myers and Majluf 1984). The positive results could

reflect a distortion in the market, with regard to strength, and reduce the market's ability to recognize strength myopia. Alternatively, strength activities might affect the risk profile of the firm, however unlikely, thereby impacting its abnormal returns (as we might be unable to account for the change in firm specific risk). Concern myopia (*Con_M.*) has a negative association with current CAR, 0.01 at 5% significance, indicating that investors immediately discount the increase in return associated with this myopia. Our results, once again underscore the importance of considering strength and concern activities separately, as concern behavior supports the second hypothesis (H_2) but the results for strength reject it. Surprisingly the market has difficulty recognizing Mktg., R&D, and Capex related myopia, as the coefficients are insignificant. These results imply that firms cutting strength spending are able to inflate their earnings sufficiently to circumvent any possible discounting of their earnings, unlike concern related myopia which will be captured by the market. These results confirm our earlier intuition that the persistence of CSR suggest that firms should carefully consider changes to their CSR profiles, as their decisions significantly impact the associated stakeholders, stakeholders with which the firm might have to co-exist for significant periods of time. As such, it would follow that CSR myopic behavior might be more easily observed by market participants as the number of parties with intimate knowledge of the firm's "normal" CSR level is not limited to management. Unlike other discretionary activities management's ability to secretly manipulate its CSR profile to "generate" returns is reduced by stakeholders' incentive to advocate against any changes that might negatively affect them, thereby informing the market.

Models 2 through 5 report the total value implications of myopia against CAR in the *k =1, 2, 3,* and *4th* period ahead. With the exception of strength, myopic behavior is associated with later period negative adjustments in CAR. It would seem that the market discounts the returns of firms that behave myopically over several periods, as the market is able to comprehend the scale of

occlusion, supporting our third hypothesis (H_3). The majority of the adjustment occurs in the 3rd period ahead with return adjustment of -0.013, -0.022, and -0.033 for *Con_M.*, *Mktg_M.*, and *Capex_M.*, respectively. Taking the results of model one into account it would seem that concern myopia is more immediately recognized than other types of myopia, however the adjustment might not be large enough, as there are further negative adjustments to firm's CAR as the scale of the myopic impact is absorbed by the market. Interestingly, R&D myopia does not significantly affect CAR even several periods in the future. This result continues to build on our previous results suggesting that R&D might be subject to different circumstances. We believe the intangible nature of R&D with its inconsistent downstream benefits might reduce the market's ability to recognize R&D myopia.

Models 6 through 10 present the estimation results for firms that engage in myopic behavior, when reporting a negative earnings surprise. These results serve to contrast the market's reaction to firms underinvesting in discretionary activities when negative earnings surprises occur as opposed to positive earnings surprises. Again models six through ten represent *k=0,1,2,3,4* for CAR. Contrasting the CAR results between models 1 through 5 and models 6 through 10, we see that the market reacts favorably to firms reducing marketing investment when they experience lower than average earnings, not just immediately but over several periods. The results suggest that during periods of financial strain, firms are not penalized for reducing discretionary activities, particularly marketing. Similarly strength still shares an immediate positive response, while concern and capex myopia are still negatively associated with CAR over several periods. Overall, the results suggest that the market is least able to quantify changes in R&D intensity; as a result, any earnings surprises driven by R&D myopia are not appropriately discounted. Furthermore,

strength behavior either is not valued by the market (or firms in general over-invest in strength[9]) or the market has an inability to recognize strength myopia and the associated fictitious increase in returns. Most importantly our results provide evidence that the market instantly recognizes concern myopia in the face of potential earnings manipulation and continues to discount CAR for several periods after the fact. When these results are considered in association with the correlations, it stands that concern is the best indicator of illicit managerial actions, and the market is best able to approximate these potential agency issues as it concerns concern.

D. Likelihood of Myopia

Our results up to this point indicate that the market is most sensitive to myopia especially concerns' CSR, concern in particular. Again, CSR depends on forming, and importantly, funding relationships with employees, customers, suppliers, communities, governments, etc. These stakeholder counterparties, are naturally sensitive to changes in a firms CSR profile, as these changes affect them. As a consequence changes in CSR profile, specifically negative ones, would be met with resistance and advocacy from these counterparties. The actions of the stakeholders, in turn would increase information to the market, around the CSR profile of firms with respect to other forms of myopia. It should follow that a management team ethically inclined to reduce the firm's negative impact on society, would potentially face a moral conflict with regard to any earnings manipulation. We believe that CSR could act as a myopic barometer potentially signaling myopic behavior.

We use equation (12) to determine whether firms that engage in CSR are more or less likely to engage in myopic behavior when they experience an earnings surprise. Our results are reported in Table VIII. We report the average marginal effects keeping all other variables at their observed

[9] Perhaps due to lobbying and activist pressure. Thereby maintaining sub-optimally high levels of strength.

levels, instead of the initial regression, to aid interpretation. Model one, regresses Mktg. myopia (*Mktg_M.*) against a set of control variables, *Strength* and *Concern*. Turning to the control variables we can see that larger (*Size*, -0.02) more profitable firms (*ROA*, -0.005) with an increase in sales (*Sales-growth*, -0.452) are less likely to engage in myopic behavior while firms under more financial stress (*Leverage*, 0.265) and substantial capital expenditure requirements (*Capex*, 1.027) are more likely to be myopic, with regard to Mktg. (all the marginal effects are significant at the one percent level). The control variables perform as expected indicating firms better able to absorb financial stress and not faced with financial commitments are less likely to engage in Mktg. myopia, while reporting earnings surprises.

Next we look at the impact of strength on the likelihood of being myopic, in terms of Mktg., the marginal impact of *Strength* is miniscule, at 0.069, and the result is not significant. This result again, is surprising, like the correlations, considering the association between CSR and Mktg, especially strength. Servaes & Tamayo (2013) indicates that the value associated with CSR, especially strength, lies in the firm's ability to communicate (advertising) its CSR profile with end consumers. Our intuition would lead us to believe that strength should reduce the likelihood of Mktg. myopia, but our finding is not significant. Turning to concern, we see that concern behavior is significantly related to the likelihood of Mktg. myopia, at the 1 percent level. The result indicates that the marginal impact of concern is to increase the likelihood of myopia by 37.9 percentage points of each discrete change in concern.

Model two, presents the results for R&D, again the control variables perform as expected. R&D seems to be the discretionary expenditure most sensitive to other discretionary activities, with the results suggesting firms would prioritize other spending before R&D, leading to myopia. These results help explain the correlations and market responses in our previous results. The presence of capital expenditure (*Capex*) has the largest impact on the likelihood of R&D myopia (1.821 at

the one percent level), and marketing intensity is also positive and significant (0.14 at one percent significance). Strength behavior, rather confounding, is positively associated with the likelihood (0.661, at one percent significance) that firms might be R&D myopic. A discrete increase in strength behavior marginally increases the likelihood of R&D myopia by 66 percentage points of the discrete change in strength. Concern similarly increases the likelihood of R&D myopia (0.253 at five percent level). We believe that firms prioritize their funding, and in the presence of other funding commitments, with more tangible short-term benefits, firms would suspend R&D funding. Alternatively after a period of R&D a firm would commercialize its research efforts. In the case of a new product, firms would need to invest in property and plant to produce the product and marketing to take the product to market, during this period R&D expenditure might be scaled back to accommodate the increase in expenditure elsewhere. As such, our results might simply reflect the cycle of product development and innovation. However our results relate specifically to firms with positive earnings, indicating that cash constraints, might not necessarily be an issue, which likely means management might choose to cannibalize R&D over other discretionary expenditures to manipulate earnings. The value of R&D is not immediate to the firm's current performance, as our previous results attest, and R&D progress is poorly observed by the market making it an ideal candidate for myopic behavior.

Model three presents the results of capex myopia (*Capex_M.*). The control variables perform as expected. Of note leverage is negatively associated with capex myopia (0.14, at one percent significance) indicating that firms with a reduced capacity to access debt financing are less likely to afford costly capex expansion. Surprisingly, *Sales-growth* increases the likelihood of capex myopia, although the marginal impact is incredibly small (0.095 at one percent significance). Perhaps periods of revenue growth forces management to prioritize the cash flow needs of growing sales and the associated purchase of inventory etc., over capital expenditure projects. The results

of the R&D and Mktg. variables continue to support the notion that management will myopically engage one discretionary activity for the sake of performance, as both marginal effects are significant and positive (0.823 and 0.116 for R&D and Mktg. respectively at the one percent significance level). Strength is once again not significant. Concern behavior is again significant and positive. As with the previous models concern behavior increases the likelihood of firms behaving myopically with regard to capital expenditure (0.274, at the five percent level). It should be noted that the presence of concern within a firm, usually represents a lack of action and vision on the part of management to mitigate the negative impact the firm might have on its employees, environment, and community. Unlike other discretionary activities, an increase in concern is not expected to be related with an increase in cost to the firm (if anything a saving in expenditure). Our results would suggest that if firms are reluctant to expend the effort and absorb the costs associated with reducing their socially destructive behavior, then they are more likely to underinvest in other discretionary activities, especially if it allows them to manipulate their performance. The results for the other discretionary activities indicate that firms might prioritize funding between different activities, as such if a firm is already invested in Mktg. and R&D activities then thy might not prioritize capex funding, especially if it could impact performance. Concern on the other hand is consistently positively associated with the increase in likelihood of myopic behavior. Furthermore, increasing a firm's concerns does not reduce a firm's cash flows, therefore a reduction in funding for discretionary activities is more likely explained by dubious management prioritizing performance over investment in the long-term well-being of the firm.

Comprehensively, we include the results of strength myopia and concern myopia as a function of other discretionary activities in models four and five. Strength myopia seems to increase when firms are more actively traded, suggesting that the market disciplines excessive expenditure on strength activities, as our previous results suggest. With the exception of capex's marginal

significance, other discretionary activities are not significantly related to strength. Concern is significantly and negatively (-0.66, at one percent significance) associated with strength myopia. It is likely that firms will compensate for their socially destructive behavior by engaging in strength activities to remedy the negative externalities (we believe this course of action is often more cost effective then reducing the actual destructive behavior), as such firms with more concern activities will likely have more strength activities and be less likely to be myopic. Turning to our earlier correlations, we also saw a strong significant correlation between strength and concern, which is supported here. This result is reflected in model 5 where we see again that the presence of strength increases the likelihood of concern myopia (more concerns are associated with more strengths). Capital expenditure, which has been positively associated with other forms of myopia, is negatively associated with concern; along with R&D and Mktg. Our results suggest that firms with adequate levels of capital expenditure, R&D and Mktg., are less likely to be concern myopic. (-0.369 at one percent significance, -0.257 at 5 percent significance, and -0.019 not significant, for Capex, R&D and Mktg. respectively)

The results from the logistic regression consistently present evidence that increased levels of concern is associated with an increased likelihood in all forms of myopia, and the presence of other discretionary activities reduce the likelihood of concern myopia. The result indicate that firms with high levels of socially destructive behavior are more likely to manipulate earnings through myopic behavior.

VI. CONCLUSION

Managers have a fiduciary duty to strategically align firm activities and partake in opportunities that maximizes shareholder wealth. Myopic management, in turn, involves altering operational practices that directly affect the business process to falsely signal an increase in

performance. We show that the factors driving management myopia in capital expenditure, R&D and marketing, could affect management's decisions relating to CSR, specifically concern. More importantly, our results indicate that CSR (specifically concern) can be considered a proxy for good management. Our results indicate that other forms of myopia do impact firms' risk adjusted performance; however the market might struggle to immediately recognize management myopia in the face of increased earnings. We also show that CSR, specifically concern, is a good indicator of other forms of myopia and that the market has a better ability to recognize CSR myopia. Milgrom & Roberts (1992, p. 471) comment that, in general, managers "put too much emphasis on activities that boost short-term performance compared to those whose benefits will be hidden." Our results confirms that the market struggles to quickly recognize traditional myopia, but that socially destructive behavior of firms, and the associated economic impact on the firms, is recognized by the market.

Our results underscore the importance of considering socially responsible behavior and socially destructive behavior separately. We present evidence that the signaling behavior of myopic firms distort the market equilibrium to the point where good firms are unable to credibly signal economic prospects. As a result, the asymmetric information or information opacity around strength (Cho et al., 2013), coupled with the market's heterogeneous capacity and desire to price the complexities of strength behavior, explain the confounding strength results.

We supply evidence that strength and concern (CSR) behavior are incredibly persistent over time, reflecting the long-term nature of CSR activities. These result confirm our intuition that the persistence of CSR suggest that firms should carefully consider changes to their CSR profiles, as their decisions significantly impact the associated stakeholders, stakeholders with which the firm might have to co-exist for significant periods of time. We believe CSR myopic behavior is more

easily observed by market participants perhaps as the number of parties with intimate knowledge of the firm's "normal" CSR level is not limited to management.

Furthermore, our results consistently suggest that discretionary activities might not be considered equal, or engaged similarly by management; management might focus on one discretionary activity at a time. Due to information asymmetry, management might act on private information to expand or focus on particular discretionary activities, where they believe the most gains can be captured. In addition, firms are unlikely to be universally myopic across all discretionary areas, but more likely to neglect a particular area. Our findings indicate that R&D myopia is not immediately or subsequently recognized by the market, making it an ideal candidate for myopic behavior.

The results from the logistic regression consistently present evidence that increased levels of concern is associated with an increased likelihood in all forms of myopia, and the presence of other discretionary activities reduce the likelihood of concern myopia. This indicates that firms with high levels of socially destructive behavior are more likely to manipulate earnings through myopic behavior. However firms with high levels of strength behavior are not less likely to be myopic, and in some cases might be more likely.

Our results shed light on the complex interplay between discretionary activities and the multifaceted impact of CSR on firm's corporate activities. Ultimately our results indicate that socially responsible behavior is a poor indicator of good management and is unrelated to myopic behavior with regard to other discretionary expenditures. However, a firm's level of socially destructive behavior is significantly correlated with management quality and the likelihood that a firm might engage in myopic practices for the sake of earnings manipulation.

We believe significant scope exists to explore the mechanism behind Myopic management especially the factors relating to CSR. Performance incentives are not wholly responsible for

encouraging myopic management. Takeovers threats (Stein, 1989) momentum trading (Bushee, 1998), and institutional ownership (Bushee, 1998;Wahal & McConnell, 2000) are also factors. Furthermore, why the market should be more efficient at recognizing CSR myopia is puzzling, and requires a line of enquiry.

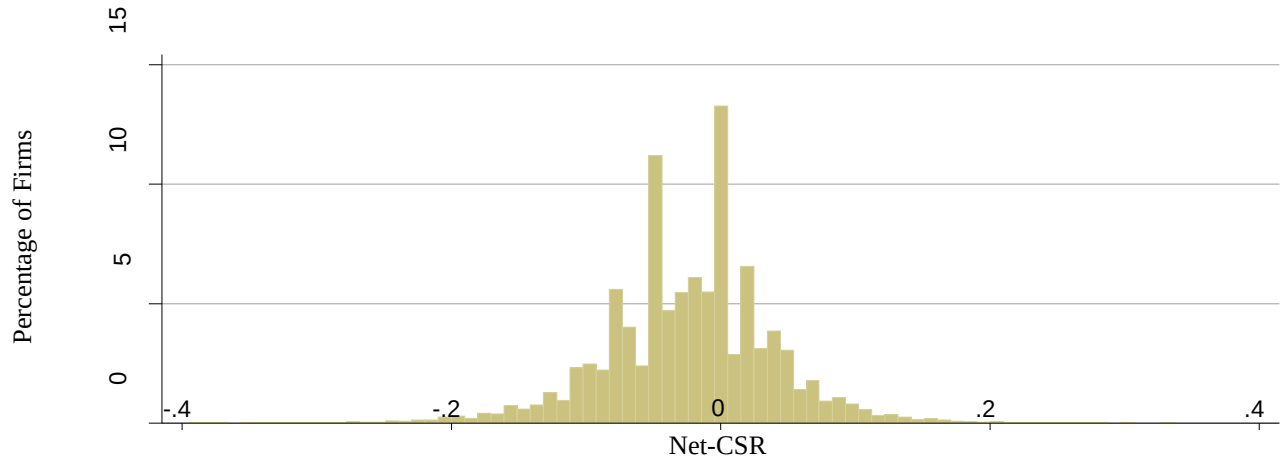

Figure 1. Net-CSR distribution. The graph shows the histogram plot of Net-CSR.

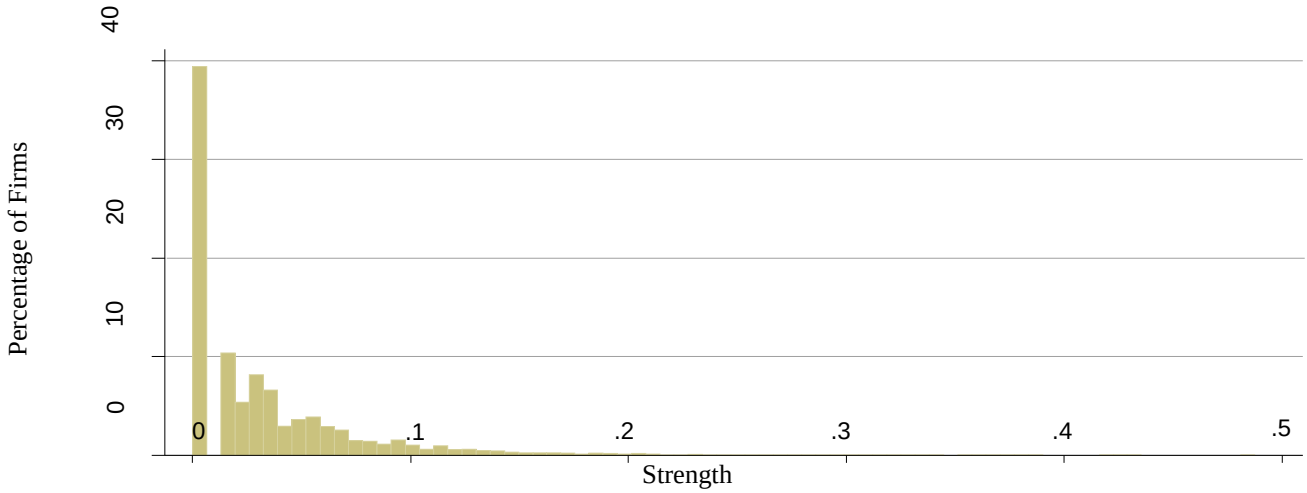

Figure 2. Strength Distribution. The graph shows the histogram plot of Strength.

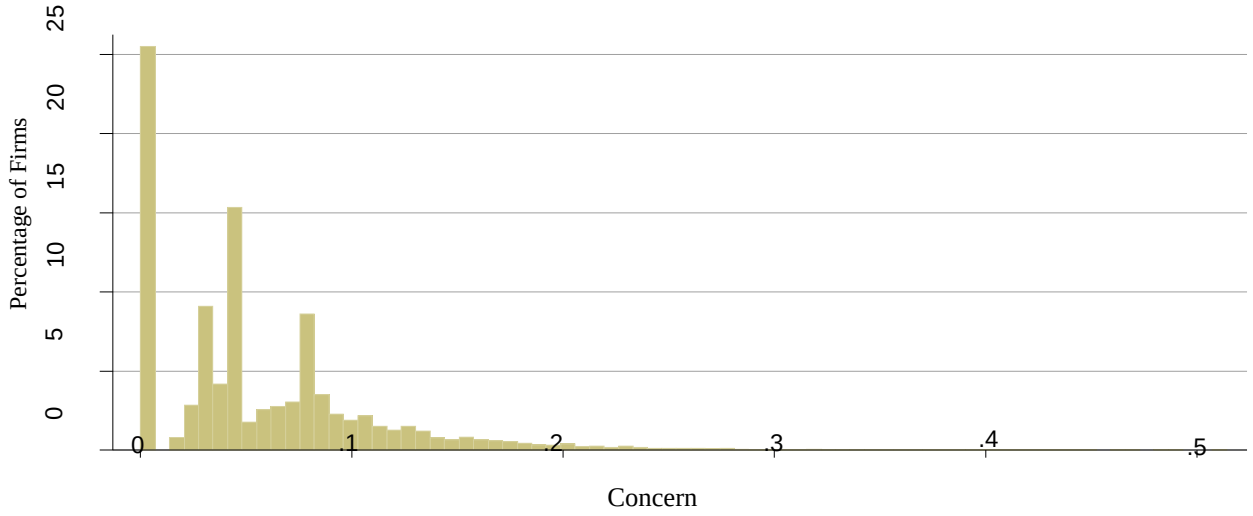

Figure 3. Concern Distribution. The graph shows the histogram plot of Concern.

Table I

Sample Size by Year

Table I shows the number of firms included in the study assessed by KLD for each calendar year from 1991 through to 2009.

Year	Number of Firms
1991	546
1992	556
1993	548
1994	546
1995	554
1996	561
1997	563
1998	565
1999	573
2000	561
2001	991
2002	1002
2003	2728
2004	2802
2005	2783
2006	2732
2007	2702
2008	2597
2009	2655

Table II
KLD's ESG Descriptive Statistics

Table II presents the descriptive statistics of the Net-CSR, Strength and Concern scores for each of KLD's ESG categories as well as the overall score. The scores presented are transformed from binary points used by KLD and instead represent a percentage of possible points obtained. The statistics are calculated on the pooled sample, spanning calendar years 1991 through 2009.

Variable	Obs.	Mean	Std. Dev.	Min	Max
			Pooled		
Net-CSR	26565	-0.02	0.06	-0.40	0.34
Strength	26565	0.03	0.05	0.00	0.49
Concern	26565	0.06	0.06	0.00	0.51
			Community		
Net	26565	0.01	0.11	-0.61	1.00
Strength	26565	0.03	0.09	0.00	1.00
Concern	26565	0.02	0.07	0.00	0.75
			Corporate Governance		
Net	26565	-0.05	0.17	-1.00	0.75
Strength	26565	0.04	0.09	0.00	0.75
Concern	26565	0.08	0.14	0.00	1.00
			Diversity		
Net	26565	-0.04	0.22	-0.67	0.88
Strength	26565	0.07	0.12	0.00	0.88
Concern	26565	0.11	0.16	0.00	0.67
			Employment		
Net	26565	-0.03	0.16	-0.80	0.83
Strength	26565	0.05	0.11	0.00	0.83
Concern	26565	0.08	0.12	0.00	0.80
			Environmental		
Net	26565	-0.01	0.10	-0.83	0.60
Strength	26565	0.02	0.07	0.00	0.80
Concern	26565	0.03	0.10	0.00	1.00
			Humanity		
Net	24915	-0.01	0.07	-0.75	1.00
Strength	24915	0.00	0.04	0.00	1.00
Concern	26565	0.02	0.08	0.00	1.00
			Product		
Net	26565	-0.03	0.15	-1.00	0.75
Strength	26565	0.02	0.07	0.00	0.75
Concern	26565	0.05	0.13	0.00	1.00

Table III
Financial Descriptive Statistics

Table III reports the descriptive statistics for the pooled sample spanning calendar years 1991 through 2009. ('000) indicate figures presented in thousands. EBIT is earnings before interest and tax, Ln(Mcap) is the natural logarithm of market capitalization, ln(Turnover) is the natural logarithm of volume to shares outstanding.

Variable	Obs.	Mean	Std. Dev.	Min	Max
Adjusted Price	26565	$28.66	$58.06	$1	$3561
Adjusted Shares ('000)	26565	204,401	588,845	372	22,900,000
Average Monthly Volume ('000)	26565	1,317,066	5,372,910	189	484,000,000
Market Capitalization ('000)	26565	$5,925,838	$19,900,000	$5,831	$602,000,000
Raw return	24501	0.05	0.50	-4.77	3.26
CAR	24501	-0.11	0.24	-12.97	0.05
Ln(Total Assets)	26166	7.43	1.72	3.89	12.14
ln(Turnover)	26565	1.65	1.09	-4.43	7.74
Tobin's Q	26163	2.00	1.80	0.34	56.98
Book to Market	25503	0.55	0.44	0.04	2.76
Total Liabilities to Total Assets	26101	0.57	0.28	0.00	7.71
EBIT to Assets	26152	0.07	0.17	-12.48	1.95
EBIT to Equity	26145	0.20	5.66	-568	324
R&D to Sales	26057	0.09	0.39	0	3.32
Advertising to Sales	8694	0.03	0.07	0.00	3.32
Sales growth	25713	0.49	2.64	-0.99	21.53
Marketing Intensity	21063	0.21	0.21	-0.37	2.62
R&D Intensity	26166	0.03	0.08	0	1.17
CAPEX intensity	26166	0.04	0.06	0	0.74

Table IV
Shift in CSR Scores Over Time

Table IV reports the yearly average CSR score of Net-CSR, Strength and Concern for calendar years 1991 through 2009. Panel A reports the yearly average CSR score of Net-CSR, Strength and Concern for calendar years 1991 through 2000, as well as the average for that decade. Panel B reports the yearly average CSR score of Net-CSR, Strength and Concern for calendar years 2001 through 2009, as well as the average for that nine year period.

Year	Net	Strength	Concern
Panel A:1991 through 2000			
1991	0.01	0.04	0.03
1992	0.01	0.05	0.04
1993	0.00	0.06	0.06
1994	-0.01	0.05	0.06
1995	0.00	0.06	0.06
1996	0.01	0.06	0.04
1997	0.00	0.06	0.06
1998	0.00	0.06	0.06
1999	0.00	0.06	0.07
2000	-0.01	0.06	0.07
Average	0.00	0.06	0.06
Panel B: 2001 through 2009			
2001	-0.01	0.04	0.05
2002	-0.02	0.04	0.06
2003	-0.02	0.02	0.04
2004	-0.03	0.03	0.06
2005	-0.03	0.02	0.05
2006	-0.03	0.03	0.06
2007	-0.03	0.03	0.06
2008	-0.03	0.03	0.06
2009	-0.03	0.03	0.06
Average	-0.03	0.03	0.06

Table V
Identifying Myopia

This table reports the system GMM estimates of persistence, ϕ, for each dependent variable using their lagged values, from calendar year 1991 through 2009. We control for year fixed effects, industry fixed effects, and specify errors robust to heteroskedasticity and autocorrelation. The dependent variable for model one through six is *ROA, Mktg, R&D, Capex, Strength,* and *Concern.* We also incorporate the following control variables *Size* (logarithm of total assets), *Leverage* (total liabilities to total assets), *Sales-growth* (sales in time t with respect to sales in t-1 over sales in t-1), *Mktg.* (selling, general, and administrative expenses less R&D expenses to total assets), *R&D* (R&D expenses to total assets), *Capex* (capital expenditure to total assets), *Strength*, and *Concern*. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	ROA	Mktg.	R&D	Capex	Strength	Concern
ϕ	0.231***	0.685***	0.662***	0.446***	0.823***	0.713***
	(0.026)	(0.027)	(0.042)	(0.030)	(0.012)	(0.012)
Size	1.160***	-0.012***	-0.001*	-0.002***	0.005***	0.006***
	(0.262)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Leverage	-26.035***	0.042***	-0.011*	-0.007*	-0.001	0.002
	(3.373)	(0.013)	(0.006)	(0.004)	(0.002)	(0.002)
ROA		-0.001***	-0.001***	-0.000	0.000	-0.000***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mktg.	-9.254***		0.009	0.016**	0.007*	-0.001
	(3.106)		(0.012)	(0.007)	(0.004)	(0.005)
R&D	-98.551***	-0.084		0.028	0.020***	0.028***
	(8.762)	(0.074)		(0.018)	(0.006)	(0.010)
Capex	-1.318	0.105***	0.048***		0.016***	0.010
	(4.847)	(0.038)	(0.012)		(0.005)	(0.009)
Strength	3.947	0.132***	0.041***	0.015		-0.001
	(4.746)	(0.032)	(0.014)	(0.014)		(0.014)
Concern	-8.717***	0.003	0.008	0.017*	-0.004	
	(3.327)	(0.023)	(0.009)	(0.010)	(0.008)	
Sales_growth	4.384***	-0.062***	-0.010***	0.015***	-0.001	0.001
	(0.835)	(0.009)	(0.003)	(0.003)	(0.001)	(0.001)
Intercept	12.274***	0.117***	0.023***	0.024***	-0.029***	-0.026***
	(2.006)	(0.014)	(0.007)	(0.006)	(0.004)	(0.005)
N	16809	16691	16810	16810	16810	16810
Hansen J Test	1345	1297	1324	1355	1400	1342
p	0.967	0.997	0.988	0.951	0.786	0.972
AR1	0.000	0.000	0.000	0.000	0.000	0.000
AR2	0.462	0.088	0.090	0.020	0.226	0.016
Chi^2	1208	14318	9197	5841	13202	6846
p	0.000	0.000	0.000	0.000	0.000	0.000
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Robust S.E	Yes	Yes	Yes	Yes	Yes	Yes

Table VI
Correlations

Table V Panel A reports the pairwise correlation matrix between *Tobin's Q, ROA, Mktg, R&D, Capex, Strength, Concern, Raw Ret.,* and *CAR* for calendar years 1991 through 2009. Tobin's Q is calculated as market value of assets over book value of assets, where market value is equal to total assets plus market equity less book equity. Return on assets (ROA) is calculated as earnings before interest and tax (EBIT) to total assets. Marketing intensity (Mktg.) is selling general and administrative expenses less research and development expenses over total assets. Research and development intensity (R&D) is R&D expenditure over total assets. Capital expenditure intensity (Capex) is capital expenditure over total assets. Raw Ret. is $Raw_{it} = log\sum_{w=1}^{52} = [1 + (Ret_{i,w} - Ret_{Riskfree,w})$. To estimate the risk adjusted stock returns we employ The Fama and French (1993, 1996) three-factor plus momentum (Carhart, 1997) model to compute compounded abnormal yearly returns from weekly returns. Specifically compounded abnormal stock return (CAR) is:$CAR_{it} = log\sum_{w=1}^{52} = [1 + (ret_{iw} - expRet_{iw})$ where $expRet_{iw} = \hat{\beta}_{it}(Ret_{Market,w} - Ret_{Riskfree,w}) + \hat{s}_{it}(SMB_w) + \hat{h}_{it}(HML_w) + \hat{m}_{it}(MOM_m)$ and $\hat{\beta}, \hat{s}, \hat{h},$ and $\hat{m}$ come from estimating The Fama and French (1992, 1993) three factor model augmented with momentum (Carhart, 1997) factor, for each firm *i*, in year *t*: $(Ret_{i,w} - Ret_{Riskfree,w}) = \alpha + \beta_{it}(Ret_{Market,w} - Ret_{Riskfree,w}) + s_{it}(SMB_w) + h_{it}(HML_w) + m_{it}(MOM_m) + \varepsilon_{i,w}$. Panel B reports the pairwise correlation matrix between *Mktg.*, *R&D*, *Capex*, *Mktg_ M.*, *R&D_M.*, *Capex_M.*, *Str_M.*, and *Con_M.* for calendar years 1991 through 2009. With *Mktg_M.* being a categorical variable taking the value of 1 if $(Mktg_{it} - \widehat{Mktg}_{it|it-1}) < 0$, otherwise 0. *R&D_M.* being a categorical variable taking the value of 1 if $(R\&D_{it} - \widehat{R\&D}_{it|it-1}) < 0$, otherwise 0.*Capex_M.* being a categorical variable taking the value of 1 if $(Capex_{it} - \widehat{Capex}_{it|it-1}) < 0$, otherwise 0. *Str_M.* being a categorical variable taking the value of 1 if $(Strength_{it} - \widehat{Strength}_{it|it-1}) < 0$, otherwise 0. *Con_M.* being a categorical variable taking the value of 1 if where $(Concern_{it} - \widehat{Concern}_{it|it-1}) > 0$, otherwise 0 .

Panel A: Returns Correlation Matrix

	Tobin's Q	ROA	Mktg.	R&D	Capex	Strength	Concern	Raw Ret.	CAR
Tobin's Q	1								
ROA	0.019***	1							
Mktg.	0.214***	0.059***	1						
R&D	0.323***	-0.488***	0.069***	1					
Capex	0.075***	0.079***	0.052***	-0.053***	1				
Strength	0.023***	0.094***	0.003	-0.035***	0.006	1			
Concern	-0.042***	0.027***	-0.097***	-0.042***	0.044***	0.249***	1		
Raw Ret.	0.218***	0.173***	0.019***	-0.038***	-0.052***	-0.005	-0.032***	1	
CAR	-0.013**	0.302***	-0.033***	-0.148***	-0.016**	0.069***	-0.007	0.160***	1

Panel B: Myopia Correlation Matrix A

	Mktg.	R&D	Capex	Mktg_ M.	R&D_M.	Capex M.	Strength M.	Concern M.
Mktg.	1							
R&D	0.069***	1						
Capex	0.052***	-0.053***	1					
Mktg._M.	-0.472***	-0.074***	0.028***	1				
R&D_M.	0.083***	-0.351***	0.069***	0.164***	1			
Capex_M.	0.036***	0.107***	-0.461***	-0.062***	-0.068***	1		
Str_M.	-0.025***	-0.005	0.020**	-0.036***	-0.074***	-0.040***	1	
Con_M.	0.010	-0.004	-0.018**	0.008	0.040***	0.035***	-0.044***	1

Table VII
Myopia and Performance

This table reports the regression coefficients for the relationship between CAR and myopia from calendar year 1991 through 2009. We control for year fixed effects, industry fixed effects, and cluster standard errors at the firm level. The dependent variables are the Kth period ahead CAR, such that models one through five represent K=0,1,2,3, and 4 for firms with performance surprises and models six through ten represent K=0,1,2,3, and 4 for firms with performance disappointments. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively. We also incorporate the following control variables *Size* (logarithm of total assets), *Leverage* (total liabilities to total assets), *Sales-growth* (sales in time t with respect to sales in t-1 over sales in t-1), M/B (market value of equity to book value of equity), *Advertising* (advertising expense to sales), *R&D* (R&D expenses to sales), *Capex* (capital expenditure to total assets), Strength, and Concern. Control variables are not reported for parsimony.

	Performance Surprise					Performance Disappointment				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	K=0	*K=1*	*K=2*	*K=3*	*K=4*	*K=0*	*K=1*	*K=2*	*K=3*	*K=4*
Str_M.	0.011***	0.018***	0.005	-0.005	-0.004	0.018***	0.016***	0.001	0.010	0.003
	(0.004)	(0.004)	(0.006)	(0.006)	(0.010)	(0.004)	(0.005)	(0.007)	(0.008)	(0.009)
Con_M.	-0.010**	-0.000	-0.000	-0.013**	-0.023**	-0.003	-0.013***	-0.019**	-0.019**	-0.016*
	(0.004)	(0.004)	(0.005)	(0.006)	(0.010)	(0.003)	(0.005)	(0.007)	(0.009)	(0.008)
Mktg._M.	-0.003	-0.004	-0.022***	-0.036***	-0.037***	0.013***	0.012**	0.014**	0.018**	0.013
	(0.003)	(0.004)	(0.005)	(0.007)	(0.009)	(0.004)	(0.005)	(0.006)	(0.008)	(0.010)
R&D_M.	-0.002	-0.001	0.004	0.006	-0.001	0.003	-0.004	-0.008	-0.013	0.004
	(0.004)	(0.004)	(0.006)	(0.007)	(0.011)	(0.004)	(0.005)	(0.008)	(0.010)	(0.009)
Capex_M.	-0.000	-0.010*	-0.034***	-0.033***	0.005	-0.005	-0.010*	-0.026***	-0.010	0.018*
	(0.006)	(0.005)	(0.006)	(0.008)	(0.014)	(0.004)	(0.006)	(0.008)	(0.011)	(0.010)
N	8034	6594	5259	4258	3380	8008	6530	5467	4354	3413
adj. R^2	0.260	0.230	0.149	0.136	0.115	0.440	0.263	0.130	0.085	0.085
F	55.52	50.63	34.25	32.54	21.76	49.264	43.605	15.836	15.994	18.653
p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ind. Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	No	No	No	No	Yes	No	No	No	No
Firm Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table VIII
Likelihood of Myopia

Table VIII represents the marginal estimates of the logistic model that captures the impact of CSR on the likelihood of a firm being myopic. Specifically: $\Pr(Myopic_{it} = 1) = \alpha_i + \beta_1' CSR_{i,t} + \beta_2' Controls_{i,t} + \psi_t + \delta_i + v_{i,t}$ where $Myopic_{it}$ is defined as a categorical variable that takes the value of 1 if firm *i* in year *t* was categorized as potentially myopic and 0 if otherwise. $'CSR_{i,t}$ is either *Strength*, and *Concern* $'Controls_{i,t}$ is a vector of control variables including *Size* (logarithm of total assets), *Leverage* (total liabilities to total assets), *Sales-growth* (sales in time *t* with respect to sales in *t-1* over sales in *t-1*), *Mktg.*(selling, general, and administrative expenses less R&D expenses to total assets), *R&D* (R&D expenses to total assets), *Capex* (capital expenditure to total assets). Furthermore $F(z) = e^z/(1 + e^z)$ is the cumulative logistic distribution and the likelihood function of the logit is: $lnL = \sum_{j \in S} w_j \, lnF(x_j\, b) + \sum_{j \notin S} w_j \ln\{1 - F(x_j b)\}$ where *S* is the set of all observations *j*, such that $y_j \neq 0, F(z) = e^z/(1 + e^z)$, and w_j denotes the optional weights. And the margins of the derivatives of the responses (marginal effects) are $dy/d(CSR) = \beta_1$ and $dy/d(Controls) = \beta_2$. For our analysis we only report the marginal effects results at their observed values. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)
	Mktg_M	R&D_M	Capex_M	Str_M.	Con_M.
Size	-0.022***	-0.034***	-0.058***	0.076***	-0.019***
	(0.008)	(0.009)	(0.007)	(0.008)	(0.007)
Turnover	0.036***	-0.052***	-0.008	0.059***	0.011
	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)
Leverage	0.299***	0.297***	-0.148***	-0.017	-0.118***
	(0.053)	(0.073)	(0.040)	(0.031)	(0.038)
Sales_growth	-0.462***	-0.573***	0.046	-0.007	-0.017
	(0.037)	(0.042)	(0.034)	(0.030)	(0.029)
ROA	-0.010***	-0.006***	-0.010***	-0.008***	0.001
	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)
Mktg.		0.458***	0.065	0.036	-0.032
		(0.054)	(0.045)	(0.047)	(0.043)
R&D	-0.383**		0.541***	-0.270*	-0.316*
	(0.186)		(0.195)	(0.147)	(0.173)
Capex	0.945***	1.839***		0.357**	-0.540***
	(0.179)	(0.193)		(0.147)	(0.149)
Strength	0.178	0.679***	0.049		0.168
	(0.205)	(0.202)	(0.181)		(0.188)
Concern	0.419***	0.374**	0.536***	-0.640***	
	(0.159)	(0.150)	(0.149)	(0.148)	
N	8445	8500	8500	8500	8500
Year Effects	Yes	Yes	Yes	Yes	Yes
Industry Effects	Yes	Yes	Yes	Yes	Yes

REFERENCES

Akerlof, G. A. (1970). The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics, 84*(3), 488-500. doi: 10.2307/1879431

Bebchuk, L. A., & Stole, L. A. (1993). Do Short-Term Objectives Lead to Under-or Overinvestment in Long-Term Projects? *The Journal of Finance, 48*(2), 719–730. doi: 10.1111/j.1540-6261.1993.tb04735.x

Bizjak, J. M., Brickley, J. A., & Coles, J. L. (1993). Stock-based incentive compensation and investment behavior. *Journal of Accounting and Economics, 16*(1–3), 349-372. doi: http://dx.doi.org/10.1016/0165-4101(93)90017-A

Bollen, N. P. B. (2007). Mutual Fund Attributes and Investor Behavior. *Journal of Financial and Quantitative Analysis, 42*(03), 683–708.

Brammer, S., Brooks, C., & Pavelin, S. (2006). Corporate Social Performance and Stock Returns: UK Evidence from Disaggregate Measures. *Financial Management, 35*(3), 97-116. doi: 10.1111/j.1755-053X.2006.tb00149.x

Brammer, S. J., & Pavelin, S. (2006). Corporate Reputation and Social Performance: The Importance of Fit. *Journal of Management Studies, 43*(3), 435-455. doi: 10.1111/j.1467-6486.2006.00597.x

Brandenburger, A., & Polak, B. (1996). When Managers Cover Their Posteriors: Making the Decisions the Market Wants to See. *The RAND Journal of Economics, 27*(3), 523-541. doi: 10.2307/2555842

Burton, B. M., Lonie, A. A., & Power, D. M. (1999). The stock market reaction to investment announcements: the case of individual capital expenditure projects. *Journal of Business Finance & Accounting, 26*(5-6), 681–708.

Bushee, B. J. (1998). The Influence of Institutional Investors on Myopic R&D Investment Behavior. *The Accounting Review, 73*(3), 305-333. doi: 10.2307/248542

Chan, S. H., Martin, J. D., & Kensinger, J. W. (1990). Corporate research and development expenditures and share value. *Journal of Financial Economics, 26*(2), 255–276. doi: http://dx.doi.org/10.1016/0304-405X(90)90005-K

Cho, S. Y., Lee, C., & Pfeiffer Jr., R. J. (2013). Corporate social responsibility performance and information asymmetry. *Journal of Accounting and Public Policy, 32*(1), 71–83. doi: http://dx.doi.org/10.1016/j.jaccpubpol.2012.10.005

Chung, K. H., Wright, P., & Charoenwong, C. (1998). Investment opportunities and market reaction to capital expenditure decisions. *Journal of Banking & Finance, 22*(1), 41–60.

Deleersnyder, B., Dekimpe, M. G., Steenkamp, J.-B. E. M., & Leeflang, P. S. H. (2009). The Role of National Culture in Advertising's Sensitivity to Business Cycles: An Investigation Across Continents. *Journal of Marketing Research, 46*(5), 623-636. doi: 10.1509/jmkr.46.5.623

Dhaliwal, D. S., Radhakrishnan, S., Tsang, A., & Yang, Y. G. (2012). Nonfinancial Disclosure and Analyst Forecast Accuracy: International Evidence on Corporate Social Responsibility Disclosure. *The Accounting Review, 87*(3), 723–759. doi: 10.2308/accr-10218

DuCharme, L. L., Malatesta, P. H., & Sefcik, S. E. (2004). Earnings management, stock issues, and shareholder lawsuits. *Journal of Financial Economics, 71*(1), 27-49. doi: http://dx.doi.org/10.1016/S0304-405X(03)00182-X

El Ghoul, S., Guedhami, O., Kwok, C. C. Y., & Mishra, D. R. (2011). Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance, 35*(9), 2388–2406. doi: http://dx.doi.org/10.1016/j.jbankfin.2011.02.007

Flammer, C. (2012). Corporate social responsibility and shareholder reaction: The environmental awareness of investors. *Academy of Management Journal*. doi: 10.5465/amj.2011.0744

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics, 40*(1–3), 3-73. doi: http://dx.doi.org/10.1016/j.jacceco.2005.01.002

Grant, S., King, S., & Polak, B. (1996). INFORMATION EXTERNALITIES, SHARE-PRICE BASED INCENTIVES AND MANAGERIAL BEHAVIOUR. *Journal of Economic Surveys, 10*(1), 1-21. doi: 10.1111/j.1467-6419.1996.tb00001.x

Harris, M., & Raviv, A. (1996). The Capital Budgeting Process: Incentives and Information. *The Journal of Finance, 51*(4), 1139-1174. doi: 10.1111/j.1540-6261.1996.tb04065.x

Healy, P. M., & Wahlen, J. M. (1999). A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons, 13*(4), 365-383. doi: 10.2308/acch.1999.13.4.365

Hirshleifer, D., Chordia, T., & Lim, S. (2001). Firm and Managerial Incentives to Manipulate the timing of Project Resolution. *Dice Center Working Paper, 2001*(4).

Jiao, Y. (2010). Stakeholder welfare and firm value. *Journal of Banking & Finance, 34*(10), 2549–2561. doi: http://dx.doi.org/10.1016/j.jbankfin.2010.04.013

Kempf, A., & Osthoff, P. (2007). The Effect of Socially Responsible Investing on Portfolio Performance. *European Financial Management, 13*(5), 908–922. doi: 10.1111/j.1468-036X.2007.00402.x

Lamey, L., Deleersnyder, B., Dekimpe, M. G., & Steenkamp, J.-B. E. M. (2007). How Business Cycles Contribute to Private-Label Success: Evidence from the United States and Europe. *Journal of Marketing, 71*(1), 1-15. doi: 10.1509/jmkg.71.1.1

McConnell, J. J., & Muscarella, C. J. (1985). Corporate capital expenditure decisions and the market value of the firm. *Journal of financial economics, 14*(3), 399–422.

Milgrom, P., & Roberts, J. (1992). *Economics, Organization, and Management*. Englewood Cliffs, NJ: Prentice Hall.

Mizik, N. (2010). The Theory and Practice of Myopic Management. *Journal of Marketing Research, 47*(4), 594–611.

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187-221. doi: http://dx.doi.org/10.1016/0304-405X(84)90023-0

Narayanan, M. P. (1985). Managerial Incentives for Short-term Results. *The Journal of Finance, 40*(5), 1469-1484. doi: 10.1111/j.1540-6261.1985.tb02395.x

Ramchander, S., Schwebach, R. G., & Staking, K. I. M. (2012). The informational relevance of corporate social responsibility: evidence from DS400 index reconstitutions. *Strategic Management Journal, 33*(3), 303–314. doi: 10.1002/smj.952

Renneboog, L., Ter Horst, J., & Zhang, C. (2008a). Socially responsible investments: Institutional aspects, performance, and investor behavior. *Journal of Banking & Finance, 32*(9), 1723–1742. doi: 10.1016/j.jbankfin.2007.12.039

Servaes, H., & Tamayo, A. (2013). The Impact of Corporate Social Responsibility on Firm Value: The Role of Customer Awareness. *Management Science, 59*(5), 1045–1061. doi: 10.1287/mnsc.1120.1630

Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics, 87*(3), 355-374. doi: 10.2307/1882010

Statman, M., & Glushkov, D. (2009). The Wages of Social Responsibility. *Financial Analysts Journal, 65*(4), 33–46.

Stein, J. C. (1989). Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behavior. *The Quarterly Journal of Economics, 104*(4), 655-669. doi: 10.2307/2937861

Thakor, A. V. (1990). Investment "Myopia" and the Internal Organization of Capital Allocation Decisions. *Journal of Law, Economics, & Organization, 6*(1), 129-154. doi: 10.2307/764793

Trueman, B. (1986). The Relationship between the Level of Capital Expenditures and Firm Value. *Journal of Financial and Quantitative Analysis, 21*(02), 115-129. doi: doi:10.2307/2330732

Wahal, S., & McConnell, J. J. (2000). Do institutional investors exacerbate managerial myopia? *Journal of Corporate Finance, 6*(3), 307-329. doi: http://dx.doi.org/10.1016/S0929-1199(00)00005-5