Wealth and Corporate Social Responsibility

Brian Gunia

Johns Hopkins University

100 N. Charles Street

Baltimore, MD, 21201

Xian Sun*

Johns Hopkins University

100 N. Charles Street

Baltimore, MD, 21201

E-mail: xian.sun@jhu.edu

Abstract

Despite documented consequences, firms routinely engage in "socially disapproved" behavior. Studying one form of such behaviors, CSR concerns, we investigate an important reason: exogenous wealth changes. Our research suggests that firms see reducing or increasing their CSR concerns as an investment decision, and thus condition these concerns on the availability of economic resources. Thus, wealth gains reduce CSR concerns while wealth losses increase them. The relative impact of wealth on CSR concerns, however, depends on several organizational variables that influence the structure of a firm's investment hierarchy (financial slack, political climate, corporate governance, and analyst coverage). Furthermore, based on prospect theory, we show that firm reactions to wealth gains and losses are not symmetric: wealth gains reduce CSR concerns, but wealth losses increase CSR concerns even more markedly. In addition to highlighting an important antecedent of CSR concerns, these results help to resolve complex theoretical dilemmas in the finance and management literature on CSR

JEL classification: D03, D81, M14, G32, G34, R30

Key words: Corporate Social Responsibility; Prospect Theory; Firm Performance; Corporate Governance;

Real Estate Value

1. Introduction

Why do firms engage in socially disapproved behavior? What factors discourage such behavior in favor of social responsibility? In 2007, about 84% of U.S. public firms engaged in at least one "socially disapproved" behavior (as defined and determined by KLD Research and Analytics, Inc.; hereafter "KLD").The average number of such behaviors was 2, with a range of 0-18 and categories spanning community, environment, diversity, corporate governance, employee, product safety, and humanity, among others. Given ample evidence of links between socially disapproved corporate behavior and negative consequences like lawsuits, market share deterioration, network partner losses, and public disapproval (e.g., Strachan, et al., 1983; Davidson, et al., 1994; Baucus and Baucus, 1997; Haunschild, et al., 2006; Karpoff, et al., 2008; and Nossiter, 2010), the continued prevalence of socially disapproved behavior remains puzzling, and the contributing factors remain important to investigate.

Beyond their obvious practical import, the continued prevalence of socially disapproved behavior (hereafter "CSR concerns" in accordance with KLD terminology) cuts to the heart of important theoretical puzzles in the corporate social responsibility (CSR) literature. If avoiding CSR concerns has such significant consequences for firm value and performance (e.g., Jo, et al., 2009; Simpson and Koshers, 2002; Trudel and Cotte, 2009; Wu and Shen, 2013, and Kruger, 2015), why does integrating policies that reduce CSR concerns into core business functions remain the most significant leadership challenge facing companies today (State of Sustainable Business Survey by BSR, 2014)[1]? Could mitigating CSR concerns require resources that firms simply do not have? Or, might the relationship go the other way, with firm performance actually driving CSR concerns?

Despite voluminous research attention, the nature and direction of the relationship between firm performance and CSR concerns remains unclear. In particular, despite theory and evidence suggesting that decreased CSR concerns improve firm performance (e.g., Jo, et al., 2009; Simpson and Koshers, 2002), as well as some theory suggesting that the reverse pattern might hold (Waddock and Graves, 1997; Preston and O'Bannon, 1997), theory and evidence for the reverse causal path is still thin. If firm performance determines subsequent CSR concerns, why and how does that happen? On the one hand, if firms regard CSR as one of several investment options[2], then changes in firm wealth could influence CSR concerns much as they influence other investment decisions. Just as shocks to U.S. corporations' real estate value during the housing boom period had a large impact on their aggregate investment (Chaney et al., 2010), for example, such shocks might influence firms' CSR activities. On the other hand, if firms see

[1] Business of a Better World (BSR) is a nonprofit organization with a network of more than 250 companies. See website: www.bsr.org.

[2] Godfrey (2005), for example, presents a theory suggesting that corporations increase philanthropy to generate moral capital, which provides "insurance-like" protection for shareholder wealth. Minor and Morgan (2011) show that enhanced CSR reputation protects firms from negative corporate events like product recalls.

CSR investments as merely a "cost of doing business," engaging in the minimal amount of positive CSR and maximal amount of CSR concerns to match their peer organizations (Matten & Moon, 2008), then there should be no relationship between firm wealth and CSR. This perspective also accords with economic theory suggesting that companies should maximize shareholders' value rather than internalizing the negative externalities they impose on other stakeholders (e.g., Pigou, 1920; Friedman, 1970). Testing these dueling perspectives on the influence of firm wealth on CSR concerns is our first objective.

Even if firms do consider CSR an investment decision, they might not place CSR activities at the top of their hierarchy of investment options. One possible factor that shapes a firm's investment hierarchy is the existence of financial slack. Indeed, prior research suggests that firms place their core business investment needs at the top and CSR somewhere lower (e.g., Preston and O'Bannon, 1997; Waddock and Graves, 1997). One critical implication is that firms' CSR-related reactions to wealth changes may depend on whether their core business investment needs have already been met. In financially unconstrained firms, these core needs have been met, so wealth changes are likely to create financial slack. Thus, these firms are likely to respond to wealth shocks by allocating gains to reduce CSR concerns. Financially constrained firms, however, still have unmet business needs. Thus, positive wealth shocks should create little financial slack, and they should use their gains to meet essential business needs. Financial slack is only one of several variables that may influence where CSR concerns rank in a firm's investment hierarchy. To offer insight into some other important influences, we examine three important variables highlighted by the literature: political influences (Di Giuli and Kostovetsky, 2014), corporate governance (Harjoto and Jo, 2011), and analyst coverage (Knyazeva, 2007, Yu, 2008, and Harjoto and Jo, 2011). Testing the impact of financial slack and other relevant organizational variables that might influence a firm's investment hierarchy represents our second objective.

If wealth does influence firms' CSR concerns, it is important to know whether firms react similarly to wealth gains and wealth losses. One important reason is that asymmetric reactions would lead to markedly different patterns of CSR concerns in good economic conditions and bad. To illuminate firms' CSR responses to wealth gains and losses, we draw from prospect theory (Kahneman and Tversky, 1979) and its application to top-management teams (e.g., Barberis et al., 2001; Grinblatt and Han, 2005). Though originally conceived as a theory of individual decision-making (Kahneman and Tversky, 1979; Coval and Shumway, 2005), prospect theory has been invoked by many subsequent studies to explain firm-level behavior (e.g., Fiegenbaum and Thomas, 1988; Fiegenbaum, et al., 1996; Hayward and Hambrick, 1997; Wiseman and Gomez-Mejia, 1998; Sanders, 2001)—the logic being that top management team members make decisions in accordance with prospect theory, and these decisions become firm-level policy that also reflects prospect theory.

At the most fundamental level, prospect theory and its extensions suggest a negative relationship between wealth and CSR concerns: To recoup losses, a decrease in wealth should increase a firm's appetite for risky behaviors like CSR concerns (e.g., invest less in employee welfare, cut back on community contributions, spend less on product safety). To protect gains, a wealth increase should decrease a firm's appetite for engaging in risky CSR concern behaviors. Additionally, prospect theory indicates that "losses loom larger than gains," meaning that decision-makers are more responsive to losses. By that logic, firms with losses should increase their CSR concerns (engage in socially disapproved behavior) more readily than firms with gains should decrease their concerns (engage in socially responsible behavior). Finally, prospect theory's "certainty effect" suggests that *sure* losses or gains have stronger behavioral effects than *tenuous* losses or gains. Thus, we predict that the effect of wealth on CSR concerns will be strongest when wealth losses or gains are relatively more permanent (e.g., in locations where real estate prices are relatively stable). In sum, prospect theory and its subsequent applications suggest that firm wealth may drive CSR behavior in systematic (and potentially troubling) ways. Testing whether firms react differently to wealth gains and wealth losses is thus our third objective.

In sum, this study seeks to shed light on the relationship between firm wealth and CSR concerns by determining whether exogenous changes in firm wealth, particularly via real estate assets, could influence a firm's engagement in CSR concern behaviors. To identify the effects of firm wealth on CSR, we identify the change in the value of firm real estate assets as an exogenous shock on firm wealth (Chaney et al., 2012). Specifically, we treat variations in local real estate prices as exogenous shocks to examine whether firms engage in more or fewer CSR concerns as their asset value changes unexpectedly. Using exogenous real estate shocks helps to mitigate the concern that some firm wealth changes are driven by past CSR policies. Thus, our research can speak rather directly to the nature of the causal relationship between firm wealth and CSR, which is unique in the CSR literature. Following Chaney et al. (2012), our estimated wealth variable is *RE Value*. The average *RE Value* is 0.496 (median is 0.352)[3], suggesting that real estate represents almost half of the tangible assets held by firms in our sample.

Controlling for year and firm fixed effects, an OLS regression analysis clustering observations at the state-year level supports negative causation between real estate shocks and the number of CSR concerns, suggesting that firms do in fact view CSR as an investment decision, which is influenced by the availability of economic resources. Specifically, a 2.84-percentage increase (decrease) in real estate value leads to one reduction (addition) to the number of CSR concerns, *ceteris paribus*.

[3] The median *RE Value* is comparable to the value of 0.28 reported by Chaney et al. (2012). They use the same data period as ours but include all firms that report real estate ownership in 1993. Because of CSR data availability, we use a smaller sample that includes relatively larger firms.

To investigate whether firms have a hierarchy of investment options and where CSR may rank in this hierarchy, we first split our data by the level of financial constraint that a firm faces. In support of our conjecture, the reported negative effect of real estate shocks is particularly evident in the group of firms *without* financial constraints (those that have already met their core business needs). For these firms, only one percentage increase in *RE Value* (compared to the 2.84-percentage increase among all firms and a non-significant impact among *constrained* firms) leads to one reduction in CSR concerns. To further examine what financially constrained firms do with wealth gains, we examine the impact of real estate shocks on their other investments. In contrast to the non-significant effects of wealth gains on CSR concerns, financially constrained firms use the wealth created by real estate shocks on capital expenditures and intangible assets (such as patents or goodwill increased through mergers and acquisitions).

As noted, we also examine whether and how political concerns, corporate governance, and public scrutiny influence the rank of CSR concerns in a firm's investment options. In support, and in addition to replicating the past findings that Democratic CEOs and Democratic-leaning firm locations are associated with fewer CSR concerns, we find that the negative effects of *RE Value* are especially evident for firms led by Democratic CEOs. For instance, among firms with a Democratic (versus Republican) CEO, a one percentage increase (decrease) in *RE Value* appears to lead to twelve times as many reductions (additions) in CSR concerns. This significantly extends prior theory by suggesting that "Democratic" firms are not only more willing to reduce CSR concerns in "good" times; they are more likely to increase CSR concerns in "bad" times. Second, we find that the negative causation between *RE Value* and CSR concerns is particularly evident in firms with higher-quality corporate governance and with CEOs who have more personal wealth exposed to firm stock price changes. Lastly, we find that the effect of real estate shocks on CSR concerns is particularly strong in the firms with more financial analysts, and the effect grows even stronger when the number of analysts increases. Specifically, the negative effect of *RE Value* on CSR concerns is about eight times higher in the group of firms with six or more financial analysts than in the group of firms with fewer analysts. These findings are all consistent with theory, as explained below.

To compare firms' CSR responses to wealth gains and losses, we split the sample into firm-years with wealth gains and firm-years with wealth losses. Consistent with the predictions of prospect theory, we find that the negative impact of real estate value on CSR concerns is four times stronger when firms experience real estate losses than gains. That is, they are willing to incur four times more CSR concerns after a real estate loss than the CSR concerns they alleviate after a real estate gain. Furthermore, consistent with prospect theory's suggestion that reactions are stronger when gains and losses are

relatively certain, the variation in firms' reaction to real estate shocks is particularly strong in states with less volatile (more stable) real estate prices.

Finally, our prospect theory logic is based on the idea that real estate gains and losses change firms' risk preferences, in service of protecting shareholder value. In other words, prospect theory would suggest that firms accept more CSR concerns after losses because losses increase their risk tolerance and their worries about shareholder value, whereas they reduce their CSR concerns after gains because gains reduce their risk tolerance and worries about shareholder value. Although our data did not allow us to measure firm risk preferences before CSR choices were made, we did conduct an indirect test of the theory by assessing whether the reduction of CSR concerns was successful in reducing firms' risk exposure and securing shareholder value. Cross-sectional and firm fixed effect regression analyses, using stock return volatility as our measure of firm total risk (Armstrong and Vashishtha, 2011), support the idea that reducing CSR concerns reduces risk, while increasing CSR concerns increases risk. Additionally, following a common valuation method (Denis et al., 2010; Faulkender and Wang, 2006), we show that increasing CSR concerns significantly reduces stock returns. This result is consistent with those reported by Kruger (2014). In sum, analyses of firm risk and stock returns indirectly support our argument that firms' decision to engage in less (more) socially disapproved behavior when they become wealthier (poorer) is driven by their risk tolerance and worries about shareholder value.

Overall, our research suggests that firms consider adjustments to CSR concerns an investment decision; thus, this decision is influenced by firm wealth. The relative attractiveness of adjustments to CSR concerns, however, depends on several organizational variables that influence the structure of their investment hierarchy (financial slack, political climate, corporate governance, and analyst coverage). Furthermore, based on prospect theory, we show that firm reactions to wealth gains and losses are not symmetric: wealth gains reduce CSR concerns, but wealth losses increase CSR concerns even more markedly, causing firms to cut proverbial corners.

Our study contributes to the literature on the link between firm performance and CSR (see Kitzmueller and Shimshack, 2012 for a review on the economics of CSR). This literature has revealed negative, positive, and neutral links (McWilliams and Siegel, 2000; 2001), partially because of the difficulties in establishing causality. Our paper differs by focusing on a causal relationship between firm value and CSR policies. To our knowledge, ours is the first attempt to provide genuine causal evidence about the influence of firm performance on CSR, and our data clearly documents such a relationship. In addition, our last set of empirical tests suggest a reciprocal relationship, with firm performance causing CSR behavior, which reciprocally influences firm performance.

Additionally, our paper contributes to the management literature. First, it offers support for the hypothesis that organizations may often act like individuals (e.g., Fiegenbaum and Thomas, 1988), as the

organizations are led and operated by individuals whose decisions are guided by prospect theory. Second, our research offers substantial clarification on the moderators and mechanisms of CSR, which have bedeviled the management literature much like the finance literature (McWilliams and Siegel, 2000; 2001). Finally, in addition to resolving theoretical puzzles in the CSR and management literatures, our findings shed substantial light on how to discourage socially disapproved behavior in firms.

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature. Section 3 describes the data and methods underlying the results presented in section 4. Section 5 provides evidence on the relationship between CSR and firm risk and value, and the paper concludes in section 6.

2. Literature Review and Hypothesis Development

2.1 Firm Performance and CSR

According to KLD, examples of specific socially disapproved behaviors include community concerns (e.g., tax, environmental, and water rights disputes), corporate governance concerns (e.g., accounting and transparency issues), diversity concerns (e.g., controversies resulting in fines or civil penalties and non-representation of women on boards), employee concerns (e.g., health and safety and retirement benefits), environment concerns (e.g., hazardous waste and ozone depleting chemicals), human rights concerns (e.g., controversial operations in foreign countries and labor rights issues), product safety concerns (e.g., product safety issues, consumer fraud, and antitrust), and other concerns (e.g., alcohol, gambling, tobacco, and firearms). Recognizing that individuals have different opinions as to what constitutes a CSR "concern," we nevertheless adopt KLD's categories given their wide adoption in the field of CSR (e.g., Chatterji et al, 2009; Goss and Roberts, 2011; Lange and Washburn, 2012; Moser and Martin, 2012, Hoi et al., 2013).

Both the practitioner and academic discourse on CSR reveal ambivalence about the links between CSR and firm performance. On the one hand, both shareholders and consumers appear to take firms' social performance into consideration when making decisions. For example, more than a quarter of participants in a U.S.-based survey have bought or sold shares based on a company's social performance, and about 42% of North American consumers have punished socially irresponsible companies by not buying their products (International Institute for Sustainable Development)[4]. As a result, firms appear to be responding to social demands for responsible behavior: More companies than ever are investing in environmental, social and governance issues (Di Giuli and Kostovetsy, 2014)[5], and the majority of

[4] See survey reported by International Institute for Sustainable Development: https://www.iisd.org/business/issues/sr_csrm.aspx.

[5] US companies allocated $28 billion to sustainability and $15 billion to corporate philanthropy in 2010 (according to Surveys: http://www.verdantix.com/index.cfm/papers/Press.Details/press_id/42/verdantix-forecasts-us-

executives expect to allocate additional resources to every dimension of corporate citizenship in the near future [State of Corporate Citizenship (SCC), 2014]. On the other hand, survey data suggest that managers see the implementation of further CSR activities as their most significant leadership challenge (State of Sustainable Business Survey, 2014, by BSR), suggesting that further CSR implementation may depend on resources that firms do not currently have—or even that future CSR activities may depend on their future performance. In sum, the practitioner literature provides some reason to believe that firm performance may influence CSR in addition to CSR influencing firm performance.

The academic literature has also long been divided on the relationship between CSR and firm performance (see a comprehensive review by Griffin and Mahon, 1997). As noted, the literature has suggested both positive links and negative links between the two variables, and a series of highly-cited papers have integrated these findings by providing theoretical and statistical reasons to believe that the link should, on average, be neutral (McWilliams and Siegel, 2000; 2001). Although more recent data based on improved methodologies tend to indicate a positive link (e.g., Simpson and Koshers, 2002; Deng et al., 2013), the nature and directionality of the relationship between CSR and firm performance remains unclear. Assuming a positive link, it remains possible that CSR primarily influences firm performance, performance primarily influences CSR, or both. These interpretations are hard to disentangle because causality is notoriously hard to establish and study in the CSR domain[6].

2.2 Financial Constraints and Investment Hierarchy

In a perfect market, where all firms have equal access to capital markets, a firm's investment decisions are independent of its financing conditions (Modigliani and Miller, 1958). Markets, nevertheless, are imperfect, and access to external finance does matter for investment decisions. Studies show that if a firm has difficulty obtaining outside finance, its investments display excess sensitivity to the availability of internal funds.[7] A recent study by Chaney et al. (2012) shows that, with financing frictions, shocks to the value of firm's pledgeable assets have a large impact on aggregate investment. Over the period 1993-2007, for example, U.S. corporations invested $0.06 out of each $1 of collateral. This positive impact of collateral value on aggregate investment is particularly evident for financially constrained firms.

The literature also suggests that in the presence of financing frictions, access to external capital may influence not only aggregate investment but the types of investment choices firms make. For

sustainable-business-spending-will-double-to-60bn-by-2014 and http://www.philanthropyjournal.org/news/top-stories/corporate-giving-grows-median-flat).

[6] A notable exception is the study by Di Giuli and Kostovertsky (2014). They find that firms led by Democratic CEOs are more likely to spend on CSR and score higher on CSR ratings than those led by Republican CEOs.

[7] See e.g., Fazzari and Athey (1987), Fazzari, et al., (1988a, 1988b), and Hoshi et al., (1990, 1991), Whited (1992).

example, Fazzari et al. (1988) argue that factors such as investment tax credits or depreciation allowances may be more important than the cost of capital for investment decisions. Firms' CSR policies may be impacted not only by resource availability, but also by the cash flow effects they bring compared to other investment opportunities such purchase of property.

2.3 Hypothesis Development

2.3.1 Investment Opportunities and CSR Concerns

CSR need not be a charitable donation nor a marketing scheme. The CSR literature has presented some links between firms' CSR policies and their actual risk management and performance. Godfrey (2005), for example, presents a theory suggesting that corporations increase philanthropy to generate moral capital, which provides "insurance-like" protection for shareholder wealth. Minor and Morgan (2011) show that enhanced CSR reputation protects firms from negative corporate events like product recalls. Several leading companies including GE, Nestle, and Johnson & Johnson have started incorporating CSR into their daily business operations under the "shared value" model (Porter and Kramer, 2011), which emphasizes that firms can generate economic value in a way that also produces value for society. These developments, both theoretical and organizational, suggest that at least some firms may see at least some forms of CSR as an investment.

We focus specifically on CSR concerns, investigating whether firms see concern reduction as a possible investment (and an increase in concerns as a shift toward other investments). CSR concerns not only summarize overall CSR performance well but also predict future negative events more accurately than positive CSR activities (e.g., Chatterji et al, 2009; Goss and Roberts, 2011; Lange and Washburn, 2012; Moser and Martin, 2012, Hoi et al., 2013). Furthermore, CSR concerns may be a more important determinant of firm value than responsible behavior (Clark, 2008; Frooman, 1997; McGuire et al., 2003; Kruger, 2015). Thus, concerns represent an important consideration in their own right.

As noted, the presence of imperfect market and financing constraints means that firms' investments will be sensitive to their internal fund availability and/or their access to external capital markets. Thus, Chaney et al. (2012) show that increases in real estate value increase firms' collateral value and therefore their debt capacity, which in turn increases their aggregate investment. Specifically, treating the change in a firm's real estate assets as an external shock on its collateral value, studies link real estate value changes to firms' investments (Chaney et al., 2012), capital structure (Cvijanovic, 2014), and cost of capital (e.g. Berger et al., 2011; Lin et al., 2011). If firms see CSR concern reduction as an investment decision, and if wealth changes like increases in real estate value influence a firm's investment choices, then:

Hypothesis 1A: Firms consider CSR concern reduction an investment decision, resulting in a negative relationship between firm wealth changes and CSR concerns.

On the other hand, firms may consider investing in CSR concern reduction not because they view it as an investment decision, but because they anticipate negative consequences if they fail to do so. In other words, firms may consider CSR concern reduction a "cost of doing business," a potentially well-founded view in light of the risks associated with falling below benchmarks on the CSR concerns. For example, firms that perform poorly on the environmental or human rights dimensions open themselves up to a host of issues from unflattering media attention, to lawsuits, to boycotts (e.g., Strachan, et al., 1983; Davidson, et al., 1994; Baucus and Baucus, 1997; Haunschild, et al., 2006; Karpoff, et al., 2008; and Nossiter, 2010). Thus, firms may engage in the minimal amount of positive CSR necessary or maximal amount of CSR concerns allowable to avoid attracting attention, which could readily result in an isomorphic pattern whereby peer organizations attempt to mutually match their CSR activities (Matten & Moon, 2008).

This view of CSR, like the view that it represents an investment decision, would result in many millions of dollars in CSR spending. The difference between the investment and business cost view of CSR, however, is that firms following the business cost view would try to minimize their CSR spending and match it to peer organizations. Their CSR spending would not be sensitive to exogenous changes in wealth. In other words, the business cost view would suggest little or no relationship between wealth changes and CSR concern reduction. Thus, we advance competing hypothesis 1B:

Hypothesis 1B: Firms consider CSR concern reduction a cost of doing business, resulting in little or no relationship between firm wealth changes and CSR concerns.

An initial, descriptive analysis of our data suggested that firm CSR activities do vary in accordance with wealth, providing preliminary support for hypothesis 1a. Thus, although we test the competing hypotheses more formally and exhaustively below, we also proceed to propose and test a series of predictions about the nature of the relationship between wealth changes and CSR concerns.

2.3.2 Investment Hierarchy and the Effect of Wealth on CSR Concerns

If firms treat CSR the same as other investment opportunities, the negative impact of wealth on CSR concerns should be similar in all firms. But, as noted above, the literature suggests that in the presence of financing frictions, access to external capital may influence not only aggregate investment but the types of investment choices firms make. If firms consider CSR as part of their investment portfolio, how do they

prioritize CSR relative to their other investment opportunities (or do they)? One possibility is that firms, as a result of financing frictions, prioritize their investments via an investment hierarchy. Thus, the financial slack theory of CSR (e.g., Preston and O'Bannon, 1997; Waddock and Graves, 1997) suggests that firms have an investment hierarchy, with their core business investment needs placed at the top and their CSR activities somewhere lower on the list. Thus, firms invest in their business needs first and then invest in CSR and other more "discretionary" activities if and when any resources remain. The critical implication is that financially unconstrained firms, which have more financial slack than financially constrained firms by definition, should be more likely to invest in matters of social performance, like CSR concerns (Preston & O'Bannon, 1997; Waddock and Graves, 1997).

Financial slack is but one of several relevant organizational variables that may influence the structure of a firm's investment hierarchy, as well as where CSR falls in that structure. In particular, the CSR literature suggests three important variables that may give firms a "taste" for adjusting their CSR activities following wealth changes: 1) political environment, 2) corporate governance, and 3) analyst coverage. First, at least in public statements, the Democratic Party appears to place more emphasis on CSR-related issues like environmental protection, antidiscrimination laws, etc. Consistent with this idea, a 2007 National Consumers League survey shows that 96% of Democrats believe Congress should ensure that companies address social issues, compared to 65% of Republicans[8]. Additionally, firms score higher on CSR when they are led by Democratic CEOs or are located in Democratic-leaning states (Di Giuli and Kostovetsky, 2014), and Democratic investment managers hold more socially responsible companies in their portfolios than do Republican managers (Hong and Kostovetsky, 2012). This evidence suggests that the CSR decisions of Democratic firms may be more sensitive to wealth changes, which should amplify their reduction in CSR concerns after a wealth gain but also amplify their increase in CSR concerns after a wealth loss.

The second factor is corporate governance. The conventional economic perspective holds that firms should not internalize their negative externalities (Pigou, 1920) and that the "social responsibility of business is to increase its profits" (Friedman, 1970). In that case, we should expect little or no effect of wealth on CSR concerns in well-governed firms, where managerial interests are more aligned with those of shareholders. Recent studies (e.g., Harjoto and Jo, 2011), however, show that positive CSR behaviors are positively associated with governance characteristics.

We use two proxies for the quality of corporate governance. First is an entrenchment index (*E Index*) developed by Bebchuk, Cohen, and Ferrell (2009), with higher numbers indicating higher managerial entrenchment and thus weaker corporate governance. The second proxy is CEO's equity-

[8] Fleishman-Hillard Inc. and the National Consumers League survey: http://www.marketingcharts.com/?attachment_id=400.

based compensation. Specifically we use *CEO Delta*, which is the dollar amount of a CEO's wealth that is exposed to the firm's stock prices. The use of equity-based compensation, especially by increasing the sensitivity of CEO wealth to stock price (Jensen and Murphy, 1990; Hall and Liebman, 1998), has grown rapidly in recent years (Murphy, 1999; Perry and Zenner, 2000). A higher delta means that CEOs share gains and losses with shareholders. Additionally, a higher delta increases managers' exposure to risk (Amihud and Lev, 1981; Smith and Stulz, 1985; Schrand and Unal, 1998; and Guay 1999) because it means they are undiversified with respect to firm-specific wealth. Studies show that CEOs with higher deltas are thus more risk-adverse (Amihud and Lev, 1981; Smith and Stulz, 1985). For all of these reasons, a higher CEO delta is seen as aligning managers' and shareholders' incentives (Coles et al., 2006). Although the direction of the impact of corporate governance on where CSR ranks in investment hierarchy is unclear *a priori*, the literature suggests that corporate governances impacts firms' preference for investing in CSR concerns.

Lastly, studies show that infomediaries like analysts play an active role in influencing a firm's public exposure, which could readily increase the risks of engaging in excess CSR concerns. Thus, firms with more infomediaries are scrutinized more closely by the public (Fombrun and Shanley, 1990; Rao, 1994; Fombrun, 1996; Pollock and Rindova, 2003). Additionally, Chung and Jo (1996) suggest that security analysts play important roles as corporate monitors and help reduce agency costs by making a firm's actions public. Knyazeva (2007) and Yu (2008) view analysts as additional monitoring mechanisms and argue that analyst coverage imposes discipline on misbehaving managers and helps align managers with shareholders. Finally, Harjoto and Jo (2011) show that firms with more analysts tend to have higher CSR ratings. Thus, it is natural to expect that firms with more analysts will be more concerned about the risks associated with CSR concerns and, much like firms with strong governance, will be more reactive to wealth changes when setting CSR policies.

These studies, though diverse, all support the same idea: that firms have a hierarchy of investment priorities, and CSR's rank in that hierarchy varies depending on a predictable set of factors (financial slack, political environment, governance, and analyst coverage). Thus, hypothesis 2 suggests that:

Hypothesis 2: Firms have an investment hierarchy, such that the effect of wealth on CSR is stronger in financially unconstrained firms, Democratically-led firms, better governed firms, and firms with more analyst coverage.

2.3.3 Prospect Theory and the Pattern of the Effect of Wealth on CSR

Do wealth gains and wealth losses have symmetric effects on firms' CSR decisions? The answer is important for many reasons, including the potentially varying implications for CSR concerns of recessionary and expansionary economic conditions.

To address this issue, we draw from prospect theory (Kahneman and Tversky, 1979): a basic theory of human choice suggesting that people react differently to perceived gains and losses. Although gains are preferred to losses, "losses loom larger than gains," meaning that the "pain" associated with a $1 loss is greater than the "pleasure" associated with a $1 gain. This leads to an S-shaped utility curve with a steeper curve in the loss domain; the critical implication for the current paper is that people who perceive an outcome as a loss tend to become relatively more risk-seeking to reverse the loss, whereas people who perceive a gain become more risk-averse to preserve the gain.

In addition to explaining a wide variety of individual behaviors, prospect theory has been effectively applied to firm behavior (Allison, 1971; Bowman, 1982; Fiegenbaum and Thomas, 1988). Fiegenbaum and Thomas (1988), for example, showed that firms whose performance fell below an aspiration point (a perceived loss) became risk-seeking, whereas firms whose performance rose above an aspiration point (a perceived gain) became risk-averse. Additionally, university endowments actively reduced their payouts following negative financial market shocks, but did not increase their payouts following positive shocks (Brown et al., 2014). These are just two of many studies suggesting that firms, like the individuals who lead them, demonstrate behavior reflective of prospect theory. The probable reason is just that: firms are led by CEOs and top management teams, whose own decisions are influenced by prospect theory (e.g., Fiegenbaum and Thomas, 1988; Fiegenbaum, et al., 1996; Hayward and Hambrick, 1997; Wiseman and Gomez-Mejia, 1998; and Sanders, 2001). Since those decisions become firm policy (e.g., Hambrick and Mason, 1984; Bertrand and Schoar, 2003; Altman and Hotchkiss, 2005), firm behavior mirrors the dictates of individual-level prospect theory. Research has provided a variety of support for the idea that top managers' decisions mediate the effects of individual-level prospect theory on firm-level behavior. For example, in the university study mentioned above, asymmetric payouts were particularly evident in endowments whose value was close to the benchmark value at the start of the university president's tenure, suggesting that the university president was experiencing market losses rather personally and acutely.

In sum, prospect theory suggests that firms, like individuals, will respond especially strongly to wealth losses (versus gains). With respect to CSR concerns, this would suggest a specific response pattern:

Hypothesis 3: Firms increase CSR concerns more readily after a wealth loss than they reduce CSR concerns after a wealth gain.

3. Data Description and Summary Statistics

3.1 Real Estate Shocks and CSR

We start from the sample of active U.S. COMPUSTAT firms in 1993 with non-missing total assets, excluding firms in finance industries (SIC code between 6000 and 6999). We then collect data on the value of real estate assets for each firm. Specifically, following Chaney et al. (2012), we calculate the ratio of the accumulated depreciation of buildings (dpacb in Compustat) to the historic cost of buildings (fatb in Compustat) and multiply by the assumed mean depreciable life of 40 years (Chaney et al., 2012; Nelson et al., 2000). To calculate the average age of the real estate assets, we obtain the year of purchase for the real estate assets. Finally, for each firm's real estate assets (fatp+fatb+fatc in Compustat), we use a real estate price index to estimate the market value of these real estate assets for 1993, and then calculate the market value for each year in the sample period (1993-2007). The accumulated depreciation on buildings is not available in COMPUSTAT after 1993. Therefore, we restrict our sample to firms active in 1993.

To measure the market value of real estate, we use state-level real estate asset price indices from the Office of Federal Housing Enterprise Oversight (OFHEO). The OFHEO provides a Home Price Index (HPI), which is a broad measure of the movement of single-family home prices in the United States[9]. HPI data are available at the state level since 1975[10]. Figure 1 presents the trend of state-level HPI during the sample period. The trend appears to be monotonically increasing until the late 2000s, when it slows.

[Insert Figure 1 Here]

We then match the state-level real estate price index with our accounting data using the state identifier from Compustat. $RE\ Value_t$ is thus the market value of the real estate appearing on the 1993 balance sheet in year t, scaled by lagged property, plant, and equipment. The impact of real estate price changes on firm wealth may be different from the state-level housing price changes. By definition, the wealth impact to firms is simultaneously determined by the original holding of real estate since the inception time of 1993, the state-level house prices, and how much firms expand after 1993. To illustrate, a firm that held substantial real estate assets in 1993 and did not purchase property after 1993 would clearly benefit from subsequent housing price increases. In contrast, for a firm that held few real estate assets in 1993 and/or kept purchasing real estate at market price, the impact of house price changes on

[9] Using residential real estate prices as a proxy for commercial real estate prices could be a source of noise. These two indices, however, are reasonably highly-correlated (0.57 at state-level). Furthermore, Chaney et al. (2012) use both proxies and show that their results do not depend on the price index used.

[10] Using state-level HPI yields more observations than MSA. We however reexamine our hypothesis by MSA HPI and our main results hold.

firm wealth would be determined by both the numerator (how much the value of the real estate assets held in 1993 changes afterwards) and the denominator (how much real estate firms purchase at higher market prices afterwards).

Figure 2 presents the trend of the percentage of firms experiencing positive changes, suggesting wealth gains, in $RE\ Value_t$ during the sample period. It shows that the number of firms experiencing positive real estate shocks (and likely benefitting from it because of the gains from the difference between the higher market price and the lower historical purchasing price) increases steadily during the 1990s and the early 2000s before it starts to decline after 2003. Note that we are interested in the impacts of real estate shocks on individual firms, depending on their holding of real estate assets in 1993. Even though our data end before the collapse of the housing market starting in 2008, Figure 2 shows that the sample includes numerous firm-year observations with both positive and negative real estate shocks. In the regression analysis presented in the following section, we include both firm-level real estate shocks and the state-level housing price indices (HPI).

[Insert Figure 2 Here]

We define CSR concerns as corporate activities that KLD has recognized as having a socially disapproved impact on stakeholders like the community, employees, shareholders, customers and environment, etc. The KLD database contains firm-year data, including thirty-four binary scores in seven categories: corporate governance, employee relations, environment, community, diversity, human rights, and product quality and safety. The variable $Concerns_all_t$ is the total number of such concerns for a firm in year t. For instance, KLD indicates that Wal-Mart Stores, Inc. had eleven concerns in 2005 in the following areas: community (other), corporate governance (high compensation), diversity (controversies and other), employee relations (union relations and other), environment (regulatory problems), human rights (labor rights concern), and three product concerns (safety, marketing and antitrust). Therefore the $Concerns_all_t$ score for Wal-Mart Stores, Inc. in 2005 is eleven. It increases to fifteen in 2006, and the increase is due to employee relations (health and safety concern), two more corporate governance concerns (political accountability concern and other), community (negative economic impact). Figure 3 presents the number of average CSR concerns across all firms during the sample period. The number of concerns remains relatively stable around 2 and starts to increase significantly around 2004.

[Insert Figure 3 Here]

3.2 Summary Statistics

Since the KLD dataset starts to provide CSR scores for the S&P 500 in the 1990s, we end with a sample of 2,936 firm-year observations that have both CSR and real estate value information available. Table 1 presents the summary statistics.

Table 1 shows that the average number of CSR concerns is 2.227, ranging from zero to as many as 18. The average *RE Value* is 0.496, suggesting that the market value of real estate accounts for almost half of our sample firms' fixed assets. The untabulated median *RE Value* is 0.356, and it is comparable to the value of 0.280 reported by Chaney et al. (2012). They use the same data period as ours but include all firms that report real estate ownership in 1993. Due to data availability, we use a smaller sample that includes the larger firms, for which CSR data is available.

We also report the state-level *HPI volatility*, which is the standard deviation of the state-level HPI during the sample period. The average value is 80.704. The untabulated statistics show that the five most volatile states/territories during the sample period are Massachusetts, New York, Washington D.C., California, and Rhode Island, and the least volatile are Nevada, Louisiana, West Virginia, Texas, and Oklahoma.

As noted, our sample includes the largest public U.S. firms because of data availability. The summary shows that the average value of total assets is $7.321 billion, and the average value of market value of equity is $13.412 billion. To provide more insight into the sample, we rank our sample firms with the population of U.S. public firms by market value in each year, by quartiles. The summary statistics show that the average size quartile of our sample firms is 3.948, suggesting that they rank above the top 75^{th} percentile level in each year during the sample period. The average market-to-book ratio of equity (*MtB*) of our sample is 3.751.

[Insert Table 1 Here]

To examine firms' investment hierarchy, first via the financial slack hypothesis, we measure firms' financial constraints by their credit constraints. Following prior studies such as Denis et al. (2010), our measure of financial constraint is whether a firm has a bond rating (*Rated*). Table 1 shows that the average value of *Rated* is 0.706, suggesting that 70.6% of the sample observations have access to the credit market, whereas 29.4% are constrained in the sense of not having access. This high rate of access is not surprising given the relatively large size of the firms in our sample.

Drawing from the literature, we construct several variables to explain why firms may have different "tastes" for adjusting their CSR concerns in response to wealth changes. The first factor we explore is political influence. We use two proxies for the influence of political preference. One is the local political preference of the firm's surrounding area. Firms' local political environment, such as whether it

is located in a "Red" or "Blue" state, is known to influence their corporate social responsibility (Rubin, 2008). We measure local political preference by collecting data on all of the donations individuals make during each election cycle, and then sort them by five-digit zip codes. We code the local political environment as *Local Dem* if the donations made to Democratic parties during an election cycle are higher than the donations made to Republican parties (relatively few were made to other parties). Our results show that the average value of *Local Dem* is 0.302, suggesting that 30.2% of the firms are located in Democratic-leaning areas.

Our other political preference measure is the CEO's political preference. Following Hong and Kostovetsky (2012) and others, we use CEOs' political donations during election cycles as a proxy for their party affiliations. Individual donation data are obtained from the FEC website (www.fec.gov), which makes all federal contributions by individuals since 1979 publicly available, along with information like the donor's address and employer, the donation amount, and the recipient of the donation. Donors can make direct donations to candidates or party committees (whose party affiliation can be identified though the FEC website). Because of the enormous size of the records for each election cycle, we first reduce the size of the file by matching the FEC data with the Execucomp database through donors' occupations. . We then use names to identify CEOs who make donations. CEO political preference is determined by the total amount of donations to each party during the whole sample period; they need not donate every election cycle to be included. A CEO is coded as a *Rep CEO* if he/she makes more donations to Republican candidates and parties during the whole sample period (about 28% of the sample) and *Dem CEO* in the converse case (about 10% of the sample). The remaining CEOs made no identifiable donations.

Second, Table 1 presents the average quality of corporate governance, first using an entrenchment index (*E Index*) developed by Bebchuk, Cohen, and Ferrell (2009). The index ranges from 0-6, with higher numbers indicating higher managerial entrenchment and thus weaker corporate governance. The average value of *E Index* is 2.857. Our other proxy for corporate governance is *CEO Delta*, which is the dollar amount of a CEO's wealth that is exposed to the firm's stock prices. The delta calculation follows the procedure of Guay (1999) and Core and Guay (2002), using the Black-Scholes (1973) option valuation model, as modified by Merton (1973) to account for dividends. Detailed information on the options granted to CEOs until 2006, including exercise price, maturity, and number of options issued, are obtained from ExecuComp. Stock volatility is estimated by using daily stock information from the Center for Research in Security Prices (CRSP). Table 1 shows that the average dollar amount of *CEO Delta* is $1.090 million, suggesting that, on average, the value of a CEO's stock holdings changes by $1.090

million when firm's stock price changes by 1%. This value is higher than the mean value of $0.6 million reported by Coles et al. (2006) because of a different sample period and set of firms[11].

The third moderator that may influence firms' taste of CSR is infomediaries. We use the number of analysts following our sample firms as a proxy. The range is 0-30, and the average in our sample is 7.372.

4. Main Results

4.1 Wealth and CSR Concerns

In this section, we test our first set of hypotheses on wealth and CSR concerns by examining the effect of real estate shocks on CSR concerns. Our goal is to provide initial evidence on the question of whether firms treat CSR concerns as an investment decision, as evidenced by a pattern of CSR investment that varies with wealth changes. The baseline model that we use to run the main analysis is given by:

$$Concerns_all_{it}^{l} = \alpha_i + \delta_t + \beta \cdot RE\ Value_{it} + \gamma P_t^l + controls_{it} + \epsilon_{it} \quad (1)$$

Where *Concerns_all* is the number of the CSR concerns in year t for firm i located in state l, $RE\ Value_{it}$ is the market value of real estate asset in year t to lagged PPE, and P_t^l is the state-level HPI price in state l in year t.

The coefficient $\widehat{\beta}$ is the average effect of real estate shocks on CSR concerns. The interpretation of this reduced form equation is based on prospect theory, which predicts that the coefficient $\widehat{\beta}$ will be negative, especially when firms experience sure losses. Therefore in a reduced form, the coefficient $\widehat{\beta}$ measures, for the average firm in the sample, the effects of real estate shocks on CSR activities, specifically the number of CSR concerns.

Our control variables are firm size measured by market value ($LnMkt_t$), market-to-book ratio (MtB_t), and profitability ($PITA_t$). These variables capture the effects of the changes in a firm's specific risk, growth opportunity, and profits on its CSR concerns. We also include a firm fixed effect α_i, as well as year fixed effects δ_t, to capture aggregate specific CSR shocks. Finally, the variable P_{lt} controls for the overall impact of the real estate cycle on CSR concerns. Shocks ϵ_{it} are clustered at the state-year level. This correlation structure is conservative given that the explanatory variable of interest, $RE\ Value_{it}$, is defined at the firm level (see Bertrand, et al., 2004; Chaney, et al., 2012).

To summarize, $RE\ Value_{it}$ measures the subsequent variations in the market values of the specific assets shown on firms' 1993 balance sheet. β therefore measures how firms' CSR concerns respond to

[11] Coles et al. (2006) study U.S. public firms during the sample period between 1992 and 2002, including a sample of 9,551 firm-year observations.

each additional $1 of real estate the firm actually owns. This specification helps us to isolate our results from the state-level shocks that impact all firms with or without real estate assets.

Table 2 presents estimates of the equation. The dependent variable is the number of CSR concerns. All models control for year-specific and firm-specific effects, and errors are clustered at state-year level. Model 1 starts with the simplest estimation, including just $RE\ Value_{it}$ without additional controls. It shows that a one percentage increase in the market value of real estate assets reduces the number of CSR concerns by 0.430. Or, put in another way, a 2.325 percentage increase in the market value of real estate assets leads to one reduction in the number of CSR concerns. The adjusted R^2 is 0.737, suggesting that $RE\ Value_{it}$ and the controls explain a significant portion of the change in CSR concerns in a given year, for a given firm.

Model 2 includes the additional control variables. The coefficient on $RE\ Value_{it}$ remains significant at the 1% level, though the magnitude decreases slightly. The control variables yield interesting insights too. Firm size increases CSR concerns. The coefficient of *LnMkt* is 0.145 and significant at the 5% level. Both growth opportunities and profitability reduce CSR concerns, which are consistent with the literature that reports a positive link between firm performance and CSR ratings. Our results therefore support hypothesis 1A, that firms consider CSR concern reduction an investment decision, resulting in a negative relationship between firm wealth and CSR concerns.

4.2 When Do Firms Invest in CSR Concern Reduction? The Investment Hierarchy Analysis

To test our hypotheses regarding the existence of an investment hierarchy and where CSR concerns fall in the hierarchy, we examine how wealth impacts CSR concerns in various subsamples divided by financial constraints, political influence, corporate governance, and analyst coverage. We first split firms by their financial constraints. As a reminder, the financial slack argument suggests that the effects of a real estate shock should be especially pronounced for firms without financial constraints, as they have already met their financing needs, and any real estate gains represent genuine financial slack. Firms with financial constraints, conversely, suffer underinvestment, so real estate gains may be prioritized to remedy underinvestment (Chaney et al., 2012).

Our measure of financial constraints is credit constraints, operationalized as bond ratings assigned by S&P (Almeida, Campello, and Weisbach, 2004). We do not use firm size as a proxy, as in Almeida et al. (2004), because the firms in our sample are all large compared to the population of public firms. We split the sample into the financially *constrained* firms and *unconstrained* firms and rerun our baseline equation. The results are reported in Models 1 and 2 of Table 3. We then further split the sample by the state-level HPI volatility. Specifically, we split the sample by the mean value of the state-level HPI volatility, which is 80.704.

[Insert Table 3 Here]

The results of Model 1 and 2 show that the coefficient on $RE\ Value_{it}$ is significant and negative only for the group of unconstrained firms (which constitute the majority of our sample). Specifically, the coefficient is -0.903 (significant at the 1% level), suggesting that a one percentage increase (decrease) in *RE Value* leads to almost one reduction (addition) to the number of CSR concerns. This negative effect of wealth on CSR concerns in unconstrained firms becomes even larger in the states with relatively stable HPI prices (where gains and losses are more "certain," in the parlance of prospect theory). The coefficient is -1.558 (significant at 1%), suggesting that a one percentage increase (decrease) in real estate value leads to 1.558 reductions (additions) to the number of CSR concerns.

Our results thus provide initial support for hypothesis 2, that firms have an investment hierarchy and that CSR falls lower than core business investments in the hierarchy, as evidenced by the weaker relationship between wealth changes and CSR concerns in financially constrained firms. In particular, we show that for constrained firms, a sudden real estate gain (loss) does not appear to impact CSR concerns. The coefficient is 0.003 for the total sample. Therefore, in light of studies showing that real estate shocks increase firms' debt capacity and investment, especially for financially constrained firms (Chaney et al., 2012), our results show that there may not be enough slack left over for these firms to reduce their CSR concerns. In other words, financial slack represents an important moderator of the relationship between wealth and CSR concerns, suggesting that CSR concerns do not rank among the highest priorities for financially constrained firms.

Indeed, since we conjecture that financially constrained firms should invest any unexpected windfalls in the good projects that their financial constraints previously forced them to pass up, we examine this conjecture directly by replacing the dependent variables with investment in capital expenditure and intangible assets. The results are shown in Panel B of Table 3. The results of Models 1 and 3 show that real estate shocks increase financially constrained firms' investment in capital expenditure and intangible assets significantly. These results also support our conjectures about the investment hierarchy. For financially unconstrained firms, real estate shocks also increase their acquisition of intangible assets such as through M&As or acquiring patents.

Next, we test hypothesis 2 by examining the other three factors that may impact firms' taste for CSR. The first measure is local political preference, and the results are presented in Table 4. To provide more insight into the impact of political preference, we add two new political variables, $Reppresident_t$ and $Repmajority_t$, to the baseline model, and the results are reported in Models 3 and 4. $RepMajority_t$ is one if

the majority of the Senate Majority Leader is Republican. These two new variables are included to capture the political environment for CSR.

[Insert Table 4 Here]

Model 2 shows that the previously reported negative causation of real estate shocks is particularly driven by (the minority of) firms located in Democratic-leaning areas. The coefficient is -0.439 (significant at 1%). The coefficient is negative but not significant for firms located in Republican-leaning areas. These results suggest that wealth is a particularly important driver of CSR concern adjustments for firms with Democratic preferences; they decrease CSR concerns more readily after wealth gains but also increase CSR concerns more readily after wealth losses. For firms with Republican-leaning preferences, CSR concerns are not very responsive to wealth shocks, suggesting that factors other than wealth may have more influence on the CSR behavior of firms with Republican preferences. Although our results are consistent with Rubin (2008), who finds that companies with a high (low) CSR ratings tend to be located in Democratic (Republican) states and counties, we additionally find that local political preference exacerbates the wealth effect of real estate shocks on CSR concerns.

The results of Model 3 and 4 show that the significantly negative effect of $RE\ Value_t$ on CSR concerns remains in firms located in Democratic-leaning areas, after we add the two new political variables. The signs of the coefficients on both $Reppresident_t$ and $Repmajority_t$ are positive and significant, especially for firms located in Republican-leaning areas, which are consistent with the emphasis presented by each party's public statements.

To provide further evidence on the interactive effects of political influence, we next examine the influence of CEO's political affiliation on to the wealth / CSR concern relationship. We rerun the baseline equation, adding variables for the CEO's political affiliation. We also keep the two variables that measure the general political environment for CSR activities. The main results are very similar without these two additional control variables. The results are reported in Table 6. We include *Dem CEO* and *Rep CEO* separately because our models run at firm-level. Thus, the coefficient on *Dem CEO* indicates the effects on CSR concerns when the firm switches to a Democratic-leaning CEO, and the coefficient on *Rep CEO* indicates the effects on CSR concerns when the firm switches to a Republican-leaning CEO.

[Insert Table 5 Here]

Model 1 shows that when a firm switches to a Democratic-leaning CEO, the firm's number of CSR concerns decreases by 0.353 (significant at the 1% level). More relevant for our predictions, Model

2 shows that in the states with relatively stable state-level HPI prices, the coefficient on the interaction between *Dem CEO* and *RE Value*$_{it}$ is -1.829 (significant at 5%), suggesting that the negative effect of *RE Value* on CSR concerns is stronger in firms who switch to Democratic-leaning CEOs than for all other firms. Model 4 shows that when a firm switches to a Republican-leaning CEO, however, the number of firm's CSR concerns increases; the coefficient is 0.205 (significant at 5%). Furthermore, the results of Models 5 and 6 show that there are no interaction effects of *Rep CEO* and *RE Value*$_{it}$.

Our results support the findings of Di Giuli and Kostovetsky (2014), who show that firms score higher on CSR when they are led by Democratic CEOs or are headquartered in Democratic-leaning states. More important for our hypotheses, we show that the negative effects of *RE Value* on CSR concerns are especially evident when firms switch to Democratic CEOs. For example, in states with stable HPI indices, a one percentage increase (decrease) in *RE Value* leads to 1.8 reductions (additions) to CSR concerns for firms who switched to Democratic CEOs at the time of real estate shocks; this impact is about twelve times higher than the effect for firms that switched to Republican CEOs at the time of shocks, suggesting that Democratic-leaning CEOs are more responsive to wealth changes when making CSR decisions.

To provide more insight into the nature of the CSR adjustments that firms make, we rerun the Table 5 estimations with specific CSR categories as the dependent variables. Again, we report the categories on which the interaction variable of CEO political-leaning and real estate value had significant impacts for the firms located in states with relatively stable HPI prices. The results are reported in Table 6.

[Insert Table 6 Here]

Results show that when firms switch to Democratic-leaning CEOs, positive (negative) real estate shocks lead to reductions (additions) in CSR concerns like corporate governance, environment, humanity, and product safety. Even though there are no significant changes in the total number of CSR concerns for firms that switch to Republican-leaning CEOs, as shown by the non-significant positive coefficient, CSR ratings do change in the categories of community and corporate governance after a real estate shock. In sum, analyses of the interaction effects of political preferences support the negative causation between real estate shocks and CSR concerns, but extend that finding by showing that it is stronger in a Democratic Party environment. The finding that political environment moderates the effect of wealth changes on CSR concerns again supports Hypothesis 2, this time by suggesting that the political environment affords a "taste" for adjustments to CSR concerns.

Next, we examine the investment hierarchy from the perspective of corporate governance. As noted, we use two proxies for interest alignment: managerial entrenchment and CEO stock-based

compensation. The results are reported in Table 7. We split the sample by the median value of *E index* and by *CEO delta*.

[Insert Table 7]

The results show that the negative causation between *RE Value* and CSR concerns is particularly driven by firms with stronger corporate governance (less entrenched managers and CEOs with more personal wealth exposed to firm stock price changes). The coefficients are -0.432 and -0.538 for firms with low *E indices* (stronger corporate governance) and high *CEO deltas* (significant at the 1% level and 5% level), respectively, suggesting that corporate governance also affords a "taste" for CSR concern reduction.

Lastly, to capture the effect of infomediaries on CSR policies, we measure the number of analysts following the firm. To test our conjecture, we split the sample into firms with and without financial analysts, and those with more and fewer financial analysts. The results are presented in Table 8. In Models 3 and 4, the sample is split by the median number of analysts, which is six for our sample.

[Insert Table 8]

We find that the negative effect of real estate shocks is particularly driven by firms with numerous financial analysts. Model 2 shows that, for firms with any analyst following, the coefficient is -0.374 (significant at the 1% level). This negative impact increases to -0.906 when the number of analysts following is six or more (significant at the 1% level). Our results are consistent with the literature on the role of financial analysts in increasing monitoring and aligning interests, and they suggest that infomediaries like analysts represent a third variable that could give firms a "taste" for CSR concern adjustment.

In sum, we find that CSR is a more important investment opportunities in some firms than in others. The wealth effect on CSR concerns vary by financial constraints, political influence, corporate governance and analyst coverage. Thus, firms not only see CSR concern reduction as an investment decision; they see it as a more or less attractive investment option as a function of these factors.

4.3 Responses to Wealth Gains and Losses.

As explained earlier, prospect theory suggests that the negative causation between wealth and CSR concerns should be stronger when firms experience negative (versus positive) wealth shocks. In this section, we formally test this prediction by splitting the baseline equation into those firm-year

observations associated with positive real estate shocks and those with negative shocks. The results are reported in Panel A of Table 9. Furthermore, based on prospect theory's implication that sure gains and losses are more motivating than tenuous gains and losses, we split the sample into subsamples according to the state-level HPI volatility. We predicted that the observed trends would be more evident in states with relatively stable HPI prices, suggesting sure gains or sure losses.

[Insert Table 9 Here]

Models 1 and 2 report the results for the groups of firms with real estate gains or losses. Models 3 to 6 present the results for the subgroups of such firms, by the state-level HPI volatility. Model 2 shows that the coefficient on $RE\ Value_{it}$ is 0.678 (significant at the 1% level) for the group of firms experiencing negative real estate shocks, which is about four times larger than the coefficient for the group of firms with positive shocks. This result supports the prediction of prospect theory that losses will loom larger than gains. It appears that firms are more aggressive in revising their CSR policies when experiencing negative real estate shocks than when experiencing positive shocks. Put differently, they increase their CSR concerns following losses more readily than they reduce their CSR concerns following gains (a potentially troubling result). Models 3 and 6 show that the observed steeper slope in the wealth-loss firms is particularly apparent in states with low HPI volatilities, which is consistent with prospect theory's "certainty effect," indicating that sure losses and sure gains factor more heavily than uncertain losses and gains.

Given the increasing public attention to socially disapproved behaviors, an interesting question is *how* firms change their CSR policies, especially when they allow their CSR concerns to increase. Is there an order in which they assume additional concerns? To provide insight, we reexamine the baseline model by replacing the *Concerns_all* variable with the seven specific categories. In the interest of space, we only report the categories on which *RE Value* has a significant impact. The results, reported in Panel B of Table 9, show that when firms experience positive real estate shocks, they first reduce employee concerns (union relations, health and safety issues, workforce reductions, retirement benefits, etc.)[12]. When firms experience negative real estate shocks, however, they also *increase* concerns related to employees, as well as corporate governance and their products. Corporate governance concerns include issues like high compensation, ownership, accounting, transparency, and political accountability; product concerns include product safety, marketing issues, and antitrust. In addition to providing interesting insights into the kinds of concerns firms are willing to assume, these results support Hypothesis 3, that firms assume additional concerns (after wealth losses) more readily than they reduce concerns after wealth gains.

[12] For a detailed definition, please see Appendix A.

5. CSR and Firm Risk and Value

Although the literature has long been divided on the relationship between CSR and firm performance (as noted; see a comprehensive review by Griffin and Mahon, 1997), a growing number of analyses indicate a positive link (e.g., Simpson and Koshers, 2002; Harjoto and Jo, 2011; Kruger, 2015). Our conjecture of negative causation between real estate shocks and CSR concerns is based on the assumption that firms believe that reducing their CSR concerns will reduce their risk and ultimately improve their valuation. Although we did not have access to data on the beliefs of CEOs and their top-management teams prior to their CSR decisions, we did conduct an indirect test of the theory by examining whether changes in CSR concerns did in fact influence subsequent firm risk and value.

To test the link between CSR and risk, our measure of firm total risk is stock return volatility, as in Armstrong and Vashishtha (2011). To test our conjecture, we include the number of CSR concerns, *Concerns_all*, in the regression analysis and also control for any impact from CSR strengths. The results are reported in Table 10. Model 1 reports the cross-sectional results of the OLS regression analysis without controlling for firm fixed-effects, and model 2 reports the results after controlling for firm fixed-effects. All standard errors are clustered at the firm level.

[Insert Table 10 Here]

Consistent with the literature presenting links between firms' CSR policies and risk management (Godfrey, 2005; Minor and Morgan, 2011) as well as our own theoretical logic, the results show that an increase (decrease) in CSR concerns significantly increases (decreases) firm risk. The coefficients on *Concerns_all* are 0.013 and 0.013 for the cross-sectional and firm level analyses (significant at the 5% level), respectively. Thus, the conjecture that firms reduce CSR concerns to reduce risk and therefore secure sure real wealth gains is (indirectly and tentatively) supported by the ultimate effects of CSR concern reduction.

As a further indirect test of our theory, we also measure the impact of CSR on firm value by estimating a regression of annual abnormal stock return on the number of CSR concerns (following Denis et al., 2010 and Faulkender and Wang, 2006). The coefficient is interpreted as a measure of the value that investors place on one CSR concern. The dependent variable is excess stock return over the fiscal year, which is the stock return over the fiscal year minus the return on a benchmark portfolio. The benchmark portfolios are twenty-five Fama-French value-weighted portfolios, sorted by size and book-to-market characteristics. We include the same set of control variables as in Denis et al. (2010), such as change in cash, change in book assets net of cash, change in earnings before interest and extraordinary items

(*Earnings*), change in R&D expenses, change in interest expenses, change in dividends, lagged cash holdings, leverage, net financing during the fiscal year, financial constraints, and corporate governance (*E Index*). To test our conjecture, we include the number of CSR concerns, *Concerns_all*, in the regression analysis. We also control for any impact from CSR strengths. The results are reported in Table 11. Model 1 reports the cross-sectional results of the OLS regression analysis without controlling for firm fixed-effects, and model 2 reports the results after controlling for firm fixed-effects. All standard errors are clustered at the firm level.

[Insert Table 11 Here]

The results show that the number of CSR concerns not only explains variations in firm value across firms in a given year; it also explains variations in firm value within a firm over the period. Specifically, the coefficient of -0.004 for the cross sectional analysis (significant at the 10% level) suggests that an increase (decrease) in one CSR concern decreases (increases) a firm's annual abnormal return by 0.4%. The coefficient of -0.013 for the firm-level analysis (significant at the 5% level) suggests that an increase (decrease) in one CSR concern reduces (increases) a firm's annual abnormal return by 1.3%. These results show that the impact of CSR concerns on firm abnormal returns is statistically significant and economically meaningful, particularly in explaining the variations at firm-level. The coefficients for *Strength_all* are negative but not significant. These results are consistent with Kruger (2015), who shows that investors respond very negatively to negative events. They also lend indirect support to our theory, indicating that firms engage in fewer socially disapproved behaviors after wealth gains in order to reduce their risk and secure their financial status—and more of such behaviors after wealth losses as a risky strategy to bolster their financial status.

6. Conclusions

Overall, our research suggests that firms consider adjustments to CSR concerns an investment decision, influenced by the availability of economic resources. We show that wealth gains reduces CSR concerns while wealth losses increase them. Our paper contributes to the CSR literature by providing empirical evidence of the causal link between wealth and CSR concerns. Additionally, our results show that the relative impact of wealth on CSR concerns depends on several organizational variables that influence the structure of a firm's investment hierarchy (financial slack, political climate, corporate governance, and analyst coverage).

Furthermore, based on prospect theory, we also show that firm reactions to wealth gains and losses are not symmetric. Our theoretical explanation for the negative causal effect of firm wealth on CSR

concerns is prospect theory (Kahneman and Tversky, 1979). This well-known theory suggests that "losses loom larger than gains" and that people prefer less risk after sure gains versus more risk after sure losses. Our empirical results not only support the negative relation between wealth and CSR concerns; they also show that the negative effect looms larger when firms experience wealth losses than wealth gains. In other words, firms appear more willing to increase their socially disapproved behaviors after a loss than decrease them after a gain.

In conclusion, our study attempts to resolve theoretical puzzles in the CSR literature and shed practical light on discouraging socially disapproved behavior. The fact that at least some firms, under some conditions, use wealth gains to reduce CSR concerns is notable. Yet, so is the fact that firms appear to regress on their social responsibility when they experience wealth losses. It is thus not surprising that firms change their CSR policies frequently, especially by engaging in socially "disapproved" behaviors. KLD shows that, among all 5,257 of the firms for which they collect CSR information, 85.7% experience frequent changes in CSR concerns. The standard deviation of the total number of CSR concerns could be as high as 4.750 for the most volatile firms. Our study not only offers a plausible reason for such volatility in CSR policies, but also sheds light on several factors that may help to discourage socially disapproved behavior in firms.

References

Allison, G.T., 1971. Essence of decision. Boston, Mass.: Little, Brown and Co.

Almeida, H., Campello, M., Weisbach, M., 2004. The Cash Flow Sensitivity of Cash. Journal of Finance 59, 1777-1804.

Altman, E., Hotchkiss, E., 2005. Corporate financial distress and bankruptcy. 3rd Edition. John Wiley and Sons, New York.

Amihud, Y., Lev, B., 1981. Risk reduction as a managerial motive for conglomerate mergers. Bell Journal of Economics 12, 605–617.

Armstrong, C.S., Vashishtha, R., 2012. Executive Stock Options, Differential Risk-Taking Incentives, and Firm Value. Journal of Financial Economics 104, 70-88.

Barberis, N., Huang, M., 2001. Mental accounting, loss aversion and individual stock returns. Journal of Finance 56, 1247−1292.

Baucus, M. S., Baucus, D. A., 1997. Paying the piper: An empirical examination of longer-term financial consequences of illegal corporate behavior. Academy of Management Journal 40, 129–151.

Bebchuk, L. A., Cohen, A., Ferrell, A., 2009. What matters in corporate governance? Review of Financial Studies 22, 783–827.

Berger, A., Frame, S., Ioannidou, V., 2011. Tests of ex ante versus ex post theories of collateral using private and public information. Journal of Financial Economics 100, 85-97.

Bertrand, M., Duflo, E., Mullainathan, S., 2004. How Much Should We Trust Differences-in-Differences Estimates? Quarterly Journal of Economics 119, 249–75.

Bertrand, M., Schoar, A., 2003. Managing with style: the effect of managers on firm policies Quarterly Journal of Economics 118, 1169-1208.

Black, F., Scholes, M., 1973. The pricing of options and corporate liabilities. Journal of Political Economy 81, 637–654.

Bowman, E., 1982. Risk Seeking by Troubled Firms. Sloan Management Review 23, 33-42.

Brown, J. R., Dimmock, S. G., Kang, J. K., Weisbenner, S., 2014. How university endowments respond to financial market shocks: evidence and implications. American Economic Review 104, 931-962.

Chaney, T., Sraer, D., Thesmar, D., 2012. The collateral channel: How real estate shocks affect corporate investment. American Economic Review 102, 2381-2409.

Chatterji, A. K., Levine, D. I., Toffel, M. W., 2009. How well do social ratings actually measure corporate social responsibility? Journal of Economics and Management Strategy 18, 125–169.

Chung, K., Jo, H., 1996. The impact of security analysts' monitoring and marketing functions on the market value of firms. Journal of Financial and Quantitative Analysis 31, 493–512.

Coles, J. L., Daniel, N. D., Naveen, L., 2006. Managerial incentives and risk- taking. Journal of Financial Economics 79, 431–468.

Core, J., Guay, W., 2002. Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. Journal of Accounting Research 40, 613–630.

Coval, J. D., and Shumway, T., 2005. Do Behavioral Biases Affect Prices? Journal of Finance 60, 1–34.

Cvijanovic, D., 2014. Real estate prices and firm capital structure. Review of Financial Studies, forthcoming.

Davidson, W. N., Worrell, D., Cheng, L. T. W., 1994. The effectiveness of OSHA penalties: A stock-market-based test. Industrial Relations 33, 283–296.

Deng, X., Kang, J., Low, B., 2013. Corporate social responsibility and stakeholder value maximization: Evidence from mergers. Journal of Financial Economics 110, 87-109.

Denis, D.J., Sibilkov, V., 2010. Financial constraints, investment, and the value of cash holdings. Review of Financial Studies 23, 247–269.

Di Giuli, A. and Kostovetsky, L., 2012, Are red or blue companies more likely to go green? Politics and corporate social responsibility. Journal of Financial Economics 111, 158-180.

Faulkender, M., Wang, R., 2006. Corporate financial policy and the value of cash. Journal of Finance 61, 1957-1990.

Fiegenbaum, A., Hart, S., Schendel, D., 1996. Strategic reference point theory. Strategic Management Journal 17, 219–235.

Fiegenbaum A, Thomas H. 1988. Attitudes toward risk and the risk-return paradox: Prospect theory explanations. Academy of Management Journal 31, 85-106.

Fombrun, C. J. 1996. Reputation: Realizing value from the corporate image. Boston: Harvard Business School Press.

Fombrun, C. J., Shanley, M., 1990. What's in a name? Reputation building and corporate strategy. Academy of Management Journal 33, 233–256.

Friedman,M.,1970.The social responsibility of business is to increase its profits. New York Times Magazine 32,122–126.

Frooman, J., 1997. Socially irresponsible and illegal behavior and shareholder wealth. Business and Society 36, 221–249.

Godfrey, P. C., 2005. The relationship between corporate philanthropy and shareholder wealth: a risk management perspective. Academy of Management Review 30, 777–798.

Goss, A., Roberts, G. S., 2011. The impact of corporate social responsibility on the cost of bank loans. Journal of Banking and Finance 35, 1794–1810.

Govekar, M., Govekar, P., Rishi, M., 2002. The effect of macroeconomic shocks on local corporate philanthropy. Journal of Economics and Politics 15, 15–26.

Griffin, J. J. Mahon, J. F., 1997. The Corporate social performance and corporate financial performance debate: Twenty-five years of incomparable research. Business and Society 36, 5–31.

Grinblatt, M., Han, B., 2005. Prospect theory, mental accounting, and momentum. Journal of Financial Economics 78, 311–339.

Guay, W., 1999. The sensitivity of CEO wealth to equity risk: an analysis of the magnitude and determinants. Journal of Financial Economics 53, 43–71.

Hambrick, D. C., Mason, P.A., 1984. Upper Echelons: The Organization as a Reflection of Its Top Managers. The Academy of Management Review9, 193-206.

Harjoto, M., Jo, H., 2011. Corporate governance and CSR nexus. Journal of Business Ethics 100, 45–67.

Hayward, M. L. A., Hambrick, D. C., 1997. Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. Administrative Science Quarterly 42, 103–127.

Haunschild, P. R., Sullivan, B. N., Page, K., 2006. Organizations non-gratae? The impact of unethical corporate acts on interorganizational networks. Organization Science 17, 101–117.

Kahneman, D., Tversky, W., 1979. Prospect Theory: An Analysis of Decision Under Risk. Econometrica 47, 263-291.

Karpoff, J. M. Lott, J. R. and Wehrly, E. W., 2005. The Reputational Penalties for Environmental Violations: Empirical Evidence. Journal of Law and Economics48, 653-675.

Karpoff, J. M., Lee, D. S., Martin, G. S., 2008. The cost to firms of cooking the books. Journal of Financial and Quantitative Analysis 43, 581–612.

Knyazeva, D. 2007. Corporate governance, analyst following and firm behavior. Working paper, Simon School of Business, University of Rochester.

Kruger, P., 2015. Corporate goodness and shareholder wealth. Journal of Financial Economics 115, 304-329.

Hall, B.J., Liebman, J.B., 1998. Are CEOs really paid like bureaucrats? Quarterly Journal of Economics 113, 653−691.

Hoi, C. K., Wu, Q., Zhang, H., 2013. Is corporate social responsibility (CSR) associated with tax avoidance? Evidence from irresponsible CSR activities. The Accounting Review 88, 2025-2059.

Hong, H., Kacperczyk, M., 2009. The price of sin: The effects of social norms on markets. Journal of Financial Economics 93, 15-36.

Jensen, M., Meckling, W., 1976. Theory of the firm: managerial behavior, agency costs, and ownership structure. Journal of Financial Economics 3, 305–360.

Jensen, M., and Murphy, K., 1990. Performance pay and top-management incentives. Journal of Political Economy 98, 225-263.

Jo, H., Harjoto, M., 2011. Corporate governance and firm value: The impact of corporate social responsibility. Journal of Business Ethics, 103(3), 351–383.

Lange, D., Washburn, N. T., 2012. Understanding attributions of corporate social irresponsibility. Academy of Management Review 37, 300–26.

Lehman, D. W., Hahn, J., 2013. Momentum and organizational risk taking: Evidence from the national football league. Management Science 59, 852-868.

Lin, C., Ma, Y., Malatesta, P., Xuan, Y., 2011. Ownership structure and the cost of corporate borrowing. Journal of Financial Economics 100, 1–23.

McGuire, J. B., Dow, S., Argheyd, K., 2003. CEO incentives and corporate social performance. Journal of Business Ethics 45, 341–359.

Merton, R., 1973. Theory of rational option pricing. Bell Journal of Economics and Management Science 4, 141–183.

Mezias, S. J., Chen, Y., Murphy, P.R., 2002. Aspiration-level adaptation in an American financial services organization: A field study. Management Science 48, 1285-1300.

Minor, D. B., Morgan, J., 2011. CSR as reputation insurance: Primum non nocere. California Management Review 53, 40–59.

Moser, D. V., Martin. P. R., 2012. A broader perspective on corporate social responsibility research in accounting. The Accounting Review 87 (3): 797–806.

Murphy, K. J., 1999. Executive compensation. In: Orley, A., David, C. (Eds.), Handbook of Labor Economics, Vol. 3. North-Holland, Amsterdam.

Nelson, T. R., Potter, T., Wilde, H. H., 2000. Real estate asset on corporate balance sheets. Journal of Corporate Real Estate 2, 29–40.

Nossiter, A., 2010. Half a world from the Gulf, a spill scourge 5 decades old. New York Times, June 17: A1.

Pigou, A., 1920. The Economics of Welfare. McMillan and Co, London.

Pollock, T. G., Rindova, V. P., 2003. Media legitimation effects in the market for initial public offerings. Academy of Management Journal 46, 631–642.

Porter, Michael E., and Mark R. Kramer. "Creating Shared Value." Harvard Business Review 89, nos. 1-2 (January–February 2011).

Preston, L. E. and D. P. O'Bannon: 1997. The corporate social-financial performance relationship: A typology and analysis. Business and Society 36, 419–429.

Rao, H. 1994. The social construction of reputation: Certification contests, legitimation, and the survival of organizations in the American automobile industry. Strategic Management Journal 15, 29–44.

Rubin, A. 2008. Political views and corporate decision making: The case of corporate social responsibility. Financial Review 43, 337–360.

Sanders, G., 2001. Behavioral responses of CEOs to stock ownership and stock option pay. Academy of Management Journal 44, 477–492.

Schrand, C., Unal, H., 1998. Hedging and co-ordinated risk management. Journal of Finance 53, 979–1013.

Singh, J. 1986. Performance, slack, and risk taking in organizational decision making. Academy of Management Journal 29, 562–585.

Simpson WG, Kohers T., 2002. The link between corporate social and financial performance: evidence from the banking industry. Journal of Business Ethics 35, 97–109.

Smith, C., Stulz, R., 1985. The determinants of firms' hedging policies. Journal of Financial and Quantitative Analysis 20, 391–405.

Strachan, J., Smith, D., Beedles, W., 1983. The price reaction to (alleged) corporate crime. Financial Review 18, 121–132.

Trudel, R. and Cotte, J., 2009. Does it pay to be good? MIT Sloan Management Review 50, 61-68.

Waddock, S. A., Graves, S. B., 1997. The Corporate social performance-financial performance link. Strategic Management Journal 18, 303–319.

Wiseman, R. M., Gomez-Mejia, L. R., 1998. A behavioral agency model of managerial risk taking. Academy of Management Review 23, 133–153.

Wu, M., Shen, C., 2013. Corporate social responsibility in the banking industry: Motives and financial performance. Journal of Banking and Finance 37, 3529–3547.

Yu, F., 2008. Analyst coverage and earnings management. Journal of Financial Economics 88, 245-271.

Table 1

Summary Characteristics

This table presents the summary statistics of the sample firms. *Size Quartile* is the quartile ranking of the firm among all public U.S. firms in the given fiscal year by its market value of equity. This value ranges from 1 to 4, where higher values indicate larger size. *MtB* is the market-to-book ratio of equity. *Rated* is a dummy variable and it is one if the firm has a SandP credit rating. *Total CSR Concerns* is the number of the total CSR concerns reported by KLD. *RE Value* is the market value of real estate assets to lagged property, plant and equity. *HPI Volatility* is the standard deviation of the state-level HPI during the sample period. *Eindex* is the entrenchment index developed by Bebchuk, Cohen, and Ferrell (2009). The index ranges from zero to six, with higher numbers indicating higher managerial entrenchment and therefore worse corporate governance. *CEO Delta* is the sensitivity of CEO wealth (including options and common stock holdings) to a 1% change in the value of the firm's stock price. *Local Dem* is a dummy variable and it is one if the donations made to Democratic party during an election cycle are higher than the donations made to other parties. Specifically, we collect all the donations residents make during each election cycle and sort them by five-digit zip codes. *Dem CEO* is one if the CEO donates to Democratic party during the sample period and *Rep CEO* otherwise. *Rep President* is one for the years when the President is Republican. *Number of Analysts* is retrieved from I/B/E/S and it is the number of analysts that provide recommendations for the firm.

	Average (n=2,936)	Stdv.	Min.	Max.
Total Assets ($mil.)	7,321.060	13,402.390	66.420	163,514
Market Value ($mil.)	13,412.200	33,788.730	17.749	460, 767.900
Size Quartile	3.948	0.222	3	4
MtB	3.751	3.409	0.439	21.107
Rated	0.706	0.456	0	1
Total CSR Concerns	2.227	2.241	0	15
REValue	0.496	0.613	0.001	10.915
HPI Volatility	80.704	42.089	25.947	179.125
Eindex	2.857	1.228	0	6
CEO Delta ($mil.)	1.090	2.325	0	14.760
Local Dem	0.302	0.459	0	1
Dem CEO	0.100	0.300	0	1
Rep CEO	0.282	0.450	0	1
Rep President	0.645	0.479	0	1
Number of Analysts	7.372	5.418	0	30

Table 2
Wealth Effect and CSR Concerns

This table presents the empirical link between the value of real estate and CSR concerns. The dependent variable is the number of CSR concerns. P_{tl} is the state-level HPI index. $LnMkt_t$ is the natural logarithm of the firm's market value of equity. MTB_t is the market-to-book ratio of equity. $PITA_t$ is the pretax income scaled by total assets. All regressions control for year and firm fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	1	2
$REValue_{it}$	-0.430***	-0.352***
	(0.000)	(0.000)
P_{tl}		-0.001
		(0.981)
$LnMkt_t$		0.145**
		(0.019)
MTB_t		-0.030***
		(0.007)
$PITA_t$		-0.784**
		(0.033)
Year and Firm Fixed Effects	Yes	Yes
State-year Cluster	472	472
Firms	367	367
Obs.	2,936	2,936
Adj. R^2	0.737	0.738

Table 3
Wealth Effect on CSR Concerns and Investment Hierarchy: by Financial Constraints

This table presents the results by financial constraints and by the volatility of the state-level HPI index. The control variables are the same as those used in table 2. *Constrained* refers to those firms that are not rated by S&P and *Unconstrained* refers to those with credit ratings from S&P. *Low Vol* refers to those firms located in states with less volatile HPI prices and *High Vol* otherwise. The sample is divided by the mean value of the volatility of the state-level HPI prices. Panel A presents the real estate shocks on CSR concerns by financial constraints and by real estate price volatility. Panel B presents the real estate shocks on firms' other investments such as capital expenditure (CAPEX) and intangible assets by financial constraints. All regressions control for year and firm fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

Panel A: Impacts on CSR Concerns

	All		Low Vol		High Vol	
	Constrained	Unconstrained	Constrained	Unconstrained	Constrained	Unconstrained
	1	2	3	4	5	6
$REValue_{it}$	0.003	-0.903***	-0.028	-1.558***	0.484**	-0.505***
	(0.966)	(0.000)	(0.724)	(0.000)	(0.035)	(0.008)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Year and Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
State-year Cluster	334	417	234	234	100	183
Firms	164	241	108	147	56	94
Obs.	858	2,056	594	1,205	264	851
Adj. R^2	0.625	0.749	0.622	0.747	0.648	0.753

Panel B: Impacts on Alternative Investments

	CAPEX		Intangible Assets	
	Constrained	Unconstrained	Constrained	Unconstrained
	1	2	3	4
$REValue_{it}$	0.003*	0.001	0.018**	0.050***
	(0.065)	(0.419)	(0.014)	(0.009)
Control Variables	Yes	Yes	Yes	Yes
Year and Firm Fixed Effects	Yes	Yes	Yes	Yes
State-year Cluster	533	518	533	518
Firms	380	421	380	421
Obs.	2,648	3,675	2648	3,675
Adj. R^2	0.595	0.647	0.633	0.633

Table 4
Wealth Effect on CSR Concerns and Investment Hierarchy:
by Local Political Preferences

This table presents the results by local political preferences. The control variables in columns 1 and 2 are the same as those used in table 2. Columns 3 to 5 add more political variables to the baseline model. *Red states* refers to those states with more residents donating to Republican party and *Blue states* refers to those to Democratic party. $Reppresident_t$ is one if the incumbent President is Republican and zero otherwise. $RepMajority_t$ is one if the majority of the Senate Majority Leader is Republican. All regressions control for year and firm fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	Baseline Model		Baseline Model + political variables		
	Red states	Blue states	All	Red states	Blue states
	1	2	3	4	5
$REValue_{it}$	-0.175	-0.439***	-0.352***	-0.175	-0.439***
	(0.361)	(0.002)	(0.000)	(0.361)	(0.000)
$Reppresident_t$			0.561***	1.725***	2.918***
			(0.000)	(0.000)	(0.000)
$RepMajority_t$			1.608***	1.553***	-0.048
			(0.000)	(0.000)	(0.876)
Control Variables	Yes	Yes	Yes	Yes	Yes
Year and Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
State-year Cluster	406	290	472	406	290
Firms	313	208	367	313	208
Obs.	1,987	861	2,936	1,987	861
Adj. R^2	0.695	0.798	0.738	0.695	0.798

Table 5
Wealth Effect on CSR Concerns and Investment Hierarchy: by CEO Political Preferences

This table presents the results by CEO political preferences. The control variables are the same as those used in table 2 plus the political variables used in Table 5. *Dem CEO* refers to those CEO donate to Democratic party during the sample period and *Rep CEO* refers to those donate to Republican party during the sample period. All regressions control for year and firm fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	Dem CEOs			Rep CEOs		
	All	Low Vol	High Vol	All	Low Vol	High Vol
	1	2	3	4	5	6
Dem CEO* REValue$_{it}$		-1.829**	0.128			
		(0.015)	(0.671)			
Dem CEO	-0.353***	0.336	-0.709**			
	(0.003)	(0.156)	(0.025)			
Rep CEO* REValue$_{it}$					-0.157	0.232
					(0.252)	(0.392)
Rep CEO				0.205**	-0.020	0.519***
				(0.037)	(0.878)	(0.010)
REValue$_{it}$	-0.351***	-0.367***	-0.344**	-0.372***	-0.268***	-0.377**
	(0.000)	(0.000)	(0.039)	(0.000)	(0.001)	(0.034)
Control Variables+ Reppresident$_t$+ RepMajority$_t$	Yes	Yes	Yes	Yes	Yes	Yes
Year and Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
State-year Cluster	472	282	190	472	290	190
Firms	367	231	136	367	208	136
Obs.	2,936	1,813	1,121	2,936	861	1,121
Adj. R^2	0.739	0.732	0.749	0.738	0.798	0.753

Table 6
Wealth Effect on CSR Concern Categories and Investment Hierarchy: by CEO Political Preferences

This table presents the results by CEO political preferences in the states with low volatility. The dependent variables are the number of the CSR concerns in the CSR categories that have significant results for the main variables. The control variables are the same as those used in table 2 plus the political variables used in Table 5. *Dem CEO* refers to those CEO donate to Democratic party during the sample period and *Rep CEO* refers to those donate to Republican party during the sample period. All regressions control for year and firm fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	Low Volatility					
	Dem CEOs				Rep CEOs	
	Concerns_Corporate Governance	Concerns_Enviroment	Concerns_Humanity	Concerns_Product	Concerns_Community	Concerns_Corporate Governance
	1	2	3	4	5	6
Dem CEO* $REValue_{it}$	-0.415*	-0.625**	-0.397***	-0.488**		
	(0.085)	(0.022)	(0.000)	(0.044)		
Rep CEO* $REValue_{it}$					-0.039**	-0.096***
					(0.027)	(0.000)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Year and Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
State-year Cluster	282	282	282	282	290	290
Firms	231	231	231	231	208	208
Obs.	1,813	1,813	1,813	1,813	861	861
Adj. R^2	0.464	0.756	0.478	0.647	0.496	0.464

Table 7
Wealth Effect on CSR Concerns and Investment Hierarchy: by Corporate Governance

This table presents the results by corporate governance. We split the sample by the median value of *E Index* and CEO *Delta*, respectively. The control variables are the same as those used in table 2. *Weak Governance/Good Governance* refers to those firms with *E Index* higher/lower than the median value, suggesting more/less entrenched management. All regressions control for year and firm fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	E Index		CEO Incentives	
	Weak Governance	Strong Governance	Lower Delta	Higher Delta
	1	2	3	4
$REValue_{it}$	-0.340	-0.432***	-0.122	-0.538**
	(0.106)	(0.000)	(0.162)	(0.012)
Control Variables	Yes	Yes	Yes	Yes
Year and Firm Fixed Effects	Yes	Yes	Yes	Yes
State-year Cluster	409	375	364	416
Firms	278	181	249	284
Obs.	1,663	1,179	1,018	1,848
Adj. R^2	0.717	0.777	0.716	0.750

Table 8
Wealth Effect on CSR Concerns and Investment Hierarchy: by Analyst Coverage

This table presents the results by the number of analysts following the firm. We split the sample by whether the firm has analyst coverage or not and by the median number of analysts following. The control variables are the same as those used in table 2. All regressions control for year and firm fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	Without Analyst Coverage	With Analyst Coverage	Fewer Analysts (n<=6)	More Analysts (n>6)
	1	2	3	4
$REValue_{it}$	0.350	-0.374***	-0.111	-0.906***
	(0.646)	(0.000)	(0.204)	(0.000)
Control Variables	Yes	Yes	Yes	Yes
Year and Firm Fixed Effects	Yes	Yes	Yes	Yes
State-year Cluster	138	464	403	379
Firms	72	352	307	232
Obs.	164	2,750	1,475	1,461
Adj. R^2	0.712	0.739	0.700	0.761

Table 9

The Patter of Wealth Effect on CSR Concerns: by Prospect Theory

This table presents the results by whether real estate shocks create gains or losses and by the volatility of the state-level HPI index. The control variables are the same as those used in table 2. Firms experience *Gain* in wealth when there are the positive real estate shocks and *Loss* when there are negative real estate shocks. *Low Vol* refers to those firms located in states with less volatile HPI prices and *High Vol* otherwise. The sample is divided by the mean value of the volatility of the state-level HPI prices. Panel A presents the results for the total number of CSR concerns. Panel B presents the results for the number of CSR concerns in the categories that have significant results for the main variable. See details of CSR categories in Appendix. All regressions control for year and firm fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

Panel A: Total CSR Concerns

	All		Low Vol		High Vol	
	Gain	Loss	Gain	Loss	Gain	Loss
	1	2	3	4	5	6
$REValue_{it}$	-0.185**	-0.678***	-0.218*	-0.733***	0.166	-0.561
	(0.033)	(0.000)	(0.089)	(0.000)	(0.600)	(0.127)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Year and Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
State-year Cluster	277	409	146	252	131	157
Firms	251	350	132	221	119	129
Obs.	773	1,962	342	1,348	431	614
Adj. R^2	0.748	0.751	0.683	0.764	0.793	0.735

Panel B: CSR Categories

	Gain	Loss		
	Concerns_Employee	Concerns_Employee	Concerns_Corproate Governance	Concerns_Product
	1	2	3	4
$REValue_{it}$	-0.130*	-0.186***	-0.118*	-0.209***
	(0.070)	(0.005)	(0.069)	(0.003)
Control Variables	Yes	Yes	Yes	Yes
Year and Firm Fixed Effects	Yes	Yes	Yes	Yes
State-year Cluster	277	409	409	409
Firms	251	350	350	350
Obs.	773	1,962	1,962	1,962
Adj. R^2	0.422	0.517	0.499	0.709

Table 10

CSR Concerns and Firm Risk

This table presents the results of the regression analysis of firm risk. The dependent variable is the annual standard deviation of the firm's stock returns. The independent variables include the total number of CSR concerns, the total number of CSR strengths, firm's market size ($LnMkt_t$), MTB_t, $PITA_t$, $Leverage_t$, and $Chairman_t$. All regressions control for year fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	OLS	FE
	1	2
$Concerns_all_t$	0.013**	0.015**
	(0.045)	(0.050)
$Strengths_all_t$	-0.007	-0.018**
	(0.276)	(0.019)
$LnMkt_t$	-0.193***	-0.123***
	(0.000)	(0.000)
MTB_t	0.038***	0.024***
	(0.000)	(0.000)
$PITA_t$	-0.784***	-0.350***
	(0.000)	(0.000)
$Leverage_t$	-0.447***	-0.137
	(0.000)	(0.190)
$Chairman_t$	-0.053**	0.033*
	(0.012)	(0.087)
Year effects	Yes	Yes
Firm fixed effects	No	Yes
Industry effects	Yes	No
Obs.	9,330	9,330
Adj. R^2	0.529	0.765

Table 11
CSR Concerns and Firm Value

This table presents the results of the regression analysis of the excess stock returns. The dependent variable is stock return over fiscal year minus the return on a benchmark portfolio. The benchmark portfolios are twenty-five Fama-French value-weighted portfolios. The independent variables include the total number of CSR concerns, the total number of CSR strengths, the change in cash, change in book assets net of cash, change in earnings before interest and extraordinary items, change in RandD expenses, change in interest expenses, change in dividends, lagged cash holdings, leverage, and net financing during fiscal year. All explanatory variables except leverage are standardized by lagged market equity. All regressions control for year fixed effects and cluster observations at state-year level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	OLS	FE
	1	2
$Concerns_all_t$	-0.004*	-0.013**
	(0.080)	(0.016)
$Strengths_all_t$	-0.003	-0.005
	(0.139)	(0.435)
ΔCash	1.085***	1.206***
	(0.000)	(0.000)
ΔNon-Cash	0.119***	0.072
	(0.002)	(0.110)
ΔEarnings	1.102***	0.866***
	(0.000)	(0.000)
ΔRandD	-1.383	-1.542
	(0.138)	(0.130)
ΔIE	-5.557***	-3.473**
	(0.000)	(0.013)
ΔDV	-0.317	0.087
	(0.609)	(0.910)
Net Financing	-0.196***	-0.131
	(0.008)	(0.117)
Leverage	0.065*	0.028
	(0.061)	(0.761)
Lagged Cash	0.556***	1.164***
	(0.000)	(0.000)
Rataed	-0.021*	-0.027
	(0.085)	(0.501)
Eindex	0.004	0.021
	(0.695)	(0.297)
Year effects	Yes	Yes
Firm fixed effects	No	Yes
Industry effects	Yes	No
Obs.	7,598	7,598
Adj. R^2	0.202	0.226

Figure 1

The Trend of the State-level HPI

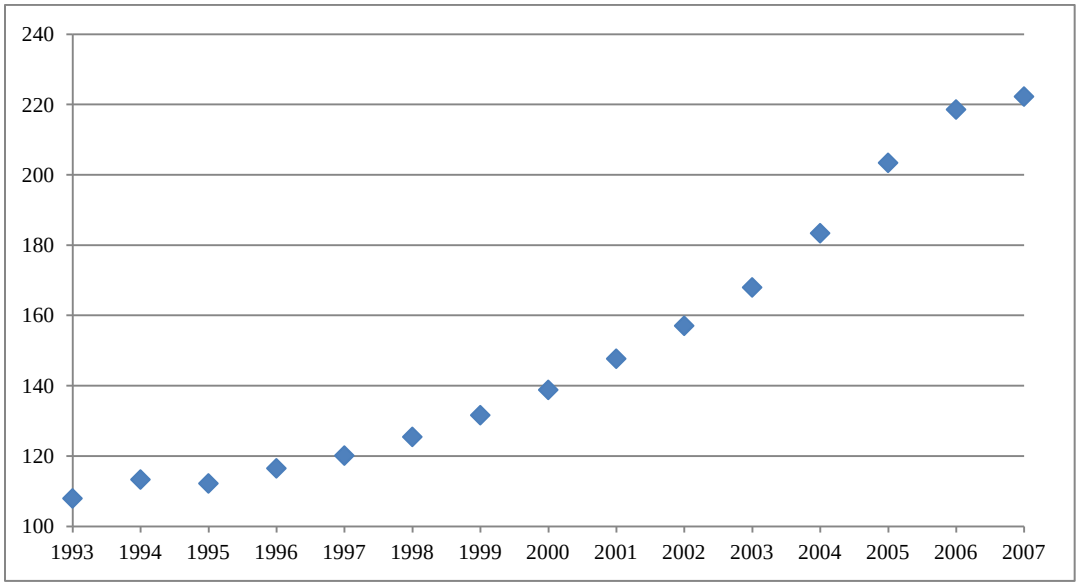


Figure 2

Fraction of Firms Experience Increase in Real Estate Value

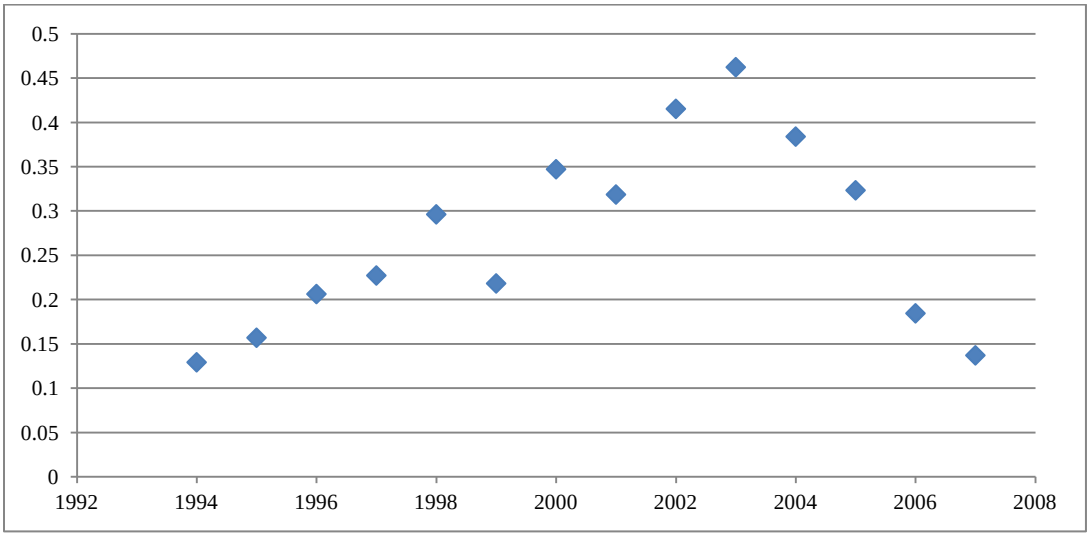
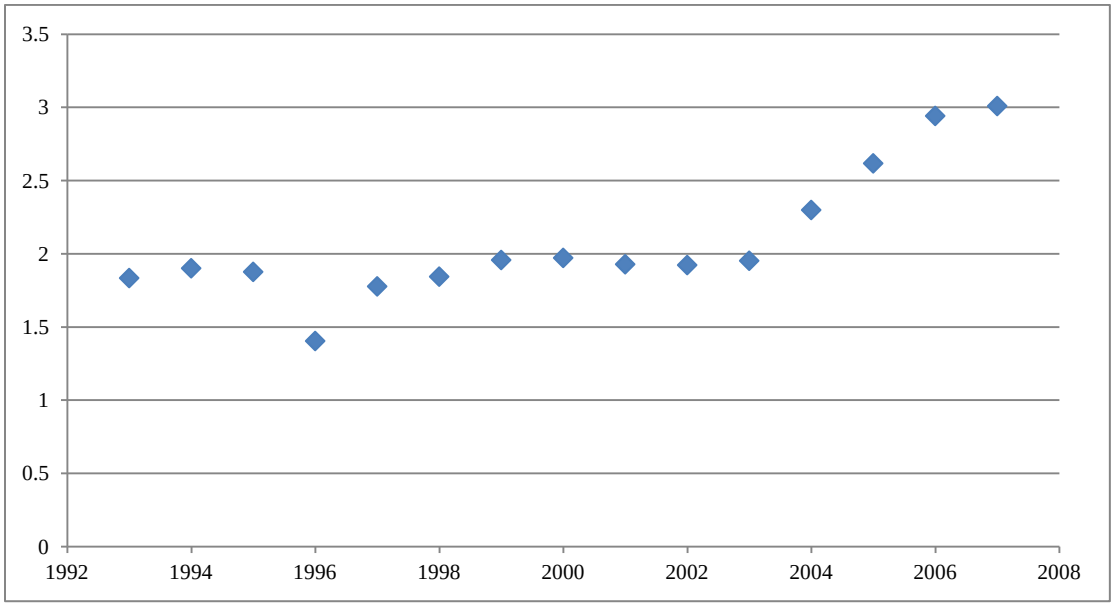


Figure 3

The Trend of CSR Concerns