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ORIGINAL PAPER

Corporate Social Responsibility and Growth Opportunity: The Case of Real Estate Investment Trusts

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Abstract Corporate social responsibility (CSR) involvement and disclosure has been becoming increasingly popular among US public firms, including those that qualify as real estate investment trusts (REITs). This paper aims to discover the relationship between CSR involvement and potential determinants such as growth opportunities, profitability, visibility, and agency costs. Types of CSR involvement are assessed in terms of environmental, community, and governance disclosures and are quantified using word count from the company's voluntary disclosure. Our results support the hypothesis that CSR has a strategic element and that REITs have greater CSR involvement when they have greater growth and investment opportunities. When the type of disclosure is broken into subcategories, the results show that not all dimensions of CSR are alike: environmental, community, and governance CSR disclosures appear to be motivated by different sets of incentives and reasons.

Keywords Corporate social responsibility · Growth opportunity · Environment · Community · Governance · Disclosure · Real estate investment trust

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Introduction

Over the past few decades, corporate social responsibility (CSR) has become an essential part of business operations and garnered intense interest, debate, and controversy across almost the entire range of business disciplines. For instance, Gregory et al. (2014), Harjoto and Jo (2015), Mishra and Modi (2013) and many others find that CSR activities have implications on corporate valuation, financial performance, and risk profile. Chan et al. (2014), Jo and Harjoto (2011), and Mason and Simmons (2014) investigate the relationship between CSR and corporate governance through a variety of viewpoints, including interest alignment and managerial activism. Cormier et al. (2004), Di Giuli and Kostovetsky (2014), and Perrow (1970) study CSR as a legitimacy response to environmental concerns and political pressure. As a concept, CSR is integral to ethics and moral values; it entails a firm's initiatives that contribute to social welfare (Barnett 2007). Carroll's (1979) seminal conceptualization of CSR explicitly contains an ethical dimension in which CSR activities have moral values that are expected of firms by their stakeholders.

This study adds to this vast literature with two empirical novelties. First, we will focus on the "opportunity" side of CSR and examine the relationship between CSR and growth opportunities and, thus, value creation. Our emphasis is motivated by Porter and Kramer's (2006) argument that investing in CSR initiatives enables firms to differentiate themselves, to build competitive advantages, and to seize growth and investment opportunities. To the best of our knowledge, this is the first study that investigates the empirical relationship between CSR involvement and growth opportunities. In contrast, the prevailing CSR theories and existing empirical studies say rather little

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about the growth of firms because they tend to focus on the "responsibility" side of CSR (Grayson and Hodges 2004; Jenkins 2009).

The other empirical novelty is to focus on the real estate industry because the key dimensions of CSR, namely environment, community, and governance, are all inherently important to the real estate industry (Newell and Lee 2012; Newell et al. 2011). The business of real estate is to provide usable space and environment for commerce, living, and enjoyment. The relationship between real estate and the environment is intimate, direct, and often physically integrated. Kotler and Lee (2005) argue that CSR entails promoting sustainable and natural environment to reflect the enterprises' ethical stance. In addition, new supply and addition of real estate almost always requires community approval. This implies that real estate operators must be sensitive to community preferences, moral values, and social trends. Moreover, given the physical nature of real estate being segmented, heterogeneous, and location-specific, real estate is largely illiquid and plagued by informational asymmetry, which in turn makes corporate governance in the real estate industry particularly challenging.

We also believe that the real estate sector can provide us with a novel insight into CSR involvement. As reported by Bernstein (2009), the investment in and occupancy of green buildings are often the first major ethical initiatives adapted by US firms. Given this propensity, one would expect that firms with more assets in real estate tend to take on CSR initiatives. Therefore, a complete study of CSR undertaken by firms in general should take the amount of real estate that firms rent and own into consideration. However, to the best of our knowledge, no single existing study has controlled for this complexity due to the difficulty of obtaining real estate information for general firms. The empirical novelty of the current study is that our sample is entirely consisted of real estate firms whose assets are mostly real estate. This feature greatly mitigates the empirical complexity discussed above and has potential to yield more robust results.

Furthermore, there are many reasons to expect that real estate plays an essential role in advancing CSR, ethics, environment, sustainability, living quality, and the economy. According to the US Environmental Protection Agency,[1] real estate "has a vast impact on the natural environment, human health, and the economy." Specifically, in the USA, the real estate industry accounts for:

- 28% of GDP
- 38% of the CO_2 emissions
- 39% of total energy use
- 68% of total electricity consumption

In addition, Americans on average spend 90% or more of their time indoors. As Porter and Kramer (2006) suggest, the more closely tied these CSR issues are to an industry such as the real estate industry, the greater the opportunity to leverage the industry's resources and capacity to launch ethical initiatives and benefit society.

Although the relationship between CSR and real estate operations is pertinent, little research has been done to examine the causes that drive CSR activities in the real estate industry. Falkenbach et al. (2010), Fuerst and McAllister (2011), and Lutzkendorf and Lorenz (2007) suggest that CSR activities improve corporate images and legitimacy. Pivo (2007) finds that business concerns for risk, return, and financial performance are the leading drivers of responsible property investing, but moral sensibilities, voluntary codes of behavior, and internal leadership also play a role.

In contrast, the existing CSR studies in the real estate literature have been more interested in the financial performance of CSR activities or the lack of them. For instance, Fuerst and McAllister (2011), Pivo and Fisher (2010), and Reichardt et al. (2012), Wiley et al. (2010) find that eco-certified commercial buildings have a higher rental rate, a higher occupancy rate, and a sale price premium. Case et al. (2006) find that the market values of condominium properties located in a groundwater contamination area are adversely affected by the pollution. Wachter and Wong (2008) find that public tree planting has positive effects on nearby housing prices.

With the empirical focuses on growth opportunity and the real estate industry, this study attempts to address two research questions. First, to what extent are real estate investment trusts (REITs) involved in CSR? In addition, when a REIT decides to engage in CSR, which dimension of CSR involvement, i.e., environment, community, or governance, is more important to the firm? Second, what are the causes of CSR involvement? Specifically, are CSR involvements in environment, community, and governance driven by different sets of incentives and considerations? Moreover, do growth opportunities have any impact on CSR involvement?

A REIT is a company that owns, and in most cases, operates income-generating properties, such as offices, shopping malls, farms, and hotels. Like a typical US public company, a REIT raises funds from capital markets and has its shares listed on stock exchanges, such as New York Stock Exchange. The main difference between a typical public firm and a REIT is that a REIT is exempt from corporate income tax so long as it pays out at least 90% of its taxable income.[2] Because the shares of REITs are

[1] http://www.epa.gov/greenbuilding/pubs/whybuild.htm.

[2] To qualify as a REIT, the company also need to meet another three tests: (1) a REIT must have at least 75% of its assets invested in real

publicly traded, this corporate form has fundamentally transformed a largely illiquid, privately owned industry into a liquid, publicly owned, and modern one. Today, the total market size of US REITs is approximately $1 trillion; globally, the total market size exceeds $2 trillion. Furthermore, many REITs are large-cap, blue-chip companies; the number of REITs in the S&P 500 company list has increased from 2 in 2001 to 27 in 2016.

This study follows Abbott and Monsen (1979) and uses voluntary CSR disclosure as a measure of CSR involvement. We take the view that CSR disclosure is a costly investment because disclosure involves direct costs of information production and due diligence and indirect liabilities of information auditing and monitoring by stakeholders, such as activists, blockholders, and governments. Our hand-collected data also show that when REITs decide to disclose CSR activities, the majority of them prominently place their disclosures on their corporate websites. For example, Summit Hotel Properties, New York REIT, Piedmont Office Realty Trust and many others have a specific web page displaying their code of ethics. This observation is consistent with the well-documented linkages between CSR and ethics in which acknowledging CSR is a way to express a firm's ethical and moral stance (Valentine and Fleischman 2008a, b). It is also apparent that CSR disclosure is strategically relevant and important to REITs.

The remainder of the paper is as follows. We first discuss our main hypothesis. Literature review and a set of prevailing hypotheses are introduced in the following section for research control purposes. We then discuss our data and collection procedure. In the "Summary Statistics" and "Multivariate Regression Results" sections, we report empirical findings. A "Robustness Check" section is then provided to address endogeneity and measurement issues. Finally, the last section concludes with a summary of the study.

Main Hypothesis

Hypothetically, CSR would have its full impacts on corporate decisions if it is strategically relevant to valuation creation and firm growth. Such a value creation proposition of CSR is well perceived by many real estate firms today. In an interview with REIT.com, Sara Neff, Vice President for Sustainability at Kilroy Realty Corp. pointed out that CSR activities create value that is important to tenants and that Kilroy uses CSR to differentiate itself from its competitors: "It used to be okay to build a (LEED) Silver building, and (LEED) Gold was pretty impressive. Now, everything is Gold, and we are going to (LEED) Platinum for the really big stuff. I think that is really great because the reason we are doing that is because our tenants are responding."[3]

This anecdotal evidence exemplifies Porter and Kramer's (2006) argument that those approaches to CSR failing to consider CSR as growth opportunities "are so disconnected from business as to obscure many of the greatest opportunities for companies to benefit society." Similarly, Grayson and Hodges (2004) and Jenkins (2009) advocate the importance of focusing on the opportunity aspect, rather than the responsibility aspect, of CSR. Asongu (2007) argues that CSR should not be considered an expense, but rather an investment. Turban and Greening (1997) and Jones et al. (2014) find that CSR enhances organizational attractiveness to prospective employees, which provides firms with competitive advantages. De Roeck and Delobbe (2012) show that perceived CSR sends signals to employees about a firm's ethical stance, moral values, and the extend to which the firm can be trusted. Overall, through these strategic perspectives, CSR activities are essentially a subset of corporate strategies that help firms build competitive advantages and seize their growth potential. Because more growth potential provides greater economy of scale for investing, this study hypothesizes that REITs are more likely to invest in CSR when they have more growth opportunities. The main hypothesis of the study is formally formulated as follows.

H1: REITs invest more in CSR disclosure when they have more growth opportunities.

Empirically, this study uses the book-to-market ratio as a proxy for growth opportunities, and it is denoted as *Book-to-market*. The definition of *Book-to-market*, along with those of all other variables used in this study, is provided in "Appendix."

It is well known in corporate studies that the book-to-market ratio contains information about a firm's future growth opportunities and potential; e.g., Baker and Wurgler (2002), Jung et al. (1996), and Smith and Watts (1992). A low book-to-market ratio indicates that the firm's share price is relatively more expansive. Its higher share price reflects greater growth opportunities. In summary, a firm with low (high) book-to-market ratio is classified as a growth (value) company that tends to have more (less) growth opportunities. We, thus, expect a negative

Footnote 2 continued
estate, mortgage loans, shares in other REITs, cash or government securities; (2) a REIT must derive at least 75% of its gross income from real estate activities; and (3) a REIT must have at least 100 shareholders and less than 50% of the shares concentrated in five or fewer shareholders.

[3] http://www.reit.com/news/videos/development-standards-changing-sustainability-executive-says.

relationship between CSR involvement and the book-to-market ratio. Like all proxies used in corporate studies, the book-to-market ratio is not a perfect measure of growth opportunities. For example, one can argue that different accounting treatments of property depreciation may introduce measurement errors.

To deal with this measurement issue, this study employs two empirical strategies. First, we will statistically address the measurement issue of an independent variable (i.e., the book-to-market ratio) in the "Robustness Check" section. Second, we will use an additional popular proxy of growth opportunities to examine the robustness of our results. Following Lang et al. (1996), this study uses financial leverage, measured by the ratio of total debt to total assets (denoted as *Total debt/total assets*), as a second proxy for growth opportunities. Aivazian et al. (2005) and Lang et al. (1996) find that leverage is negatively related to growth opportunities and firm investment. A usual explanation for this stylized fact is that leverage has a disciplining role for firms with low growth opportunities. Practitioners also often argue that firms with high leverages have low debt capacity and that these firms are less able to capture growth potential and take on new investment projects. Here, we expect a negative relationship between CSR involvement and leverage.

Literature Review and Prevailing Hypotheses

Despite ubiquitous academic and business interest in CSR, the prevailing CSR theories and hypotheses are mostly adopted from a diverse body of academic disciplines; they include the agency theory, the stakeholder theory, the legitimacy theory, reputation building, sustainability, and moral obligation. Note that the prevailing hypotheses outlined in this section are not mutually exclusive, and they often yield similar predictions. As a result, we do not view them as competing hypotheses. In terms of research design, we use these prevailing hypotheses, *H2* to *H7*, as controls for our main hypothesis *H1*. That is, we would like to know whether *H1* is able to provide additional explanatory ability for describing CSR involvement.

H2: REITs invest in CSR disclosure when they have more incentives to engage in risk management.

It has been long argued that CSR can be used to manage firm risk and thus to reduce the cost of capital (Harjoto and Jo 2015; Jo and Harjoto 2011; Jo and Na 2012; Sharfman and Fernando 2008). As a result, firms with high investment risk and high cost of capital may have more incentive to take on CSR initiatives. Thus, if the hypothesis is true, we should find a positive relationship between CSR involvement and firm risk and the cost of capital. In this study, we adopt the Capital Asset Pricing Model (CAPM) and use the REIT's market beta (denoted as *Beta*) as the risk measurement for the cost of capital.

H3: There is a significant relationship between CSR disclosure and profitability among REITs.

The stakeholder theory posits that managers should make all decisions so as to take into account the interests of all the stakeholders in a firm. The theory predicts a positive relationship between CSR disclosure and firm profitability (Freeman et al. 2004; Jawahar and McLaughlin 2001; Roberts 1992; Ullmann 1985). The underlying logic of this prediction is that when a manager has knowledge and understanding of CSR, he/she tends to have knowledge and skills in generating operating profits (Belkaoui and Karpik 1989; Reverte 2009). This literature also demonstrates that CSR actions can enhance various stakeholder relationships (McWilliams and Siegel 2001).

The legitimacy theory argues that firms are bounded by a social contract in which firms need to perform certain socially desirable and ethical tasks in order to legitimize their continued existence (Brown and Deegan 1998; Gray et al. 1995; Perrow 1970). Neu et al. (1998) point out that the relationship between CSR disclosure and profitability is not a priori clear. CSR disclosure can be used to frame either good or poor profitability. That is, when a firm has good profitability, CSR disclosure can be viewed as doing something good that is not at the expense of firm owners. In contrast, when a firm has poor profitability, CSR disclosure can be used to distract attention from current profitability or to suggest that firms would have competitive advantages in the long run. Because the legitimacy theory allows for a mixed relationship between CSR disclosure and profitability, this study does not specify the sign of the association for hypothesis *H3*.

Empirically, this study follows the research convention in the CSR literature and uses return on total assets (denoted as *ROA*) as a proxy for profitability. Because net income as a payoff measure is quite sensitive to the choice of accounting treatments, this study also follows the empirical convention in the REIT literature and uses the ratio of funds from operations (FFO) to total assets (denoted as *FFO/total assets*) as another proxy for profitability. FFO is defined as the sum of net income and depreciation (and amortization). Many academic researchers and practitioners prefer the use of FFO, instead of net income, because depreciation is a substantial accounting item for many REITs. It is widely held that the profitability of a REIT can be measured more accurately by FFO than by net income (Downs and Güner 2006; Gore and Stott 1988; Vincent 1999).

H4: REITs invest in CSR disclosure when they have greater visibility.

The legitimacy theory argues that the need for corporate legitimacy is a positive function of public pressure and that public attention is greater when the firm is more visible. The association between visibility and legitimization can be due to the fact that being visible is more newsworthy. Bansal and Clelland (2004), Bowen (2000), and Patten (2002) show that corporate visibility is related to media coverage, that higher visibility further raises public scrutiny and pressure, and that firms respond to public pressure. For this reason, this study employs the amount of media coverage (denoted as *#News*) as one of the proxies for corporate visibility. In the same vein, one can argue that the need for corporate legitimacy increases as analyst coverage increases because corporate visibility in capital markets is directly related to analyst coverage. As a result, this study uses the number of analysts following the firm (denoted as *#Analysts*) as another proxy for corporate visibility.

The association between visibility and legitimization can also arise from a confounding factor—social impact. That is, when a firm generates greater social impacts and thus becomes more visible, the public responds with greater scrutiny and social/regulatory pressure, which elevates the need for corporate legitimacy via CSR actions. The existing legitimacy literature has long argued that large firms have more social impacts, are more visible, and are more incentivized to engage in CSR actions; e.g., Cowen et al. (1987), Gray et al. (1995), and Watts and Zimmerman (1986). Many studies in the stakeholder literature also demonstrate that large firms tend to have large impacts on the community, have a proportionally larger group of stakeholders whose interests need to be addressed by these firms, and thus invest more in CSR actions; e.g., Deng et al. (2013), Hackston and Milne (1996), and Knox et al. (2006). Given these empirics, this study follows the existing literature and uses the logarithm of market capitalization (denoted as *Ln*(*Size*)) as the third proxy for corporate visibility. Here, a caution is in order: Firm size is also positively related to firm reputational capital (Ettlie and Rubenstein 1987). Thus, a significant empirical relationship between firm size and CSR disclosure is evidence consistent with both *H2* and *H4*.

H5: REITs' investment in CSR disclosure is related to their sensitivity to the operating environment.

The legitimacy theory suggests that a firm with high sensitivity to its operating environment (e.g., an industrial firm whose pollution emission is a sensitive issue to the community and environment) has great needs to legitimize its continued existence. The stakeholder theory also implies that the interests of silent stakeholders (e.g., neighbors) can become front and center for the firm if stakeholders' wellbeing is sensitive to the firm's corporate decisions. This convergence of predictions has led to a long list of empirical works focusing on whether CSR actions depend on industry category; e.g., Cowen et al. (1987), and Line et al. (2002). For the current study, we extend this literature to another sensitivity dimension given the fine-grained nature of our dataset. Specifically, this study focuses on a single industry—real estate. Our dataset allows us to define a tenant base binary variable (denoted as *Individual tenants*) that measures whether a REIT mainly deals with individual tenants (coded 1) or with corporate tenants (coded 0). In our views, it will be interesting to see whether individual tenants or corporate tenants, on average, impose greater impacts on REITs' CSR decisions.[4] On the one hand, corporate tenants may have economy of scales to put pressure on REITs. On the other hand, individual tenants may tilt their rental decisions more toward the branding/repositioning aspect of CSR and thus induce more CSR actions from a REIT.[5]

Some recent studies in financial economics have investigated whether a Democratic/blue or Republican/red operating environment in the US nurtures more sustainability and CSR activities. For example, Di Giuli and Kostovetsky (2014) find that firms score higher on CSR when they are headquartered in blue states rather than red states. This study follows Di Giuli and Kostovetsky (2014) and uses a REIT's home state's voting outcome in the 2012 US presidential election (denoted as *Blue state*) as a binary measure of the REIT's external operating environment.

H6: There is a significant relationship between CSR disclosure and agency costs among REITs.

The agency theory posits that the separation of ownership and control creates agency problems. The agency conflicts between shareholders and managers can be mitigated through voluntary disclosure that acts as a signaling and monitoring tool (Jensen and Meckling 1976). To the extent that insiders may entrench and have incentives to protect their private control benefits (Shleifer and Vishny 1997), the existing CSR literature has often hypothesized a negative relationship between insider ownership and CSR

[4] Bénabou and Tirole (2010) provide an analysis of individual social responsibility versus corporate social responsibility.

[5] This study mobilizes the legitimacy theory in hypotheses *H3*, *H4*, and *H5*. These hypotheses outline conscious actions that are used to legitimize a firm's continued existence. The new (or neo) institutionalism theory (e.g., Deephouse 1996; DiMaggio and Powell 1991; Meyer and Rowan 1991; Scott 1991), however, emphasizes that social environment shapes organizational structure. The so-called isomorphism increases organizational legitimacy in the sense that a firm' actions relating to legitimacy are often undertaken unconsciously.

activities (e.g., Cullen and Christopher 2002; Reverte 2009; Ullmann 1985). However, the agency literature in financial economics has articulated a more complex, nonlinear effect of ownership concentration on corporate valuation (Han 2006; Morck et al. 1988). That is, at a relatively low level of insider ownership, an increase in insider ownership leads to a better alignment of interest between managers and owners because greater managerial stake in the firm induces managerial efforts. One would thus begin to expect a positive relationship between insider ownership and CSR activities when insider ownership is relatively low. As insider ownership increases and the entrenchment effect outweighs the alignment effect, this relationship turns negative because entrenched insiders are more interested in expropriation than mitigating agency conflicts. This study follows the empirical convention in the financial economics literature and uses both insider ownership (denoted as *%Insider*) and the square of insider ownership (denoted as $\%Insider^2$) to capture this richer, nonlinear relationship.

The agency theory addresses not only the conflicts between owners and managers but also the conflicts between shareholders and debtholders. Jensen and Meckling (1976) argue that leveraged firms tend to disclose voluntary information to reduce their agency costs. In addition to the agency theory, the legitimacy theory and the stakeholder theory also make a similar prediction. The underlying logic is that when a firm uses debt, debtholders become stakeholders and they have incentives to monitor and pressure the firm. The firm may respond with CSR activities to legitimize its continued survival and address debtholders' interests as long as CSR activities reduce business risk and enhance the market value of debt (Husted 2005; Jo and Na 2012). In this study, we use the ratio of total debt to total equity (denoted as *total debt/total assets*) as a measure of financial leverage.

H7: REITs' investment in CSR disclosure is related to corporate governance/control.

Under the paradigm of shareholders' wealth maximization, corporate governance is an internal mechanism used to mitigate agency costs. Consequently, in addition to the relationship between agency costs and CSR disclosure, this study is also interested in the effect of corporate governance on CSR activities. Many existing studies document that when controlling managers obtain nearly full control, they tend to entrench and use the firm to generate private benefits of control (McConnell and Servaes 1990; Morck et al. 1988; Stulz 1988). This expropriation is particularly severe when control-enhancing mechanisms, such as staggered boards, are used (Gompers et al. 2010; Jarrell and Poulsen 1988; Partch 1987). A staggered board consists of multiple classes. During each board election term, only one class (i.e., a subset of total board positions) is open to elections; it thus takes longer for an outsider to gain control of a board. As a tool to discipline entrenched insiders, takeovers are less likely for firms with staggered boards. It is therefore reasonable to hypothesize that a REIT with a staggered board is less likely to invest in CSR disclosure when entrenched insiders are more interested in expropriation and less interested in aligning stakeholders' interests. We denote this binary variable of whether a REIT has a staggered board as *Staggered board*.

Another popular tool used by REITs to enhance corporate control is to structure REITs into umbrella partnership REITs (UPREITs). An UPREIT is a REIT that owns an operating partnership and serves as the general partner of the operating partnership. It is common that REIT shareholders and partnership unit holders have different voting rights so that corporate control is enhanced in the hands of insiders. This study follows the REIT literature and uses whether a REIT is an UPREIT as another corporate governance variable (denoted as *UPREIT*). It is plausible that an UPREIT is less likely to invest in CSR disclosure when controlling insiders are more interested in expropriation.

In addition to popular measures of governance/control, such as staggered board and umbrella partnership, our sample of REITs provides another interesting variable of governance/control: *Self-advised*. The binary variable takes a value of one when a REIT is self-advised and a value of zero when the REIT has an external advisor. When the US Congress created the corporate form of REITs in 1960, the Congress envisioned REITs as passive investment vehicles much like mutual funds. Before 1986, REITs were required to hire an external advisor to run their day-to-day operations, such as property acquisition and disposition and financing. Today, a REIT can choose to advise internally or to outsource its management to an external advisor. It is well documented that externally advised REITs are plagued by poor governance (Cannon and Vogt 1995; Howe and Shilling 1990; Hsieh and Sirmans 1991; Wei et al. 1995). This conflict of interest is not difficult to understand: imagine that the external advisor proposes the REIT to purchase a property and the advisor is the seller of the property.

Although the incentives to maintain entrenchment may lead insiders to invest less in CSR, Barnea and Rubin (2010) argue that entrenched and expropriating insiders may overinvest in CSR to improve their personal reputation while they do not bear the entire cost of doing so. In other words, the authors view CSR as another form of agency conflict and a problem between insiders and the other owners of the firm. For this reason, this study does not make any a priori presumption about the sign of the association between CSR disclosure and our corporate governance/control variables.

Data

Following the REIT literature, this study focuses on US equity REITs.[6] The list of equity REITs in 2013 was obtained from the National Association of Real Estate Investment Trusts (NAREIT). We then hand collected CSR reports for this list of equity REITs. In the USA, nonfinancial CSR reporting is voluntary. Thus, when a REIT decides to report CSR, the REIT can choose to have the CSR report published either in its annual report (10-K) or as a separate report usually on its corporate website. Because CSR web reports are not archived, our CSR dataset contains a cross section of observations for year-end 2013.

The CSR collection process included searching each sample REIT's 2013 10-K report that contains corporate information as of 2012 fiscal year-end for any sections or paragraphs specifically pertaining to environmental, community, or corporate governance responsibility. These sections of the documents were found by searching for keywords such as "sustainability," "environment," "social responsibility," "governance," among others. Once the section(s) were identified, the number of words in that disclosure was counted. This study follows a long list of existing studies in accounting and finance by using word count to measure informational content and firm involvement (e.g., Campbell et al. 2014; Loughran and McDonald 2011; Rogers et al. 2011; Tetlock et al. 2008; You and Zhang 2009). The benefit of using word count is that the measure is unbiased, reproducible, and precise. Furthermore, in spite of its simplicity, word count has been shown to perform better than other more complex measures to gauge the quality of online articles on Wikipedia (Blumenstock 2008). Having said so, we were mindful about the measurement of CSR word count. For example, it is possible that the amount of disclosure may increase when a REIT owns more properties. Thus, we did not count those words that are related to the discussion of CSR on individual properties.

After searching each REIT's 10-K, we searched the Internet thoroughly and paid particular attention to each sample REIT's company website. This was accomplished by checking each tab on the company website to identify anything relating to CSR and by checking the site map whenever available. Again, once the section(s) of the CSR disclosure was identified, word count in that disclosure was recorded.

Since we hand collected CSR data, an innovation in our data collection design is that we can measure the amount of CSR disclosure across three major categories of CSR: environment, community, and governance. For example, many REITs' corporate web sites included a section titled "Sustainability" or "Corporate Social Responsibility." Within this section would be subsections with titles such as "Energy Usage," "LEED," and "Recycling and Solid Waste Management," which all pertain to environmental responsibility. Within this same section might be other subsections with titles like "Community Involvement" (an example of community responsibility) and "Governance Committee Composition" (an example of governance responsibility). Thus, after each category of the CSR disclosure was identified, the number of words in that category was also counted.

After determining the extent to which REITs disclosed information regarding CSR, if at all, we used the SNL Financial Database to collect the following accounting, market, and governance data at 2012 fiscal year-end for each sample REIT: (1) the book-to-market ratio, (2) market beta, (3) ROA, (4) the ratio of FFO to total assets, (5) the natural logarithm of market capitalization, (6) whether the REIT's tenants are individuals (coded 1 when the property type is classified as hotel, multi-family, health care, self-storage, or manufactured home) or corporations (coded 0 for all other property types), (7) insider ownership, (8) the total debt to total assets ratio, (9) whether the REIT is self-advised (coded 1) or externally advised (coded 0), (10) whether the REIT is an UPREIT (1 yes; 0 no), and (11) whether the REIT has a staggered board (1 yes; 0 no).

The data regarding the number of analysts covering each REIT were obtained from Yahoo! Finance under the section titled "Analyst Estimates" in the "Earnings Est." box. The home state data were also obtained from Yahoo! Finance under the section titled "Profile." In order to determine the political affiliation of each state, a "1" was assigned to states which had voted for the Democratic candidate in the 2012 US presidential election and a "0" was assigned to states which had voted for the Republican candidate in the same election. The last piece of data collected was pertaining to the extent of media coverage each REIT experienced in the past 12 months. To quantify this, the number of news articles on Bloomberg was counted for each REIT based on articles in which the firm was mentioned. After merging all the variables, we deleted those REITs without complete observations from our sample. The final dataset consists of 137 REITs.

Summary Statistics

Table 1 provides summary statistics of the dataset. Among the 137 sample REITs, 74 REITs disclose CSR involvement; 63 REITs have no CSR disclosure. The percentage of sample REITs that voluntarily disclose CSR is about 54%. Among the 74 disclosing REITs, 10 REITs have CSR

[6] Mortgage REITs are excluded due to their fixed-income nature.

Table 1 Summary statistics

	w/ disclosure	w/o disclosure
Number of REITs	74	63
Number of REITs disclosing in 10-K	10	
Number of REITs disclosing in a separate report	73	
CSR variables		
Total word count	3235.67	
Environment word count	1614.84	
Community word count	541.23	
Governance word count	371.35	
Explanatory variables		
Book-to-market (%)	46.47	59.96
Total debt/total assets	0.50	0.48
Beta	1.10	1.01
ROA (%)	2.39	1.80
FFO/total assets (%)	4.85	4.77
#News	714.91	448.22
#Analysts	10.93	7.17
Size ($million)	5851.45	1999.05
Blue state	0.72	0.82
Individual tenants	0.34	0.33
%Insider (%)	4.20	7.71
Self-advised	0.99	0.87
UPREIT	0.81	0.65
Staggered board	0.14	0.29

The numbers reported for CSR variables and explanatory variables are mean values

disclosure in their annual reports and 73 REITs publish CSR as a separate report. This means that nine REITs disclose both in 10-K and in a separate report.

For the 74 disclosing REITs, the average word count for their disclosures is 3235. Among the 3235 words disclosed, 1614 words—about a half of the word count—can be classified as environmental disclosure. Using word count as a measure of CSR involvement, it is evident that environmental CSR is the most important CSR dimension for REITs. In light of recent findings in sustainable real estate literature, this result is not surprising. The evidence provides further support to the notion that green real estate initiatives are often positive NPV (net present value) projects that add value to real estate investors. Dermisi (2009), Eichholtz et al. (2010), Fuerst and McAllister (2009), and many others find that green buildings command a higher rental rate, suffer a lower vacancy rate, and have a higher market value.

The average word count relating to community aspect of CSR is 541 among the 74 disclosing REITs. This is followed by an average word count of 371 for the sub-category of governance disclosure. Based on word count, it appears that governance issues, relative to environmental and community issues, are less urgent for the business of real estate. This makes sense if one views CSR from a strategic investment perspective. That is, if a real estate firm, say a shopping mall developer, wants to grow and decides to take on an investment project, it will surely need to directly deal with environmental issues and community concerns relating to the expansion of the business; this is particularly so if the project requires permitting from local and federal government agencies. In contrast, although strategic investment also has implications on governance, the net effect is rather unclear because possible overinvestment and possible underinvestment due to agency problems may cancel each other out.

Table 1 shows that REITs with CSR disclosure on average have a lower book-to-market ratio than REITs without CSR disclosure (0.4647 vs. 0.5996). This univariate comparison shows that REITs with CSR disclosure on average have greater growth opportunities because the book-to-market ratio inversely measures growth opportunities. This evidence is consistent with the main hypothesis that CSR appears to be a strategic investment to capture growth opportunities.

Table 1 also shows that REITs with CSR disclosure on average have a beta of 1.10, which is higher than that of REITs without CSR disclosure, which has an average of

1.01. Because higher beta leads to higher cost of capital, the result from this simple comparison is in line with hypothesis *H2* that REITs invest in CSR disclosure when they have more incentives to reduce the cost of capital.

The average ratio of total debt to total assets is 0.5068 for REITs with disclosure. The mean value of the same ratio for REITs without disclosure is 0.4645. The result appears to be consistent with the agency theory and hypothesis *H6* that leveraged REITs have more incentives to disclose voluntary information in order to reduce their agency costs (Jensen and Meckling 1976).

The relationship between CSR disclosure and REIT profitability appears to reflect the mixed nature of theoretical predictions as discussed earlier when hypothesis *H3* was introduced. There seems to be a positive relationship between CSR disclosure and REIT profitability when ROA is used the profitability measure. The average ROA for REITs with disclosure is 2.39%, whereas the average ROA for REITs without disclosure is 1.80%. In contrast, REITs with disclosure and REITs without disclosure have similar ratios of FFO to total assets: 4.85 and 4.77%, respectively.

This study employs media coverage, the number of analysts following, and firm size to proxy for visibility and public pressure. The results in Table 1 appear to be consistent with hypothesis *H4* that REITs invest in CSR disclosure when they have greater visibility. REITs with disclosure have an average of 715 news stories, whereas REITs without disclosure have an average of 448 news stories. REITs with disclosure on average are followed by approximately 11 analysts, whereas REITs without disclosure are followed by about 7 analysts. REITs with disclosure have an average firm size of $5.85 billion. In contrast, REITs without disclosure are on average much smaller and have an average size of $2 billion.

Based on two operating environment proxies, whether the home state is a blue state and whether tenants are mostly individuals, the results in Table 1 do not support hypothesis *H5*, which states that REITs' investment in CSR disclosure is related to their sensitivities to operating environment. On average, a disclosing REIT is actually more likely located in a Red state. There is also virtually no difference between REITs with disclosure and without disclosure in terms of whether their tenants are mostly individuals or corporations (0.34 vs. 0.33). Note that we conjecture a nonlinear relationship between CSR disclosure and insider ownership. Thus, a direct comparison between the average insider ownership of disclosing REITs and that of non-disclosing REITs may not be particularly meaningful. Having said so, non-disclosing REITs on average do have a higher level of insider ownership.

As discussed earlier, governance issues, relative to environmental and community issues, appear to be less urgent for the business of real estate. It is thus not surprising to find mixed results in Table 1 for hypothesis *H7*, which posits that CSR disclosure is relative to corporate governance and control. Specifically, disclosing REITs tend to have better governance when *Self-advised* and *Staggered board* are used as measurements of governance. In contrast, disclosing REITs tend to exhibit worse governance when *UPREIT* is used as the measurement of governance.

Multivariate Regression Results

The univariate comparison in Table 1 is simple and intuitive, yet lacking multivariate controls. This study employs the following Tobit regression to investigate the relationship between CSR disclosure and a host of explanatory variables in a multivariate setting[7]:

$$\begin{aligned}\text{CSR}_{\text{Word Count}} = {} & a + b_1 \times \text{Book-to-market} \\ & + b_2 \times \text{Total debt/total assets} + b_3 \times \text{Beta} \\ & + b_4 \times \text{ROA(or FFO/total assets)} \\ & + b_5 \times \#\text{News} + b_6 \times \#\text{Analysts} + b_7 \times \text{Ln(Size)} \\ & + b_8 \times \text{Blue state} + b_9 \times \text{Individual tenants} \\ & + b_{10} \times \%\text{Insider} + b_{11} \times \%\text{Insider}^2 \\ & + b_{12} \times \text{Self} - \text{advised} + b_{13} \times \text{UPREIT} \\ & + b_{14} \times \text{Staggered board} + e\end{aligned}$$

where a and b_1 to b_{14} are coefficients and e is equation error. In a regression framework, equation error e includes the measurement error of $CSR_{Word\ Count}$. In other words, even if $CSR_{Word\ Count}$ is not a perfect measure CSR involvement and investment, the coefficient estimates from the above specification can be unbiased and consistent so long as the equation error satisfies the classical error assumptions.

Tobit regression is used because dependent variables are censored/truncated at zero. The dependent variables include word count relating to all aspects of CSR disclosure, word count relating to environmental disclosure, word count relating to community disclosure, and word count relating to responsible governance. To mitigate multicollinearity issues, we carefully check the correlation structure between all explanatory variables. Correlation coefficients are mostly small.[8] The correlation coefficient between the two measures of profitability, ROA and the ratio of FFO to total assets, is nevertheless quite high. For this reason, we report two sets of Tobit regression results:

[7] Limited dependent variable regression is quite standard in econometrics. Details about this method can be found in Greene (1997).

[8] We do not report the table of correlation coefficients in the interest of brevity; the table is available upon request.

one with the use of ROA and the other with the use of the ratio of FFO to total assets.[9]

Table 2 reports Tobit regression results using word count relating to all aspects of CSR disclosure as the dependent variable. In models (1) and (2), ROA and the ratio of FFO to total assets is included to proxy for profitability, respectively. Because their results are very similar, our subsequent discussions will focus on the results based on model (1). The results in model (1) clearly support the main hypothesis *H1* that REITs have more CSR involvement when they have greater growth opportunities. Specifically, the coefficient for the book-to-market ratio is −3.94. The *p* value is 0.01, which is statistically significant at the 1% level. The total debt to total assets ratio has a coefficient of −7743.10 and a *p* value of 0.01, which is also statistically significant at the 1% level. The evidence supports the strategic perspectives of Grayson and Hodges (2004), Jenkins (2009), and Porter and Kramer (2006) that CSR activities are part of corporate strategies that help firms build competitive advantages and seize their growth opportunities.

In a multivariate setting, CSR disclosure is shown to have a positive association with the cost of capital. The coefficient for beta is 2798.17. The *p* value is 0.01, which is statistically significant at the 1% level. The result is consistent with hypothesis *H2* that REITs invest in CSR disclosure when they have more incentives to engage in risk management. In addition, this study documents a statistically significant relationship between CSR disclosure and media coverage at the 1% level. The coefficient is 4.48. The result is consistent with hypothesis *H4* that REITs invest in CSR disclosure when they are more visible. On the other hand, we do not find any significant relationship between CSR disclosure and another proxy of visibility: the number of analysts following the REIT.

Consistent with hypothesis *H6*, our results show statistically significant relationships at the 1% level between CSR disclosure and our measures of agency costs. Specifically, at a relatively low level of insider ownership, an increase in insider ownership leads to more CSR disclosure because of better alignment of interest. The coefficient for *%Insider* is 3727.03. As insider ownership increases, this relationship turns negative because of entrenchment. The coefficient for $\%Insider^2$ is −1689.66. When the total debt to total assets ratio is used to capture agency cost, the study finds that leveraged firms tend to disclose voluntary information to reduce their agency costs. The coefficient for this agency cost measure is −7743.10.

Table 2 Tobit regression results with CSR word count

	(1)	(2)
Intercept	4112.18	4250.97
	(0.01)**	(0.01)**
Book-to-market	−3.94	−3.90
	(0.01)**	(0.01)**
Total debt/total assets	−7743.10	−7596.34
	(0.01)**	(0.01)**
Beta	2798.17	2813.11
	(0.01)**	(0.01)**
ROA	−10,189.00	
	(0.01)**	
FFO/total assets		−9726.64
		(0.11)**
#News	4.48	4.33
	(0.01)**	(0.01)**
#Analysts	−55.29	−53.96
	(0.60)	(0.60)
Ln(Size)	−0.83	20.35
	(0.99)	(0.93)
Blue state	711.33	727.87
	(0.40)	(0.39)
Individual tenants	−701.53	−703.40
	(0.41)	(0.41)
%Insider	3727.03	4067.84
	(0.01)**	(0.01)**
$\%Insider^2$	−1689.66	−2139.59
	(0.01)**	(0.01)**
Self-advised	−712.79	−750.86
	(0.01)**	(0.01)**
UPREIT	−132.40	−102.12
	(0.85)	(0.88)
Staggered board	−1281.67	−1301.65
	(0.03)*	(0.02)*

The dependent variable is the number of words disclosed relating to all aspects of CSR. The numbers in parentheses are *p* values

* Statistical significance at the 5% level

** Statistical significance at the 1% level

The coefficient for profitability variable *ROA* is −10,189.00. The coefficient is statistically significant at the 1% level. It appears that within our sample, CSR disclosure is used to either frame or address poor profitability. That is, CSR activities either may distract attention from current profitability or are parts of strategies that allow firms to build competitive advantages in the long run.

Among the three measures of corporate governance/control, the results show that *Self-advised* and *Staggered board* are negatively associated with CSR disclosure, whereas *UPREIT* is not useful in describing CSR

[9] Market capitalization also exhibits fairly high correlation coefficients with the number of analysts and media coverage. Therefore, we repeat subsequent analyses without the inclusion of market capitalization. The unreported results are qualitatively similar.

disclosure. In other words, there is some evidence suggesting that a REIT tends not to engage in CSR activities when the REIT is plagued by poor governance, such as instituting staggered board or external advisor.

Having investigated the determinants of overall CSR disclosure, we now turn our attention to fine-grained measurements of CSR disclosure in three dimensions: environment, community, and governance. Tobit regression results are reported in Table 3. As Table 2 shows, there is little difference with the use of ROA or the ratio of FFO to total assets as the measure of profitability in a multivariate specification. In the interest of brevity, we thus do not report Tobit regression results with the use of the ratio of FFO to total assets in Table 3. The unreported results are qualitatively similar, and they are available upon request.

In model (1), Table 3, the dependent variable is the word count relating to environment. Overall, the results are slightly weaker than, but quite similar to, those reported in Table 2 when the word count of all CSR disclosure was used as the dependent variable and the book-to-market ratio is still statistically significant at the 1% level. The total debt to total assets ratio also retains its statistical significance at the 1% level. The results suggest that environmental disclosure and involvement are important to REITs in their efforts to build their competitive advantages (e.g., energy efficiency, rental rate premium, and occupancy rate premium) and to capitalize their growth opportunities. The evidence is consistent with Flammer's view (2013) that environmental CSR generates new and competitive resources for firms. The other side of the story also suggests that environmental CSR is where growth opportunities reside for REITs and the real estate industry.

In model (1), Table 3, market beta, ROA, media coverage, and insider ownership variables hold their roles in explaining environmental disclosure. Their coefficients are, at least, statistically significant at the 5% level. In contrast, governance/control variables, *Self-advised* and *Staggered board*, are no longer statistically significant at any conventional level.

The results in models (2) and (3), Table 3, show that the determinants of community disclosure and governance disclosure are quite different from those of environmental disclosure. Foremost, the coefficients for the book-to-market ratio in models (2) and (3) are much smaller: −0.28 and −0.06, respectively. The coefficients are not statistically significant at any conventional level. The coefficients for the total debt to total assets ratio are not statistically significant at any conventional level in models (2) and (3) either. The results suggest that, for our sample of REITs, community involvement and governance issues belong more to the "responsibility" side of CSR, rather than the "opportunity" side of CSR. Additionally, in models (2) and (3), media coverage and insider ownership variables are, at least, statistically significant at the 5% level. The results suggest that community CSR and governance CSR are often used to address public pressure/attention and agency conflicts.

Overall, the Tobit regression results in Table 3 demonstrate a rich story about CSR involvements: Not all dimensions of CSR are alike, and their involvements are encouraged by different sets of incentives and motivations. For the real estate industry, environment is the main dimension of CSR that enables REITs to build their competitive advantages and to capitalize on growth opportunities. We believe the answer to the documented relationship between growth opportunities and environmental CSR lies in the observation quoted earlier: "Our tenants are responding (to green space)." That is, environmental CSR is a corporate strategy that can be employed to seize market opportunities.

The result of environmental CSR being a corporate strategy has particular implications on the promotion and development of environmental ethics in the context of REITs. As discussed earlier, a main difference between a traditional, privately owned property firm and a modern, publicly owned REIT is that a REIT has good access to capital markets. As a result, the corporate structure of REIT provides an accelerated path to scale up ethical real estate operations, which was almost unthinkable during the vintage era in which real estate operations were mostly privately funded by individuals and families. As a recent example, Farmland LP, founded in 2009, purchased its first property in 2010, back when it was a small private enterprise whose mission was to acquire and convert conventional farmland to certified organic farmland. In 2014, Farmland REIT debuted its initial public offering to scale up its farm portfolio. Today, Farmland REIT owns and manages 13,000 acres of farmland by implementing sustainable farming practices. Perhaps more importantly, institutional investors and socially responsible investing (SRI) funds are now able to invest in environmentally ethical farming, such as Farmland REIT. In the past, these institutions and funds were largely excluded from investing in ethical farming because of the lack of liquidity and scale.

Robustness Check

Although the theoretical causality from growth opportunities to CSR involvement is well established by a rich body of existing literature (e.g., Asongu 2007; Grayson and Hodges 2004; Porter and Kramer 2006), one cannot rule out the possibility that growth opportunities are endogenous. For instance, a REIT may be able to create more growth opportunities when it invests in CSR initiatives. In

Table 3 Tobit regression results with environment, community, and governance word count

	(1) Environment	(2) Community	(3) Governance
Intercept	3014.72	−711.71	−638.21
	(0.01)**	(0.01)**	(0.01)**
Book-to-market	−1.84	−0.28	−0.06
	(0.01)**	(0.20)	(0.79)
Total debt/total assets	−3028.71	−578.88	−436.30
	(0.01)**	(0.16)	(0.36)
Beta	1276.52	188.61	46.83
	(0.03)*	(0.43)	(0.80)
ROA	−300.67	−1544.48	94.02
	(0.01)**	(0.01)**	(0.06)
#News	1.65	0.65	0.49
	(0.01)**	(0.02)*	(0.03)*
#Analysts	2.58	−10.88	−17.03
	(0.96)	(0.58)	(0.28)
Ln(Size)	−148.59	87.59	110.50
	(0.37)	(0.20)	(0.19)
Blue state	243.02	119.71	66.86
	(0.58)	(0.50)	(0.63)
Individual tenants	−591.81	−103.93	212.54
	(0.14)	(0.48)	(0.10)
%Insider	4719.28	795.13	1501.84
	(0.01)**	(0.01)**	(0.01)**
%Insider^2	−3550.76	−931.54	−741.33
	(0.01)**	(0.02)*	(0.02)*
Self-advised	−229.94	28.81	12.59
	(0.74)	(0.93)	(0.96)
UPREIT	155.01	183.69	65.69
	(0.74)	(0.33)	(0.66)
Staggered board	−499.44	47.37	−207.25
	(0.30)	(0.81)	(0.19)

The dependent variable in model (1) is the word count relating to environmental disclosure. The dependent variable in model (2) is the word count relating to community disclosure. The dependent variable in model (3) is the word count relating to governance disclosure. The numbers in parentheses are *p* values

* Statistical significance at the 5% level

** Statistical significance at the 1% level

addition, the use of the book-to-market ratio as the main proxy for growth opportunity comes with a measurement issue. For instance, the measurement of book value is sensitive to the accounting treatment of property depreciation.

To address the endogeneity problem and the measurement issue for the book-to-market ratio, we use instrumental variable (IV) regression as a robustness check. IV regression is arguably the most widely used method to deal with endogeneity in corporate studies. IV regression also yields consistent estimates under classical error assumptions when a dependent variable is measured with errors. Details about this method can be found in Greene (1997).

This study uses capitalization rate as an instrument for the book-to-market ratio. Real estate capitalization rate is the ratio of net operating income to property value. One popular approach for estimating capitalization rate is to survey peer practitioners owning the same property types (hotels, offices, warehouses, or shopping centers) of the same investment class (class A, B, or C) in the same city/region (Ling and Archer 2010). Because property type, investment class, and location are largely predetermined when CSR disclosure decisions are made, it appears that capitalization rate is not a direct covariate of CSR disclosure. We also have reasons to believe that capitalization rate and the book-to-market ratio are correlated such that capitalization rate can be used as an instrument. Cragg and Malkiel (1982), Litzenberger and Rao (1971) interpret capitalization rate as a growth indicator. Penman (1996) shows that capitalization ratio and the book-to-market ratio are partially related.

The capitalization rate estimates of REITs are retrieved from the SNL database. This study uses the standard two-stage specifications to estimate the IV model. The regression results are reported in Table 4. It is evident that when capitalization rate is used as the instrument, our baseline results in Tables 2 and 3 are quite robust. In particular, the book-to-market ratio is statistically significant at the 1% level and the 5% level for describing total CSR word count and environmental CSR word count, respectively. Again, growth opportunities do not seem to be determinants of community and governance CSR activities.

Conclusion

The main hypothesis of this study predicted that REITs invest more heavily in CSR disclosure when they have more opportunities for growth. The study also had secondary hypotheses that control for various relationships between CSR involvement and a number of known determinants. Using the book-to-market ratio as the main proxy for growth opportunities, our results show that REITs' involvement in CSR disclosure is increasing in growth opportunities. The evidence supports the main hypothesis that CSR is a strategic investment that enables firms to build competitive advantages and to capitalize on growth opportunities.

Using fine-grained hand-collected data, this study also found that not all dimensions of CSR are alike. Environmental CSR, community CSR, and governance CSR are driven by different sets of incentives and motivations. For

Table 4 Instrumental variable regression results with CSR word count

	(1) Total	(2) Environment	(3) Community	(4) Governance
Intercept	4109.91	3014.64	−711.85	−637.58
	(0.01)**	(0.01)**	(0.01)**	(0.01)**
Book-to-market	−3.85	−1.83	−0.26	−0.09
	(0.01)**	(0.02)*	(0.37)	(0.70)
Total debt/total assets	−7743.99	−3028.75	−578.94	−466.06
	(0.01)**	(0.01)**	(0.16)	(0.18)
Beta	2795.54	1276.43	188.45	47.56
	(0.01)**	(0.04)*	(0.45)	(0.81)
ROA	−10,189.00	−300.67	−1544.48	94.01
	(0.01)**	(0.01)**	(0.01)**	(0.02)*
#News	4.48	1.65	0.65	0.49
	(0.01)**	(0.01)**	(0.02)*	(0.02)*
#Analysts	−52.65	2.33	−11.07	−17.74
	(0.62)	(0.97)	(0.59)	(0.27)
Ln(Size)	−11.24	−149.06	86.86	113.29
	(0.96)	(0.37)	(0.20)	(0.03)
Blue state	709.68	242.96	119.61	67.32
	(0.42)	(0.58)	(0.50)	(0.63)
Individual tenants	−701.95	−591.83	−103.96	212.66
	(0.40)	(0.14)	(0.51)	(0.08)
%Insider	3726.81	4719.27	795.14	1501.90
	(0.01)**	(0.01)**	(0.01)**	(0.01)**
%Insider^2	−1690.31	−3550.77	−931.51	−741.15
	(0.01)**	(0.01)**	(0.02)*	(0.02)*
Self-advised	−714.38	−230.01	28.70	13.03
	(0.01)**	(0.75)	(0.92)	(0.96)
UPREIT	−133.86	154.95	183.59	66.10
	(0.84)	(0.75)	(0.34)	(0.66)
Staggered board	−1282.31	−499.46	47.33	−207.09
	(0.03)*	(0.30)	(0.81)	(0.18)

Capitalization rate is used as an instrument for the book-to-market ratio. The dependent variable in model (1) is the total CSR word count. The dependent variable in model (2) is the word count relating to environmental disclosure. The dependent variable in model (3) is the word count relating to community disclosure. The dependent variable in model (4) is the word count relating to governance disclosure. The numbers in parentheses are *p* values

* Statistical significance at the 5% level

** Statistical significance at the 1% level

our REIT sample, environmental CSR disclosure appears to belong more to the "opportunity" side of CSR. That is, being involved in environmental CSR and ethical activities seems to enable REITs to build their competitive advantages and to capitalize on growth opportunities. In contrast, community CSR and governance CSR seem to belong more to the "responsibility" side of CSR.

Using voluntary disclosure as a measure of corporate involvement, this study provided evidence supporting the notion that CSR involvement is a strategic investment that is undertaken when firms approach growth opportunities. What this study has not addressed yet is whether the use of other measures of CSR involvement may yield further insights about the rich nature of CSR as a strategic investment and ethical stance. We believe that future research in this direction should yield fruitful results.

Appendix

The explanatory variables used in this study are defined as follows.

Book-to-market the ratio of the book value of equity to market capitalization.

Total debt/total assets the ratio of total debt to total assets.

Beta the market beta of equity.

ROA the ratio of net income to total assets.

FFO/total assets the ratio of funds from operations to total assets.

#News the number of news articles received.

#Analysts the number of analysts following the firm.

Ln(*Size*) the logarithm of market capitalization.

Blue state coded one (zero) if the firm's home state went to Democratic (Republican) Party in the 2012 US presidential election.

Individual tenants coded one (zero) when the firm mainly deals with individual (corporate) tenants.

%Insider insider ownership.

%Insider^2 the square of insider ownership.

Self-advised coded one (zero) if the firm is (not) self-advised.

UPREIT coded one (zero) if the firm is (not) an umbrella partnership REIT.

Staggered board coded one (zero) when the firm (does not) has a staggered board that consists of multiple classes of shares.

References

Abbott, W. F., & Monsen, R. J. (1979). On the measurement of corporate social responsibility: Self-reported disclosures as a method of measuring corporate social involvement. *Academy of Management Journal, 22,* 501–515.

Aivazian, V. A., Ge, Y., & Qiu, J. (2005). The impact of leverage on firm investment: Canadian evidence. *Journal of Corporate Finance, 11,* 277–291.

Asongu, J. J. (2007). Innovation as an argument for corporate social responsibility. *Journal of Business and Public Policy, 1,* 1–21.

Baker, M., & Wurgler, J. (2002). Marketing timing and capital structure. *Journal of Finance, 57,* 1–32.

Bansal, P., & Clelland, I. (2004). Talking trash: Legitimacy, impression management and unsystematic risk in the context of the natural environment. *Academy of Management Journal, 47,* 93–103.

Barnea, A., & Rubin, A. (2010). Corporate social responsibility as a conflict between shareholders. *Journal of Business Ethics, 97,* 71–86.

Barnett, M. L. (2007). Stakeholder influence capacity and the variability of financial returns to corporate social responsibility. *Academy of Management Review, 32,* 794–816.

Belkaoui, A., & Karpik, P. G. (1989). Determinants of the corporate decision to disclose social information. *Accounting, Auditing and Accountability Journal, 2,* 36–51.

Bénabou, R., & Tirole, J. (2010). Individual and corporate social responsibility. *Economica, 77,* 1–19.

Bernstein, H. (2009). *Greening of Corporate America*. New York: McGraw Hill Construction.

Blumenstock, J. E. (2008). Size matters: World count as a measure of quality on Wikipedia. In *Proceedings of the 17th ACM international conference on the World Wide Web (WWW)* (pp. 1095–1096). New York: ACM Press.

Bowen, F. (2000). Environmental visibility: A trigger of green organizational response? *Business Strategy and the Environment, 9,* 92–107.

Brown, N., & Deegan, C. (1998). The public disclosure of environmental performance information—A dual test of media agenda setting theory and legitimacy theory. *Accounting and Business Review, 29,* 21–41.

Campbell, J. L., Chen, H., Dhaliwal, D. S., Lu, H., & Steele, L. B. (2014). The information content of mandatory risk factor disclosures in corporate filings. *Review of Accounting Studies, 19,* 396–455.

Cannon, S., & Vogt, S. (1995). REITs and their management: An analysis of organizational structure. *Journal of Real Estate Research, 10,* 297–317.

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of Management Review, 4,* 497–505.

Case, B., Colwell, P. F., Leishman, C., & Watkins, C. (2006). *Real Estate Economics, 34,* 77–107.

Chan, M. C., Watson, J., & Woodliff, D. (2014). Corporate governance quality and CSR disclosure. *Journal of Business Ethics, 125,* 59–73.

Cormier, D., Gordon, I. M., & Magnan, M. (2004). Corporate environmental disclosure: Contrasting management's perceptions with reality. *Journal of Business Ethics, 49,* 143–165.

Cowen, S. S., Ferreri, L. B., & Parker, L. D. (1987). The impact of corporate characteristics on social responsibility disclosure A typology and frequency-based analysis. *Accounting, Organizations and Society, 12,* 111–122.

Cragg, J. G., & Malkiel, B. G. (1982). *Expectations and the structure of share prices*. Chicago, IL: University of Chicago Press.

Cullen, L., & Christopher, T. (2002). Governance disclosures and firm characteristics of listed Australian mining companies. *International Journal of Business Studies, 10,* 37–58.

De Roeck, K., & Delobbe, N. (2012). Do environmental CSR initiatives serve organizations' legitimacy in the oil industry? Exploring employees' reactions through organizational identification theory. *Journal of Business Ethics, 110,* 397–412.

Deephouse, D. L. (1996). Does isomorphism legitimate? *Academy of Management Journal, 39,* 1024–1039.

Deng, X., Kang, J., & Low, B. S. (2013). Corporate social responsibility and stakeholder value maximization: Evidence from mergers. *Journal of Financial Economics, 110,* 87–109.

Dermisi, S. V. (2009). Effect of LEED ratings and levels on office property assessed and market values. *Journal of Sustainable Real Estate, 1,* 23–47.

Di Giuli, A., & Kostovetsky, L. (2014). Are red or blue companies more likely to go green? Politics and corporate social responsibility. *Journal of Financial Economics, 111,* 158–180.

DiMaggio, P. J., & Powell, W. W. (1991). Introduction. In P. J. DiMaggio & W. W. Powell (Eds.), *The new institutionalism in organizational analysis*. Chicago: University of Chicago Press.

Downs, D. H., & Güner, N. Z. (2006). On the quality of FFO forecasts. *Journal of Real Estate Research, 28,* 257–274.

Eichholtz, P., Kok, N., & Quigley, J. M. (2010). Doing well by doing good? Green office buildings. *American Economic Review, 100,* 2492–2509.

Ettlie, J. E., & Rubenstein, A. H. (1987). Firm size and product innovation. *Journal of Product Innovation Management, 4*(2), 89–108.

Falkenbach, H., Lindholm, A., & Schleich, H. (2010). Environmental sustainability: Drivers for the real estate investor. *Journal of Real Estate Literature, 18,* 203–223.

Flammer, C. (2013). Corporate social responsibility and shareholder reaction: The environmental awareness of investors. *Academy of Management Journal, 56,* 758–781.

Freeman, R. E., Wicks, A. C., & Parmar, B. (2004). Stakeholder theory and the corporate objective revisited. *Organization Science, 15,* 364–369.

Fuerst, F., & McAllister, P. (2009). An investigation of the effect of eco-labeling on office occupancy rates. *Journal of Sustainable Real Estate, 1,* 50–64.

Fuerst, F., & McAllister, P. (2011). Green noise or green value? Measuring the effects of environmental certification on office values. *Real Estate Economics, 39,* 45–69.

Gompers, P. A., Ishii, J., & Metrick, A. (2010). Extreme governance: An analysis of dual-class firms in the United States. *Review of Financial Studies, 23,* 1051–1088.

Gore, R., & Stott, D. (1988). Toward a more informative measure of operating performance in the REIT industry: Net income vs. funds from operations. *Accounting Horizons, 12,* 323–339.

Gray, R., Kouhy, R., & Lavers, S. (1995). Corporate social and environmental reporting: A review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing & Accountability Journal, 8*(2), 47–77.

Grayson, D., & Hodges, A. (2004). *Corporate social opportunity! 7 steps to make corporate social responsibility work for your business*. Sheffield: Greenleaf.

Greene, W. H. (1997). *Econometric analysis* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

Gregory, A., Tharyan, R., & Whittaker, J. (2014). Corporate social responsibility and firm value: Disaggregating the effects on cash flow, risk and growth. *Journal of Business Ethics, 124,* 633–657.

Hackston, D., & Milne, M. J. (1996). Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing & Accountability Journal, 9,* 77–108.

Han, B. (2006). Insider ownership and firm value: Evidence from real estate investment trusts. *Journal of Real Estate Finance and Economics, 32,* 471–493.

Harjoto, M. A., & Jo, H. (2015). Legal vs. normative CSR: Differential impact on analyst dispersion, stock return volatility, cost of capital, and firm value. *Journal of Business Ethics, 128,* 1–20.

Howe, J., & Shilling, J. (1990). *REIT advisor performance. AREUEA Journal, 18,* 479–499.

Hsieh, C., & Sirmans, C. F. (1991). REITs as captive-financing affiliates: Impact on financial performance. *Journal of Real Estate Research, 6,* 179–189.

Husted, B. W. (2005). Risk management, real options, corporate social responsibility. *Journal of Business Ethics, 60,* 175–183.

Jarrell, G. A., & Poulsen, A. B. (1988). Dual-class recapitalizations as antitakeover mechanisms. *Journal of Financial Economics, 20,* 129–152.

Jawahar, J. M., & McLaughlin, G. L. (2001). Toward a descriptive stakeholder theory: An organizational life cycle approach. *Academy of Management Review, 26,* 397–414.

Jenkins, H. (2009). A 'business opportunity' model of corporate social responsibility for small- and medium-sized enterprises. *Business Ethics: A European Review, 18,* 21–36.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3,* 305–360.

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

Jo, H., & Na, H. (2012). Does CSR reduce firm risk? Evidence from controversial industry sectors. *Journal of Business Ethics, 110,* 441–456.

Jones, D., Willness, C., & Madey, S. (2014). Why are job seekers attracted by corporate social performance? Experimental and field tests of three signal-based mechanisms. *Academy of Management Journal, 57,* 383–404.

Jung, K., Kim, Y., & Stulz, R. (1996). Timing, investment opportunities, managerial discretion, and the security issue decision. *Journal of Financial Economics, 42,* 159–181.

Knox, S., Maklan, S., & French, P. (2006). Corporate social responsibility: Exploring stakeholder relationships and programme reporting across leading FTSE companies. *Journal of Business Ethics, 61,* 7–28.

Kotler, P., & Lee, N. (2005). *Corporate social responsibility: Doing the most good for your company and your cause*. Hoboken, NJ: Wiley.

Lang, L., Ofek, E., & Stulz, R. M. (1996). Leverage, investment, and firm growth. *Journal of Financial Economics, 40,* 3–29.

Line, M., Hawley, H., & Krut, R. (2002). Development in global environmental and social reporting. *Corporate Environmental Strategy, 9,* 69–78.

Ling, D. C., & Archer, W. R. (2010). *Real estate principles: A value approach*. New York, NY: McGraw-Hill Irwin.

Litzenberger, R. H., & Rao, C. U. (1971). Estimates of the marginal rate of time preference and average risk aversion of investors in electric utility shares: 1960–1966. *Bell Journal of Economics and Management Science, 2*, 265–277.

Loughran, T., & McDonald, B. (2011). When is a liability not a liability? Textual analysis, dictionaries, and 10-Ks. *Journal of Finance, 66,* 35–65.

Lutzkendorf, T., & Lorenz, D. (2007). Integrating sustainability into property risk assessments for market transformation. *Building Research & Information, 35,* 644–661.

Mason, C., & Simmons, J. (2014). Embedding corporate social responsibility in corporate governance: A stakeholder systems approach. *Journal of Business Ethics, 119,* 77–86.

McConnell, J. J., & Servaes, H. (1990). Additional evidence on equity ownership and corporate value. *Journal of Financial Economics, 27,* 595–612.

McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review, 26,* 117–127.

Meyer, J. W., & Rowan, B. (1991). Institutional organizations: Formal structure as myth and ceremony. In P. J. DiMaggio & W. W. Powell (Eds.), *The new institutionalism in organizational analysis*. Chicago: University of Chicago Press.

Mishra, S., & Modi, S. B. (2013). Positive and negative corporate social responsibility, financial leverage, and idiosyncratic risk. *Journal of Business Ethics, 117,* 431–448.

Morck, R. K., Shleifer, A., & Vishny, R. W. (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics, 20,* 293–315.

Neu, D., Warsame, H., & Pedwell, K. (1998). Managing public impressions: Environmental disclosures in annual reports. *Accounting, Organizations and Society, 23,* 265–282.

Newell, G., & Lee, C. L. (2012). Influence of the corporate social responsibility factors and financial factors on REIT performance in Australia. *Journal of Property Investment & Finance, 30,* 389–403.

Newell, G., Peng, H. W., & Yam, S. (2011). Assessing the linkages between corporate social responsibility and A-REIT performance. *Pacific Rim Property Research Journal, 17,* 370–387.

Partch, M. (1987). The creation of a class of limited voting common stock and shareholder wealth. *Journal of Financial Economics, 18,* 313–339.

Patten, D. M. (2002). Media exposure, public policy pressure, and environmental disclosure: An examination of the impact of tri data availability. *Accounting Forum, 26,* 152–171.

Penman, S. H. (1996). The articulation of price-earnings ratios and market-to-book ratios and the evaluation of growth. *Journal of Accounting Research, 34,* 235–259.

Perrow, C. (1970). *Organizational analysis: A sociological view*. Belmont, CA: Tivastock.

Pivo, G. (2007). Exploring responsible property investing: A survey of American executives. *Corporate Social Responsibility and Environmental Management, 15*, 235–248.

Pivo, G., & Fisher, J. D. (2010). Income, value, and returns in socially responsible office properties. *Journal of Real Estate Research, 32,* 243–270.

Porter, M. E., & Kramer, M. R. (2006). Strategy and society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review, 84,* 78–93.

Reichardt, A., Fuerst, F., Rottke, N. B., & Zietz, J. (2012). Sustainable building certification and the rent premium: A panel data approach. *Journal of Real Estate Research, 34,* 99–126.

Reverte, C. (2009). Determinants of corporate social responsibility disclosure ratings by Spanish listed firms. *Journal of Business Ethics, 88,* 351–366.

Roberts, R. W. (1992). Determinants of corporate social responsibility disclosure: An application of stakeholder theory. *Accounting, Organizations and Society, 17*(6), 595–612.

Rogers, J. L., Van Buskirk, A., & Zechman, S. L. C. (2011). Disclosure tone and shareholder litigation. *Accounting Review, 86,* 2155–2183.

Scott, W. R. (1991). Unpacking institutional arguments. In P. J. DiMaggio & W. W. Powell (Eds.), *The new institutionalism in organizational analysis*. Chicago: University of Chicago Press.

Sharfman, M. P., & Fernando, C. S. (2008). Environmental risk management and the cost of capital. *Strategic Management Journal, 29,* 569–592.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *Journal of Finance, 52,* 737–783.

Smith, C. W., & Watts, R. L. (1992). The investment opportunity set and corporate financing, dividend, and compensation polices. *Journal of Financial Economics, 32,* 263–292.

Stulz, R. M. (1988). Managerial control of voting rights: Financing policies and the market for corporate control. *Journal of Financial Economics, 20,* 25–54.

Tetlock, P. C., Saar-Tsechansky, M., & Macskassy, S. (2008). More than words: Quantifying language to measure firms' fundamentals. *Journal of Finance, 63,* 1437–1467.

Turban, D. B., & Greening, D. W. (1997). Corporate social performance and organizational attractiveness to prospective employees. *Academy of Management Journal, 40,* 658–672.

Ullmann, A. A. (1985). Data in search of a theory: A social examination of the relationships among social performance, social disclosure, and economic performance of U.S. firms. *Academy of Management Review, 10*(3), 540–557.

Valentine, S., & Fleischman, G. (2008a). Ethics programs, perceived corporate social responsibility and job satisfaction. *Journal of Business Ethics, 77,* 159–172.

Valentine, S., & Fleischman, G. (2008b). Professional ethical standards, corporate social responsibility, and the perceived role of ethics and social responsibility. *Journal of Business Ethics, 82,* 657–666.

Vincent, L. (1999). The informational content of funds from operations (FFO) for real estate investment trusts (REITs). *Journal of Accounting and Economics, 26,* 69–104.

Wachter, S. M., & Wong, G. (2008). What is a tree worth? Green-city strategies, signaling and house prices. *Real Estate Economics, 36,* 213–239.

Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*. Englewood Cliffs, NJ: Prentice-Hall.

Wei, P., Hsieh, C., & Sirmans, C. F. (1995). Captive financing arrangements and information asymmetry: The case of REITs. *Real Estate Economics, 23,* 385–394.

Wiley, J. A., Benefield, J. D., & Johnson, K. H. (2010). Green design and the market for commercial office space. *Journal of Real Estate Finance and Economics, 41,* 228–243.

You, H., & Zhang, X. (2009). Financial reporting complexity and investor under reaction to 10-K information. *Review of Accounting Studies, 14,* 559–586.