

CEO Materialism and Corporate Social Responsibility

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Abstract

We study the role of individual CEOs in explaining corporate social responsibility (CSR) scores. We find that CEO fixed-effects explain 59% of the variation in CSR scores, whereas firm fixed-effects explains 23% of the variation in CSR scores. Specifically, firms led by materialistic CEOs have lower CSR scores, fewer strengths, and more weaknesses. Finally, we document that CSR scores in firms with non-materialistic CEOs are positively associated with accounting and stock price performance. In contrast, CSR scores in firms with materialistic CEOs are unrelated to profitability.

Keywords: Executive materialism; corporate social responsibility, firm performance.

JEL Classification Codes: G30; G34; G38

Internet Appendix: <http://rhdavidson.com/research/>

INTRODUCTION

Investments in corporate social responsibility (CSR) have become increasingly common in the corporate world in recent years. Such socially responsible activities are decided largely at the discretion of a company's CEO, and as stated in Mosley, Pietri and Megginson (1996), "refer to managements' obligation to set policies, make decisions, and follow courses of action beyond the requirements of the law that are desirable in terms of the values and objectives of society". As such, examining the characteristics, objectives and motives of a firm's CEO seems important in understanding the antecedents and consequences of such activities (Waldman and Siegal 2008). We examine how one characteristic of a firm's CEO, his materialism, is related to the firm's CSR activities. We also investigate whether CEO materialism moderates the relation between CSR investments and firm performance.

We argue that CEO materialism is particularly pertinent to CSR outcomes for the following reasons. First, materialism is a unique characteristic posited as a fundamental element of an individual's value system, and the role of values has been argued as being critical in explaining CSR outcomes (Jones 1995; Hambrick and Mason 1984). Second, the materialism literature documents experimental findings on how materialism is related to an individual's behaviors towards the environment, other people and society, and motivates intriguing theories regarding a CEO's commitment to CSR (Kilbourne and Pickett 2008).

We interpret a CEO's ownership of luxury goods, including expensive cars, boats, and real estate, as an indication of relatively high "materialism". Our measure is based on the psychology literature which defines materialism as a way of life where an individual displays an attachment to worldly possessions and material needs and desires (Richins and Rudmin 1994).

Materialistic individuals value expensive objects and items that convey prestige and social status, signal accomplishment, and enhance the owner's appearance (Richins 1994).

We first examine how much of the variation in CSR scores in firms is attributable to CEO effects versus firm effects. While we find no evidence that materialistic CEOs sort into firms that are socially (ir)responsible, it is possible that they sort into firms based on other observable and/or unobservable firm characteristics which could explain variation in firms' CSR scores. To investigate the CEO effect on CSR we employ the fixed effects model developed by Abowd, Kramarz and Margolis (1999; hereafter AKM). We find that CEO fixed effects explain 59% of the variation in their firms' overall net CSR scores across all social dimensions (Community, Diversity, Employee Relations, Environment and Product Safety). In contrast, firm fixed effects explain 23% of the variance in CSR scores.

Next, we find that firms led by materialistic CEOs have lower CSR scores in all five CSR categories and a lower overall net CSR score. This relation is driven by firms with materialistic CEOs having both fewer CSR strengths and more CSR weaknesses, although the magnitude is greater with regards to CSR strengths. This result is corroborated through an analysis of routine CEO turnovers, where we document that CSR scores increase when a non-materialistic CEO replaces a materialistic CEO and decrease when a materialistic CEO replaces a non-materialistic CEO. These results are robust to the timing of a CEO's acquisition of luxury assets (before or after he became CEO) and do not appear to be the result of a CEO's sole pursuit of status.

Finally, we find that CSR scores (particularly in Environment, Diversity and Product Safety) in firms run by non-materialistic CEOs are positively associated with (current and long term) accounting profitability and current abnormal returns. In contrast, CSR scores in firms led by materialistic CEOs have no relation to accounting or market performance. Further, CSR

strengths are positively associated with profitability in firms run by non-materialistic CEOs; CSR weaknesses are negatively associated with performance for both types of CEOs.

While our study provides a compelling link between CEO materialism and firms' CSR activities, we cannot conclusively establish a causal link between the two. The endogenous sorting of executives to firms may bias our results, although our sorting analysis suggests this is not likely to be the case. Our results are robust to several identification strategies which help mitigate this concern. Nevertheless, our results should be interpreted with this caveat in mind.

Subject to the above, our paper makes several contributions to the literature. First, we extend the CSR literature by providing evidence consistent with CEO materialism (a key element of one's value system) influencing CSR scores, strengths and weaknesses. As such, we add to the set of studies that examine CEO attributes that influence CSR decisions (Manner 2010; Borghesi, Houston and Naranjo 2014). Given the importance of leadership in this context, our study enhances the understanding of which CEO attributes may drive CSR choices and why. The AKM analysis provides statistical validation to arguments presented by researchers that leaders are likely to be the primary drivers of social and environmental decisions in firms. As such, these results can inform boards and corporate investors who consider social responsibility an important goal when making hiring or investment decisions.

Second, we provide evidence that the association between CSR investments and corporate performance varies with CEO materialism, and is different for CSR strengths and weaknesses. These results highlight the importance of incorporating executive type in models examining the link between CSR and corporate performance.

Next, we contribute to the literature on materialism and provide large sample empirical support for the experimental findings on an individual's acquisition of luxury goods in his

personal life and his behaviors towards other people and society. Our results also complement the findings in Davidson, Dey and Smith (2015). The two papers examine the link between materialism and two unrelated corporate outcomes, fraud and social responsibility, and present results that are interesting and intuitive. This indicates that the measure of luxury asset ownership captures meaningful differences in materialism and can be useful in explaining variation in numerous and disparate corporate outcomes, thus paving the way for further research.

Finally, our findings add to the growing body of research on CEO heterogeneity which documents the importance of latent factors such as a CEO's ability, risk preferences, and personality in shaping corporate outcomes.¹

PRIOR RESEARCH AND HYPOTHESIS DEVELOPMENT

The importance of individuals' values, traits and motives in pursuing CSR has long been recognized by researchers (Wood, Chonko and Hunt 1986; Swanson 2008; Waldman and Siegal 2008). One framework advanced by this literature to explain CSR activities is the *ethical* theory, where a firm must accept social responsibility as an ethical obligation, and there is a moral imperative for managers to "do the right thing" (Carroll 1979; Jones 1995). This viewpoint implies that the morals or ethics of the individual in charge of decisions regarding social responsibility become an important factor in a firm's CSR practices. As such, several researchers have advocated that the leadership dimension be examined in more depth (Davis 1980; Jones 1995).

¹ Research on management styles suggests that heterogeneity in corporate practices can result from differences in personal preferences and that managers' experiences, values, and cognitive styles affect their choices and consequent corporate decisions (Bertrand and Schoar 2003). In line with this, several studies document that executive characteristics are associated with several aspects of corporate behavior and outcomes (e.g., Bamber, Jiang and Wang 2010; Malmendier and Tate 2009).

Consistent with these arguments, several studies document interesting correlations between a firm's CSR characteristics and various demographic and other traits of the CEO (Huang 2013; Borghesi et al. 2014). Demographics are in many cases used to proxy for the underlying values of an individual, because as Hambrick and Mason (1984) argue, we want to understand and examine values and cognitive biases of individuals in examining these strategic choices.² Some researchers attempt to directly capture the moral values of CEOs through surveys, and document interesting evidence (Godos-Díez, Fernández-Gago, and Martínez-Campillo 2011; Papagiannakis and Lioukas 2012). In general, this body of research documents that female CEOs, CEOs with certain bachelors and advanced degrees, younger CEOs, and those who make political contributions are more likely to make CSR investments.

We add to this rich and evolving body of research by examining whether another aspect of the CEO, his materialism, significantly explains cross-sectional variations in CSR investments, through either CSR strengths or weaknesses, and whether this characteristic plays a role in how CSR investments are associated with firm performance. We focus on CEOs as they are the firm's key decision-maker, are charged with the responsibility of formulating corporate strategy, and are often deeply involved in promoting the image of their firms through social responsibility.

The literature on materialism is vast; discussions of materialism are found in philosophy, political economy, theology, economics, anthropology, sociology, psychology, and consumer research. These studies posit that materialism comprises a set of values and goals focused on wealth, possessions, image and status. These aims are a fundamental aspect of the human value

² While we find the correlations between the demographic traits of CEOs and CSR interesting evidence, it is not clear what the mechanism is through which features like age/ education/ gender relate to CSR choices. We could not find consistent theoretical or archival evidence as to why and how demographics should be correlated with values. For example, research on gender and ethics has produced mixed results, which questions this relation as well as the directional predictions (Babin and Robin 1997; Dato-On, Ingram, and McCabe 2006).

system, and can stand in relative conflict with aims concerning the well-being of others, as well as one's own personal and spiritual growth (Kasser 2016). Scholars in this field describe materialism as a way of life characterized by a "devotion to material needs and desires" (Richins and Rudmin 1994), "the importance one attaches to worldly possessions" (Belk 1985), and "the worship of things" (Bredemeier and Toby 1960). Materialistic individuals place the acquisition of material goods at the center of their lives, and for such individuals a lifestyle with a high level of material consumption serves as a primary goal; it is this single-minded pursuit of happiness through acquisition or possession rather than through other means that distinguishes materialism from other attributes (Fournier and Richins 1991; Daun 1983; Richins and Rudmin 1994).

Richins and Dawson (1992) conceptualize materialism as a consumer value with three main components - acquisition centrality, happiness, and success - and finds that those who score higher on their scale are less willing to share their wealth and possessions with others. Greater materialism is also argued to be related to a loss of a sense of community which may in turn make people less sensitive to behaviors that might negatively affect others (Belk 1988). Kilbourne and Pickett (2008) document that materialism has a negative effect on environmental beliefs, and these beliefs affect environmental concern and environmentally responsible behaviors.³

The theories and findings in the materialism literature motivate our examination of this trait in the context of CSR. First, materialism is a unique characteristic that has been posited as a fundamental component of an individual's value system, allowing a more direct examination of the values of individuals in explaining CSR outcomes (Hambrick and Mason 1984). In fact, we find that our measure of CEO materialism is unrelated to the list of demographic characteristics

³ Kilbourne and Pickett (2008) focus on specific environmental beliefs, i.e., beliefs an individual has regarding the existence of environmental problems such as water shortages, ozone depletion, and global warming. They argue that concerns about the environment would not arise unless preceded by the belief that environmental problems exist.

and personal traits of CEOs documented in the studies discussed above.⁴ Second, the experimental findings that materialistic individuals lack concern for their environment and other societal values motivate compelling hypotheses regarding an executive's commitment to socially responsible behavior. Finally, an individual's materialistic tendencies in his personal life can disentangle any effects of firm-level incentives that may be driving some associations documented in prior studies, and thus permit us to isolate a core trait in a person.⁵

Based on the above findings, we expect materialistic CEOs to be relatively less generous, have less concern for others, and be less sensitive to how their actions affect the community and environment. We measure materialism as the relative ownership of luxury assets by a CEO. Our first prediction can thus be considered a test of the three-part joint hypothesis: our measure of luxury goods ownership captures meaningful variation in CEOs' materialism, the experimental results suggesting that materialistic people are likely to have less concern for others holds outside the laboratory setting, and a CEO's lesser concern for others will manifest in lower CSR scores in his firm.⁶ Our first hypothesis is formally stated as follows:

H1: Firms led by materialistic CEOs have lower corporate social responsibility scores as compared to the corresponding scores in firms led by non-materialistic CEOs.

⁴ Specifically, we test the correlations between materialism and various CEO demographics and traits examined in the literature (data permitting). These include demographics of wealth, MBA degree, top MBA degree, age, gender, and the traits of overconfidence (Malmendier and Tate 2005), military experience (Benmelech and Frydman 2015), whether one was born during a recession, whether one's career began during a recession (Schoar and Zuo 2017), criminal record (Davidson et al. 2015), and narcissism (Ham, Seybert and Wang 2014). We measure these traits following the literature on these topics. We also estimate a regression with our measure of materialism as the dependent variable and the above characteristics as independent variables. We do not find statistically significant associations between materialism and these traits (other than gender; however, only 4% of our sample CEOs are female and our results hold if we eliminate these observations). The results are presented in the Internet Appendix.

⁵ For instance, it is not clear how measures used in some studies, such as self-reported responses to surveys, past CSR in the firm, and the compensation awarded to executives map into values of individuals or are independent of firm level factors (Godoz-Diez et al. 2011; Manner 2010; Ormiston and Wong 2013).

⁶ Note that our reliance on "off-the-job" behavior to measure materialism offers two advantages over the use of manager fixed effects. First, executives' off-the-job behavior is less likely to be affected by characteristics of the firm such as incentive plans and the control environment, facilitating the identification of executive type. Second, manager fixed effects do not identify specific characteristics of executives, but rather capture all relevant managerial time invariant characteristics such as preferences, ability, and background.

Alternatively, if our measure fails to adequately capture the construct of materialism in CEOs, then we should observe no systematic relation between our measure and CSR activities. It is plausible, however, that our measure may be capturing differences in the pursuit of status by CEOs, versus their materialism. It is challenging, however, to distinguish between these two constructs because materialistic people are also argued to indulge in status pursuit (Richins 1994). Nevertheless, we can still isolate materialism and status pursuit in this setting because predictions for the relation between CSR and materialism are the opposite of predictions for the relation between CSR and status pursuit. Status is defined in the literature as the prestige, respect, and esteem that a party has in the eyes of others (Fiske 2010). Individuals possessing status will greatly value—and actively seek to maintain—their high-status position (Blader and Chen 2011; Huberman, Loch and Öncüler 2004). While efforts to maintain one's status can have a variety of consequences, a particularly important one is that status-maintenance concerns can draw an individual's attention outward to social targets in the environment (Flynn, Reagans, Amanatullah, and Ames 2006). As a result, such feelings prompt high-status individuals to be concerned about the impressions they cultivate with social targets, to consider these parties' perspectives, and to act in ways that will be regarded as respectable.

Therefore, if our measure is purely capturing status pursuit, then we expect to observe a positive relation with CSR activities, as status seeking CEOs may pursue CSR to further enhance their position of respect and admiration in society. On the other hand, if our measure is capturing materialism, then we expect a negative relation between our measure and CSR.

Our next set of tests examines how CEOs influence the relation between CSR and firm profitability. Several studies examine how socially responsible activities in firms are related to financial performance. However, the link between CSR and financial performance is tenuous at

best, with studies documenting positive, negative or neutral relations (Margolis, Elfenbein and Walsh 2007; Orlitzky, Schmidt, and Rynes 2003). Some scholars attribute such mixed results to important theoretical and empirical limitations, measurement error, or to the ignorance of the leadership dimension (McWilliams and Siegel 2000; Waldman and Siegel 2008).

Our goal here is not to replicate or reconcile prior results (which have different samples and different dependent and independent variables). However, to the extent that a firm's CEO is the primary decision maker regarding CSR initiatives, it is reasonable to ask whether the CEO's character, personal motives, and objectives are important determinants of the link between CSR investments and firm performance. For instance, if a CEO invests in CSR with the motive of enhancing shareholder wealth, then we would expect a positive relation between CSR and operating performance. On the other hand, as Friedman (1970) argues, managers may also invest in CSR solely for their own personal benefit (building personal reputation or deriving higher personal utility from such activities) but not necessarily to enhance shareholder value. The company may experience losses as it is unlikely these activities are profitable. In this case, we would observe a negative (or no) relation between CSR activities and operating performance.

Non-materialistic CEOs are more disciplined in how they spend money and tend to do so in ways consistent with long-term corporate goals (Anderson and Lillis 2011). Conversely, if materialistic CEOs are relatively less disciplined in this regard, then we expect investments in CSR to either be unrelated to operating performance or negatively related, particularly if CSR initiatives are undertaken with the goal of achieving personal goals (such as developing personal reputation) instead of for achieving corporate objectives and increasing shareholder value. In this case, we expect a negative association between CSR investments and performance in firms led by materialistic CEOs.

Alternatively, non-materialistic individuals are also characterized as being more generous and having more concern for others and the environment. Thus, in addition to being concerned for their shareholders, non-materialistic CEOs may also be concerned for other stakeholders, such as employees, customers, external communities etc. Therefore, such executives may “over-invest” in CSR not with corporate profitability motives in mind but rather to “do the right thing”. While such over-investments in CSR likely provide the CEO with greater personal satisfaction, they may not add to (and may even reduce) shareholder value. In this case, CSR investments by non-materialistic executives may also be negatively related to operating profits.

In sum, while CEO materialism may influence the relation between CSR and firm performance, existing theory does not provide for just one directional prediction. The overall impact of CEO materialism on the relation between CSR scores and operating performance is an empirical question. We state our hypothesis (in null form) as follows:

H2: The association between corporate social responsibility scores and operating performance is unrelated to the materialism of the firm's CEO.

SAMPLE, DATA, AND DESCRIPTIVE STATISTICS

Sample and Data

Measuring aspects of a person's value system such as materialism presents a challenge to researchers. Much of the empirical materialism literature in psychology utilizes surveys and laboratory experiments which employ psychometric principles to develop instruments that are administered to research subjects (Kasser 2016; Richins and Dawson 1992). For instance, Deckop (2015) use an instrument consisting of 14 items where subjects provide their level of agreement with each item. Examples of items in this instrument are: It is important to own expensive homes, cars and clothes; The things people own say a lot about how well they are

doing in life; I like to own things that impress people; Having luxurious things is an important part of life; I purchase things because I know they will impress others.

Large sample, archival research is not amenable to administering a psychometric instrument. Instead, we adopt a revealed preference approach based on the premise that fundamental aspects of a CEO's value system are revealed by their observable behavior. Specifically, we interpret executives' ownership of luxury goods, including vehicles, boats, and real estate, as a manifestation of relatively high materialism. While our measure reflects revealed behavior directly related to key elements of some existing instruments (Deckop 2015), we cannot psychometrically assess the construct validity of our materialism measure as would a psychologist in a laboratory. However, this measure allows us to extend beyond the laboratory and investigate the effects of materialism in a broader sample with respect to firms' CSR activities.

Our data on CEOs' ownership of vehicles, boats, and real estate are obtained from numerous federal, state, and county databases accessed by licensed private investigators. We augment our real estate data by hand collection of public information primarily from county tax assessor websites.⁷ We follow a rigorous procedure to ensure our asset data is as complete and accurate as possible, including adjusting for property and vehicles that may be in the name of a spouse or trust, properties built from ground up, and rental properties. The various steps we take to attest to the veracity of our asset values are described in detail in the Internet Appendix.

We measure an executive's materialism by setting an indicator variable, *Material*, equal to 1 if the CEO owns luxury assets prior to December 31, 2012, where luxury assets include cars

⁷ Our vehicle data is based in part on insurance documents which show an individual is insured to drive a vehicle. Our acquisition and use of asset data conforms to all provisions of the Driver's Privacy Protection Act (DPPA).

with a purchase price greater than \$75,000, boats greater than 25 feet in length, primary residences worth more than twice the average of the median home prices in the metropolitan area of his firm's corporate headquarters (as defined by the Core Based Statistical Area (CBSA)), or any additional residences worth more than twice the average home prices in that metropolitan area (as defined by the CBSA), and 0 otherwise.⁸

In order to verify whether the statistical and economic significance of our results on materialism are sensitive to these measurement choices, we verify that our results are robust to using several alternative measures: 1) using higher cutoffs for cars (\$110,000), boats (40 feet) and primary or additional residences (worth 5 times the average of the median home price in the relevant area as defined earlier); 2) a continuous measure of materialism, defined as the sum of the dollar values of an executive's car(s), boat(s), primary residence in excess of twice the average of the median home prices the metropolitan area of the corporate headquarters (as defined by the CBSA), and the value of any additional residences as of December 31, 2012;⁹ 3) eliminating individuals who are potentially neither materialistic nor non-materialistic and are "in between". In the last category, we consider the total estimated dollar value of all assets owned by our sample CEOs, set *Material* equal to 0 for CEOs previously defined as non-materialistic, set *Material* equal to 1 for the top half of materialistic CEOs in terms of peak dollar value of assets owned, and exclude the bottom half of materialistic CEOs. We acknowledge that simply looking

⁸ The \$75,000 cutoff for vehicle prices was chosen based on the output from the Jenks natural breaks classification method (Jenks 1967). We include a CEO's luxury asset purchases regardless of when they occur to define *Material* for that CEO. This is based on our assumption that type is stable and revealed with a delay, and our desire to minimize the number of materialistic CEOs classified otherwise. We note that our measure of materialism is based on an individual's luxury asset ownership as of December 31, 2012 because we acquired our data during 2013.

⁹ We choose to report our results using the binary measure for the following reasons. First, a binary measure is needed in our model of CEO transitions. Second, analyses requiring the summation of coefficients are more meaningful and offer a clearer interpretation with a binary measure. Third, boat prices were not provided to us and need to be estimated which calls into question the accuracy of that component. Finally, summing the dollar values of different assets on a one-to-one basis is not likely an accurate measure of the degree of materialism (for instance, someone with a \$300,000 car and \$700,000 home may not represent the same level of materialism as someone with a \$50,000 car and a \$950,000 home). Our analyses using a continuous measure of materialism need to be interpreted with these caveats in mind.

at the top 50 percent of materialistic CEOs is somewhat arbitrary but we have verified the robustness of the results to different cutoffs.¹⁰ Our results are robust to these measures and to several other measures that capture the materialism of an executive (details included in the Internet Appendix).

We obtain our measures of CSR scores from a database originally constructed by Kinder, Lydenberg, Domini Research & Analytics, Inc. (KLD), which was subsequently acquired by Morgan Stanley Capital International (MSCI). This is currently the most widely used source of CSR data (Waddock and Graves 1997; Dhaliwal, Li, Tsang and Yang 2011).¹¹ Beginning in 1991, KLD rated approximately 650 companies every year, comprising all firms in the S&P 500 and Domini 400 Social SM Index. During 2001 and 2002, KLD expanded its coverage to include the largest 1,000 U.S. companies (by market capitalization) and since 2003, it increased its coverage to incorporate the largest 3,000 U.S. companies. KLD reviews several company documents, such as the annual report, the corporate social responsibility reports produced by the company, and the corporate website, to produce a CSR rating for the company for each year.

We focus on five main categories of CSR investments included in the KLD database: Community, Diversity, Employee Relations, Environment, and Product Safety. Some examples of investments in these categories include donations to charities, expenditures towards pollution control, and employing a more diverse work force.^{12,13}

¹⁰ We also create another binary measure of materialism where non-materialistic CEOs are measured in the same manner, CEOs defined as materialistic on the basis of one and only one asset are discarded, and *Material* is set equal to 1 for the remaining CEOs. The results are unchanged.

¹¹ For a detailed description please go to www.msci.com. We also provide a description of the various strengths and weaknesses under each CSR category we consider from the KLD database in the Internet Appendix.

¹² We report results for all five categories for our main cross-sectional tests and performance tests (Table 3, Panel B and Table 7, Panel C); other results using the individual categories are provided in the Internet Appendix for brevity.

¹³ KLD also lists Corporate Governance and Human Rights as major categories. Generally, corporate governance is about the mechanisms that allow principals (shareholders) to reward and exert control on agents (managers). CSR, on the other hand, deals with social objectives and stakeholders other than shareholders. We do not believe that governance deals with social objectives and stakeholders other than shareholders, as per the objectives and

For each of the categories considered, KLD contains data on the number of strengths and concerns (also referred to as weaknesses). For each strength or concern rating applied to a company, KLD has a “1” or a “0” depending on whether that strength or concern is present or absent in the firm respectively. We use the difference between the strengths rating and concerns rating to compute the net score for each category for a firm (for example, the net Community score is the Community strengths rating minus the Community concerns rating). We also consider an overall measure of CSR, *CSR Net Score*, computed as the sum of the strengths ratings minus the sum of the concerns ratings across all five categories. In tests that separately examine CSR strengths and weaknesses, we calculate the *CSR Strengths* as the sum of the strength ratings for each category and *CSR Weaknesses* as the sum of the weakness ratings for each category.

Financial accounting data employed to compute various firm characteristics are obtained from the Compustat and CRSP databases. CEO compensation data are obtained from the ExecuComp database, and other CEO-level information is collected from BoardEx. We merge the ExecuComp database with the KLD database to obtain the initial sample employed in this article (the CSR-ExecuComp population).¹⁴

Due to the high cost of background checks on asset ownership we follow the following steps to obtain our final sample. We randomly select and purchase data for CEOs at 590 firms from the initial sample. Our final sample, described in Table 1, Panel A comprises 590 firms and

definitions of CSR activities, and hence we leave this category out of our CSR measure. The Human Rights category primarily focuses on whether firms have substantial business relationships (e.g. production facilities) in countries that had human rights concerns at certain points in time (e.g. North Ireland, South Africa). These individual categories are often only measured for a few years at a time and therefore we have little data to analyze. Further, concerns regarding this category have been raised in prior research. We exclude this category from our analysis.

¹⁴ For firms with a fiscal year end in December, we merge the KLD Stats data with financial accounting data for the same year, so that CSR activities and performance are measured concurrently. For firms with fiscal year end prior to December, we merge KLD Stats data with financial accounting data for the following year to make sure that the CSR data precede the performance data.

888 CEOs in total over the period 1992 – 2010 (our sample period end is determined by the KLD data which we have through 2010). This includes 203 firms for which we have data for at least two CEOs, which allows us to analyze the changes in CSR policy at a firm when a CEO transition takes place. Table 1, Panel A also provides a summary of the distribution of luxury assets. Of the 888 CEOs in the sample, approximately 56% are materialistic.

[Insert Table 1 Panel A here]

Summary Statistics

We compare some key firm characteristics of our final sample with the CSR-ExecuComp population of firms as our sample is slightly less than one third of the population. Table 1, Panel B presents comparisons for the measures of CSR, performance and control variables employed in our analyses. See the Appendix for a detailed description of all variables.

[Insert Table 1 Panel B here]

Our sample firms are significantly larger and more financially constrained as compared to the CSR-ExecuComp population. The average overall CSR net score, net CSR strengths and net CSR weaknesses for our sample are significantly higher than those for the CSR-ExecuComp population. Among the individual categories, the average net scores for Employee and Diversity are significantly higher while that for Product Safety is significantly lower for our sample.

The CEOs in our sample are wealthier than those in the CSR-ExecuComp population. We calculate a measure of CEO wealth based on the total value of the CEO's equity holdings (from ExecuComp) and an estimate of non-firm based wealth following Dittmann and Maug (2007). One question that may arise is whether wealthier executives are more likely to be materialistic because they have the means to acquire luxury assets, and whether it is possible that our materialism measure is capturing the actions of CEOs who accumulated more wealth over their

tenures. We note that all CEOs in our sample can easily afford the luxury assets considered in our materialism measure, so it is not the lack of wealth that prevents some of them from possessing these items. Nevertheless, to examine the relation between an executive's wealth and his materialism we conduct the following analyses. Using our above measure of an executive's wealth, we form executive wealth deciles and examine whether the proportion of materialistic CEOs are more highly concentrated in the higher wealth buckets. We conduct this analysis for both our full sample of 888 CEOs as well as a reduced sample of 227 CEOs which we use in subsequent tests that examine CEO versus firm fixed effects in explaining CSR scores.

Table 1, Panel C presents the results of this analysis, which is similar across both samples. The percentage of materialistic CEOs is similarly distributed across the various wealth deciles, and the percentage of materialistic CEOs is similar in the top 50% and the bottom 50% of the wealthiest CEOs. We also find that the correlation between *Material* and wealth is insignificantly different from zero. We include controls for an executive's wealth in all our regressions, further reducing any potential concern that an executive's wealth may be influencing our results.¹⁵

[Insert Table 1 Panel C here]

Finally, the industry distribution of our final sample (based on the Fama-French seventeen-industry classification) has a higher percentage of financial institutions, but is otherwise similar to that of the CSR-ExecuComp population (reported in the Internet Appendix).

CEO INFLUENCE ON CORPORATE SOCIAL RESPONSIBILITY

Our first analysis examines the direct influence of the CEO, independent of firm fixed effects, on CSR scores. This examination highlights the relative importance of CEO versus firm

¹⁵ These inferences and analyses remain unchanged when we substitute wealth with total compensation. Examining differences in the various components of compensation across materialistic and non-materialistic executives yielded no consistent patterns (reported in the Internet Appendix).

characteristics in explaining variation in CSR policies. We follow the approach in AKM which has been used in recent studies (e.g., Graham, Li and Qiu 2012). This approach involves separately identifying CEO and firm fixed effects by considering a panel of CSR data comprised of both CEOs who have changed firms (“movers”) as well as CEOs who have not changed firms (“non-movers”) but are in firms that have employed at least one mover, and including CEO and firm fixed effects in the specification.¹⁶ The AKM method identifies manager and firm fixed effects through “group connection” which allows one to separate firm and manager fixed effects not only for mover but also for non-mover CEOs, as long as the non-movers work in firms that have hired at least one mover. AKM define group connection as follows. They start with an arbitrary individual and include all the companies for which he or she has ever worked. Next, they add all the individuals who have ever worked in any of those companies. They continue adding all additional firms for which any of these individuals has ever worked and all additional individuals in any of those firms until no more individuals or firms can be added to the current group. This process is repeated for the next group and so on until all data are exhausted. Hence, every person and firm belongs to exactly one group and within every group all the persons and firms are connected somehow. AKM prove formally that group connectedness is necessary and sufficient for the separate identification of person and firm fixed effects. For detailed information on the algorithm of forming groups see Abowd et al. (2002).

We follow this method and estimate the following model for 96 mover and 131 non-mover CEOs who were at firms where mover CEOs were present. Our control variables follow

¹⁶ The AKM method is superior to the method used in studies such as Bertrand and Schoar (2003) that only consider movers in their estimation because the AKM method can employ data using both movers and non-movers thus increasing sample size and power.

other studies in the literature (Roberts 1992; Manner 2010). We estimate the following equation using CSR net scores (results are robust to using industry- and year-adjusted CSR z-scores):¹⁷

$$\begin{aligned} \text{CSR Net Score}_{it} = & \beta_1 \text{Size}_{it} + \beta_2 \text{Return on Assets}_{it} + \beta_3 \text{Market-to-Book}_{it} \\ & + \beta_4 \text{Debt-to-Equity}_{it} + \beta_5 \text{Financial Constraint}_{it} + \beta_6 \text{Abnormal Return}_{it} \\ & + \beta_7 \text{CEO Tenure}_{it} + \beta_8 \text{CEO Wealth}_{it} + \text{CEO FE} + \text{FIRM FE} + \varepsilon_{i,t} \end{aligned} \quad (1)$$

Table 2, Panel A presents the results. The table includes the proportion of variance in the model that is attributable to the CEO (the R-squared for the CEO component) and that which is attributable to the firm (the R-squared for the firm component).¹⁸ Our results indicate that a significant part of CSR scores is determined by CEO-specific attributes. CEO fixed effects explain 59% of the variation in overall CSR scores in firms, while firm fixed effects explain 23% of the variation. The control variables in total explain 0% of the variance in overall CSR scores.¹⁹

¹⁷ Note that the AKM model cannot provide a separate R-square for a 3rd fixed effect as it does for the CEO and the firm effects. This model employs a two-way fixed effect technique, and adding a 3rd industry fixed effect would require having a sample of multiple CEOs who switched to multiple firms and switched to multiple industries, which is operationally not feasible for a reasonable number of observations. Additionally, firms rarely switch industries so separating a firm fixed effect from its industry can rarely be done in this specification.

¹⁸ The phrase ‘proportion of variance’ refers to an R-squared for separate components of the model. The AKM method basically takes the R-squared for the model and breaks it into an R-squared for the CEO fixed effect, an R-squared for the firm fixed effect, and an R-squared for any time varying controls included in the regression. The tabulated R-squared values computed in the AKM model are calculated as 1 minus the residual sum of squares divided by the total sum of squares. We could also calculate the ‘within R-squared’ which calculates how much of the variance within the panel units the model accounts for. However, the accuracy of a within R-squared calculation in a fixed effects specification has been criticized for producing inaccurate estimates. Still, we did compute the within R-squared and found comparable results.

¹⁹ Further in untabulated results we find that between 52% and 74% of variance in CSR scores is attributed to CEO fixed effects while 11% to 32% of the variance is attributed to firm fixed effects for the five individual CSR categories (Community, Diversity, Employee, Environment, and Product). We realize that the CEO effects we document are large, but they are consistent with theoretical arguments. It is also not far off from the manager effects documented in at least another corporate policy that is likely to be driven significantly by the CEO, namely executive compensation (Graham et al. 2012 find that manager fixed effects on executive compensation is 54%, followed by observable time-variant firm characteristics of 25%). To add more context and further calibrate these results, we repeat the AKM analysis on our sample firms for other corporate outcomes for which the CEO should have varying levels of influence. We consider research and development (R&D) expenses, dividends, institutional holdings, and institutional holdings/book value of equity and find CEO fixed effects ranging from 61% (R&D) to 1% (institutional holdings/book value of equity) in line with what one would expect regarding the CEO’s influence on these outcomes. In sum, while we find a large CEO fixed effect for CSR scores, it is not out of line with the values we find for other corporate outcomes. We report these findings in the Internet Appendix.

To examine whether there are similar differential effects for CSR strengths and weaknesses, we repeat equation (1) by replacing the dependent variable with *CSR Strengths* and *CSR Weaknesses*, and find dominant CEO effects in both cases. Specifically, CEOs explain 61% of the variation in CSR strengths and 69% of the variation in weaknesses, while the firm effect explains 29% and 15% for these categories respectively.

[Insert Table 2 Panel A here]

The above results support the argument that CSR scores are determined primarily by the CEO. However, this analysis does not tell us which specific CEO traits determine CSR choices. Next we consider whether the explanatory power of CEO fixed effects varies in samples depending on the treatment of CEO materialism. We first divide the sample firms into those that have non-materialistic CEOs and those that have materialistic CEOs. So in each subsample we keep CEO type constant. Now, we repeat the AKM procedure in each of these subsamples. Because CEO materialism is not allowed to vary in these samples, it cannot contribute to the CEO effect. The comparison of the R-squared in CSR scores in each of these subsamples with an overall random sample of non-materialistic and materialistic CEOs with a similar sample size (where CEO materialism does vary and will contribute to the CEO effect) could provide an (admittedly crude) estimate of influence of materialism on CSR scores.

Table 2, Panel B presents the results. When holding CEO materialism constant we find the CEO fixed effect explains approximately 52% of the variation in CSR scores on average (55% for the sample of non-materialistic CEOs, and 50% for the sample of materialistic CEOs). However, for the sample where we randomly draw CEOs, the CEO effect explains 59% of the variation in CSR scores. The explanatory power of CEO factors is about 13 percent higher (i.e.,

59 percent is 13 percent greater than 52 percent) when materialism is allowed to vary across the sample.²⁰

[Insert Table 2 Panel B here]

EMPIRICAL RESULTS: CEO TYPE AND SOCIAL RESPONSIBILITY

Given the evidence that CEOs are the primary determinant of CSR scores and that CEO materialism is responsible for a meaningful portion of the effect, we next examine whether CSR scores vary with CEO materialism in a multiple regression framework. Figure 1 plots how CSR net scores vary with CEO materialism. This visual representation of the data provides preliminary support for our first hypothesis. Materialistic CEOs are less likely to have net positive CSR scores (net strengths) and more likely to have net negative CSR scores (net weaknesses).

[Insert Figure 1 here]

The potential endogenous selection of CEO types into firms may influence our inferences on the relation between CEO materialism and CSR scores. However, additional analyses on CEO sorting do not support this conjecture.²¹ That said, certain types of firms may hire (or attract) materialistic CEOs and these same firms may be more or less likely to invest in CSR. To the extent that we are unable to control for such firm-specific characteristics, we will suffer from a correlated omitted variables problem. We note that the possibility of such correlated omitted

²⁰ We acknowledge that we cannot test the statistical significance of differences in R-squared values across these models. Thus, the 13 percent represents a crude estimate of the influence CEO materialism has on CSR scores.

²¹ We find no evidence that materialistic CEOs self-select (or are hired) into firms based on prior CSR scores. However, we do find that materialistic CEOs are significantly more likely to be employed in “sin” industries (Alcohol, Gambling, Tobacco, Firearms and Nuclear as per the KLD classifications). Results are reported in the Internet Appendix. Further analyses revealed no difference in CSR scores in sin versus non-sin industries. While the products the sin industries sell may be considered against the public interest or socially irresponsible, ex ante, it is not clear that we would expect these firms to make lesser investments in activities related to employee rights, the environment, philanthropic giving, and other dimensions that are captured in the KLD CSR scores. We find that the association between materialism and sin industry affiliation does not influence analyses on the association between materialism and CSR scores. That said, we repeat our main analyses excluding sin industry firms and find no change in our results. We also include industry fixed effects in all our models.

factors is less likely in this setting because even though certain firms may attract certain types of CEOs, CSR decisions are still mostly at the discretion of the CEO as documented in Table 2. Nevertheless, we conduct a battery of tests to mitigate (though not eliminate) the possibility that our results are driven by the endogenous selection of CEOs by firms. We start by presenting OLS regressions and then present several analyses to address potential endogeneity or other explanations of our results.

Cross-Sectional Model

To test H1, we estimate the following equation with industry and year fixed effects²²:

$$\begin{aligned}
 CSR\ Net\ Score_{it} = & \beta_1\ Material_i + \beta_2\ Size_{it} + \beta_3\ Return\ on\ Assets_{it} \\
 & + \beta_4\ Market\ to\ Book_{it} + \beta_5\ Debt\ to\ Equity_{it} + \beta_6\ Financial\ Constraint_{it} \\
 & + \beta_7\ Abnormal\ Return_{it} + \beta_8\ CEO\ Tenure_{it} + \beta_9\ CEO\ Wealth_{it} + \varepsilon_{i,t}
 \end{aligned} \tag{2}$$

Table 3, Panel A presents the results. We find that the net CSR score is lower by 0.692 in firms run by materialistic CEOs (Column (1)). The sample average for the overall CSR score is 0.39, indicating that the effect of CEO materialism on CSR ratings is economically significant. We interpret these results as support for the prediction that materialistic CEOs lead firms that score worse in socially responsible activities.²³ Next, to isolate the specific channels through which CEO materialism is likely to impact CSR, we additionally examine whether CEO type is associated with CSR scores primarily through CSR strengths or weaknesses (or both). We re-estimate equation (2) by replacing net CSR scores by CSR strengths and CSR weaknesses as the dependent variable. Columns (2) and (3) in Table 3, Panel A presents these results. The statistical

²² We cannot include firm fixed effects because we only have data for one CEO for most of our sample firms, and *Material* does not vary within CEO over time. However all of our models in the paper include industry and year fixed effects, and all results are robust to using industry- and year-adjusted CSR z-scores as well. We also verify that our results in all models hold when we include institutional investment as another control (but including this results in a loss of approximately 30% of our sample observations, hence we do not include this in the main tables but report results with this control in the Internet Appendix).

²³ In all models we exclude observations from the first year of a CEO's tenure. Given that transitions occur during the year it is possible that part of CSR policy was set by the predecessor CEO and part of CSR policy was set by the successor CEO making it unclear which CEO to attribute CSR scores for the year.

and economic significance suggests that the primary difference in net CSR scores between firms with materialistic and non-materialistic CEOs is due to materialistic CEO firms having fewer CSR strengths (by 0.49; significant at the .01 level). That said, we also find evidence that materialistic CEO firms have more weaknesses (by 0.19; significant at the .05 level).

[Insert Table 3 Panel A here]

To examine whether this relation varies across individual CSR categories, we also estimate equation (2) separately for Community, Diversity, Environment, Employee, and Product Safety (Table 3, Panel B). We find that the coefficients on *Material* are significantly negative for all of the CSR categories (at the .05 level or better). Specifically we find that materialistic CEOs are associated with lower CSR scores by 0.079, 0.192, 0.148, 0.192 and 0.088 in the Community, Diversity, Employee, Environment and Product Safety categories respectively.

[Insert Table 3 Panel B here]

Key findings for control variables are discussed below. Financial constraint is not significantly associated with the overall CSR score, while results across individual categories are mixed (positive, negative or no result). This is in slight contrast to results in Hong, Kubik, and Scheinkman (2012), who find a significant negative relation between financial constraints and net CSR scores. We also find a negative relation between net CSR scores, but it is statistically insignificant.²⁴ The results in Panel B suggest that financial constraints are unrelated to CSR strengths, but positively associated with CSR weaknesses (at the .05 level).

²⁴ We attempt to replicate the results in Hong et al (2012) using our sample and analyze the association between financial constraint and net CSR scores for S&P 500 firms including year and industry fixed effects and without control variables. We find a statistically significant association (albeit at the 0.10 level) in this specification but the association is no longer significant when we include CEO materialism. We suspect our slightly different results on this association are due to the finding that CEOs, not firm-specific factors, are the primary determinant of firms' CSR scores. It is also possible that firm-specific factors, including financial distress, are driven by CEO type. However, this is just conjecture on our part and we cannot test for or verify this statement. Several factors could explain the difference in the significance of the financial constraint-CSR association between the two studies, and we are comforted by the fact that both studies find a negative relation between the two.

Firm size is also mixed across various categories and positive and significant for the overall CSR score. Larger firms have more CSR strengths but also more weaknesses. These results are intuitive as larger firms have more resources to invest in CSR, but may also have greater concerns by virtue of their larger scale of operations. Return on assets is not significantly associated with the overall CSR score, with mixed results across categories. Firms with more CSR weaknesses have lower ROAs, but interestingly, so do firms with more CSR strengths. Most of the individual scores and the overall CSR scores, CSR strengths and weaknesses are generally negatively associated with abnormal returns. The lack of consensus in the above performance metrics is consistent with the mixed associations documented in the literature (Margolis et al. 2007).

Overall, our cross-sectional tests support the conclusion that CSR scores are lower in firms run by materialistic CEOs. However, as discussed earlier, the main challenge we face in making causal inferences is the endogenous selection of CEOs by board of directors. We conduct several tests below in order to verify the robustness of these results to various identification strategies.

Predecessor-Successor Analysis

To provide more evidence on how firms' CSR scores vary by CEO type and to further reduce potential endogeneity concerns, we estimate equation (3) to examine CSR scores before and after a change in CEO distinguished by predecessor and successor type:

$$\begin{aligned}
 CSR\ Net\ Score_{it} = & \beta_0 + \beta_1\ New\ CEO\ Material_i + \beta_2\ Successor_{it} + \beta_3\ Change\ CEO\ Type_i \\
 & + \beta_4\ New\ CEO\ Material_i * Successor_{it} + \beta_5\ New\ CEO\ Material_i * Change\ CEO\ Type_i \\
 & + \beta_6\ Successor_{it} * Change\ CEO\ Type_i + \beta_7\ New\ CEO\ Material_i * Successor_{it} * Change \\
 & CEO\ Type_i + \beta_8\ Size_{it} + \beta_9\ Return\ on\ Assets_{it} + \beta_{10}\ Market\text{-}to\text{-}Book_{it} + \beta_{11}\ Debt\text{-}to\text{-} \\
 & Equity_{it} + \beta_{12}\ Financial\ Constraint_{it} + \beta_{13}\ Abnormal\ Return_{it} + \beta_{14}\ CEO\ Tenure_{it} \\
 & + \beta_{15}\ CEO\ Wealth_{it} + \epsilon_{i,t}
 \end{aligned}
 \tag{3}$$

where *New CEO Material* is an indicator variable which equals 1 if the successor CEO is materialistic, else 0, *Successor* is an indicator variable which equals 1 if the CSR score is measured once the successor CEO is in office, else 0, and *Change CEO Type* is an indicator variable which equals 1 if there is a change in materialism from the predecessor to the successor CEO, else 0.

Ideally we would conduct this analysis on a sample of exogenous CEO turnovers (transition due to predecessor death being the strongest example). However, that sample is too small (17 firms) to analyze. We thus conduct this analysis by analyzing turnovers that are classified as routine (versus forced) using the methodology developed in Bushman, Dai and Wang (2010).²⁵ All turnovers resulting from CEO retirements and deaths are classified as routine. Based on news articles from the Factiva database, a turnover is classified as forced when a press article reports that a CEO is fired, demoted or retires / resigns under questionable circumstances (such as policy differences, lawsuits, suspected earnings manipulations, or other pressures). Forced turnovers also include turnovers where the CEO retires at an age below 60 if the article does not report the reason for the retirement as death, poor health, or the acceptance of another position.²⁶ We posit that routine turnovers are less likely the result of a desired change in the management style of the firm and are likely to represent a (mostly) exogenous event.

[Insert Table 4 here]

Table 4 reports the results of estimating equation (3) as well as an analysis of the change in CSR scores based on the transitions in CEO type. The overall CSR score decreases significantly (at the .05 level) after a non-materialistic CEO is replaced by a materialistic CEO. While the coefficients suggest that strengths decrease and weaknesses increase after such a

²⁵ We are grateful to Robert Bushman, Zhonglan Dai and Xue Wang for sharing the CEO turnover data with us.

²⁶ Bushman et al. (2010) conduct several robustness checks to verify that their classification scheme is not incorrectly classifying voluntary turnovers as forced.

transition, the results are only statistically significant when analyzing changes in net scores. Analogously, the overall CSR score as well as CSR strengths increase significantly (at the .05 level) when a non-materialistic CEO replaces a materialistic CEO; we also find a decline in CSR weaknesses when a non-materialistic CEO replaces a materialistic CEO, but the coefficient is not significant. The corresponding changes in overall CSR scores associated with like-type transitions (materialistic → materialistic and non-materialistic → non-materialistic) are not significant. These results indicating the change in CSR scores following routine changes in CEO type further increase our confidence in the inferences on CEO materialism and CSR choices.

We note also that using all CEO transitions in our sample does not necessarily preclude our identification purpose. Firms are unlikely to hire a new CEO for the purpose of performing worse on CSR dimensions (polluting the environment, discriminating against employees, etc.). However, a firm could be hiring a CEO who they feel would improve elements in CSR. Aspects of managerial style associated with non-materialism may be observable to a board before selecting a new CEO. Therefore, firms with objectives of improving their CSR performance may demand a management style associated with non-materialistic CEOs. As a result, differences observed between firms with materialistic and non-materialistic CEOs can reflect both true causal effects and unobserved differences in firm characteristics. However, we find no trends in CSR prior to CEO turnovers involving a switch in CEO types, implying that the changes in CSR we document occur following a switch in type. This suggests that CEO materialism is a key ingredient in shaping firms' CSR policies, regardless of whether it results from CEOs imprinting their style on a firm or from an endogenously matched CEO style implementing a board directed change in CSR investments. Moreover, given the evidence in the AKM analysis, we argue that even if the CEO was hired to pilot a specific strategic change in the firm, it is more likely to be

the new CEO and not the firm driving the changes in the CSR activities. Thus, we repeat our analysis by using all CEO turnovers (routine and forced), and ensure that our results continue to hold (they are, in fact, marginally stronger) in this larger turnover sample (results reported in the Internet Appendix).

Timing of Revelation of CEO Types

To further verify that our results are not driven by firms selecting CEOs who are visibly materialistic, we conduct the following sets of tests. First, we re-estimate equation (2) for two groups of firms: the first group comprises our sample of non-materialistic CEOs and only those materialistic CEOs who revealed their type prior to joining the firm as a CEO (i.e., purchased one or more luxury assets, i.e., expensive homes, cars or boats, prior to becoming CEO); and the second group comprises our sample of non-materialistic CEOs and those materialistic CEOs who revealed their type after joining the firm as a CEO (i.e., they did not own expensive homes, cars or boats prior to becoming CEO).²⁷ If omitted characteristics of firms' selecting CEOs based on their type is driving our results, then we should not observe a significant relation between the materialistic CEOs and CSR scores in the second group of firms because CEOs who did not reveal their type prior to joining the firm could not be selected based on that criterion.

[Insert Table 5 here]

Table 5 presents the results. The first two columns report the results of re-estimating equation (2) for the above two groups of firms. Regardless of when the materialistic CEOs

²⁷ We note that it is possible that there are other luxury assets that we are not able to measure that can also be indicators of materialism. Our maintained assumption is that people who are materialistic and purchase other luxury assets we cannot observe (such as expensive art) are highly likely to also have an expensive home and/or car. So we expect the ownership of expensive homes, cars and boats to be sufficient statistics for capturing this construct. In this revelation of type analysis, it is possible that an executive purchased another (unobservable) asset prior to joining the firm, and purchased expensive homes/cars/boats after joining the firm, and the firm could have selected the executive based on style characteristics associated with materialistic CEOs as evident through these other indicators of materialism. While this seems less likely to us as property and/or vehicles are usually some of the initial assets (i.e., necessities) one invests in given the means, and some other luxury assets may be less visible, our results in this analysis should be interpreted with this caveat in mind.

revealed their type, we find a negative and statistically significant relation between *Material* and CSR net scores (at the .01 level). As a corroboration of the above results, we consider only our sample of materialistic CEOs, and estimate equation (2) by adding an indicator variable, *Reveal Post CEO*, which equals 1 if the CEO revealed his type after joining the firm as CEO, 0 otherwise. Column (3) in Table 5 reports an insignificant coefficient for *Reveal Post CEO*, indicating that the timing of revelation of a CEOs' materialism is not correlated with the firm's CSR scores (thus firm selection is unlikely to be an issue). An analysis of CSR strengths and weaknesses yields similar inferences, though are not tabulated (available on request).

Materialism versus Status Pursuit

Our results so far are more consistent with our measure capturing CEOs who are relatively more materialistic versus those who are pursuing status because CEOs in the latter category are more likely associated with positive CSR scores. CEOs seeking status may more likely be affiliated with non-profit organizations (to draw more respect and admiration from society thus enhancing their status); however we fail to find any such correlations for our sample of materialistic CEOs, mitigating our concern that we are capturing status pursuit.

To further reinforce our efforts at establishing discriminant validity, we repeat our cross-sectional analysis in equation (2) on our sample of materialistic CEOs by splitting them into two categories: those with asset ownership that is relatively more likely to be viewed negatively, and those with ownership that is less likely to draw as much unfavorable attention. We compute the sum of the dollar values of all luxury assets of our CEOs in the materialistic category and compute the median value of their luxury assets. We create an indicator variable, *Above Median Assets*, which is 1 for CEOs whose cumulative asset ownership falls above the sample median, 0 otherwise. If our measure is primarily capturing differences in status pursuit, then we expect a

positive coefficient on this dummy in the model for CSR net score and for CSR strengths, and a negative coefficient in the model for CSR weaknesses. This is because CEOs who are exposed to more negative attention due to ownership (hence face a higher threat to their status) are likely to invest more positively in CSR activities to overcome this threat, versus those that face lesser unfavorable attention. Alternatively, if we are indeed capturing materialism there should be no difference in the coefficients for *Above Median Assets* across the two groups of CEOs.

[Insert Table 6 here]

Table 6 presents the results. The coefficient for *Above Median Assets* is not statistically different from zero for models examining *CSR Net Score*, *CSR Strengths* or *CSR Weaknesses*. These results increase our comfort in the ability of our measure to capture differences in materialism among CEOs in our sample.

We also conduct the following tests that we report in the Internet Appendix: we verify that 1) our results are robust to using an instrumental variables design²⁸, and 2) CEO behavior (with respect to CSR activities) remains unchanged before and after the CEO acquired his first luxury asset, establishing that our measure is consistent with materialism (a more stable underlying trait) versus status (which would predict a change in behavior if the acquisition of assets somehow triggered some incentives to pursue status rewards). In sum, we view the collective evidence in this section as providing support for H1.

²⁸ We identify CEO-director social connections (from past education/employment/ military/ memberships in clubs, charities and other non-professional organizations) as an instrument. Davidson et al. (2015) find evidence that firms with materialistic CEOs are significantly more likely to have board members with whom they have social ties. However, ex ante, there is no clear prediction regarding a direct association between CSR scores and the presence of socially connected directors (except through the CEO). We test for a weak instrument problem and report the Cragg-Donald F-statistic from this test. The F-statistic is greater than 27 suggesting that CEO-director social ties is a strong instrument for CEO materialism. The p-value from a Durbin-Wu-Hausman Chi-squared test fails to reject a difference between the OLS and IV models, suggesting the endogeneity may not be a concern in our OLS analysis.

CEO TYPE, SOCIAL RESPONSIBILITY AND FIRM PERFORMANCE

We next test whether/how the relation between CSR and performance is moderated by CEO materialism. We consider both accounting performance and market returns in analyzing this relation. We estimate the following equation:

$$\begin{aligned} Performance_{it/t+1} = & \beta 1 \text{ CSR Net Score}_{it} + \beta 2 \text{ Material}_i + \beta 3 \text{ CSR Net Score}_{it} * \text{Material}_i \\ & + \beta 4 \text{ Size}_{it} + \beta 5 \text{ Market-to-Book}_{it} + \beta 6 \text{ Debt-to-Equity}_{it} \\ & + \beta 7 \text{ Financial Constraint}_{it} + \beta 8 \text{ CEO Tenure}_{it} + \beta 9 \text{ R\&D}_{it} + \beta 10 \text{ SG\&A}_{it} \\ & + \beta 11 \text{ Board Independence}_{it} + \beta 12 \text{ Sales}_{it} + \beta 13 \text{ Liquidity}_{it} \\ & + \beta 14 \text{ SD Returns}_{it} + \varepsilon_{i,t} \end{aligned} \quad (4)$$

The dependent variable is either current or one year ahead operating performance (operating income before taxes and depreciation divided by the book value of debt and equity) or the current or one year ahead abnormal stock return (market-adjusted annual return).^{29,30} We re-estimate equation (4) using CSR strengths and weaknesses separately because the mapping of CSR into performance_{it} may vary across strengths and weaknesses. If the motives behind CSR investments by CEOs vary with their type, then this may lead to differences in how CSR investments relate to firm performance. While true for strengths, this argument is less likely for weaknesses which often result from regulatory violations. For example, the relation between a large oil spill and performance or returns is likely negative regardless of who the CEO is.

We are interested in coefficient $\beta 1$, which represents the association between CSR scores (or strengths and weaknesses) and performance in firms with non-materialistic CEOs, the summation of $\beta 1$ and $\beta 3$, which represents the association between CSR scores and performance in firms with materialistic CEOs, and $\beta 3$ which represents the difference in the association between CSR scores and performance between materialistic and non-materialistic CEO firms.

²⁹ In equation (4) we exclude observations from a CEO's last year of tenure when looking at one year ahead performance, as the following year occurs during another CEO's tenure.

³⁰ In equation (4) we use lagged values of all independent variables to control for their effect on performance. However, we obtain similar results when we use contemporaneous values for all control variables. Our control variables are based on prior studies (e.g., Barnea and Rubin 2010).

[Insert Table 7 Panel A here]

Table 7, Panel A presents the results for operating performance. For both current and one-year ahead results the coefficient on *CSR Net Score* is positive and significant, suggesting a positive association between CSR scores and firm performance in firms with non-materialistic CEOs. Both the economic and statistical significance are higher for one-year ahead performance. Additionally, the association is significantly lower in firms with materialistic CEOs in the one-year ahead model (the interaction of *CSR Net Score* * *Material* is significant at the .05 level). Finally, in both models the association between performance and CSR scores is not significantly different from 0 in firms with materialistic CEOs.

As predicted, weaknesses are significantly negatively associated with current and one-year ahead performance for both types of CEOs. Strengths are positively associated with one-year ahead performance for non-materialistic CEOs. From a relative point of view, as in the case of net scores, we find the interaction between *CSR Strengths* and *Material* is negatively related to one year ahead performance (at the .01 level). One explanation for these results is that many CSR strengths (e.g., employee benefit structures that help to attract and retain higher quality employees) are related to policies that may relate to firm value over time while many CSR weaknesses are linked to events (such as oil spills) which can immediately relate to performance.

[Insert Table 7 Panel B here]

We find similar results in the case of abnormal returns (Table 7, Panel B) as discussed above, the only difference being that the implications for the CSR net score, strengths, and weaknesses are associated with returns in the current year (as one would expect under efficient markets). None of the coefficients of interest are significant in the following year. CSR net scores in firms with materialistic CEOs are not associated with returns, but are positively

associated with abnormal returns in firms with non-materialistic CEOs. As before, weaknesses by both types of CEOs are significantly negatively related to returns, while CSR strengths are significantly positively associated with returns only for firms run by non-materialistic CEOs.³¹

We conclude this section with exploratory analyses where we examine the above associations for each of the individual CSR categories. Given our performance results above, we report our analyses using one-year ahead operating performance and current abnormal returns only. Table 7, Panel C presents these results.

[Insert Table 7 Panel C here]

We find positive and significant associations between CSR scores in Diversity, Environment and Product Safety and both operating performance and abnormal returns in firms with non-materialistic CEOs. In comparison, the association between CSR scores in these three categories and performance in firms with materialistic CEOs is significantly lower in five of the six performance regressions. We were intrigued by the results for Diversity; one possible explanation for how efforts on Diversity are associated differently with performance is that some CEOs implement diversity programs to simply ‘check boxes’ so their company looks good on paper, but do not expend efforts into creating a diverse employee base where each employee has the required skill to add value to the firm. We also find positive and significant coefficients for Community and Employee in regressions with abnormal returns as the dependent variable, but the interaction terms are not statistically significant. Finally, in unreported analyses, we examine

³¹ We also examine whether CSR investments are associated with accounting and market performance over a longer horizon (results presented in the Internet Appendix). We consider 3-year average CSR scores, CSR strengths and CSR weaknesses (under the same CEO) on current and one-year ahead market and accounting performance. We find results similar to those reported in Table 7, panels A and B. However, we note that these results are hard to interpret given the stickiness of scores and the evidence that current CSR is associated with both current and one-year-ahead performance. Hence disentangling any long term effects of prior CSR investments from the CSR investments undertaken in those future periods is a challenging exercise.

strengths and weaknesses separately for these categories. Our results are driven more strongly by strengths than by weaknesses, consistent with the evidence in Table 7 panels A and B.

The results in Table 7 provide evidence that investments in CSR in firms run by materialistic CEOs are not associated with performance in an absolute sense, and negatively associated relative to those by non-materialistic CEOs. However, CSR investments in firms run by non-materialistic CEOs are positively related to performance. This is consistent with the argument that non-materialistic executives are more conscious of corporate goals and performance when setting CSR policy. In sum, CEO type appears to be an important determinant of the relation between CSR investments (in particular CSR strengths) and performance.

CONCLUSION

We examine whether and how firms' CSR scores vary with CEO materialism. We measure the materialism of an individual through his ownership of luxury assets including cars, boats, and real estate. Our examination is motivated by findings in the psychology literature which suggest that individuals who attach relatively high importance to material possessions are less sensitive to how their behaviors affect others, less willing to share their possessions, and less likely to engage in environmentally responsible behaviors.

Our main findings can be summarized as follows. We find that CEO fixed effects explain the majority of the variation in their firms' CSR scores, and some indication that CEO materialism is responsible for a meaningful portion of the CEO effect. Our cross-sectional tests support this conclusion and indicate that firms run by materialistic CEOs have lower overall CSR net scores, fewer CSR strengths, and more CSR weaknesses.

We also document that CSR scores in firms run by non-materialistic CEOs are positively associated with current and long-term operating performance and with current abnormal returns.

In contrast, CSR scores in firms led by materialistic CEOs are generally not associated with performance. We interpret these findings as supporting the notion that materialistic CEOs are more likely to invest in CSR activities to increase their own private benefits, while non-materialistic CEOs invest in CSR activities with the goal of increasing shareholder value.

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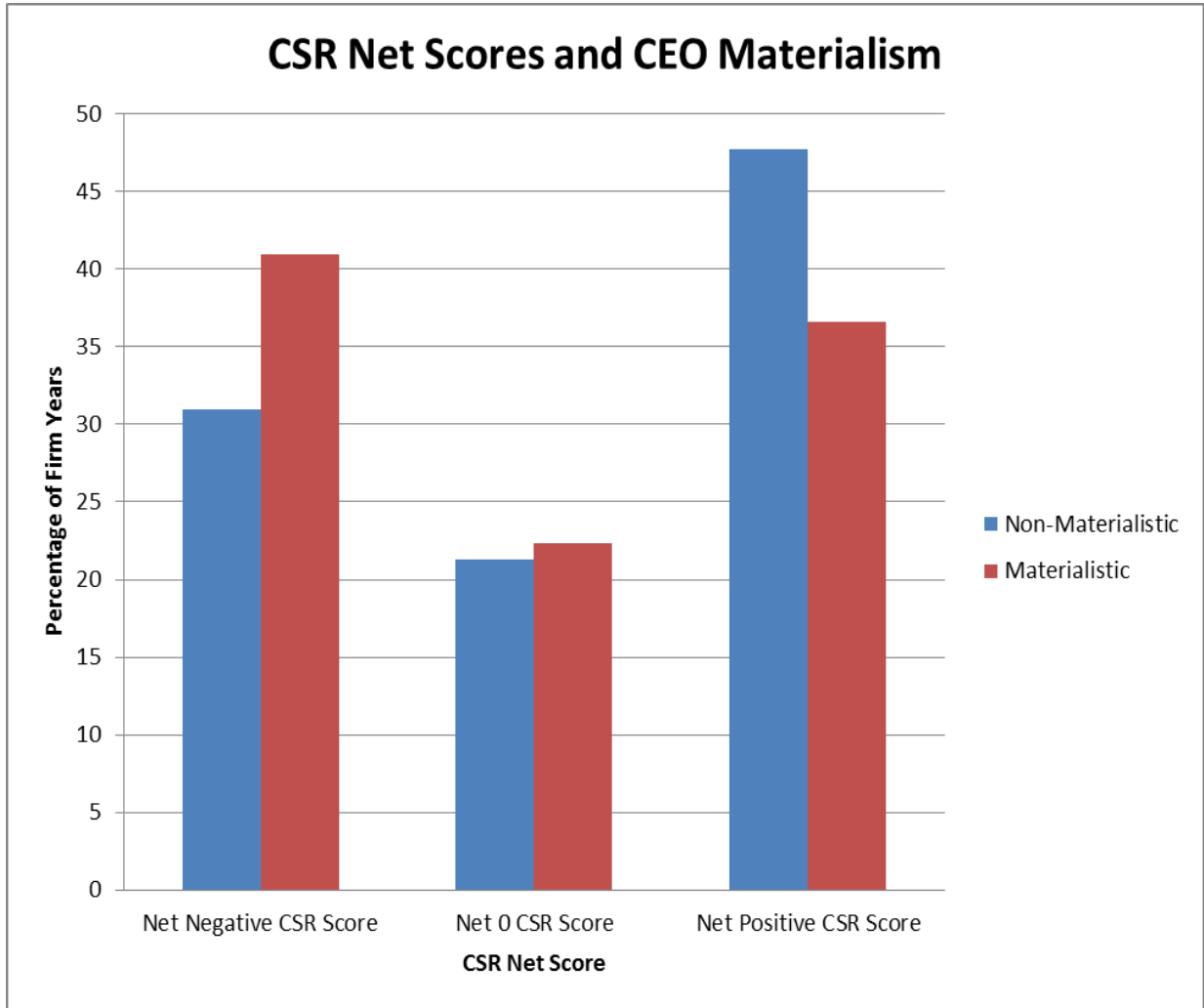
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Figure 1 – CSR and CEO Materialism



Legend Figure 1:

This figure shows how overall net CSR strengths and CSR weaknesses across all categories vary with CEO type. A CEO is defined as being materialistic if the CEO owns luxury assets, where luxury assets include boats >25 feet, cars worth more than \$75,000, a primary residence worth more than twice the average of median home prices in the metropolitan area (CBSA) of his corporate headquarters, or additional homes worth more than twice the average home price in the corresponding metropolitan area (CBSA). If a CEO owns none of these assets, he is defined as being non-materialistic.

Table 1, Panel A
Sample Composition and Summary of CEO Luxury Asset Ownership

	Total Number
Firms	
Firms in ExecuComp/ Compustat/ CRSP/ KLD over 1992-2010	590
Executives	
Chief Executive Officers (CEOs)	888
<i>Executive Composition</i>	
Materialistic CEOs	500
Non-Materialistic CEOs	388
<i>Luxury Asset Ownership</i>	
Cars worth more than \$75,000	581
Boats longer than 25 feet	368
Homes worth more than twice the average of median home prices of the relevant CBSA	
Table 1, Panel A presents the number of firms, the number of materialistic and non-materialistic CEOs and the composition of asset ownership for the sample CEOs.	

Table 1, Panel B
Descriptive Statistics

	KLD-Execucomp Firms			Sample Firms		
	Maximum Firms: 1,894 Max Observations: 12,064			Maximum Firms: 590 Max Observations: 4,302		
	Mean	Median	Standard Deviation	Mean	Median	Standard Deviation
<i>CSR Net Score</i>	-0.03	0	2.14	0.39***	0***	2.57
<i>CSR Strengths</i>	1.37	1	1.93	2.10***	1***	2.47
<i>CSR Weaknesses</i>	1.41	1	1.61	1.71***	1***	1.90
<i>Community</i>	0.09	0	0.56	0.22	0	0.77
<i>Diversity</i>	0.27	0	1.18	0.62***	0***	1.34
<i>Employee</i>	-0.11	0	0.90	0.02**	0**	1.00
<i>Environment</i>	-0.13	0	0.74	-0.16	0	0.90
<i>Product</i>	-0.20	0	0.61	-0.38*	0	0.82
<i>Size</i>	7.60	7.51	1.39	8.22**	8.13**	1.46
<i>Return on Assets</i>	0.14	0.13	0.11	0.12	0.11	0.10
<i>Market-to-Book</i>	3.33	2.21	54.25	2.83	2.16	23.11
<i>Debt-to-Equity</i>	0.74	0.38	30.65	0.72	0.51*	9.43
<i>Financial Constraint</i>	0.56	0.62	1.97	0.69**	0.78**	1.43
<i>Abnormal Return</i>	0.09	0.02	0.45	0.07**	0.02*	0.49
<i>CEO Tenure</i>	8.73	7.00	8.48	8.32	6.00*	7.29
<i>CEO Wealth</i>	10.08	9.96	1.59	10.28**	10.20**	1.49
<i>Operating Performance</i>	0.23	0.21	0.39	0.22	0.21	0.18
<i>R&D</i>	0.05	0.00	0.45	0.03	0.00	0.26
<i>SGA</i>	0.27	0.21	1.69	0.21	0.19	0.43
<i>Board Independence</i>	71.93	75.00	14.84	71.11	75.00	16.65
<i>Sales</i>	1.00	0.87	0.76	0.82***	0.68***	0.76
<i>Liquidity</i>	0.13	0.06	0.16	0.12	0.06	0.14
<i>SD Returns</i>	0.10	0.08	0.06	0.10	0.08	0.07

***Significant at the 1% level; **5% level; * 10% level.

Table 1, Panel B presents the mean, median and standard deviation of key variables for the total merged KLD-ExecuComp population of firms and our sample. The significance of t-tests of differences in means and Wilcoxon/Chi-square tests of differences in medians are presented next to the corresponding variables for the sample firms. Variables are defined in the Appendix.

Table 1, Panel C
CEO Materialism and CEO Wealth Distribution

CEO Wealth Deciles	Percentage: Materialistic CEOs: Full Sample	Percentage: Materialistic CEOs: AKM Sample
	(Total N = 888)	(Total N = 227)
1 (Highest)	57	56
2	58	52
3	60	59
4	60	59
5	64	58
6	62	55
7	63	59
8	59	45
9	55	58
10 (Lowest)	54	55
Mean	59	56
Top 50% of wealthiest CEOs	60	57
Bottom 50% of wealthiest CEOs	59	54

Table 1, Panel C presents the percentage of materialistic sample CEOs over wealth deciles for our full sample and the AKM two-way fixed effects sample. We measure the wealth of a CEO as the natural logarithm of the CEO's firm based wealth and non-firm based wealth following Dittmann and Maug (2007). Materialistic CEOs are those who own boats >25 feet, cars worth more than \$75,000, primary residences worth more than twice the average of median home prices in the metropolitan area of his corporate headquarters, or additional homes worth more than twice the average home price in the corresponding metropolitan area.

Table 2, Panel A
Two Way Fixed Effects Model: Effect of CEO and Firm Fixed Effects on CSR Scores

	CSR Net Score	CSR Strengths	CSR Weaknesses
	(1)	(2)	(3)
<i>Size</i>	-0.1414 (-1.48)	0.0963 (1.36)	0.2377*** (3.76)
<i>Return on Assets</i>	0.9907 (1.16)	-2.0107*** (-3.15)	-3.0013*** (-5.28)
<i>Market-to-Book</i>	-0.0036 (-0.43)	-0.0100 (-1.61)	-0.0065 (-1.17)
<i>Debt-to-Equity</i>	-0.0003 (-0.08)	0.0032 (1.03)	0.0035 (1.28)
<i>Financial Constraint</i>	-0.0096 (-0.22)	0.0018 (0.05)	0.0113 (0.39)
<i>Abnormal Return</i>	0.0198 (0.33)	-0.0611 (-1.37)	-0.0809** (-2.03)
<i>CEO Tenure</i>	-0.0104 (-0.57)	0.1350*** (9.91)	0.1455*** (11.97)
<i>CEO Wealth</i>	-0.0044 (-0.09)	-0.0934*** (-2.60)	-0.0890*** (-2.78)
CEO Fixed Effects	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes
Observations	1,252	1,252	1,252
Firms	181	181	181
CEOs who do not switch	131	131	131
CEOs who switch	96	96	96
<i>Proportion of Variance explained by:</i>			
R Squared: CEO Fixed Effect	0.59	0.61	0.69
R Squared: Firm Fixed Effect	0.23	0.29	0.15
R Squared: Model	0.82	0.89	0.89

***Significant at the 1% level; **5% level; * 10% level.

Table 2, Panel A presents the results of the AKM analysis which estimates the relative importance of CEO versus firm characteristics in explaining the variation in CSR scores. Variables are defined in the Appendix.

Table 2, Panel B
Two Way Fixed Effects Model: Effect of CEO Type on CSR Scores

	Non Materialistic CEO	Materialistic CEO	Random CEO Sample
	(1)	(2)	(3)
<i>Size</i>	0.2113 (1.33)	-0.3691*** (-3.00)	-0.1564 (-1.50)
<i>Return on Assets</i>	3.1799*** (2.65)	-1.2277 (-0.98)	1.5803 (1.55)
<i>Market-to-Book</i>	-0.0277 (-1.45)	0.0055 (0.57)	-0.0127 (-0.88)
<i>Debt-to-Equity</i>	0.0060 (0.40)	-0.0022 (-0.48)	0.0008 (0.11)
<i>Financial Constraint</i>	0.0315 (0.43)	-0.0745 (-1.28)	-0.0214 (-0.95)
<i>Abnormal Return</i>	0.0184 (0.27)	-0.0506 (-0.41)	-0.0101 (-0.28)
<i>CEO Tenure</i>	0.0290 (1.11)	-0.0759*** (-2.90)	-0.0316 (-1.34)
<i>CEO Wealth</i>	-0.1074* (-1.73)	0.1079 (1.41)	-0.0017 (-0.20)
CEO Fixed Effects	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes
Observations	579	673	624
Firms	111	126	117
CEOs who do not switch	70	61	66
CEOs who switch	41	55	48
<i>Proportion of Variance explained by:</i>			
R Squared: CEO Fixed Effect	0.55	0.50	0.59
R Squared: Firm Fixed Effect	0.15	0.29	0.22
R Squared: Model	0.71	0.79	0.81

***Significant at the 1% level; **5% level; * 10% level.

Table 2, Panel B presents the results of the AKM analysis which estimates the relative importance of CEO materialism versus firm characteristics in explaining the variation in CSR scores. Variables are defined in the Appendix.

Table 3, Panel A
CEO Materialism and Overall CSR Scores

	CSR Net Score	CSR Strengths	CSR Weaknesses
	(1)	(2)	(3)
<i>Material</i>	-0.6921*** (-4.31)	-0.4934*** (-3.57)	0.1987** (2.06)
<i>Size</i>	0.4052*** (5.29)	0.9854*** (13.71)	0.5802*** (11.52)
<i>Return on Assets</i>	0.6660 (0.75)	-1.9415*** (-2.61)	-2.6075*** (-4.67)
<i>Market-to-Book</i>	0.0020 (0.81)	0.0024 (1.14)	0.0003 (0.25)
<i>Debt-to-Equity</i>	-0.0056 (-0.91)	-0.0102 (-1.21)	-0.0046 (-1.04)
<i>Financial Constraint</i>	-0.0357 (-0.69)	0.0501 (1.15)	0.0858** (2.39)
<i>Abnormal Return</i>	-0.1774** (-2.38)	-0.2912*** (-2.87)	-0.1138** (-1.98)
<i>CEO Tenure</i>	-0.0006 (-0.05)	-0.0075 (-0.71)	-0.0069 (-1.22)
<i>CEO Wealth</i>	-0.1108* (-1.75)	-0.1543*** (-2.83)	-0.0435 (-1.25)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Observations	4,302	4,302	4,302
Adjusted R Squared	0.15	0.32	0.35

***Significant at the 1% level; **5% level; * 10% level. Standard errors are clustered by executive.

Table 3, Panel A presents results on the association between CEO materialism and overall CSR net scores, CSR strengths and CSR weaknesses. Variables are defined in the Appendix.

Table 3, Panel B
CEO Materialism and Individual CSR Scores

	Community	Diversity	Employee	Environment	Product
	(1)	(2)	(3)	(4)	(5)
<i>Material</i>	-0.0790** (-2.00)	-0.1922*** (-2.60)	-0.1479** (-2.48)	-0.1924*** (-3.37)	-0.0883** (-2.10)
<i>Size</i>	0.1400*** (6.77)	0.4509*** (12.84)	0.0689** (2.30)	-0.0768*** (-3.12)	-0.2021*** (-10.35)
<i>Return on Assets</i>	-0.6115*** (-3.10)	-0.7557* (-1.87)	0.5106* (1.70)	0.7221*** (3.02)	0.6082*** (2.88)
<i>Market-to-Book</i>	0.0008 (1.20)	0.0002 (0.332)	0.0000 (0.06)	0.0007 (1.32)	0.0002 (0.19)
<i>Debt-to-Equity</i>	-0.0029 (-1.03)	-0.0001 (-0.05)	-0.0013 (-0.44)	-0.0007 (-0.81)	0.0001 (0.08)
<i>Financial Constraint</i>	-0.0246** (-2.07)	0.0619** (2.52)	-0.0433** (-2.47)	-0.0193 (-1.32)	-0.0099 (-0.75)
<i>Abnormal Return</i>	-0.0256 (-1.50)	-0.1147** (-1.96)	-0.0854*** (-3.58)	0.0149 (0.77)	0.0390** (2.30)
<i>CEO Tenure</i>	-0.0019 (-0.76)	-0.0135** (-2.54)	0.0011 (0.27)	0.0055 (1.54)	0.0067** (2.46)
<i>CEO Wealth</i>	-0.0298** (-2.26)	-0.0583** (-2.13)	-0.0134 (-0.52)	0.0074 (0.38)	-0.0052 (-0.29)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	4,302	4,302	4,302	4,302	4,302
Adjusted R Squared	0.14	0.29	0.12	0.20	0.33

***Significant at the 1% level; **5% level; * 10% level. Standard errors are clustered by executive.

Table 3, Panel B presents results on the association between CEO materialism and the CSR net scores for each individual CSR category. Variables are defined in the Appendix.

Table 4
Predecessor Successor Analysis Using Routine Turnovers

	CSR Net Score	CSR Strengths	CSR Weaknesses
	(1)	(2)	(3)
<i>Intercept</i>	-2.7536** (-2.11)	-6.4431*** (-5.47)	-3.6895*** (-3.71)
<i>New CEO Material</i>	-0.1689 (-1.51)	-0.4830* (-1.68)	-0.3141 (-0.96)
<i>Successor</i>	0.1447 (1.28)	0.1094 (0.68)	-0.0353 (-0.37)
<i>Change CEO Type</i>	-0.0145 (0.22)	-0.0274 (-0.40)	-0.0129 (-0.05)
<i>New CEO Material * Successor</i>	-0.2474** (-2.24)	-0.1763 (-1.64)	0.0711 (0.48)
<i>New CEO Material * Change CEO Type</i>	0.1791* (1.75)	0.1002 (1.26)	-0.0789 (-0.94)
<i>Successor * Change CEO Type</i>	0.376** (2.25)	0.2558* (1.75)	-0.1202 (-1.42)
<i>New CEO Material * Successor * Change CEO Type</i>	-0.6021*** (-2.81)	-0.4622** (-2.40)	0.1399* (1.84)
<u><i>Analysis of Changes</i></u>			
Materialistic CEO to Materialistic CEO	-0.1027 (-0.56)	-0.0669 (-0.29)	0.0358 (0.42)
Non-Materialistic CEO to Materialistic CEO	-0.3288** (-2.11)	-0.2733 (-1.39)	0.0555 (-0.44)
Non-Materialistic CEO to Non-Materialistic CEO	0.1447 (0.75)	0.1094 (0.78)	-0.0353 (-0.18)
Materialistic CEO to Non-Materialistic CEO	0.5207** (2.41)	0.3652** (2.02)	-0.1555 (-1.48)
Controls	Yes	Yes	Yes
Observations	985	985	985
Adjusted R Squared	0.10	0.21	0.19

***Significant at the 1% level; **5% level; * 10% level. Standard errors are clustered by executive.

Table 4 presents the analyses of CEO routine turnovers and CSR net scores, CSR strengths and CSR weaknesses. Control variables include: *Size*, *Return on Assets*, *Market-to-Book*, *Debt-to-Equity*, *Financial Constraint*, *Abnormal Return*, *CEO Tenure*, and *CEO Wealth*. Variables are defined in the Appendix.

Table 5
Timing of Revelation of CEO Type and Overall CSR Scores

	Type Revealed Before Becoming CEO	Type Revealed After Becoming CEO	Materialistic CEOs Only: Comparison of Revelation
	(1)	(2)	(3)
<i>Material</i>	-0.6315*** (-3.62)	-0.8061*** (-3.46)	
<i>Reveal Post CEO</i>			0.2520 (-1.02)
<i>Size</i>	0.5107*** (6.51)	0.4091*** (4.24)	0.1979* (1.78)
<i>Return on Assets</i>	0.4370 (0.49)	0.2009 (0.18)	0.6962 (0.65)
<i>Market-to-Book</i>	0.0365** (2.30)	0.0054 (1.23)	-0.0002 (-0.09)
<i>Debt-to-Equity</i>	-0.0133 (-1.51)	-0.0216 (-1.42)	-0.0024 (-0.46)
<i>Financial Constraint</i>	-0.0329 (-0.55)	-0.0408 (-0.60)	-0.0298 (-0.48)
<i>Abnormal Return</i>	-0.1992** (-2.31)	-0.1178 (-1.55)	-0.2947** (-2.42)
<i>CEO Tenure</i>	0.0004 (0.03)	0.0041 (0.29)	-0.0048 (-0.28)
<i>CEO Wealth</i>	-0.1510** (-2.20)	-0.1348* (-1.87)	0.0222 (0.22)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Observations	3,541	3,060	2,094
Adjusted R Squared	0.17	0.15	0.13

***Significant at the 1% level; **5% level; * 10% level. Standard errors are clustered by executive.

Table 5 presents the analyses of the relation between the timing of revelation of a CEO's type as materialistic (based on his or her first luxury asset purchase) and overall CSR net scores. Variables are defined in the Appendix.

Table 6
Materialism versus Status: CEO Asset Values and Overall CSR Scores

	CSR Net Score	CSR Strengths	CSR Weaknesses
	(1)	(2)	(3)
<i>Above Median Assets</i>	-0.0569 (-0.25)	0.1363 (0.68)	0.1932 (1.27)
<i>Size</i>	0.2605** (2.37)	0.9545*** (9.13)	0.6941*** (9.03)
<i>Return on Assets</i>	0.6869 (0.65)	-2.2935*** (-2.68)	-2.9803*** (-3.88)
<i>Market-to-Book</i>	0.0003 (0.13)	0.0008 (0.62)	0.0006 (0.56)
<i>Debt-to-Equity</i>	-0.0024 (-0.47)	-0.0043 (-0.94)	-0.0019 (-0.94)
<i>Financial Constraint</i>	-0.0012 (-0.02)	0.0263 (0.56)	0.0276 (0.57)
<i>Abnormal Return</i>	-0.3064** (-2.50)	-0.4642*** (-4.00)	-0.1578* (-1.73)
<i>CEO Tenure</i>	-0.0042 (-0.26)	-0.0047 (-0.37)	-0.0005 (-0.06)
<i>CEO Wealth</i>	-0.0075 (-0.08)	-0.1101 (-1.37)	-0.1025* (-1.88)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Observations	2,094	2,094	2,094
Adjusted R Squared	0.14	0.33	0.30

***Significant at the 1% level; **5% level; * 10% level. Standard errors are clustered by executive.

Table 6 presents the analyses of the relation between CEOs with high (versus low) asset values and overall CSR net scores, CSR strengths and CSR weaknesses. Variables are defined in the Appendix.

Table 7, Panel A
CEO Materialism, Overall CSR Scores and Operating Performance

	Current Year Operating Performance			One Year Ahead Operating Performance		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>CSR Net Score</i>	0.0054* (1.91)			0.0110*** (3.09)		
<i>CSR Strengths</i>		0.0039 (1.38)			0.0062** (2.29)	
<i>CSR Weaknesses</i>			-0.0059* (-1.90)			-0.0119** (-2.40)
<i>Material</i>	0.0153 (1.51)	0.0206* (1.82)	0.0124 (1.06)	0.0236** (2.06)	0.0340** (2.47)	0.0123 (1.00)
<i>CSR * Material</i>	-0.0021 (-0.59)	-0.0032 (-1.01)	0.0000 (0.00)	-0.0108** (-2.48)	-0.0092*** (-2.66)	0.0032 (0.65)
<i>Size</i>	0.0220*** (7.20)	0.0214*** (5.65)	0.0273*** (7.31)	0.0190*** (6.01)	0.0194*** (4.88)	0.0263*** (6.48)
<i>Market-to-Book</i>	0.0004 (1.03)	0.0004 (1.03)	0.0004 (1.07)	0.0006** (2.17)	0.0006** (2.19)	0.0006** (2.19)
<i>Debt-to-Equity</i>	-0.0013 (-1.38)	-0.0013 (-1.38)	-0.0014 (-1.38)	-0.0016* (-1.74)	-0.0016* (-1.78)	-0.0017* (-1.71)
<i>Financial Constraint</i>	-0.0249*** (-4.41)	-0.0253*** (-4.46)	-0.0244*** (-4.25)	-0.0300*** (-3.21)	-0.0303*** (-3.27)	-0.0292*** (-3.10)
<i>CEO Tenure</i>	0.0003 (0.40)	0.0003 (0.44)	0.0002 (0.28)	0.0004 (0.49)	0.0004 (0.53)	0.0003 (0.34)
<i>R&D</i>	-0.1218*** (-2.60)	-0.1320*** (-2.83)	-0.1227*** (-2.60)	-0.2717*** (-3.31)	-0.2768*** (-3.25)	-0.2803*** (-3.43)
<i>SGA</i>	0.0225 (0.74)	0.0293 (0.97)	0.0230 (0.76)	-0.0033 (-0.08)	0.0060 (0.16)	-0.0010 (-0.03)
<i>Board Independence</i>	-0.0001 (-0.27)	-0.0001 (-0.26)	0.0000 (0.15)	0.0001 (0.54)	0.0002 (0.61)	0.0003 (1.09)
<i>Sales</i>	0.0543*** (4.42)	0.0544*** (4.40)	0.0543*** (4.31)	0.0388*** (2.82)	0.0402*** (2.86)	0.0402*** (2.74)
<i>Liquidity</i>	0.0237 (0.63)	0.0279 (0.74)	0.0239 (0.63)	0.0235 (0.55)	0.0279 (0.66)	0.0258 (0.60)
<i>SD Returns</i>	-0.4532*** (-5.44)	-0.4588*** (-5.43)	-0.4391*** (-5.47)	-0.3569*** (-4.49)	-0.3628*** (-4.48)	-0.3376*** (-4.39)
Coefficient Summations: T-Statistics						
<i>CSR + CSR * Material</i>	1.09	-0.25	-2.19	0.50	-0.47	-2.22
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,151	3,151	3,151	2,840	2,840	2,840
Adjusted R Squared	0.27	0.27	0.27	0.26	0.26	0.26

***Significant at the 1% level; **5% level; * 10% level. Standard errors are clustered by executive.

Table 7, Panel A presents the analyses of the moderating effect of CEO materialism on the relation between CSR net scores, CSR strengths, CSR weaknesses and operating performance. Variables are defined in the Appendix.

Table 7, Panel B
CEO Materialism, Overall CSR Scores and Abnormal Returns

	Current Year Abnormal Return			One Year Ahead Abnormal Return		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>CSR Net Score</i>	0.0092*** (3.21)			-0.0031 (-1.05)		
<i>CSR Strengths</i>		0.0112*** (2.72)			-0.0062 (-1.08)	
<i>CSR Weaknesses</i>			-0.0200*** (-3.26)			0.0039 (0.50)
<i>Material</i>	0.0059 (0.46)	0.0202 (1.17)	0.0080 (0.44)	0.0042 (0.30)	0.0201 (1.08)	-0.0097 (-0.49)
<i>CSR * Material</i>	-0.0101** (-2.30)	-0.0099** (-2.11)	0.0009 (0.13)	-0.0029 (-0.53)	-0.0078 (-1.57)	-0.0015 (-0.19)
<i>Size</i>	0.0484*** (7.15)	0.0647*** (8.70)	0.0554*** (8.67)	-0.0029 (-0.45)	-0.0076 (-0.93)	0.0024 (0.32)
<i>Market-to-Book</i>	0.0005 (1.42)	0.0005 (1.43)	0.0006 (1.64)	0.0004 (0.98)	0.0003 (0.97)	0.0002 (0.70)
<i>Debt-to-Equity</i>	-0.0008 (-0.51)	-0.0010 (-0.58)	-0.0009 (-0.57)	-0.0022 (-1.40)	-0.0021 (-1.38)	-0.0015 (-1.19)
<i>Financial Constraint</i>	0.0332*** (3.76)	0.0342*** (3.96)	0.0338*** (3.83)	0.0062 (0.96)	0.0057 (0.89)	0.0037 (0.61)
<i>CEO Tenure</i>	0.0007 (0.64)	0.0004 (0.37)	-0.0002 (-0.21)	-0.0016 (-1.60)	-0.0015 (-1.59)	-0.0023** (-2.04)
<i>R&D</i>	-0.0650 (-0.53)	-0.0705 (-0.57)	-0.0352 (-0.44)	0.1722** (2.04)	0.1651** (2.00)	-0.0328 (-0.30)
<i>SGA</i>	0.0670 (1.12)	0.0606 (1.04)	0.0068 (0.13)	-0.0848 (-1.55)	-0.0800 (-1.49)	-0.0644 (-1.10)
<i>Board Independence</i>	-0.0005 (-1.01)	-0.0002 (-0.40)	-0.0004 (-0.85)	-0.0008 (-1.52)	-0.0009* (-1.73)	-0.0008 (-1.55)
<i>Sales</i>	0.0453*** (3.41)	0.0447*** (3.29)	0.0453*** (3.71)	0.0023 (0.21)	0.0021 (0.19)	0.0011 (0.10)
<i>Liquidity</i>	0.2771*** (4.34)	0.2712*** (4.32)	0.2677*** (3.97)	-0.0661 (-1.08)	-0.0614 (-1.01)	-0.0129 (-0.19)
<i>SD Returns</i>	-0.0502 (-0.18)	0.0049 (0.02)	-0.0665 (-0.26)	0.6224*** (3.02)	0.6052*** (2.97)	0.7662*** (3.58)
Coefficient Summations: T-Statistics						
<i>CSR + CSR * Material</i>	0.29	0.69	-3.22	-1.38	-1.50	0.51
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,151	3,151	3,151	2,840	2,840	2,840
Adjusted R Squared	0.05	0.05	0.07	0.05	0.06	0.05

***Significant at the 1% level; **5% level; * 10% level. Standard errors are clustered by executive.

Table 7, Panel B presents the analyses of the moderating effect of CEO materialism on the relation between CSR net scores, CSR strengths, CSR weaknesses and abnormal returns. Variables are defined in the Appendix.

Table 7, Panel C
CEO Materialism, Individual CSR Scores and Firm Performance

	One Year Ahead Operating Performance	Current Year Abnormal Returns
	(1)	(2)
<i>Community</i>	0.0059 (0.86)	0.0189** (2.09)
<i>Material</i>	0.0183 (1.54)	0.0114 (0.87)
<i>Community * Material</i>	-0.0071 (-0.65)	-0.0185 (-1.37)
<i>Diversity</i>	0.0085** (2.25)	0.0209*** (3.22)
<i>Material</i>	0.0176* (1.89)	0.0221 (1.54)
<i>Diversity * Material</i>	-0.0119** (-2.27)	-0.0185** (-2.44)
<i>Employee</i>	0.0072 (1.32)	0.0118* (1.70)
<i>Material</i>	0.0159 (1.57)	0.0079 (0.63)
<i>Employee * Material</i>	0.0014 (0.17)	-0.0125 (-1.34)
<i>Environment</i>	0.0273** (2.39)	0.0176** (2.42)
<i>Material</i>	0.0160 (1.33)	0.0051 (0.40)
<i>Environment * Material</i>	-0.0272** (-2.24)	-0.0233** (-2.28)
<i>Product</i>	0.0207 (1.89)	0.022** (2.16)
<i>Material</i>	0.0118 (1.12)	0.0182 (1.31)
<i>Product * Material</i>	-0.0152* (-1.77)	-0.0084 (-0.62)
Coefficient Summations: T-statistics		
<i>Community * Material</i>	-0.12	0.03
<i>Diversity * Material</i>	-0.80	0.29
<i>Employee * Material</i>	1.41	-0.08
<i>Environment * Material</i>	0.02	-0.66
<i>Product * Material</i>	0.56	1.25
Controls	Yes	Yes
Industry and Year Fixed Effects	Yes	Yes
Observations	Yes	Yes

***Significant at the 1% level; **5% level; * 10% level. Standard errors are clustered by executive.

Table 7, Panel C presents the analyses of the moderating effect of CEO materialism on the relation between CSR net scores for each individual category, and firm performance (measured by one year ahead operating performance and current abnormal returns). Variables are defined in the Appendix.

Appendix: Variable Definitions and Data Sources

Variable	Definition	Source
Material	Indicator variable that equals 1 if the CEO owns luxury assets, where luxury assets include cars worth more than \$75,000, boats >25 feet, a primary residence worth more than twice the average of median home prices in the metropolitan area of his corporate headquarters (based on the Core Based Statistical Area - CBSA), or additional homes worth more than twice the average home price in the corresponding metropolitan area (CBSA), 0 otherwise	FOTT
CSR Net Score	Net score (strengths less weaknesses) for the Community, Diversity, Employee, Environment, and Product CSR groups	KLD
CSR Strengths	Net strengths for the Community, Diversity, Employee, Environment, and Product CSR groups	KLD
CSR Weaknesses	Net weaknesses for the Community, Diversity, Employee, Environment, and Product CSR groups	KLD
Community	Net score (strengths less weaknesses) for the Community CSR group	KLD
Diversity	Net score (strengths less weaknesses) for the Diversity CSR group	KLD
Employee	Net score (strengths less weaknesses) for the Employee CSR group	KLD
Environment	Net score (strengths less weaknesses) for the Environment CSR group	KLD
Product	Net score (strengths less weaknesses) for the Product CSR group for items related to product safety	KLD
Size	The natural logarithm of the firm's market capitalization	Compustat
Return on Assets	Operating income before depreciation divided by book value of total assets	Compustat
Market-to-Book	Market value of equity divided by book value of equity	Compustat
Debt-to-Equity	Long term debt plus the current portion of short term debt divided by the book value of equity	Compustat
Financial Constraint	Financial constraint proxy developed by Kaplan and Zingales (1997)	Compustat
Abnormal Return	Market adjusted annual return	CRSP
CEO Tenure	The CEO's tenure in the role of CEO at the current firm in years	Boardex
CEO Wealth	The natural logarithm of the CEO's firm based wealth and non-firm based wealth following Dittmann and Maug (2007)	Execucomp/ Dittmann
New CEO Material	Indicator variable that equals 1 if the successor CEO is materialistic, 0 otherwise	FOTT
Successor	Indicator variable that equals 1 if the observation is during the successor's tenure, 0 otherwise	Execucomp
Change	Indicator variable that equals 1 if the predecessor and successor are of different type, 0 otherwise	FOTT
Reveal Post CEO	Indicator variable that equals 1 if a materialistic CEO did not acquire assets until after becoming CEO, 0 otherwise	FOTT
Above Median Assets	Indicator variable that equals 1 if the value of a materialistic CEOs assets are above the median, 0 otherwise	FOTT
Operating Performance	Operating profit before taxes and depreciation divided by the sum of the book values of long term debt and equity	Compustat
R&D	Research and development expense divided by sales	Compustat
SGA	Selling general and administrative expense divided by sales	Compustat
Board Independence	The percentage of independent board members	Risk Metrics
Sales	Sales divided by total assets	Compustat
Liquidity	Cash and short-term investments divided by total assets	Compustat
Volatility	The standard deviation of monthly returns	CRSP