SMOKE SIGNAL OR SMOKE SCREEN?
WHY THE MEDIA DO NOT DISAPPROVE EQUALLY OF OVERPAID CEOs

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Abstract

This paper explains the amount of disapproval faced by firms that overpay their CEO by integrating signaling and categorization theories. We argue that, in contexts characterized by intense scrutiny, ambivalent signals sent by firms suspend categorization by stakeholders, leading to further disapproval, whereas ambiguous signals represent a form of category straddling that attenuates disapproval. We find empirical support for this proposition in the context of CEO overcompensation in the U.S. (1995-2007) after examining two organizational signals that affect perceptions of economic fairness (i.e. corporate philanthropy) and social fairness (i.e. employee diversity). Our integration of the signaling and categorization literatures adds to extant knowledge on firm’s social evaluations and recasts CEO compensation research within the literature on information intermediaries.

Keywords: signaling, media, disapproval, CEO pay, categorization
INTRODUCTION

Capitalist democracies rest on a free market system, and on a pluralistic vision of society whereby stakeholders can openly voice concern about issues (Novak, 1982). While economic actors differ in how they balance profit and equality (Frank, 1988; Lamin and Zaheer, 2012), they all need to recognize some norm of fairness if they want to secure continued stakeholder engagement in a globalized world where communities and firms have become increasingly interdependent (Clarkson, 1995). In this context, business organizations face a lot of pressure from their stakeholders, who do not hesitate to publicly disapprove of firms that violate societal and industry norms (Davis, McAdam, Scott, and Zald, 2005). The media play a central role in this interaction, both as external stakeholders of their own, and as amplifiers of other stakeholders’ concerns (Yue, Rao, and Ingram, 2013). As such, they act as the primary information intermediaries—or “infomediaries” (Deephouse and Heugens, 2009)—between firms and the rest of society.

While perceived violations of “taken-for-granted norms of fairness” (Walsh, 2008: 30) likely drive public disapproval of firms in the media, the relationship between the two is not straightforward (Desai, 2011). In fact, perceptions that firms act unfairly can translate in substantially different disapproval levels across firms. One issue for which this variance has been particularly visible is CEO compensation. Indeed the media closely monitor CEO pay and convey disapproval to the rest of society when compensation packages are deemed unfair. However, some firms seem to focus most of the disapproval in this respect, while others—which
may also be paying their CEO excessively—are hardly ever mentioned. In 2002 for instance, the major U.S. media published seven articles disapproving of Tyson Foods for (perceived) unfair compensation, but none disapproving of Pepsico. The two firms compete in the same industry (SIC code 20) and the total compensation of their CEOs shows an intriguing pattern: Tyson’s CEO received $8.3M while Pepsico’s CEO received $17.1M, so the highest paid CEO was the least disapproved of. After controlling for known predictors of CEO compensation (e.g., CEO tenure, firm performance), the pattern becomes even more intriguing, since we find that Tyson’s CEO was actually *under*compensated that year relative to peers (by roughly $2M), and yet was one of the CEOs whose compensation was deemed most unfair by the media.¹

To explain these gaps, we begin by recognizing that norms of fairness can be of two broadly different types. On the one hand, “economic fairness” concerns value distribution *outcomes* (Konow, 1996). More specifically, evaluating economic fairness implies an assessment of whether discrepancies in value distribution can be justified rationally. On the other hand, “social fairness” concerns the *process* whereby value is created in the first place (Edney, 1984). In particular, it emphasizes the need for some degree of equality in rights and opportunities in the wealth creation process. Arguably, the existence of two distinct *categories of evaluation* for fairness raises the possibility of inconsistent evaluations. If a firm is deemed fair socially but not economically, how does that affect its resulting social evaluation?

To account for variations in social evaluations across firms, we propose to integrate insights from the signaling and categorization literatures. Infomediaries evaluate firms based on salient informational cues, some of which are directly observable (Zavyalova et al., 2012), and some of which are proxied by signals sent by the firms themselves (Stern et al., 2014). By

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¹ Meanwhile, Pepsico’s CEO was overcompensated by roughly $1M. Both firms operate in the “Food and kindred products” industry. These data and calculations come from our dataset and analyses. All details are provided in the methods section.
distinguishing between economic and social fairness, we are able to theorize about the consequences of signal incongruence within and between categories of evaluation. We differentiate between two forms of signal incongruence, namely, *signal ambiguity*, occurring when two signals appear at odds *across* categories of evaluation, and *signal ambivalence*, occurring when they appear at odds *within* one single category. We argue that ambiguous signals are analogous to a form of *category straddling* that makes social evaluations more neutral (Pontikes, 2012; Vergne, 2012), thereby resulting in less disapproval. By contrast, ambivalent signals imply *category contradiction*, which makes the social evaluation more extreme (Mastro and Tukachinsky, 2011), thereby resulting in more disapproval.

To test our theory, we examine the social evaluations given by the media to firms that overpay their CEO. As noted by Walsh in the opening quote, CEO pay is an indicator of whether corporations follow “taken-for-granted norms of fairness”—more specifically, of economic fairness, since compensation levels concern outcomes related to wealth distribution. In our analyses predicting social evaluations, we look at the interaction between excess CEO pay and two signals emitted by firms. The first one, corporate philanthropy, is a signal that the firm is concerned with economic fairness. Thus, when high levels of corporate philanthropy co-exist with CEO *over*compensation, it creates ambivalence within the “economic fairness” category of evaluation (i.e., when distributing wealth, the firm appears simultaneously altruistic and selfish). The second signal, employee diversity, is a signal that the firm is concerned with social fairness. Thus, when high levels of diversity co-exist with CEO *over*compensation, it creates ambiguity between the “social fairness” and “economic fairness” categories of evaluation (i.e., the firm appears economically selfish but socially altruistic).
In line with our theoretical predictions, we find that, in the presence of CEO overcompensation, the ambivalent signal (philanthropy) amplifies media disapproval, whereas the ambiguous signal (diversity) mitigates it. Put differently, the media seem to interpret the ambiguous signal as a genuine “smoke signal”—one of the oldest forms of effective long-distance communication—but the ambivalent signal as a “smoke screen”, thereby eliciting stakeholder suspicion and prompting further disapproval. This finding offers a novel contribution to the signaling literature (Spence, 1974) by explicating how signal incongruence leads to opposite outcomes depending on whether it underpins ambiguity or ambivalence. Furthermore, it sheds new light on the literature at the crossroads of institutional theory and impression management (Ashforth and Gibbs, 1990) by explaining why the same action is interpreted sometimes as a sincere strategic commitment and other times as purely symbolic.

In the concluding section, we call for further integration between the categorization and signaling literatures (Stern et al., 2014) based on the argument that, since many properties of organizational categories remain unobservable, they need to be proxied by signals. In turn, this allows us to add to extant literature on infomediaries (Deephouse and Heugens, 2009) by demonstrating the media’s ability to assess which CEOs are overpaid and which are not, despite journalists possessing only raw data on absolute levels of compensation. This recasts the media’s role as providers, for firms, of not only symbolic resources (e.g. legitimacy) but also reliable competitive information.

SIGNAL INCONGRUENCE WITHIN AND ACROSS CATEGORIES OF EVALUATION

Signals and social evaluations in the organizational world
Signals are “observable characteristics attached to the individual [firm] that are subject to manipulation by [that firm]” (Spence, 1973: 357). As such, signals are strategic levers that convey information about the firm to its stakeholders, thereby influencing how the latter perceive and evaluate the firm in situations characterized by uncertainty (Spence, 1974). For example, advertising spending by firms acts as a signal of product quality for prospective consumers (Milgrom and Roberts, 1986). A CEO’s external directorships signal the quality of a firm’s financial statements to investors (Zhang and Wiersema, 2009; Acharya and Pollock, 2013), and the legitimacy of the top management team signals higher firm value during IPOs (Cohen and Dean, 2005). For environmental organizations, the voluntary disclosure of CSR reports signals a firm’s superior commitment to sustainability (Mahoney et al., 2013). For entrepreneurs, certifications by authorized third parties signal commitment and increase the likelihood of start-up growth (Sine, David, and Mitsuhashi, 2007). In online marketplaces, positive consumer response to products tied to charity suggests that charity is a signal that can act “as a substitute for reputation” (Elfenbein, Fisman, and McManus, 2012).

The fact that many characteristics of firms are not directly observable explains why signals are used pervasively in the organizational world to reduce uncertainty in the formulation of evaluations (Podolny, 1994). The relationship between signals and evaluations, however, becomes more complex when the latter are not one-dimensional. The literature on corporate reputation—understood as a social evaluation of firms—provides a vivid illustration of this idea. As long as reputation is seen as a single scale ranging from “very bad” to “very good”, one can readily theorize how reputation signals, such as tying products to charity, will affect the assessment of reputation (e.g., Elfenbein, Fisman, and McManus, 2012). Yet as soon as reputation is conceptualized as multidimensional (Rindova, Williamson, Petkova, and Sever,
2005), it becomes possible for a firm to have, at the same time, a good reputation for X and a bad reputation for Y. This makes it possible for reputation signals to be incongruent—and the signaling literature, thus far, has remained silent on the consequences of signal incongruence.

In recent years, management scholars have provided evidence that social evaluations are best conceived of as multidimensional. The integration of economic, institutional, and stakeholder views on reputation has led to the definition of a “multidimensional perspective on reputation” (Rindova and Martin, 2012) which distinguishes between reputation as “being good” and as “being known” (Rindova et al., 2005). Similarly, the early theorization of legitimacy as social acceptance (DiMaggio and Powell, 1983) has given way to a conceptualization of legitimacy as a complex, multidimensional construct (Suchman, 1995; Ruef and Scott, 1998) that can be broken down, based on media content analysis, into four categories related, respectively, to accountability, competition, transactions, and the environment (Vergne, 2011). Taken together, these arguments and empirical findings point to the existence of multiple categories of evaluation, defined as distinct yet related components of an evaluative assessment that contribute to the formation of an overall stakeholder perception. As such, “being good” and “being known” represent two categories of evaluation for the reputation construct. The two components are evaluated using distinct criteria, yet both contribute to the overall reputation. This implies that different types of signals will be sent and interpreted to evaluate the two categories—for instance, industry awards could signal “being good”, while visibility on social media channels could signal “being known”.

Signal congruence and incongruence within and across categories of evaluations

Signals have value when evaluating a firm’s attribute, qualitatively or quantitatively, is made difficult because of uncertainty and unobservability (Spence, 1973). But often, multiple
signals co-exist and this can make their interpretation difficult, especially since nothing guarantees that they convey consonant information. That is, signals can be congruent or incongruent.

Signals about a firm are *congruent* when they are perceived by a stakeholder as conveying similar messages. As argued by Stern et al. (2014), when firms send congruent signals, stakeholders tend to match the firms with pre-existing prototypes in the industry, resulting in clear-cut evaluations. Such “category-based processing of congruent signals […] based on schemas stored in memory […] leads to predictable judgments” (Stern et al., 2014: 518) and tends to have a reinforcing effect. Accordingly, Stern et al. (2014) examine status and reputation signals in the context of alliance formation, and find that their independent effects are amplified when the two are congruent (i.e., both signals point to high reputation and status).

By contrast, we know little on the consequences of *incongruent* signals. To the extent that signals form the basis of categorization (Fiske et al., 1987), one would expect incongruent signals to confuse stakeholders and make it more difficult for them to readily associate a firm with a prototype. For example, Vergne (2012) reports the intriguing fact that, in 2010-2011, Johnson & Johnson appeared in both the *Most Admired* and the *Most Hated* lists of firms. A way to make sense of this would be to consider “admiration” and “hatred” as two distinct categories of evaluation, rather than as two extremes on a single “likeability” scale. But what would that imply for firms’ overall evaluations?

Paradoxically, while acknowledging the existence of multiple categories of evaluations can help us make sense of intriguing situations, it further increases the complexity of the signal incongruence issue. Indeed, in multidimensional evaluations, incongruence can be of two types. On the one hand, two signals can convey inconsistent information within the same category of
evaluation. In the biotech industry, Stern et al. (2014) study two (positive) signals of scientist reputation, namely, the number of academic publications and the number of citations. In addition, consider these two (negative) signals: the publications are in low-tier journals, and the scientist is always the last author listed on the title page, despite having a surname that starts with the letter “A”. Evaluating scientist reputation based on these four signals is tricky. This would represent a typical case of ambivalence—a situation characterized by the simultaneous presence of inconsistent information about the same issue (Plambeck and Weber, 2010).

On the other hand, stakeholders could also face a situation wherein a positive status signal co-exists with a negative reputation signal. Based on the Stern et al. (2014) context, this would happen if a scientist with no publication (negative reputation signal) held a PhD degree from the top school in her field (positive status signal). This would represent a different case altogether—here, there is no direct inconsistency between the two signals since they concern two distinct categories of evaluation, namely, reputation and status. We call this situation one of ambiguity, as it is marked by the simultaneous presence of (indirectly) inconsistent information across distinct yet related issues.

In the remainder of the paper, we thus distinguish between two types of signal incongruence, namely, signal ambivalence and signal ambiguity, and examine their effects on social evaluations in the presence of multiple categories of evaluations. Ambivalent signals are those appearing directly at odds within a given category of evaluation, whereas ambiguous signals are those appearing indirectly at odds across distinct yet related categories of evaluation.

Signal incongruence and social evaluations: Category contradiction vs. Category straddling

The following builds upon recent work at the crossroads of signaling and categorization theory (Roberts and Khaire, 2008; Stern et al., 2014; Zhao et al., 2013) to predict the effects of
signal incongruence. Both signals and categories are widely used by stakeholders to discriminate between individual entities, such as products and firms (Porac et al., 1989). For instance, Fortune’s “Most Admired” companies represents a category consisting of the most reputable firms while, at the same time, inclusion in that list acts as a signal for every listed firm—possibly indicating superior product quality. In organizational settings marked by uncertainty, complexity, and unobservability of firm attributes, signals and categories are thus tightly intertwined. Our contention is that ambiguous signals are analogous to category straddling and thus make social evaluations more neutral, whereas ambivalent signals imply category contradiction and suspend the evaluator’s judgment, thereby making the social evaluation more extreme.

Category straddling occurs when a firm is simultaneously associated with two categories with high contrast (Kovács and Hannan, 2010). By definition, high-contrast categories are categories with little or no overlap. In other words, membership in one category creates expectations of non-membership in the other. And when simultaneous membership does occur, it confuses evaluators. For instance, “romantic comedies” are movies with membership in both the “romance” and “comedy”. However, hundreds of movies have such dual membership and the two categories have low contrast, that is, movie critics expect Hollywood to release this type of dual-category productions. Conversely, “film noir” and “comedy” have high contrast: their respective features seem incompatible and there are hardly any “film noir comedies” in the studios’ back catalogs (for a study of genre straddling, see Hsu, Hannan, and Koçak, 2009). High-contrast category straddlers confuse stakeholder expectations because they are located halfway between seemingly incompatible category prototypes (Rosch and Mervis, 1975; Jones et al., 2012). As a consequence, stakeholders lack proper guidelines to evaluate category straddlers, so “category straddling makes social evaluations more neutral” (Vergne and Wry, 2014: 71), that
is, positive evaluations will be less positive, and negative ones less negative. In our context, this would imply a decrease in disapproval levels.

In the context of firms’ evaluations, stakeholder typically expect—sometimes with good reason—that the various dimensions at play are positively correlated. For instance, firms with above-average reputation are also expected to have above-average status (Stern et al., 2014) and conform to industry norms, a sign of legitimacy (Higgins and Gulati, 2003). As Deephouse and Heugens (2008: 60) put it, “legitimacy, status, and reputation […] all suggest that organizations can garner resources by conforming to prevailing social norms. And they all emphasize […] that organizational behaviours may be social signals as well as technical operations. Thus, all three literatures depict social perceptions of conformity as being central determinants of organizational success.” In other words, expectations are that members of the “high status” category would typically not be members of the “low legitimacy” category—that is, these two categories have high contrast. Similarly, perceptions of economic fairness and social fairness are distinct but related evaluations. Should stakeholders receive incongruent signals that a firm scores very high in one category but very low in the other, then the firm would be perceived as a straddler, and its overall evaluation will be more neutral as a result.

By contrast, category contradiction occurs when two signals convey incongruent information within the same category of evaluation. When this happens, stakeholders receive contradictory information regarding the fit between a firm and a category prototype (e.g., in the case of scientist reputation, consider a scientist with many publications, but always as last author despite an alphabetically favorable surname). This is likely to result in a suspension of the stakeholder’s categorical judgment. That is, evaluations will not be anchored around a category prototype, leading to more variance in evaluations. In addition, category contradictors tend to be
sanctioned for their failure to follow any established categorical template (Zuckerman, 1999). In fact, the mere existence of contradictory signals may be interpreted by stakeholders as an opportunistic (Orlitzky, 2013) or cynical (Deephouse and Heugens, 2008) managerial attempt to distort information. Taken together, these arguments suggest that the overall evaluation’s average will shift downwards (because of stakeholder suspicion) and have a larger variance (because of the absence of a categorical anchor). The following proposition summarizes our theoretical reasoning:

**Proposition:** Signal ambiguity across categories of evaluations is akin to high-contrast category straddling, and will result in stakeholders giving more neutral social evaluations to firms; by contrast, signal ambivalence suspends stakeholders’ categorical judgment and spurs suspicion, thereby resulting in lower average evaluations with a higher variance.

**SIGNALING IN CONTEXT: CEO COMPENSATION AND FAIRNESS EVALUATIONS**

In this section, we explain how we selected an empirical setting in which the assumptions of signaling theory hold; we then introduce the context as well as the signals that we chose to examine, and proceed to formulate specific hypotheses to test our general proposition.

**Signaling theory in context: Assumptions and boundary conditions**

In many contexts, signals never reach their intended recipients, or reach them but are not attended to as they get diluted in environmental noise. Yet, signaling is effective only when evaluators actually attend to the signals that are emitted by firms (Stern et al. 2014). This typically happens when evaluators have an interest in knowing more about some unobservable firm characteristic and the signal is made available to them at a reasonable cost. In addition, to be credible, signals have to represent a cost for their senders (Spence, 1973).
With that in mind, we made three decisions to select an empirical setting suitable to test our theoretical proposition. First, we chose to focus on the social evaluations given to firms by one essential stakeholder group: the media (Rao, 1994; Rindova and Pollock, 2004; Zuckerman, 1999). When they cover stories about corporations, the media purposefully search for new information and seek to interpret observable features of firms. They are legitimate observers and critics of firms, and have the power to influence their behavior by making urgent claims—as such, they represent a “definitive stakeholder” (Mitchell, Agle, and Wood, 1997: 874). The media also amplify the voice of other stakeholders, such as community organizations, government agencies, or social movement organizations (Yue, Rao, and Ingram, 2013). The media thus act as the primary “infomediaries” between firms and the rest of society, and relay current societal concerns in a way that is easy to track over time in a consistent manner (Deephouse and Heugens, 2009; Kennedy, 2008).

Second, we looked for a context that met two criteria. First, the issues at stake had to be prominent on the media’s agenda during our window of observation. Second, we looked for a context involving intense media scrutiny of contested corporate practices, so that we could examine the negative end of the social evaluation spectrum. Indeed, research in social psychology and on signaling have both demonstrated that negative cues draw more attention than neutral or positive ones (for a review of the empirical evidence, see Rozin and Royzman, 2001). By using these criteria, we can more confidently assume, as required by signaling theory, that in our context signals matter both to firms and the media.

With these boundary conditions in mind, we chose to examine how CEO overcompensation drives the formulation of negative social evaluations of firms by the media, which we term *media disapproval*. We concur with Walsh (2008: 32) that CEO compensation is
a signal of the extent to which firms follow “taken-for-granted norms of fairness”, and expect that instances of overcompensation will be sanctioned by media disapproval. We test our theoretical proposition by looking at two additional signals of the extent to which firms follow norms of fairness: corporate philanthropy and employee diversity (more details below).

In sum, our context verifies all the key assumptions of signaling theory. CEO compensation, corporate philanthropy, and employee diversity can be manipulated by firms and represent costs for them; they are observable by the media and can be used by the latter to assess a salient yet unobservable characteristic of firms, namely, their commitment to norms of fairness (both economic and social fairness). Importantly, the media have had interest in these issues since the 1990s, as showed in Figure 1 below, which plots over time the number of U.S. media articles discussing each of the three topics.\(^2\) From 1995, there have been steady increases in media attention for all three topics, so we use 1995 as a starting date for our observation period.

![Media attention to CEO pay, philanthropy, and diversity](image)

**Hypothesis formulation: CEO overcompensation, philanthropy, and diversity**

As the world’s economies became increasingly integrated, a growing number of human activities have been taking place outside the influence of the state, giving private corporations a

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\(^2\) To eliminate irrelevant articles, we used the following queries: [CEO pay or CEO compensation], [corporate philanthropy], and [atleast8 diversity and (firm or corporation or employee)].
larger role to play in society (Beck, 1998)—and giving their CEOs more power than ever before. In this context, the media, also known as “the fourth estate”, have played an increasingly important role as external scrutinizers of powerful firms and CEOs, and as evaluators of the legitimacy of their actions (Deephouse, 1996). According to Galvin et al. (2004: 77), “fairness” is core to the “content of legitimacy struggles” in industries. Firms perceived to act selfishly are typically disapproved of, whereas firms perceived to treat stakeholders fairly and give back to the community tend to receive positive evaluations (Lamin and Zaheer, 2012). Norms of fairness consist of two broadly different types. On the one hand, “economic fairness” concerns value distribution outcomes and implies an assessment of whether discrepancies in value distribution are justified (Konow, 1996). On the other hand, “social fairness” concerns the process whereby value is created in the first place and emphasizes the need for equality in rights and opportunities as wealth is created (Edney, 1984).

The 1991 publication of the best-selling book In Search of Excess: The overcompensation of American executives (Crystal, 1991) placed CEO overcompensation at the center stage of the debate about fairness. Crystal found that, since 1970, manufacturing workers’ earnings had decreased by 13 percent while S&P 500 CEOs’ compensation had quadrupled. According to Lazonick (2012), “the fact that [some CEOs] make such absurd salaries isn’t just unfair. It’s destroying the economy”. The media echoed the view that CEO compensation was increasingly disconnected from firm performance—in other words, many thought that it was increasingly unjustified or undeserved, i.e., economically unfair. In line with the “just world hypothesis”, according to which “individuals have a need to believe that they live in a world where people generally get what they deserve” (Lerner and Miller, 1978: 1030), we expect this perceived
unfairness to nurture media disapproval of firms that overpay their CEO. Our baseline hypothesis thus predicts:

**Baseline hypothesis:** Amidst intense scrutiny of executive compensation levels, higher CEO overcompensation is interpreted as a signal of economic unfairness and leads to more media disapproval.

To test our theoretical proposition, we chose to examine two additional signals, corporate philanthropy and employee diversity. We selected these for two reasons. First, they provide two clear-cut illustrations of the two categories of evaluations at stake, namely economic vs. social fairness. On the one hand, corporate philanthropy signals economic fairness by means of redistributing to the community a share of the value generated. On the other hand, employee diversity signals social fairness by indicating commitment to inclusiveness and equal opportunities for individual citizens as far as the process of value creation is concerned. Second, both signals are available to the media over time from high-reputation sources such as public databases, which allow for comparisons across firms.³

Following our theoretical development summarized in the Proposition, we argue that the co-existence of CEO overcompensation and high levels of corporate philanthropy creates ambivalence within the economic fairness category of evaluation. Within the same dimension, the latter evokes altruistic income distribution, while the former is perceived as selfish. By contrast, the co-existence of CEO overcompensation and high employee diversity creates ambiguity across the economic and social fairness categories of evaluations. Indeed a firm

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³ We considered other signals but did not retain them for this study since they were not pure indicators of either economic or social fairness, or were not consistently available for all firms over the period of study.
sending these two signals is likely perceived as socially fair but economically unfair. Thus, in the context of this study, our general Proposition translates into the following two hypotheses:

**Hypothesis 1a:** A high level of corporate philanthropy, which signals commitment to economic fairness, represents an ambivalent signal in the presence of CEO overcompensation that will amplify the effect of CEO overcompensation on media disapproval.

**Hypothesis 1b:** A high level of employee diversity, which signals commitment to social fairness, represents an ambiguous signal in the presence of CEO overcompensation that will mitigate the effect of CEO overcompensation on media disapproval.

**DATA AND MEASURES**

**Data sources**

We use CEO data from Compustat’s ExecuComp database which provides information about executives and their compensation for a wide range of S&P 1,500 firms. We matched the dataset of CEOs to the Center for Research in Security Prices (CRSP)/Compustat North America fundamentals annual database, the Kinder Lydenburg Domini (KLD) social indicator database Socrates and to the Dow Jones Factiva database. CRSP/Compustat provides information for financial and accounting controls and KLD indicators of firms’ signals for economic and social fairness. Factiva which archives a broad set of newspapers and magazine is our source for information on media attention and disapproval. We included a CEO in the sample when we had complete information on compensation, on all controls, when the firm was covered by KLD and
clearly identifiable in Factiva. The final sample consists of 8,632 observations, composed of 2,310 CEOs at 1,479 firms covering the years 1995 to 2007.

**Dependent variable: Media disapproval**

Our dependent variable captures the negative social evaluations given by the media about firms’ CEO compensation (hereafter, *media disapproval*). In line with prior research on media evaluations (Bednar, 2012; Bednar, Bovie and Prince, 2013; Deephouse, 2000; Pfarrer, Pollock and Rindova, 2010; Pollock and Rindova, 2003; Zavyalova et al., 2012), we measure media disapproval as the relative prevalence of negative over positive and neutral evaluations.\(^4\)

To do so, we first used a search strategy similar to Core Guay Larcker (2008) to locate all articles in Factiva that cover the compensation of a CEO irrespective of the tone. We measured media coverage in the year following the disclosure of the compensation package. The media usually report about remuneration in the last and not in the current year as such information is predominantly published in annual reports after the end of a firm’s fiscal year. We then evaluated the tone of an article with an automatic Python script that identifies negatively connoted signal words within a range of at most 32 words between a CEO’s name and words indicating executive compensation. The narrow range of words for the indicators of CEO compensation and the negative tone to appear after the executive’s name enabled us to establish a fairly direct connection between the CEO, compensation and the negative signal word. The list of negative signal words is from Core et al. (2008) and specific to the topic of executive remuneration.\(^5\) We used this list because the wording of articles on CEO pay are distinctive from reports about general themes and recent research shows that programs using general dictionaries often

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\(^4\) Note that media coverage of CEO compensation in our sample and in related research is virtually never positive (see Core et al., 2008; Kuhnen & Niessen, 2012).

\(^5\) We randomly drew around 300 articles to check whether the list in Core et al. (2008), which covers articles until the year 2001, was still valid for later years or had changed significantly. We did not find any substantial differences in the wording of the articles contained in our sample.
developed for other disciplines are prone to misclassify text that is specific to a certain topic (Loughran & McDonald, 2011). Altogether, the search resulted in approximately 12,500 unique articles of which about a third have a negative tone. A description of the search string we used to locate articles, the list of negative signal words and two exemplary articles are provided in the appendices A, B, and C.

The automated classification of media coverage has a number of pivotal advantages; for instance, it allowed us to deal with a large amount of news coverage for a rich and heterogeneous sample of firms over a number of years. However, we also tested how the automated script performed compared to human coding and asked two human coders to independently rate articles of 50 randomly selected CEOs. In contrast to the automated script, the range of words for the indicators of compensation and a negative tone were not restricted. Human coders and the script agreed for 74.3 percent of articles with the script underestimating the amount of negative coverage. We then used the cases in which the human coders and the script disagreed as the dependent variable in a regression and included all the controls we used in this study. A statistically significant correlation with any of the controls could have been a sign of a non-random distribution of disagreement and potentially posed a threat to our analysis. However, none of the controls were statistically significant.

**Independent variables**

**CEO overcompensation.** We conceptualized CEO overcompensation as a deviation from a norm of CEO compensation that signals economic unfairness (Wiesenfeld, Wurthmann, & Hambrick, 2008) and operationalized it through a well-established and widely used procedure (Core et al., 2008; Fong, Misangyi, & Tosi, 2010; Wade, O’Reilly, & Pollock, 2006; Wowak, Hambrick, & Henderson, 2011). Specifically, we calculated expected CEO compensation through annual
cross-sectional regressions of the natural logarithm of total pay on an array of well-proven economic determinants of compensation and industry controls (regression results are provided in appendix D). Residuals of the annual regressions are our measure of CEO overcompensation. These residuals capture the difference between the logs of expected and observed CEO compensation and essentially reflect the degree to which an executive’s remuneration is above or below the compensation norm in the ExecuComp sample. Differences in logs are ratios which circumvented possible distortions in the press’ reflection of what constitutes excessive pay in absolute terms (Core et al., 2008).

In the regressions, we controlled for firms’ size with sales in the previous year, a dummy indicating membership in the Standard and Poor’s 500 index, CEO tenure, contemporaneous and lagged stock market and accounting returns. Sales and tenure were taken in their natural logarithmic form to limit the influence of extreme outliers. Lastly, we controlled for likely differences in pay practices across different industries by indicators based on Standard Industrial Classification (SIC) codes. Regression results mirror those of earlier studies in terms of the $R^2$, signs and sizes of the coefficients and with respect to the levels of significance.

**Corporate philanthropy and Employee diversity.** We capture two additional signals that create ambivalence within the economic fairness category of evaluation (philanthropy) or ambiguity across the economic and social fairness categories of evaluations (diversity) when observed in conjunction with CEO overcompensation. The first signal is an indicator for economic fairness that we measure through a firm’s engagement in corporate philanthropy.

We obtained information on corporate philanthropy from the community dimension in KLD which covers charitable and innovative giving, support for housing and education, whether the firm runs a volunteer program, has an in-kind giving program or is otherwise engaged in the
community. The second signal, employee diversity, reflects social fairness by indicating commitment to inclusiveness and equal opportunities. To operationalize employee diversity, we use KLD’s diversity dimension that indicates whether the CEO or a member of the board of directors is a woman or a member of a minority group, the firm provides family benefits or the firm has a hiring program for the disabled.

We use information provided by KLD to measure corporate philanthropy and employee diversity as it uses a wide range of qualitative and quantitative as well as internal and external sources of information to track the activities of a subset of publicly traded U.S. companies, applying consistent criteria from year to year. The dataset is the most accepted measure of firms’ social investments (Chatterji, Levine & Toffel, 2009) and has been labeled as “one of the best measures of corporate CSP [corporate social performance] available” (Hillman & Keim, 2001: 130) or as ”the de facto research standard” for measuring firms’ social responsibility (Waddock, 2003: 369). While the dataset has received some criticism especially for its coarse structure (e.g. Rowley & Berman, 2000), it nevertheless contains a large cross-section of industries and firms ensuring sufficient variance, has construct validity and is more comprehensive and objective than other measures firms’ social investments (Graves & Waddock, 1994; Sharfman, 1996).

KLD classifies firms’ social activities into different dimensions that are further separated into areas of ”strengths” and ”concerns”. Each dimension and area further contains categories for various subactivities. Categories are assigned to a binary (0,1) measure and are then aggregated into an overall evaluation of each dimension. Firms are awarded a point if they fulfilled some specific criteria in a category. We used the sum of strengths in corporate philanthropy and employee diversity to operationalize the two signal described above.
Control variables. Other factors besides CEO overcompensation, firms’ philanthropic activities and employee diversity policies may determine media disapproval; these factors need to be controlled for. Generally, we expected the attention of the press to a firm and to executive compensation to be stimulated by a broad set of factors. As controls, we included firm size measured through total assets (Firm Size), firm age (Firm Age) with the number of years since the firm was listed on a stock market for the first time plus 1 year and a dummy for being named in the Fortune Magazine’s “America’s Most Admired Companies” ranking. Comparably older, larger or firms included in prominent company rankings have firms have a higher visibility and stronger appeal to the media (Fombrun & Shanley, 1990; Hayward et al., 2004; Rehbein, Waddock, & Graves, 2004).

To account specifically for firms’ media visibility, we used the total amount of media coverage of a firm in the preceding year (Media Coverage lagged). We further controlled for the number of stock market analysts covering the firm (Analysts). Past research indicates that equity analysts potentially impact other information intermediaries and stakeholders (Pollock & Rindova, 2003; Rao, Greve, & Davis, 2001; Zuckerman, 1999). Moreover, events such as missing analysts’ consensus forecast that can be framed as a surprise have a higher chance of being seen as newsworthy by the media (Tuchman, 1978). To reflect firm performance, we included contemporaneous returns on equity as well as on assets.

Following recommendations made in prior works, we also controlled for a firm’s potential weaknesses in the areas of corporate philanthropy and employee diversity with the number of “concerns” a firm had in the respective dimensions in KLD (Godfrey, Merrill, & Hansen, 2009; Mattingly & Berman, 2006). The media might disapprove CEO remuneration for reasons unrelated to pay such as engaging in potentially harmful corporate practices. Finally, we
include year dummies to control for variance in media reporting over time that are common to all firms.

We controlled for two CEO characteristics: CEO tenure (a longer tenure potentially implies that the public is more familiar with a CEO and the press more likely to write about the executive; Chen & Meindl, 1991; Core et al., 2008); whether the CEO is the founder of the firm (past research suggests systematic differences in the composition and level of compensation between founder and non-founder CEOs; Tzioumis, 2013; Wasserman, 2006). The measure is a dummy equal to 1 if the CEO joined the firm at least 5 years before the firm went public.

**EMPIRICAL ANALYSES**

**Estimation method**

To test our hypotheses, we used linear panel regressions with fixed effects (STATA command `xtreg, fe`) and media disapproval as the dependent variable. The advantage of using fixed effects is that it accounts for heterogeneity by controlling for all potential factors that are unobservable and which do not change over time. The data is organized by calendar years and thus might induce autocorrelation. To deal with it, we applied Hubert-White heteroskedasticity robust standard errors clustered on the CEO level. Clustering on the CEO level controls for heterogeneity in the residuals and at the same time allows for autocorrelation within a cluster over years (Petersen, 2009). Clustering at the CEO level is, compared to non-clustered heteroskedasticity robust standards errors, a very conservative approach. It produces lower t-statistics and weaker levels of significance.

**Hypothesis testing**
Table 2 lists the results of our analyses. Model 1 is our baseline model, models 2 and 3 include the measures for the two signals of economic and social fairness, corporate philanthropy and employee diversity and their respective interaction effects with CEO overcompensation. The interaction effects are pivotal as media disapproval is moderated when both a signal and CEO overcompensation occur simultaneously. Model 4 is the full model.

Consistent with our baseline hypothesis, CEO overcompensation leads to more media disapproval (model 1: $\beta = 2.81, p < 0.001$). Model 2 shows the result for our test of hypothesis 1a. Whereas the pivotal interaction effect between corporate philanthropy and CEO overcompensation is positive and statistically significant ($\beta = 1.98, p < 0.05$), the coefficient of corporate philanthropy is also statistically significant but has a negative sign ($\beta = -30.08, p < 0.001$). Hence, while corporate philanthropy lowers media disapproval, in the presence of CEO overcompensation, corporate philanthropy sends an ambivalent signal that leads to relatively more disapproval.

Model 3 shows the results for our test of hypothesis 1b. Both the coefficient of employee diversity as well as respective interaction term with CEO overcompensation are negative and statistically significant (employee diversity: $\beta = -5.78, p < 0.001$ interaction term: $\beta = -6.21, p < 0.001$). In line with our prediction, the ambiguous signal of diversity mitigates the effect of CEO overcompensation on media disapproval.

Model 4 is the full model including all signals and the respective interaction terms. Significance levels are all very high on the variables of interest ($p < 0.001$) and all coefficients run in the predicted direction.

**DISCUSSION OF THE FINDINGS**
We should first note several interesting patterns with respect to our control variables. In line with the institutional and corporate sustainability literatures, we find that employee diversity and corporate philanthropy have a highly significant (p<.001) positive effect on social evaluations—in our context, they make them less negative (Wang and Qian, 2011). We also find that high return on assets is positively associated with social evaluations, in line with prior conceptualizations of legitimacy and reputation as strategic resources (Deephouse, 2000). In addition, older firms tend be subject more often to media disapproval, in line with signaling theory’s prediction that familiarity with the object of evaluation drives stakeholder attention to signals (i.e., in our context, journalists are more familiar with older firms, which they have typically covered for years). Finally, firms included in Fortune’s “Most Admired” list do not seem to be shielded from media disapproval regarding perceived economic unfairness (Janney and Gove, 2011)—a confirmation that reputation for past performance and judgements of fairness form two distinct categories of evaluation.

We find broad support for our baseline hypothesis predicting that CEO overcompensation drives media disapproval (p<.001 in all models). Using the full model, we can interpret the coefficient in the following way: for every million dollars of excess CEO compensation, the proportion of total media disapproval targeting a firm in a given year increases by 5.2 percent. First, this confirms that negative signals are attended to by the media (Rozin and Royzman, 2001), so our setting is a suitable one to test our hypotheses 1a and 1b. Second, since it is likely that the media use absolute compensation level (rather the error terms from a regression model) to assess whether CEOs are overcompensated, finding support for our baseline hypothesis is far from being trivial—in fact this shows that the media reliably convey information despite not conducting thorough analyses of what would constitute a “fair” compensation level. In other
words, the media perform well at interpreting signals and producing evaluations which, on average, are consistent with hard-to-observe phenomena (e.g., the true economic fairness of a CEO’s compensation level relative to peers). The example mentioned in the introduction—whereby Tyson Foods is more intensely disapproved of despite undercompensating its CEO thus constitutes an outlier. But it underlies a pattern that our theory contributes to explaining.

Indeed, hypotheses 1a and 1b are both supported at the 0.001 percent level in the full model: the ambiguous signal (diversity) mitigates media disapproval whereas the ambivalent signal (philanthropy) amplifies it. Consistent with that pattern, in the case of Tyson vs. Pepsico, we find diversity scores in favor of Pepsico as per our theory (3 vs. 0 for Tyson; firms score equally on the philanthropy dimension). This example thereby illustrates our theoretical prediction about signal ambiguity and contributes to explaining the gap in media disapproval levels between the two firms.

Our findings must be interpreted cautiously. First, we faced a trade-off in terms of testing our theoretical proposition. By choosing to test it only on the negative end of the social evaluation spectrum, we privileged meeting the core assumptions of signaling theory over testing fully our theory summarized in the Proposition. By focusing on a negatively perceived signal, CEO overcompensation, we could be confident that, in our context, signaling actually mattered to the media. Note that since social psychology research has repeatedly showed that positive signals may not be attended to (Stern et al., 2014), future testing of our theory on the positive end of the social evaluation spectrum may be challenging because other factors than signaling effects could explain the observed results. A more controlled research design, such as a laboratory experiment, could thus be appropriate in subsequent attempts at generalizing our findings. Second, there is a drawback to our argument that signal incongruence operates differently from
signal congruence. More specifically, our theory remains silent on a situation where a firm would be simultaneously high on both dimensions of fairness—this would indeed be analogous to a situation of low-contrast category straddling, whereby evaluating stakeholders do not perceive incompatibility between being economically fair at the same time as socially fair. For this reason, our theory should be seen as a complement to the recent study by Stern et al. (2014), who extensively cover situations of signal congruence.

CONTRIBUTIONS

Signaling theory and social evaluations

To date, research has not looked at the consequences of signal incongruence, and our study fills this gap. Importantly, we argue that it is necessary to unpack the notion of incongruence, which can be of two sorts: ambivalent or ambiguous. By drawing on the literature on categorization, we contend and demonstrate empirically that the consequences of signal incongruence can be positive or negative in terms of social evaluations, depending on the type of incongruence at stake. We complement recent debates on the value of “ambiguity” in categorization processes (Granqvist et al. 2013, Pontikes 2012, Wry et al., 2013) by showing that ambiguity can be created strategically by firms to improve their social evaluation. But our findings add to this research by distinguishing between ambiguity and ambivalence—two terms often used interchangeably in the past—and by showing that managers who create ambivalence will be sanctioned. In this respect, our findings are consistent with Zbaracki’s (1998), who showed in the context of total quality management that decoupling symbols from actions can delegitimize entire organizational categories. As well, by shifting the focus of ambivalence research (Gilbert, 2006; Plambeck and Weber, 2009, 2010) from the managerial to the
stakeholder level, we were able to shed new light on the dark side of ambivalent judgements. While ambivalence can enhance strategic vision and creativity inside the firm at the top managerial level (Plambeck and Weber, 2009), from the outside it can result in higher-variance evaluations given by firm stakeholders. This suggests a need for managers to actively manage ambivalence both inside and outside the firm in order to enjoy its benefits without suffering from its potential drawbacks.

More generally, our study adds to extant research on the antecedents of firms’ negative social evaluations. In the past, scholars have drawn attention to the role played by characteristics of the contesting stakeholders (Rao, Yue, and Ingram, 2010) and of the contested firms themselves (Vergne, 2012) in driving negative evaluations. Our results make the connection between firms and their stakeholders by theorizing how the interpretation of the signals sent by the former to the latter affect the resulting evaluation. This complements existing perspectives and paves the way for an integrated theory of firm contestation drawing on three components: firm characteristics, stakeholder characteristics, and signal interpretation at the interface between firms and their stakeholders.

An exciting avenue for future research would be to examine whether our theory generalizes to other types of evaluations, such as stock market valuations. Firms are evaluated socially (e.g., fairness, reputation, legitimacy) and economically (e.g., ROA, ROE, ROI) along multiple dimensions, and it would be interesting to see if broader patterns of incongruence across these dimensions can affect stock price—an evaluation driven by both “hard” quantitative metrics and “soft” psychological reactions. Prior research by Zuckerman (1999) already established that diversified corporations which straddle several industry categories have a more volatile stock price. Going forward, one could focus on related categories of evaluation and
investigate, say, whether being a high-ROA firm with a low ROS (relative to competitors) creates ambiguous stock market reactions.

**Toward an integration of the categorization and signaling literatures**

The two literatures stem from different traditions—economic theory for signaling (Spence, 1973), sociology and psychology for categorization (Durand and Paollela, 2012)—but they share a core tenet: both signals and categories are widely used by evaluators to discriminate between individual entities, such as products and firms (Porac and Thomas, 1994). More often than not, however, firm characteristics are not directly observable and stakeholders have to rely on signals to assess them.

When an evaluator assesses an entity’s membership in a given category, a comparison is drawn between the category’s average member and the entity’s features—consisting of directly observable characteristics as well as of signals of invisible ones (Fiske et al., 1987). If the two match, then category membership is acknowledged. However, as Spence (1973: 370) put it, “there are externalities implicit in the fact that an individual is treated as the average member of the group of people who look the same.” Indeed the categorization literature has devoted substantial effort in recent years disentangling these externalities. A prominent stream of categorization research, for instance, examines social evaluation spillovers within and across categories, and demonstrates consistently that bystanders can see their evaluations affected by those of similar category members, particularly in situations characterized by misconduct, scandal, stigmatization, or crisis (Jonsson et al., 2009; Jensen, 2006; Sullivan et al., 2007; Desai, 2011; Weber, Rao, and Thomas, 2009; Durand and Vergne, 2015).

In addition, both literatures recognize that firms can act strategically to influence their evaluations. In the language of signaling, firms can “manipulate” signals to influence the
evaluator (Spence, 1973; Dutton and Dukerich, 1991). In the language of categorization, firms can “self-categorize” to shape how audiences classify them (Pontikes, 2012; Granqvist et al., 2013; Wry and Lounsbury, 2013). This integration of signaling and categorization thus provides a complex view of strategic interactions between stakeholders and firms. Consider, for instance, that to assess whether an institution is a “top business school”, a prospective MBA student can use the *Financial Times* and *Business Week* rankings as signals of MBA program quality—a characteristic that cannot be observed directly. However, the prospective student may be aware of both rankings’ methodological limitations and of the fact that business schools can take steps to artificially increase their score on a ranking’s dimensions. In fact, the raters behind the rankings are themselves aware of the limitations of their own classifications.

Thus, the organizations, its evaluating stakeholders, and its prospective clients are all aware of the potential for strategic action on either side of the signaling/categorization process. As such, they probably develop their own heuristics to assess the reliability of both categorization and signaling (e.g., to what extent does the signal indicate the presence of an unobserved feature rather than the organization’s awareness that the evaluator is paying attention to the signal?). Taking into account these strategic interactions, a prospective MBA student might conclude that inclusion in a given ranking means that a school is a “top business school” with a probability of, say, 70 percent. Thus, from the viewpoint of the evaluator, signals are only *stochastic* indicators of category attributes. Future strategy research that integrates the signaling and categorization perspective may therefore benefit from an examination of what makes signals and category affiliations *credible*. In this respect, literature on decoupling, impression management (Ashforth and Gibbs, 1990; Elsbach et al., 1998), and credible commitment (Zott and Huy, 2007; Janney and Gove, 2011) may provide useful insights going forward.
Subsequent research could also seek to develop a more general theory of ambiguity and ambivalence by looking at longer-term evolution of industry categories. It may well be that in early stages, an industry’s categorical boundaries are unclearly defined, and thus ambivalence may have weaker effects while ambiguity may be the norm (Granqvist et al., 2012). Our findings obtained over a short period of time in well-established industries cannot be readily generalized to situations of category emergence (Wry and Lounsbury, 2013; Alexy and George, 2012; Jones et al, 2012).

**Infomediaries, impression management, and CEO pay research**

Put simply, our findings demonstrate that the media pay careful attention to signals sent by firms and are able to interpret them with some degree of reliability. In particular, they seem to interpret ambiguous signals as smoke signals—conveying new and somewhat credible information about the firm—and ambivalent signals as smoke screens—conveying suspicious information possibly sent as a result of strategic manipulation. Taken separately, both employee diversity and corporate philanthropy have a positive effect on the firm’s social evaluations; but in combination with CEO overcompensation, the value of these two signals becomes contingent on their interpretation as ambiguous vs. ambivalent.

In the context of research on infomediaries (Deephouse and Heugens, 2008), this implies that the media must be seen as much more than mere conveyors of information. Our study shows that the media process and interpret available information carefully, and diffuse consistent social evaluations as a result. Therefore, they can be seen as reliable sources of competitive intelligence by the business community and the general public. While our study does make any normative claim about which level of CEO compensation should be considered “fair”, it nevertheless recasts this debate within a novel infomediary–signaling framework. It may be impossible to
assess, in absolute terms, whether a given level of CEO compensation is “fair” economically (i.e., deserved based on merit) or socially (i.e., it does not negatively affect others’ opportunities to create wealth). But despite this limitation, the media act as a powerful indicator of when CEOs are under- or overpaid *relative to peers*.

For firms that routinely engage in decoupling and impression management, this implies that the effect of corporate actions cannot be predicted in isolation (Bansal and Clelland, 2004; Stern et al., 2014; Janney and Gove, 2011). Philanthropy may be positively perceived in general, but is always interpreted in particular contexts wherein the simultaneous presence of other signals could result in ambivalence or ambiguity, thereby driving the eventual perception of the firm’s philanthropic endeavor.

**CONCLUSION**

This paper starts with the recognition that firms are judged by stakeholders along several categories of evaluation (e.g., economic fairness vs. social fairness). It follows that scholars must distinguish between two types of signal incongruence. Ambivalent signals are those appearing directly at odds within a given category of evaluation, whereas ambiguous signals are those appearing indirectly at odds across distinct (yet related) categories of evaluation.

In the context of CEO compensation, we predict and find that the co-existence of CEO overcompensation and high levels of corporate philanthropy creates ambivalence within the economic fairness category of evaluation, thereby increasing media disapproval. Conversely, the co-existence of CEO overcompensation and high employee diversity creates ambiguity across the economic and social fairness categories of evaluations, which mitigates disapproval.
Our study extends signaling theory by drawing on the categorization literature, and calls for further integration between the two research streams to better understand how stakeholders evaluate organizations.
Table 1: Summary statistics and correlation matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
<th>(10)</th>
<th>(11)</th>
<th>(12)</th>
<th>(13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Media Disapproval</td>
<td>0.09</td>
<td>0.24</td>
<td></td>
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<tr>
<td>2 CEO overcomp</td>
<td>-0.01</td>
<td>0.91</td>
<td>0.06</td>
<td></td>
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<td></td>
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<tr>
<td>3 Corporate philanth</td>
<td>0.26</td>
<td>0.62</td>
<td>0.12</td>
<td>0.07</td>
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<td></td>
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<td></td>
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<tr>
<td>4 Employee diversity</td>
<td>0.73</td>
<td>1.13</td>
<td>0.13</td>
<td>0.06</td>
<td>0.42</td>
<td></td>
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<tr>
<td>5 log(CEO tenure)</td>
<td>1.63</td>
<td>0.92</td>
<td>0.04</td>
<td>0.00</td>
<td>-0.03</td>
<td>-0.06</td>
<td></td>
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<td></td>
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<tr>
<td>6 Media coverage</td>
<td>2.65</td>
<td>1.65</td>
<td>0.19</td>
<td>0.07</td>
<td>0.23</td>
<td>0.36</td>
<td>-0.06</td>
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<tr>
<td>7 Concerns &quot;philanth&quot;</td>
<td>0.10</td>
<td>0.33</td>
<td>0.10</td>
<td>-0.01</td>
<td>0.14</td>
<td>0.17</td>
<td>-0.04</td>
<td>0.24</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Concerns &quot;diversity&quot;</td>
<td>0.27</td>
<td>0.46</td>
<td>0.00</td>
<td>-0.01</td>
<td>-0.07</td>
<td>-0.12</td>
<td>0.07</td>
<td>-0.06</td>
<td>0.00</td>
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<tr>
<td>9 log(Firm size)</td>
<td>8.03</td>
<td>1.60</td>
<td>0.20</td>
<td>0.08</td>
<td>0.41</td>
<td>0.42</td>
<td>-0.06</td>
<td>0.50</td>
<td>0.34</td>
<td>-0.08</td>
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<tr>
<td>10 Return on Equity</td>
<td>0.17</td>
<td>0.39</td>
<td>0.00</td>
<td>-0.01</td>
<td>-0.02</td>
<td>-0.04</td>
<td>0.01</td>
<td>-0.03</td>
<td>-0.03</td>
<td>0.00</td>
<td>-0.07</td>
<td></td>
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<td></td>
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<tr>
<td>11 Return on assets</td>
<td>0.06</td>
<td>0.07</td>
<td>0.02</td>
<td>0.00</td>
<td>0.01</td>
<td>0.03</td>
<td>0.06</td>
<td>-0.02</td>
<td>-0.07</td>
<td>-0.02</td>
<td>-0.13</td>
<td>0.16</td>
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<td></td>
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<tr>
<td>12 log(Firm age)</td>
<td>3.68</td>
<td>0.47</td>
<td>0.09</td>
<td>-0.05</td>
<td>0.22</td>
<td>0.19</td>
<td>-0.10</td>
<td>0.24</td>
<td>0.18</td>
<td>-0.12</td>
<td>0.39</td>
<td>-0.07</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 CEO Founder</td>
<td>0.06</td>
<td>0.23</td>
<td>-0.02</td>
<td>-0.06</td>
<td>-0.04</td>
<td>-0.03</td>
<td>0.41</td>
<td>-0.06</td>
<td>0.09</td>
<td>-0.13</td>
<td>0.01</td>
<td>0.01</td>
<td>0.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Fortune's Admired</td>
<td>0.30</td>
<td>0.46</td>
<td>0.14</td>
<td>0.01</td>
<td>0.21</td>
<td>0.28</td>
<td>-0.05</td>
<td>0.33</td>
<td>0.14</td>
<td>-0.06</td>
<td>0.46</td>
<td>0.00</td>
<td>0.04</td>
<td>0.34</td>
<td>-0.06</td>
</tr>
</tbody>
</table>
Table 2: Fixed-effects panel regression of media disapproval with clustered standard errors

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO overcompensation</td>
<td>2.81***</td>
<td>2.53***</td>
<td>6.68***</td>
<td>5.21***</td>
</tr>
<tr>
<td></td>
<td>(0.52)</td>
<td>(0.36)</td>
<td>(0.58)</td>
<td>(0.59)</td>
</tr>
<tr>
<td>Diversity X CEO overcomp.</td>
<td>-6.21***</td>
<td>-5.28***</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(0.46)</td>
<td>(0.44)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philanthropy X CEO overcomp.</td>
<td>1.98*</td>
<td></td>
<td></td>
<td>5.62***</td>
</tr>
<tr>
<td></td>
<td>(0.81)</td>
<td></td>
<td></td>
<td>(0.92)</td>
</tr>
<tr>
<td>Diversity</td>
<td>-5.87***</td>
<td>-3.26***</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>(0.50)</td>
<td>(0.47)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philanthropy</td>
<td>-30.08***</td>
<td>-21.03***</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(1.87)</td>
<td>(1.56)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media Coverage (lagged)</td>
<td>-0.76*</td>
<td>-0.47</td>
<td>-0.74*</td>
<td>-0.56+</td>
</tr>
<tr>
<td></td>
<td>(0.36)</td>
<td>(0.30)</td>
<td>(0.33)</td>
<td>(0.29)</td>
</tr>
<tr>
<td>Concerns Philanthropy</td>
<td>-0.73</td>
<td>1.15</td>
<td>1.13</td>
<td>1.91+</td>
</tr>
<tr>
<td></td>
<td>(1.33)</td>
<td>(1.10)</td>
<td>(1.10)</td>
<td>(1.01)</td>
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<tr>
<td>Concerns Diversity</td>
<td>0.20</td>
<td>-0.09</td>
<td>-0.47</td>
<td>-0.45</td>
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<td></td>
<td>(0.76)</td>
<td>(0.58)</td>
<td>(0.69)</td>
<td>(0.61)</td>
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<tr>
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<td>0.79</td>
<td>0.51</td>
<td>0.64</td>
<td>0.43</td>
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<tr>
<td></td>
<td>(0.65)</td>
<td>(0.46)</td>
<td>(0.51)</td>
<td>(0.41)</td>
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<tr>
<td>Log(CEO Tenure)</td>
<td>0.67+</td>
<td>0.47</td>
<td>0.11</td>
<td>0.09</td>
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<td></td>
<td>(0.38)</td>
<td>(0.31)</td>
<td>(0.30)</td>
<td>(0.27)</td>
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<td>(1.24)</td>
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<td>-0.33</td>
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<tr>
<td></td>
<td>(0.52)</td>
<td>(0.44)</td>
<td>(0.51)</td>
<td>(0.48)</td>
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<tr>
<td>Return on Assets</td>
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<td>6.61+</td>
<td>9.64*</td>
<td>5.18</td>
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<tr>
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<td>(4.95)</td>
<td>(3.56)</td>
<td>(3.98)</td>
<td>(3.45)</td>
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<td>Log(Age of the firm)</td>
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<td>-9.60</td>
<td>-31.54**</td>
<td>-16.54+</td>
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<td>(15.10)</td>
<td>(10.24)</td>
<td>(11.61)</td>
<td>(9.21)</td>
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<td>(3.31)</td>
<td>(2.55)</td>
<td>(2.73)</td>
<td>(2.30)</td>
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<tr>
<td>Fortune Most Admired</td>
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<td>-0.03</td>
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<td></td>
<td>(1.00)</td>
<td>(0.78)</td>
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<td>(0.67)</td>
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<td>Constant</td>
<td>179.32***</td>
<td>80.61*</td>
<td>167.83***</td>
<td>108.10***</td>
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<tr>
<td></td>
<td>(53.07)</td>
<td>(35.19)</td>
<td>(39.74)</td>
<td>(31.28)</td>
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<td>YES</td>
<td>YES</td>
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<td>0.61</td>
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*Note.* Standard errors in parentheses. + p<0.10, * p<0.05, ** p<0.01, *** p<0.001
REFERENCES


APPENDIX A

We operationalized CEO overcompensation as the difference between expected and observed pay using the whole ExecuComp database as sample. Observed compensation was total CEO compensation as reported in ExecuComp. Expected compensation was computed as follows:

\[
\text{Log(Expected Total Compensation)}_{it} = \alpha + x_{it}\beta + u_{it},\text{ where } x_{it}\text{ included log(Sale)}_{it-1}, \text{ SP500}_{it}, \text{ log(Tenure)}_{it}, \text{ RET}_{it}, \text{ RET}_{it-1}, \text{ ROA}_{it}, \text{ ROA}_{it-1} \text{ and dummies for two digit SIC codes.}
\]

\[
\text{Excessive CEO compensation}_{it} = \text{Log(Observed Total Compensation)}_{it} - \text{Log(Expected Total Compensation)}_{it}
\]

APPENDIX B

We used the following search string to locate articles in Factiva:

(CEO NAME or CEO NAME’S) near20 (compensation or salary or bonus or option* near10 grant or option* near10 receiv* or option* near10 exercis* or restricted stock or (pay near5 00) or (was paid near5 00) or (pay near5 million*) or (was paid near5 million*)) and (CEO NAME or CEO NAME’S) same (compensation or salary or bonus or option* near10 grant or option* near10 receiv* or option* near10 exercis* or restricted stock or (pay near5 00) or (was paid near5 00) or (pay near5 million*) or (was paid near5 million*)) “and ((CEO NAME or CEO NAME’S) same (FIRM NAME or FIRM NAME’S)).”

---

6 The term "near20" ("near10") locates a word in the subsequent bracket within 20 (10) words after the CEO's name, "same" locates words within the same paragraph and "*" allows for differing endings of a word. "or" as well as "and" are congruent to their natural usage.
APPENDIX C

String used to code articles as negative-toned:

(CEO name or CEO names or executive* or CEO*) near25 (high* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or excess* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or lofty near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or hefty near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or large near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or rich near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or big* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or outsize* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or huge near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or generous near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or fat* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or gargantuan near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or bonanza* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or jumbo near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or whopp* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or astound* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or ridiculous* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or stagger* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or huge near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or large near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or rich near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or big* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or outsize* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or huge near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or generous near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or fat* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or gargantuan near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or bonanza* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or jumbo near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or whopp* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or astound* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or ridiculous* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or stagger* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or hand- some* near7 (salar* or bonus* or pay* or paid or compensat* or benefit* or option*) or lucrative near7 (pay* or compensat* or option*) or critic* near7 (pay* or compensat*) or best near7 paid or reap* adj7 million* or self-serving or largesse or overpaid or lavish or perks or perquisites or windfall* or earn* more than or was paid more than or receiv* more than or made more than)
APPENDIX D

These two illustrations from the sample of newspaper articles cover the compensation of Robert Nardelli, CEO of Home Depot. Excerpt 1 is negatively toned, excerpt 2 neutrally. Each article counted as one observation regardless of how many times the CEO was named in the article.

Excerpt Article 1:  Tone = Negative
Title:  Living wage would help poor and benefit Chicago: Let’s remember what the big-box bosses earn while wailing about the high cost of their hired help.
Date:  26 July 2006
Source:  The Chicago Sun-Times

Oh, speaking of a lot of money, let’s pause to remember what the big-box bosses earn while wailing and gnashing their teeth about the high cost of their hired help. The CEO of Wal-Mart, H. Lee Scott, earned $23 million in 2005 while Home Depot’s Robert Nardelli collected a staggering $200 million in compensation since 2000, according to published reports. I have some suggestions for these guys on a few places to cut their bloated budgets.

Excerpt Article 2:  Tone = Neutral
Title:  Home Depot in 2001 Gave CEO Nardelli A $5 Million Bonus, Other Compensation
Date:  1 April 2002
Source:  The Wall Street Journal

ATLANTA – Home Depot Inc. awarded its chairman and chief executive, Bob Nardelli, a $5 million bonus, deferred stock valued at $9 million and one million stock options in addition to his $1.5 million salary last year, the company’s proxy shows.

Mr. Nardelli, 53 years old, hired from General Electric Co. in December 2000, also received $7.25 million in other compensation in 2001, much of it related to his initial hiring and relocation. Nearly $5 million of that other compensation reflected forgiveness and related tax payments on part of a $10 million loan that will be forgiven in full if Mr. Nardelli remains with the company for five years.

Under his employment contract, Mr. Nardelli receives a minimum $3 million bonus. Mr. Nardelli’s stock options for last year, with an exercise price of $36.20, were valued by the company at between $22.8 million and $57.7 million. Home Depot, the nation’s largest home-improvement retailer, valued his total deferred stock granted since his hiring at $48.7 million, according to the proxy.