

**UNDER CONSTRUCTION: HOW COMMENSURATION AND MANAGEMENT
FASHION AFFECT CORPORATE REPUTATION RANKINGS**

Y. SEKOU BERMISS
University of Texas at Austin

EDWARD J. ZAJAC
Northwestern University

BRAYDEN G. KING
Northwestern University

This paper analyzes the antecedents of corporate reputation as a dynamic commensuration process in which management fashions influence audiences as they attempt to quantify corporate reputation. Using the context of Fortune reputation rankings over multiple decades, we find evidence consistent with our hypotheses that when asked to quantify corporate reputation, audiences rely heavily on traditional but also emerging non-traditional measures of financial performance as they become more fashionable indicators of superior financial performance. To a lesser extent, audiences have recently begun to assess companies' reputations based on indicators of social performance. We also examine how audience attention to these indicators is itself influenced by business press discourse.

Forthcoming in *Organization Science*

The helpful comments of Paul Hirsch, Violina Rindova, Mark Rivera, Maxim Sytch, and Klaus Weber are gratefully acknowledged. Previous versions of this paper were presented at the International Conference on Corporate Reputation, and the Annual Meeting of the Academy of Management.

In recent years, the generation and publication of diverse organizational rankings have resulted in new, but increasingly institutionalized, status symbols for major corporations (Fombrun 2007). Organizations are commonly identified by their position in subjective quantitative rankings that either focus on a specific corporate attribute (e.g., *Business Ethics*' 100 Best Corporate Citizens) or a broader overall assessment of corporate quality (e.g., *Forbes*' Best Managed Companies in America). High placement on such prominent rankings serves as a quantified certification of quality that has proven to be substantively relevant to multiple organizational stakeholders (Graffin and Ward 2010). For example, studies have shown that higher rankings can improve an organization's ability to charge premium prices (Rindova et al. 2005), attract quality employees (Chauvin and Guthrie 1994) and sustain superior profitability (Roberts and Dowling 2002).

Research dedicated to establishing the consequential relevance of corporate rankings has surely been valuable. However, surprisingly little research has focused on the antecedent processes that generate these rankings (Rindova et al. 2005). Our study addresses this issue directly by questioning the presumed exogeneity of reputation rankings and offering a theoretical and empirical analysis of the likely determinants of such rankings. Theoretically, we discuss the ranking of corporate reputation as a dynamic commensuration process, whereby audiences influenced by changing management fashions give sense to the quantification of corporate reputation. We integrate two related streams of relevant research: (1) work on commensuration, defined as the transformation of *qualitative* distinctions into *quantitative* distinctions expressed on a common metric (Espeland and Stevens 1998); and (2) work on the lifecycle of management fashions, which defines how "fashion-setters," such as the business press, influence perceptions of appropriate corporate behavior (Abrahamson 1996).

We demonstrate the utility of our analytical framework by studying the evolution of the Fortune reputation rankings from its inception to the present period. Our perspective explicitly links evaluators and the firms being evaluated by positing how evaluators make sense of a multifaceted construct, such as corporate reputation, during the process of quantification and ranking. Espeland and Sauder (2007) suggest that commensuration processes leading to outcomes such as rankings can affect the phenomenon that they purport to study, but do not consider how commensuration processes themselves are subject to change. Our study, in contrast, highlights how changing beliefs about the legitimate indicators of firm performance shape rankings, and we suggest further that these changing beliefs are influenced by prominent market intermediaries (e.g., the business press). By providing new theory and evidence regarding the endogeneity of Fortune reputation rankings, we seek to highlight the value of a social constructionist perspective on corporate reputation. Indeed, our study emphasizes how even the realists' view of reputation (i.e., that presumably objective financial performance indicators drive the Fortune reputation rankings) can be informed by taking a social constructionist approach (i.e., that performance indicators themselves are subject to changing social judgments).

COMMENSURATION IN ORGANIZATIONAL ANALYSIS

Numbers hold a privileged status in modern rationalized cultures. The process of commensuration, defined as “the transformation of different entities into a common metric,” (Espeland and Stevens 1998: 313) has only recently been given consideration by organizational scholars. Commensuration research in economic sociology suggests that commodity standardization is less the result of natural economic dynamics and more the result of a

complex social process that persuades market participants that commodities of similar value are in fact equivalent (Carruthers and Stinchcombe 1999: 358). As stakeholders demand more accountability and transparency from organizations and governments, public measures have abounded (Espeland and Sauder 2007). For instance, environmental protection efforts, in which sulfur dioxide emissions markets have been established to regulate acid rain, employ commensuration processes (Levin and Espeland 2001), as does higher education in the form of standardized testing (Lemann 1999) and college rankings (McDonough et al. 1998).

Research has historically focused on the consequences of commensuration. Less attention has been devoted to the antecedent processes that generate quantification, other than the observation that individuals have cognitive biases that draw them to numerical representations of complex reality (Espeland 2002), making quantitative information more persuasive than non-quantitative information (Yalch and Elmore-Yalch 1984). For example, rankings of organizations' intangible attributes can be particularly influential and popular, despite their inherent biases (Sauder and Espeland 2006; Stake 2006).

In 1955 *Fortune* compiled a list of the 500 largest companies operating in the United States by revenue. Despite the relatively tangible nature of firm revenue, the list has been tremendously popular because it provides readers a simple way to compare America's most prominent firms. Firms appearing in the rankings benefit by being a "Fortune 500 company" while *Fortune* benefits from incremental publicity and revenue generated by selling their fine-grained information on rankings. In a more recent example of the hold that organizational rankings have in society, the U.S. News and World Report is no longer in print, but their annual "Best College's" Guide, which ranks all major U.S. colleges and universities, remains quite popular online, attracting over ten million visitors annually (Gladwell 2011).

The creation of organizational rankings follows the very definition of a commensuration process by directing attention to specific organizations, quantifying the value of certain organizational characteristics, and by using numeric values to simplify decision making under conditions of uncertainty. Consider the law school application process, where aspiring students weigh multiple dimensions of law school attractiveness, including education quality, which are difficult to observe and thus a source of uncertainty. Multiple quantifiable indicators can serve as proxies for education quality, but even these proxies can be overwhelming. When *U.S. News* began ranking law schools, all evaluative criteria were boiled down to a singular number (i.e. a ranking), which has had a tremendous impact on how applicants make sense of what is a “good” law school and subsequently how they make admission decisions. Small differences in rank generate relatively large differences in relevant organizational outcomes (Sauder and Lancaster 2006). A law school that drops even slightly below the “top 50 school” category in the *U.S. News* rankings faces significant decline in the quality of future applicants (Sauder and Lancaster 2006).

Performance and the Social Construction of Corporate Reputation Rankings

Based on the discussion above, it is understandable that researchers interested in corporate reputation have been keen to highlight that once quantified as a ranking, this admittedly intangible concept can be a highly valued firm-specific resource and a facet of a firm’s competitive advantage (Hall 1992). The economics-based perspective sees reputation as a market signal of past performance that can be used to predict future performance (Tadelis 1999), while the more sociologically-based view sees reputation as socially constructed: subjectively determined and yet treated as an objective reality (Rao 1994). These two

conceptualizations of corporate reputation are relevant for our study insofar as they highlight somewhat different aspects of how reputations come to be created and quantified. When considered a market signal, reputation results from evaluators using perceptions of previous action to make probabilistic predictions about a firm's future actions (Weigelt and Camerer 1988). When considered as a social symbol, corporate reputation mimics the characteristics of organizational status in that it can be decoupled from underlying facts due to sociological processes such as ascription (Washington and Zajac 2005), and/or psychological biases of data availability, anchoring, and representativeness (Tversky and Kahneman 1974). Fortunately, we see no need to choose one perspective over another; in fact, our study incorporates both conceptualizations. We acknowledge that while *Fortune* refers to their list as ranking reputation, the fact that social dialogues and judgments affect the rankings highlights that the list captures both status, which is socially defined, and reputation which is defined by both social and market-based characteristics (Fombrun and Shanley 1990). Indeed, as Bitektine (2011: 167) recently noted, rankings by *Fortune* and *Businessweek* “are now used as a proxy for...status.” Thus, we suggest that what has been historically labeled by *Fortune*, and numerous scholars, as a ranking of firms by reputation is in fact a ranking that blends status and reputation.

We can therefore acknowledge that a firm's reputational ranking emanates partly from its financial performance, but that metrics of financial performance are also continually reinterpreted by audiences and change in popularity, depending on current fashions, and that audiences may also take into account other corporate actions, like social responsibility, as they become more popular signifiers of firm standing (Meyer 2005). If audience reliance on key performance indicators changes over time, one would expect related changes in reputation

rankings, depending on how firms fare on the newly favored indicator. In other words, what is considered an appropriate indicator of firm performance is historically contingent. While there is little research addressing shifting indicators of overall firm financial performance, some have suggested that performance measures fall in and out of vogue due to technological or organizational innovations or other environmental changes.

As the acceptability of a specific performance indicator as a proxy of firm performance wanes, evaluators will rely less on that indicator when determining a firm's reputational ranking. For example, during the run-up to the dot.com bubble, many firms adopted a "Get Big Fast" strategy that called for running a net loss for a number of years in order to build on-line market share (Hendershott 2004). Many market actors, such as venture capitalists and stock analysts believed that net income was no longer a vital performance measure (Oliva et al. 2003). During this time, many young firms climbed into the reputation rankings despite having a low net income.

In contrast, corporate social responsibility (hereafter, CSR) has experienced a rise in popularity (Vogel 2005). The general belief among executives and the business press is that by engaging in socially responsible practices, firms enhance their image, improve relationships with stakeholders, and improve their reputation (e.g. Creyer 1997; Du et al. 2007). The returns from CSR are believed to be especially valued during times of crisis or reputational threat (Godfrey et al. 2009; King 2011; Schnietz and Epstein 2005). Inasmuch as the media focuses its attention on the social responsibilities of business, corporate evaluators will see CSR as a reputation building investment.

The discussion above suggests the value of considering how audiences, when faced with the task of quantifying an intangible organizational attribute, such as corporate reputation,

are likely to attend to certain proxies, which themselves are shifting in popularity over time. In the section that follows we discuss how certain indicators of performance have evolved in popularity and become better or weaker predictors of firms' rankings in the widely publicized *Fortune* corporate reputation rankings.

Fortune Magazine Rankings

The annual *Fortune* reputation rankings provide a highly desirable context in which to generate and test hypotheses about the social construction of corporate reputation rankings. Since the early 1980s, *Fortune* has published yearly numerical corporate reputation scores, displayed in ranked order -- with the top firm heralded as "America's Most Admired Company." Prior to this ranking, firms certainly had reputations, either communicated informally or based on a hodgepodge of measurements (Riahi-Belkaoui and Pavlik 1992), but there was no easy way to compare corporate reputations. It was this "problem" that the *Fortune* survey sought to resolve by soliciting evaluations of corporate reputation from executives and analysts in their respective industries.

Creating this ranking involved a process of commensuration similar to that observed in other domains such as automobile manufacturing (e.g. Car & Driver's "10 Best") and higher education (e.g. U.S. News & World Report's "Best Colleges"). Administrators systematically organize and discard information and structure attention by selecting criteria that determine a firm's reputation score. The survey also reduces complexity and uncertainty by categorizing firms by industry and then limiting the survey to the ten largest firms in each industry. Lastly, the *Fortune* survey highlights commonalities and erases distinctiveness. Manufacturing firms are included in the same hierarchy as service industry firms. Articles in *Fortune* summarizing

the rankings highlight the similarities between the firms with the highest (or lowest) corporate reputation scores, dubbing these sub-groups as the most admired (or least admired) corporations (Perry 1984). These group labels were reified by articles in *Fortune*, which highlight when a firm crosses these barriers, e.g., when IBM dropped from the top ten (Schultz 1988) and when International Harvester moved out of the bottom ten (Hutton 1986).

Commensurative products, such as rankings, tend to have a strong influence on the constructs they purport to measure (Espeland and Stevens 1998). Indeed, since their inception in the mid-1980s the *Fortune* rankings have influenced the evolution of the concept of corporate reputation. For example, studies have noted that a financial performance halo exists, whereby a firm's previous financial performance will translate into higher reputation scores in unrelated attributes, such as social responsibility (Brown and Perry 1994; Fryxell and Jia 1994). We make no assumptions in our analysis regarding the accuracy of the rankings. Consistent with our social constructionist perspective, we focus not on the validity of a given piece of "knowledge" but rather on what "passes for knowledge" (Berger and Luckmann 1967: 14-15). We seek to explain the basis for these biases, their influence on the commensuration of corporate reputation, and how that influence changes as a result of media rhetoric.

PREDICTORS OF CORPORATE REPUTATION

Traditional Financial Indicators

Using data from one of the early years of the *Fortune* survey (1985), Fombrun and Shanley's (1990) showed that corporate reputation was strongly influenced by firms' financial performance (see also Brown and Perry 1994). Subsequent analysis of the *Fortune* rankings revealed that the survey primarily measures the evaluative audience's perception that a firm excelled financially (Fryxell and Jia 1994). This is likely due to the fact that *Fortune* survey

participants are comprised of executives and security analysts, two groups that are routinely focused on the financial performance of firms in their respective industries.

We propose that the social construction of corporate reputation is a result of collective sensemaking by the targeted audience, in this case the *Fortune* survey respondents. Our proposition is consistent with both sociological research on status and ascription, as well as psychological decision-making research on judgment and comparison under conditions of ambiguity. Individuals, when faced with uncertainty, tend to use salient and familiar features to guide their judgment (Kahneman and Tversky 1979). The most fundamental performance indicators for *Fortune*'s rankings are revenue and income. At the time of the first reputation survey in 1983, *Fortune* had already been running its famous Fortune 500 ranking for 30 years. The Fortune 500 rankings are based solely on firm revenue. Thus, we expect evaluators, tasked with providing a numerical value to a firm's overall corporate reputation would be influenced by *Fortune*'s pre-existing emphasis on firm revenue. Net income, or earnings, is another widely used measure of firm financial performance. Executives and analysts have historically viewed earnings as the most critical measure of accounting profitability (Vijayaraghavan 1980). Top executives at large public firms are particularly focused on their firm's earnings because they believe that the market has a "near-obsession with earnings", and place earnings as performance metrics "in a class by themselves" (Graham et al. 2005: 21). We focus on net income due its longstanding status as a key performance indicator for which markets reward (or punish) firms depending on whether they surpass (or fall short) of earnings predictions (Skinner and Sloan 2002).

H1: Firms that perform well on a traditional financial indicator (e.g. revenue, net income) will experience higher Fortune reputation ratings.

Emergent financial performance indicators

Market audiences search for new signals of firm quality to improve their investment choices. This search may lead to the emergence of new indicators of financial performance. In the late 1970s and early 1980s, scholars and practitioners began to critique traditional income-based financial indicators and the claim that they are reflective of firm value (Martin and Petty 2000). This trend was driven by the popular rise of financial economics and a newly articulated theory of the firm, i.e., agency theory. In this paradigm, firms were conceptualized as a nexus of contracts between managers and shareholders (Fama and Jensen 1983). Agency theory highlighted the problems in large firms when self interested managers make organizational decisions based on their own, as opposed to shareholder, interests. Managers, for example, may be incentivized to manipulate earnings numbers (Bartov 1993; Burgstahler and Dichev 1997). A recent survey found that CFOs at public companies believe that about 20% of the firms in their industries “manage” earnings in efforts to misrepresent the firm’s financial performance (Dichev 2012) and avoid negative market reaction for low earnings (Graham et al. 2005) while obtaining lower costs of financing (Dechow et al. 1996).

Scholars also challenged the appropriateness of traditional accounting indicators of firm performance (Danielson and Press 2003). The most commonly cited shortcomings of generally accepted accounting principles (GAAP) earnings are that they are unstandardized and inappropriate for between-firm comparisons, they do not include the variable costs of a firm’s capital, and they do not account for the time value of money (Martin and Petty 2000). Financial consulting firms, who along with mass media serve as a market fashion-setter, began counseling firms to move away from using GAAP earnings to manage their business and to embrace newly devised performance indicators (Stern et al. 1995; Wenner and LeBer 1989) .

Two categories of performance measurement emerged as viable alternatives to GAAP earnings: “pro forma” earnings and cash-based indicators. While advocates for each alternative measure challenge the validity of GAAP earnings, they do so from notably different perspectives. Proponents consider pro forma earnings to be a more accurate measure because it excludes obfuscating items. Proponents of cash based indicators challenge the authenticity of all other earnings measures, based on alterability concerns.

The term “pro forma” earnings emerged within the U.S. market lexicon in the late 1980s and has steadily grown in popularity (Bradshaw and Sloan 2002). Pro forma earnings are significantly distinct from traditional earnings in how they are calculated. Almost all pro forma earnings exclude some expenses, such as interest payments and stock compensation, and as such almost always exceed GAAP earnings (Lougee and Marquardt 2004). Initially, these exclusions were viewed positively. Pro forma proponents argued that the exclusion of extraordinary and non-recurring expenses provides a more realistic account of the true “core” earnings of a firm (Brown and Sivakumar 2003). Critics argue that the pro forma earnings figures are purposefully misrepresented by management to make the firm appear more profitable (Burns 2001). There is no standard for pro forma earnings or on the items that can be excluded from pro forma earnings figures. Research on this debate has not provided any clear-cut resolutions. Experienced investors are not misled by pro forma earnings figures and actually consider them more informative than GAAP earnings (Bhattacharya et al. 2003). Inexperienced investors, however, are more susceptible to misinterpreting pro forma earnings (Frederickson and Miller 2004), a fact that prompted the Securities and Exchange Commission to warn about their improper use in press releases (Weil 2001).

The skepticism of GAAP earnings also brought renewed attention to cash-based financial measures of performance. Using a cash basis, high performing firms should generate large sums of cash beyond normal operating expenses. This “free cash” can be then be invested back into the firm or distributed to shareholders. There are significant agency costs related to free cash flow, namely that managers can use it to fund unprofitable new projects or ill advised expansion and restructuring efforts (Agrawal and Jayaraman 1994; Jensen 1986). Despite these potential pitfalls, free cash flow became a popular measure within the investment community (Moore 2002) and a central topic of several books on firm valuation (e.g. Christy 2009). In these communities, free cash is largely considered to be less alterable and a more accurate assessment of a firm’s corporate governance policy (Rogerson 1997). Firms have recognized the increased attention to free cash flow. A recent longitudinal investigation within the accounting field of 985 randomly selected filings with the Securities and Exchange Commission found only 17 firms reporting free cash flow in 1994, but this number increased to 176 firms by 2004 (Adhikari and Duru 2006). Policies that increase free cash distributions to stockholders such as stock dividends and stock buybacks are innovations that have gained social approval (Zajac and Westphal 2004) allowing firms to gain legitimacy despite potential shortfalls in economic performance (Staw and Epstein 2000).

H2: Firms that perform well based on newly emergent financial performance indicators (e.g. pro forma earnings & free cash flow) will experience higher Fortune reputation ratings.

The role of media coverage

In this section, we examine the contingent effect of media coverage on the relationship between indicators of financial performance and reputation rankings. Management fashion-setters such as the business press shape the public agenda by generating attention for particular

topics in the news (Carroll and McCombs 2003). This, in turn, affects how market actors make sense of organizational phenomena. Individuals perceive specific actions to be more legitimate when they are given greater media attention, which in turn influences management and investment decision making (Lee and Paruchuri 2008; Pollock and Rindova 2003). Blending these insights from sociological and psychological research, we would expect that evaluators' reliance on a particular financial indicator is moderated by the level of business press rhetoric associated with that indicator. As the business press gives more attention to a financial metric, evaluators tend to give more weight to that indicator when assessing a firm's reputation.

Media coverage provides cognitive legitimacy to new norms and assumptions (Aldrich and Fiol 1994). The media wields a major influence on public opinion because it serves as a central information intermediary between firms and the investors and analysts that follow them (Carberry and King 2012; Pollock et al. 2008). An extensive body of research has demonstrated the media shapes market processes and organizational decision-making ((Kennedy 2008; King 2008; Lee and Paruchuri 2008; Lounsbury and Rao 2004; Pollock and Rindova 2003).

We argue that market actors use the media to help make sense of new financial performance indicators, particularly when there is no general consensus as to which paradigm is the most accurate. Increased media attention for new financial indicators, such as pro forma earnings and free cash flow, gives legitimacy to these indicators, making them more valued inputs to evaluative judgments of reputation. Thus, we can extend our earlier notion that firms that perform well (according to new emergent indicators) will enjoy a reputational benefit (H2) by suggesting that this relationship will be positively moderated by the amount of media attention these measures receive in the business press.

*H3: The effect of a firm's emergent indicator-based performance on Fortune reputation ratings will be **positively** moderated by the media attention allotted to that indicator in the business press.*

With respect to older, traditional indicators of performance, we suggest a potentially different moderating role of media attention. Extant research on media coverage has found that the effects of media attention are strongest when focused on nascent objects such as new markets (Kennedy 2008; Lee and Paruchuri 2008) and newly forming companies (Pollock and Rindova 2003; Pollock et al. 2008). In the context of managerial ideas, rhetoric is most commonly used to explain new terminologies to public audiences such as “globalization” (Fiss and Hirsch 2005) or to explain the usefulness of a new managerial technique such as Total Quality Management (Suddaby and Greenwood 2005; Zbaracki 1998). In our empirical context, GAAP accounting indicators continue to be the most prevalent measures of firm performance, even as their usefulness is challenged (Danielson and Press 2003; Fisher 1988). Thus, in contrast to the legitimating benefit that increased media attention can provide to emergent performance indicators, the level of media attention given to traditional indicators is not likely to affect market audiences as strongly and should have little effect on the relationship between traditional financial performance indicators and firm reputation.

H4: The moderating effect of media attention on financial performance and Fortune reputation ratings will be stronger for emergent financial variables than traditional financial variables.

Social indicators of reputation

Financial indicators are not the only metrics that shape reputational evaluations. Certain firm actions may be viewed as enhancing corporate reputation because they align a firm with non-financial, social expectations. For example, evaluators may perceive firms that give charitable contributions as having more prestige (Fombrun and Shanley 1990; Galaskiewicz 1997). Such

actions signal to the broader public that the company is committed to alleviating social problems independent of its own narrow economic interests (Marquis et al. 2007). Firms that have embraced CSR initiatives improve their reputation among certain audiences, especially consumers (Du et al. 2007). Inasmuch as evaluators see such demonstrations of virtuous behavior as admirable, these actions will bolster a firm's reputation (Useem 1986; Vogel 2005).

In recent years perceptions about CSR have become standardized in ratings systems. One of the most CSR ratings is KLD Research and Analytic's measure of corporate social performance. KLD provides ratings of firms' social, environmental, and governance practices that assist investors or other stakeholder decision-making (Deckop et al. 2006; Waddock 2003). These ratings hold enough sway to cause poorly rated firms to change their behaviors in order to boost future ratings (Chatterji and Toffel 2010). This evidence suggests that firms are sensitive to variation in the KLD ratings and that analysts and executives at competing firms are also aware of KLD ratings. A firm that performs well according to the KLD social performance rating should experience a boost to their reputation scores.

H5: Firms that perform well on social responsibility indicators (e.g. the KLD rating) will experience higher Fortune reputation ratings.

CSR is an increasingly popular topic within the business media (Vogel 2005). Precipitating events, such as environmental disasters, corporate fraud, or abuses of child labor laws are often followed with immense media attention, particularly within the business press (Hoffman and Ocasio 2001). For example, soon after the Deepwater Horizon oil spill, there was significant media coverage on environmental safety of the entire oil industry. Predictably, this coverage painted BP in the worst light, but it also highlighted OSHA records of safety which placed Exxon Mobil as the industry standard of safety, significantly ahead of competitors Sunoco and Conoco-Phillips (Mouawad 2010). In this example, media attention

about safety in the oil industry increased awareness of Exxon Mobil's strong CSR performance and consequently enhanced its reputation. Thus, we posit that as media attention to social issues increases, the reputation of firms that are performing well in these areas should improve more so than during periods when media attention to these issues is low.

*H6: The effect of a firm's social indicator-based performance on Fortune reputation ratings will be **positively** moderated by the media attention allotted to those indicators in the business press.*

METHOD

Data and Sample

The sample for this study comprises all firms that appeared in the *Fortune* ranking from 1993 through 2006. While the *Fortune* survey began in 1983, the full text versions of our media sources are only available since 1992, thus reducing our sample range. We obtained the *Fortune* reputation survey data from 1992-1995 through MUSE, a data-analysis software package, and collected the reputation scores from 1996-2006 directly from the published issues of *Fortune Magazine*. The firm financial data were compiled using COMPUSTAT. Social performance data was collected from the annual KLD STATS data set. We calculated market risk using data from the Center for Research in Security Prices (CRSP) database. Data for institutional investor information were accessed from the Thomson CDA/Spectrum Institutional (13f) Holdings database. Media attention data were gathered using the Dow Jones *Factiva*, Academic *OneFile* online databases for article counts and EBSCO *Academic Search Complete* database for the full text versions of each article. The number of firms surveyed every year by *Fortune* averaged 411 firms per year, giving us a maximum number of 5763 firm-years over the thirteen year period. Occasionally, a perennially ranked firm is excluded

from the *Fortune* survey due to a drop in revenue or a change in industry categorization. In these instances, the firm is not included in our sample only for the year that they are delisted. Other instances of missing data reduced our final sample size to 3372 firm-years.

Measures

Reputation. The *Fortune* Reputation survey provides a list of the ten largest companies per industry to over 8,000 executives, directors, and securities analysts. In previous analysis of the *Fortune* reputation data, pair-wise correlations results have demonstrated a high level of agreement ($\rho=0.82$) between the responses of analysts and executives (Roberts and Dowling 2002: 1082). The published response rate is approximately 50%. The survey asks respondents to rate the companies in their own industry along eight measures on a scale of 0 (poor) to 10 (excellent): social responsibility, innovation, long-term investment value, use of corporate assets, employee talent, financial soundness, quality of product/service, and quality of management.¹ *Fortune* then aggregates the reputation scores for each of these criteria to create one overall reputation score. One of the remarkable features of the ranking is that these measures have been consistent over time. With the exception of the category “environmental and community responsibility” being changed to “social responsibility” in the 1990s, none of the other measures has changed since the survey’s inception. Thus, we have confidence that changes in the valuation of a particular financial or social performance indicator are the result of survey respondents changing their own perception of what constitutes an admirable company rather than being due to changes in the way *Fortune* measures reputation. We standardized the reputation scores by industry.

¹ Factor analysis of these measures, taken from the 1985 *Fortune* data (Fombrun & Shanley 1990), found that all of the sub-components were heavily loaded upon a single factor ($\alpha = .97$), interpreted as the latent variable of corporate reputation.

Financial Indicators.

We selected our financial indicators based on the extant research on reputation and financial performance as well as our interest in covering both GAAP and non-GAAP performance measures.² We separated our variables into traditional and emergent categories based on the qualitative history of financial performance indicators and their market popularity. The two measures of traditional performance are *Revenue*, measured as the log transformation of annual sales for each firm, and *Net Income*, calculated as a firm's total retained earnings, or gross revenue minus expenses. Our two emerging measures of financial performance are *Earnings Before Interest, Taxes, Depreciation, and Amortization*, which indicates a firm's ability to carry debt, and *Free Cash Flow*³, calculated after-tax cash flows from operations minus any incremental investments made in operating assets.

Corporate Social Responsibility Indicators

Overall Corporate Social Responsibility Rating. The KLD data set is compiled of 80 binary indicators covering seven major qualitative issues around CSR: Community Relations, Corporate Governance, Diversity, Employee Relations, Environment, Human Rights, and Product. For each of these areas KLD splits their indicators into strengths and concerns. For example, a firm that gives over 1.5% of their net earnings to charity receives a "1" for the "Charitable Giving" strength indicator. Conversely, a firm whose actions have adversely

² All financial performance variables for our analysis were standardized and winsorized at the 90% level to control for outliers.

³ We use Martin and Petty's (2000:56) conservative (relative to Jensen's [1986]) definition of a firm's free cash flow as "equal to its cash flow from operations less any additional investments in working capital and long-term assets." We therefore calculate it as: operating Income + depreciation and amortization – cash tax payments – investment in net operation working capital – capital expenditures. Jensen's (1986:323) definition of free cash flow is "cash flow in excess of that required to fund all projects that have positive net present values when discounted at the relevant cost of capital."

affected the quality of life, tax base, or property values of its community will receive a “1” for the “Negative Economic Impact” concern indicator. The strengths and concerns within each area are not complementary, thus a firm can rate very high (or low) on both strength and concern indicators. Additionally, KLD concerns in certain areas are better proxies for actual behavior than strengths (Chatterji et al. 2009). To account for this we utilized three separate indicators of CSR behavior for our analysis. *Overall CSR Strengths* is the sum of a firm’s score on all 43 strength indicators, *Overall CSR Concerns* is the sum of a firm’s score on all 37 concern indicators, and *Overall CSR* is the sum of strengths subtracted by the sum of concerns.

Media Attention

Weighted Valence Measure. To measure the level of media attention indicators received in the business press, we constructed a weighted valence measure for each financial and social performance indicator. The weighted valence measure is the multiplicative product of the amount of attention that a performance variable gets in the media via article counts and the valence of the text in which the variable is used within the media articles. The variable has a positive sign when the article uses positive emotion to describe the indicator and has a negative sign when it uses negative emotion. The absolute value of the weighted valence measure indicates if the term is widely or scarcely used. The formula for calculating the weighted measure is: $Weighted\ Valence\ Measure_{ij} = (Article\ Count)_{ij} * (Valence\ Measure\ of\ Article\ Text)_{ij}$. Where $Article\ Count_{ij}$ is the summed count of articles in the business press that cite the indicator i in its text during year j , and $Valence\ Measure\ of\ Article\ Text_{ij}$ is mean measured valence of the text for each article in which the indicator i is cited in year j . Taken together the Weighted Valence Measure reflects the amount as well as the tenor of the attention that an

indicator receives. The effect of an indicator's positive valence is amplified by a large article count and discounted by a low article count. Below we provide about how each component of this measure was constructed.

Article Count. We created a series of article count measures to quantify the volume of media attention attributed to each indicator of financial and CSR performance. For our financial indicators our population consisted of the entire set of articles published in the monthly issues of *Fortune* and *Forbes* magazine from 1992 to 2006. We chose *Fortune* because it has high readership overlap with survey participants and *Forbes* to protect against single source bias in our data. The article count variable is the annual sum of articles that mentions one of the financial indicators appearing in each periodical. The article counts for the CSR indicators were calculated based on the entire set of articles published in the *Wall Street Journal* from 1993-2006. We chose a daily newspaper for the CSR rating because they have a much lower base rate of mentions and using a newspaper gave us significantly larger population of articles to sample.

For each year in our sample we queried the Academic OneFile and Dow Jones Factiva database for articles that contained a set of keywords related to our hypothesized measures. We reviewed the title and summary text of each article, manually removed duplicates, and recorded the final yearly article count for each measure. For the revenue performance indicator we counted the number of articles with the terms “sales” or “revenue”. For the earnings performance indicator we counted the number of articles that contained the phrases “net income” or “net earnings”. To measure the attention given to ebitda we counted the number of articles that contained the phrase “ebitda”, “earnings before interest, taxes, depreciation, and amortization”, as well as any similar other phrases. Free cash flow article

counts included any articles that included the term "free cash flow". We purposefully selected this entire phrase because of the prevalence of the term "cash flow", a traditional measure which is a distinctly different concept than free cash flow. Corporate social responsibility article counts included any articles in the *Wall Street Journal* that included the term "corporate social responsibility". To appropriately compare the effect of article counts over time, we normalized the measures by dividing the article counts by the total number of articles published in each periodical in each corresponding year. For example, we took the total number of articles that mentioned "free cash flow" in *Fortune* in each year and divided that by the total number of articles printed in *Fortune* that year. We performed the same calculation in *Forbes*. We took those two numbers and averaged them to get the article count variable for free cash flow. This allows us to control for the fluctuations in the number of articles in a periodical over our period of study. For the financial indicator measures we took the average of the *Forbes* and *Fortune* normalized article counts to get the final article count figure.

Media Coverage Valence. To capture the valence of the usage of the financial and CSR performance indicators, we used content analysis to make inferences about the nature of the messages transmitted in media articles to the targeted audience (Weber 1990). We conducted our analysis on the full text of the articles in *Fortune*, *Forbes*, and *The Wall Street Journal* that fit our article count search criteria. Initially, a text file was created for each periodical-year. Each text file was parsed into key-word-in-context (KWIC) lists which contain the key word in question (e.g. revenue) along with the fifty words that both precede and follow the key word. KWIC lists provide a rich structured database for detailed study of word usage. Each observation in the KWIC list is 101 words long and serves as the primary unit of analysis. We conducted our content analysis using LWIC2007: Linguistic Inquiry and Word Count

(Pennebaker et al. 2007), which processes each text file one word at a time, matches that word to an internal dictionary file, and records the appropriate word category scale for that word. The dictionary file for the LWIC2007 software is composed of 32 word categories that tap into numerous psychological constructs of affect and cognition. The word categories were constructed by the authors of the software using a multi-step process by which they generated words for each scale from various sources (common emotional rating scales, standard English dictionaries, thesauruses, etc.) and rated by independent judges before being psychometrically evaluated for reliability and validity (Pennebaker and Francis 1996). We recorded the average positive and negative emotion category scales for each KWIC entry, computed the difference scores to get the net emotion statistic for each periodical-year. The valence scores for the financial analysis is the mean value between the *Forbes* and *Fortune* measures.

Control Variables.

Market Risk. Measuring market risk for a particular firm requires taking into account its beta value, defined as the slope value when its stock returns are regressed over the returns of the market (Brealey and Myers 1988). *Market risk* can influence investor perception of a firm's future cost of capital and, thus, their future value (i.e., firms in a riskier industry are expected to have stocks with higher rates of return). Our control for market risk is the calculated beta value of each firm-year on September 30th.

Firm product diversification. Given the longstanding debate surrounding the link between firm value and diversification (Murphy 1985), we also include controls for product diversification in all of our models. We use Palepu's (1985) entropy measure as an indicator of total *Firm product diversification*, which is one of the most reliable measures within the strategy literature (Boyd et al. 2005). Aggregating the proportion of sales that a firm derives

from a given class of products produces the entropy measure. Entropy measures are particularly useful because they mathematically account for the breadth of products a firm produces within given product categories (related diversification) as well as between given product categories (unrelated diversification) (Jacquemin and Berry 1979). Total entropy for each firm-year is the sum of related and unrelated diversification:

$$\text{Total Product Diversification} = \sum_{iej} P_i^j \ln(1/P_i^j) + \sum_{j=1}^M P^j \ln(1/P^j)$$

where P_i^j is the share of the segment i of group j in the total sales of the group, P^j is the share of the j^{th} group sales in the total sales of the firm. An industry segment (i) is represented as a three digit SIC code and an industry group (j) is represented as a two digit SIC code.

Market-to-Book. Market-to-Book is a financial variable that emphasizes the value that the stock market places on a firm as compared to the estimated value of its assets. We calculate a firm's market-to-book value by dividing the total value of all outstanding shares of a firm's stock by its book value, the balance sheet estimate of total assets minus depreciation.

Dividend Yield. Dividend yield is an indicator of a firm's propensity to share retained earnings with shareholders, calculated as the dollar amount, per share, distributed by a firm to its shareholders within a given year.

Institutional Investor Ownership. Corporate governance is a non-financial indicator that can also have an impact on the social construction of reputation. Macey (1997) views institutional investors as an effective corporate governance mechanism because they have more means with which to monitor management activity and have a sophisticated investment outlook. Others positively correlate increased institutional investment with firm innovation (Kochhar and David 1996), reduced myopic R&D efforts (Bushee 1998), stronger returns (Nofsinger and Sias 1999), and reduced manager-protectionist policies, such as poison pills and

golden parachutes (Davis 1991). Thus, we control for *Institutional Investor Ownership* as the percentage of a firm's outstanding shares owned by institutional investors, which include banks, insurance companies, mutual funds, pension funds, university endowments, and other organizations commonly classified as "13f institutions," referring to the form they are required to file with the SEC every quarter (Boldin and Ding 2004).

Table 1 presents the descriptive statistics and correlations for all variables. The weighted valences for the financial performance indicators are all positive, though larger for traditional measures than emergent indicators. The valence of CSR media attention is positive but with significantly more variance than the financial indicators. The media attention of CSR is also relatively large compared to the financial indicators.

 Insert Table 1 about here

Analysis and Results

We employed multivariate time-series regression models to analyze the correlation between firm indicators (lagged at time $t-1$) and firm reputation at time t . Because time series data are often strongly correlated over time, standard errors from ordinary least squares regression models will be autocorrelated (Heij 2004: 535). The plotted autocorrelations for the reputation variable also suggested a significant autocorrelation lag. To control for this we incorporated an autoregressive moving-average (ARMA) specification, which ensures that the standard errors estimated are not downwardly biased. We computed autocorrelations and partial autocorrelations for the reputation variable over time and found significant autocorrelation for a three-period lag, which we used to set our ARMA autoregressive lag, and significant partial autocorrelations for a one-period lag, which we used to set a one-period

moving average lag. In addition, because ARMA analysis models the dependent variable as a function of its past values and disturbances (Hamilton 1994), it allows us to control for the lagged effect of previous reputation on current reputation.⁴

Table 2 lists the results of the ARMA regression analysis. The findings support previous research suggesting that *Fortune*'s reputation rankings are driven by financial performance measures (Brown and Perry 1994). Column one lists the results of the regression of indicators over the full sample without any interaction terms included. Media attention to revenue is positively correlated with higher reputation ratings for all firms. There is a negative correlation between overall reputation ratings and increased media attention to Net Income, EBITDA, and Free Cash Flow. Regarding the control variables, a firm's reputation is positively correlated to its return on assets, market to book value, and percentage of institutional investor ownership, which supports previous claims that corporate reputation is strongly driven by a firm's market performance and influenced by accounting and institutional signals (Fombrun and Shanley 1990; Fryxell and Jia 1994).

We find mixed support for our first two hypotheses. Regarding H1, a firm's reputation is positively and significantly predicted by revenue, but not net income. Neither emergent financial indicators have a significant main effect on firm reputation ratings. H3 and H4 address the moderating effect of media coverage. We tested these hypotheses by interacting each of our independent variables of interest with its corresponding weighted valence measure. Our findings, which are listed in models 2 through 5, support the notion that the relationship between financial performance indicators and corporate reputation is significantly dependent

⁴ We also considered a control for previous reputation by adding a lagged variable to our models. While these models were highly predictive (high r^2 values), the standard errors for financial indicators were unstable due to extreme collinearity with previous reputation. Hence, the ARMA method of analysis was necessary and desirable.

on the amount of media attention given to different financial performance indicators. The interaction effect of the weighted media attention variable and emerging financial variables is positive and significant for free cash flow (Model 2) and positive but not significant for pro forma indicators of firm performance (Model 3). Firms that produced more free cash flow received higher reputation scores when more media attention was given to this indicator (H3).

The results also suggest that, as predicted, these positive interaction effects are unique to emergent financial indicators, rather than traditional financial measures (H4). Models 3 and 4 shows that media attention paid to net income and revenue negatively influences the effect of these financial indicators on reputation, indicating that while firms generally reap reputation benefits from strong revenues, this benefit is diminished by increased media attention (even when this attention is positive), which is consistent with H4.

 Insert Table 2 about here

Figure 1 graphically illustrates the above interaction effects and provides a clearer picture of the results. The data points for these graphs were calculated as the predicted values of a firm's reputation, based on the financial variable regression coefficients. Control variables were set to their mean, and interaction variables were set to low, medium, and high levels of media attention. Medium level media attention is the mean number of article counts from the previous year. High and low media attention was calculated as one standard deviation above and below the mean, respectively. The effect of each financial performance indicator on firm reputation is represented by the slopes of each line. The x-axis represents the standardized

distribution of values for the financial indicator, while the y-axis represents the firm's corresponding predicted reputation score.

 Insert Figures 1(a) & 1(b) about here

Consistent with the findings discussed above, Figure 1(a) shows that the positive slopes for both traditional financial indicators over all levels of media attention, which indicates that firms performing well on these indicators receive higher reputation ratings than firms performing poorly on these indicators. The interaction between the financial indicators and media attention can be interpreted by observing the decreasing change in slope of the predicted values with greater levels of media attention. Thus, firms experience a smaller net increase in reputation ranking for posting strong revenues and earnings in periods of heavy media attention on that indicator than in periods of lighter media attention. In contrast, Figure 1(b) shows that for emergent financial indicators, the slopes of the predicted values increase with greater levels of media attention. This effect is especially pronounced for the pro forma earnings indicator.

The results of the analysis for the CSR hypotheses are listed on Table 3. As predicted in H5, firms with higher overall CSR performance have higher reputation ratings even when controlling for previous financial performance and weighted media valence. A firm's reputation rating increases 1.5% as the result of one standard deviation increase in CSR performance. Comparing this to our financial indicator analysis we see that CSR performance has a stronger impact on reputation ratings than net earnings, EBITDA, and free cash flow, but significantly less impact than revenue. The moderating impact of media on CSR, however, is

not significant. Model 2 lists the interaction of CSR performance and media attention to CSR issues. None of the interaction terms for overall CSR, CSR strengths, and CSR concerns reach significance in our models. In sum, while CSR performance improves a firm's reputation ranking, this effect is not moderated by the level of attention to CSR issues in the business press, and thus our hypothesis H6 is not supported.

 Insert Table 3 about here

Analysis of endogeneity between firm performance and firm reputation

Previous research on corporate reputation has identified a feedback loop where firms that rate highly on reputation rankings earn various benefits from that ranking and as a result experience higher subsequent financial performance (Roberts and Dowling 2002). Thus our results may be influenced by endogeneity due to simultaneity, the result when an independent variable is both predicting and being predicted by the dependent variable (Wooldridge 2002: 51). To check and control for endogeneity in our data we used instrumental variable estimation in a two-stage least squares regression model (Baum 2010). In this process, we identified two instrument variables for both financial and social performance indicators that were strongly correlated with the potentially endogenous independent variables in question but uncorrelated with the error term in the regression equation. We used U.S. gross domestic product and domestic power generation in kilowatt hours for financial performance, and the U.S. unemployment rate and CO2 emissions (metric tons per capita) for the social performance indicators. In the first stage of the two-stage least squares estimation, we regressed all of the potentially endogenous regressors (i.e. Revenue, Net Income, EBITDA, Free cash flow, and

Overall CSR rating) over the instrument and control variables. In the second stage, we regressed reputation over the fitted values of the endogenous regressor from the first stage as well as the other covariates. Each indicator was tested for endogeneity in separate regression models, but due to space constraints we only discuss the results in this section⁵. Each of our instrument variables passed tests for relevancy and exogeneity, the two conditions that must be fulfilled for instruments to be considered valid (Stock and Watson 2003). The results of the two-stage analysis suggest that while endogeneity effects are present in the data, the overall results are congruent with the ARMA analysis. There is mixed support for H1, and H3, H4, and H5 is fully supported. The two differences of note are (1) that H2 is supported (e.g. the main effect of pro forma measures on reputation is positive and significant) and (2) the positive main effect of overall CSR is driven by CSR concerns as opposed to CSR strengths which suggest that firms are not receiving reputational benefits from proactively pursuing socially responsible activities, but instead receive a reputational discount if they fail to live up to the minimum standards of socially responsibility.

Discussion and Conclusion

This study represents an integration of insights from research on commensuration and shifting management fashions to build a better understanding of the factors that drive the formation of corporate rankings. Our efforts in this regard not only link these heretofore separate streams of research but also contribute to each stream. While commensuration research has focused on how the quantification of qualitative comparisons results in an imperfect form of hierarchical ordering (Espeland and Sauder 2007), our dynamic analysis of commensuration complements this work by explicitly considering the antecedent processes

⁵ Full results are available by request

driving the results of commensuration. More specifically, our analysis takes a step toward bridging the macro/micro dynamics of commensuration by suggesting why and how evaluators charged with reputational rankings attend to traditional and emerging financial performance indicators. We also show that media attention to these indicators moderated the relationship between emerging financial indicators and firm reputation by increasing attention to those particular indicators.

Theoretically, we contribute to the growing body of research on the social construction of finance and markets (Rutherford 2003; Zajac and Westphal 2004) by showing that evaluators' initial reliance on traditional financial indicators to make subjective assessments of corporate reputation can also be supplemented, if not supplanted, by evaluators' growing interest in newly emerging indicators. Their acceptance of emerging indicators is positively amplified by the legitimating effect of heightened levels of relevant discourse in the business media. However, when a financial indicator is already well-accepted as a measure of high quality performance, additional media coverage of that indicator does little to enhance reputation evaluators' use of the metric.⁶

The non-positive moderating effect of media attention on traditional indicators may have several antecedent conditions. Because financial performance is so important for efficient market functioning, the sheer existence of a performance measure can modify the phenomenon it purports to study (Espeland and Sauder 2007). As a particular measure becomes more prevalently used, market actors begin "playing to the numbers," which in turn alters the ability of the measure, such as firm revenue to truly gauge firm performance.

Measurement manipulation has been the most common critique of income-based indicators

⁶ We note that the negative moderating effect of media attention on the influence of traditional measures may explain why traditional measures of financial performance matter less to reputation ranking now as compared to when Fortune first established the ranking (Flanagan et al., 2011).

(Dechow et al. 1996; Xiaomeng et al. 2008). Empirical studies of earnings in publicly traded firms show that more firms make or exceed their earnings projections than barely miss their earnings projections, which is a probabilistically unlikely outcome (Degeorge et al. 1999). As an increasing number of public firms demonstrate relatively equal levels of earnings growth, it becomes more difficult to use earnings as a differentiating measure.

The second reason for this effect could be that traditional measures only receive greater media attention when there is prevailing negative sentiment. Indeed, during the years between 2000 and 2002, earnings numbers received a strong negative valence when it was discovered that several Fortune 500 firms had purposely over-inflated earnings requiring a multitude of balance sheet restatements (Patsuris 2002). Many business journalists wrote disparagingly about managers using complex accounting maneuvers that allowed them to post consistent earnings growth over long periods of time (Lowenstein 2004). Despite this increase in negative valence surrounding revenue and net income these indicators did not appear to lose any legitimacy as evidence by the unchanged effect that these financial indicators had on corporate reputation rankings.

Our study also demonstrates that less straightforward measures of performance, such as corporate social responsibility (CSR), influence reputational ranking. The results of the instrumental variable analysis show that being rated highly in CSR generally improves a firm's reputational ranking, but unlike emerging financial indicators, heightened media attention actually attenuates this positive effect. Moreover, our results show that firms that benefit the most from CSR are those that avoid being rated negatively. Taken together, our findings suggest that firms that avoid being targeted as poor CSR performers are more likely to benefit in the reputational rankings but that as CSR has become a more prominent management fad,

there are decreasing returns to CSR. In a sense, firms that do “bad” things are punished less now that there is a greater media focus on CSR than before it became a fashionable trend. One reason for this may simply be that CSR is still a hotly contested category of performance. There is less consensus among evaluators as to the financial or social value of “doing good” (Margolis and Elfenbein 2008). Even if evaluators agreed that admired companies should seek to “do good,” lack of agreement about the actual value of “doing good” may have muted the impact of public awareness on the influence of CSR indicators on reputation. In addition, as CSR becomes a popular management fad and more firms seek to live up to the high standards set by KLD and other rating services, there may simply be less room to differentiate one’s firm from the pack. As a result, firms that seek to differentiate by emphasizing CSR as part of their performance experience diminishing returns. Ideally, future research would carefully consider the micro-processes underlying the role of media attention (e.g. Pollock and Rindova 2003) in shaping the quantification of other highly-subjective indicators of quality.

We also see this study as advancing our understanding of commensuration processes by showing that such interpretative processes can be not only multi-level (micro/macro), but also multi-layered (first and second-order commensuration processes). Specifically, we show how corporate reputation is closely linked to accounting signals (Fombrun and Shanley 1990), but that these signals themselves are largely based on the reduction of quality to quantity (Carruthers and Espeland 1991). Thus, in our conception of reputation as a second-order social construction, accounting signals serve as first-order objectifications instilled with specific meaning. To the market, earnings represent the quality of managerial decisions made within a specific time frame (i.e. yearly, quarterly). A firm’s reputation may have initially been constructed based on the meanings of accounting signals (Riahi-Belkaoui and Pavlik 1991),

such as earnings per share, but we show that the meaning given to accounting signals is itself subject to changing interpretation, based on shifts in the shared beliefs held by evaluators as to what constitutes good corporate behavior and performance. We show that information which once served as a signal can become a symbol as well. Managers are strongly incentivized to gather ever-increasing amounts of information about their own firms because it has become a form of “ritualistic assurance” of appropriate decision making (Feldman and March 1981). Cognitive limits prevent the simultaneous consideration of all the information that is collected, such that managers must select which forms of information will be most useful. Our results suggest that the media attention paid to certain forms of information (i.e. measures of performance) affects which of these forms of information acquires symbolic status.

Our attention to changing interpretations emerges from our dynamic focus on commensuration as an evolving process, which allows us to link existing research on management fads and fashions (Abrahamson 1996). Consistent with that stream of research, we show how business mass media publications such as *Fortune* serve as management fashion setters by utilizing rhetoric that affects the market’s transitory collective beliefs regarding appropriate and desirable corporate attributes. As free cash flow became fashionable, cash indicators became more significant predictors of corporate reputation. Research suggests that the popularity of the agency perspective in the 1980s and 1990s influenced perceptions of specific firm behaviors, such as CEO compensation (Westphal and Zajac 1998; Zajac and Westphal 1995) and stock buyback announcements (Zajac and Westphal 2004). Our results provide evidence that changes in management fashions also affected the quantified perceptions of which firms qualify as America’s most admired (and least admired) corporations.

More narrowly, in terms of contributing to the existing research on corporate reputation, we demonstrate empirically that the relationship between financial indicators and corporate reputation are more complex than typically assumed. We show that financial measures fall in and out of favor with the market, and that the concept of reputation is subject to the changing perceptions of evaluators. From the perspective of strategists, our study suggests that firms with greater awareness of such shifts in public opinion and with greater ability to manage the changing indicators can generate improvements to their reputation through structural or symbolic changes, while firms unaware of such shifts or unable to influence them may experience decreased reputational rankings and suffer other consequential effects of such a decline.

Finally, it is noteworthy that important social concepts such as status, reputation, and legitimacy are often depicted without reference to their underlying source (Ruef and Scott 1998). Our study suggests one path forward in addressing this issue, in that our analysis of the antecedents of intangible corporate concepts (such as reputation) led us to consider explicitly the perspective of the conferring audience. By similarly endogenizing other social concepts and bringing the relevant audience(s) from the analytical background to the foreground, researchers are likely to gain a greater understanding of how these concepts emerge, persist, and/or are transformed in organizational life, and how these movements are consequential for organizations in symbolic and substantive ways.

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Table 1: Descriptive statistics

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1 Reputation	6.25	1.00																						
2 Revenue	8.62	1.29	0.27																					
3 Net Income	647.40	2330.53	0.24	0.36																				
4 Earnings Before Interest, Taxes, and Depreciation (EBITDA)	2150.60	4709.64	0.23	0.56	0.64																			
5 Free Cash Flow	992.58	3995.10	0.15	0.28	0.35	0.55																		
6 Market-to-Book	0.33	0.37	0.22	-0.06	0.03	-0.08	-0.06																	
7 Dividend Yield	0.06	1.02	0.09	0.12	0.10	0.17	0.08	0.00																
8 Diversification	0.11	1.18	0.09	0.22	0.11	0.14	0.09	0.02	0.20															
9 Return on Assets	0.14	0.08	0.34	0.00	0.11	0.00	0.01	0.37	0.07	-0.03														
10 Market Risk	0.09	1.07	0.00	0.03	0.03	0.02	0.02	0.01	0.12	0.14	-0.03													
11 Institutional Investor Ownership	0.00	1.00	0.06	0.05	-0.05	-0.07	0.01	0.08	-0.04	0.00	0.01	-0.05												
12 Weighted Valence Measure: Revenue	0.42	0.05	0.09	-0.08	-0.02	-0.06	-0.03	-0.03	-0.04	-0.14	0.10	-0.10	-0.16											
13 Weighted Valence Measure: EBITDA	0.01	0.01	-0.06	0.12	0.09	0.08	0.07	0.07	0.05	0.14	-0.05	0.08	0.23	-0.45										
14 Weighted Valence Measure: Net Income	3.24	1.58	-0.03	-0.08	-0.08	-0.05	-0.06	-0.04	-0.05	-0.10	-0.02	-0.05	-0.09	-0.03	-0.54									
15 Weighted Valence Measure: Free Cash Flow	0.02	0.02	-0.03	0.11	0.10	0.09	0.08	0.07	0.10	0.20	-0.05	0.13	0.22	-0.58	0.87	-0.54								
16 Weighted Valence Measure: CSR	3.09	6.89	0.16	0.14	0.16	0.14	0.10	0.05	0.19	0.33	0.03	0.28	0.06	-0.24	0.29	-0.25	0.50							
17 Overall CSR	0.10	3.04	0.20	-0.01	0.05	0.05	0.06	0.06	0.00	0.03	0.09	-0.01	-0.07	0.08	-0.11	0.04	-0.11	-0.01						
18 Overall CSR Strengths	2.87	2.87	0.27	0.47	0.39	0.46	0.26	-0.09	0.19	0.24	0.02	0.03	-0.15	0.00	-0.01	-0.01	0.01	0.12	0.65					
19 Overall CSR Concerns	2.78	2.48	0.07	0.56	0.38	0.47	0.22	-0.18	0.22	0.26	-0.09	0.05	-0.08	-0.09	0.12	-0.06	0.15	0.16	-0.47	0.36				
20 Absolute Gross Domestic Product	9288680.00	1337801.00	-0.02	0.21	0.13	0.15	0.10	0.08	0.05	0.26	-0.07	0.14	0.28	-0.55	0.72	-0.36	0.68	0.45	-0.10	0.06	0.19			
21 U.S. Power Generation (kwh)	3609.46	315.68	-0.02	0.21	0.13	0.15	0.10	0.07	0.04	0.25	-0.06	0.13	0.27	-0.55	0.71	-0.41	0.66	0.41	-0.10	0.06	0.19	0.99		
22 U.S. Unemployment Rate	5.41	0.91	-0.02	0.21	0.13	0.15	0.10	0.07	0.04	-0.11	-0.03	-0.03	-0.07	-0.21	0.04	0.12	0.30	-0.12	-0.07	-0.05	0.03	-0.50	-0.53	
23 U.S. Carbon Dioxide Emissions (metric tons per capita)	19.37	0.47	0.07	-0.13	-0.05	-0.10	-0.06	-0.06	-0.09	-0.24	0.10	-0.13	-0.18	0.77	-0.53	0.02	-0.67	-0.47	0.10	-0.05	-0.17	-0.64	-0.57	-0.15

Table 2: Autoregressive Moving Average (ARMA) estimates of financial performance measures on corporate reputation

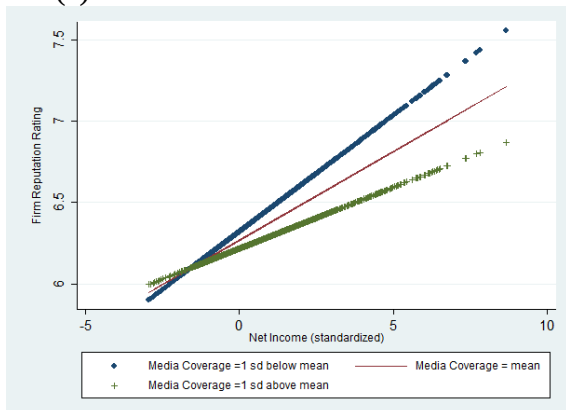
Independent Variables	(1)	(2)	(3)	(4)	(5)
Revenue	0.12*** (0.03)	0.12*** (0.03)	0.12*** (0.03)	0.12*** (0.03)	0.30*** (0.10)
Net Income	-0.00 (0.02)	-0.01 (0.02)	-0.00 (0.02)	0.04 (0.03)	-0.00 (0.02)
Earnings Before Interest, Taxes, and Depreciation (EBITDA)	0.07 (0.05)	0.07 (0.05)	0.06 (0.06)	0.07 (0.05)	0.08 (0.05)
Free Cash Flow	0.02 (0.02)	-0.00 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)
Market-to-Book	0.84*** (0.10)	0.83*** (0.10)	0.84*** (0.10)	0.83*** (0.10)	0.84*** (0.10)
Dividend Yield	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Diversification	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.01 (0.01)	0.02 (0.01)
Market Risk	-0.03 (0.07)	-0.03 (0.07)	-0.03 (0.07)	-0.04 (0.07)	-0.03 (0.07)
Return on Assets	0.06*** (0.02)	0.06*** (0.02)	0.06*** (0.02)	0.06*** (0.02)	0.06*** (0.02)
Institutional Investor Ownership	0.62*** (0.03)	0.62*** (0.03)	0.62*** (0.03)	0.62*** (0.03)	0.62*** (0.03)
Weighted Valence Measure: Revenue	0.84*** (0.25)	0.84*** (0.25)	0.84*** (0.25)	0.84*** (0.25)	0.85*** (0.25)
Media Weighted Valence Measure: Net Income	-0.02*** (0.01)	-0.02*** (0.01)	-0.02*** (0.01)	-0.02*** (0.01)	-0.02*** (0.01)
Weighted Valence Measure: EBITDA	-3.49* (1.89)	-3.58* (1.89)	-3.48* (1.88)	-3.48* (1.88)	-3.54* (1.88)
Weighted Valence Measure: Free Cash Flow	-3.39** (1.68)	-3.16* (1.68)	-3.34** (1.67)	-3.34** (1.68)	-3.30** (1.68)
Free Cash Flow x Weighted Valence Measure: Free Cash Flow		2.00** (1.00)			
EBITDA x Weighted Valence Measure: EBITDA			0.93 (1.48)		
Net Income x Weighted Valence Measure: Net Income				-0.01*** (0.00)	
Revenue x Weighted Valence Measure: Revenue					-0.42** (0.20)
Constant	1.79*** (0.23)	1.80*** (0.23)	1.79*** (0.23)	1.79*** (0.23)	1.79*** (0.23)
Observations	3372	3372	3372	3372	3372
Log-likelihood	-3000	-2996	-2999	-2997	-2997
Standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

Table 3: Autoregressive Moving Average (ARMA) estimates of CSR performance measures on corporate reputation

[illegible]

Figure 1. Firm Effects on Reputation at High, Medium, and Low Levels of Media Attention

(a) Traditional financial measures



(b) Emergent financial measures

