When Are Investors Influenced By the Opinions of Others? Evidence from Overpaid CEO Designations

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Abstract

We contribute new insights as to when the investment decisions of professional investors are impacted by the opinions of others. Using nine years of data from an annual publication of the 100 most overpaid CEOs in the S&P 500, we find that equity investors respond negatively when CEOs are designated as overpaid, even though the information that goes into the overpaid designation is all publicly available beforehand. The announcement returns are the most negative in the first year that a firm appears on the list, and they do not appear to be driven by the level of CEO pay itself. We find that the negative responses to the overpaid CEO designation are the most pronounced in times of uncertainty and among relatively small institutional investors, who likely have fewer resources to monitor and judge excess CEO pay themselves. We also find evidence that firms under-perform in the long-run after they first appear on the list.

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1 Introduction

According to the efficient markets hypothesis, once new information about a firm is made public it should be rapidly worked into stock prices (Fama, 1970; Basu, 1977; Jensen, 1978). Assuming the new information is efficiently incorporated into equity values, we would not expect an investor's trading decisions to be influenced by others' future opinions and interpretations of the previously disclosed information. There are, however, several non-mutually exclusive reasons why this expectation might not be realized in practice. For instance, the opinions others share about a company—even if based on previously disclosed information—might cause an investor to update their priors if, for example, the opinions send a new signal about broader public sentiment towards the firm. In addition, some investors may have been limited in their ability to gather and process the previously disclosed information in real time, causing them to rely on the aggregations and interpretations of others. Furthermore, the publicity of new opinions that are formed on previously disclosed information may increase the salience of the old information, which could make the old information more influential in decision-making. We explore these possibilities within the context of excess CEO compensation, wherein we estimate investor responses to an annual publication of the 100 most overpaid CEOs in the S&P 500, which is compiled using previously disclosed public information.

As suggested above, we consider three different explanations for why investors may be influenced by the opinions of others, even if those opinions are formed based on previously disclosed (i.e., stale) information. First, Keynes (1936)'s beauty-contest view of financial markets suggests investors simply try to buy stocks that they believe other investors will

value even more in the future (Thaler, 2015). So, learning the opinions of others, even if the opinions are formed on old information, may help investors guess which stocks others are likely to value the most. Second, the bounded rationality view suggests that decision makers intend to be rational, but they are limited by human cognitive and emotional capabilities (Jones, 1999). As such, some investors may not have the cognitive bandwidth or resources to gather and interpret new information themselves, so they rely on others to aggregate and interpret it for them. Third, saliency theory suggests that markets "abound with salient stimuli," which may impact market participants' decisions (Bordalo et al., 2012, 2022). Published content from the news media and other organizations can propagate information (including stale information) widely, increasing its salience and perceived importance (Shiller, 2005) and possibly reducing the weight investors place on their own private information (Allen et al., 2006).

The overpaid CEO designations that we study come from a shareholder advocacy organization, As You Sow (AYS). The organization publishes an annual disclosure that ranks the 100 most overpaid CEOs among firms in the S&P 500 each year (hereafter, "AYS 100 List"). The overpaid CEO designations provide an ideal setting to study when investors are influenced by the opinions of others for several reasons. First, the extent to which a particular CEO is overpaid is inherently subjective, and some argue that CEOs are actually rarely overpaid and are, in many cases, underpaid (Kaplan, 2008; Berk, 2025).[1] Second, optimal executive compensation contracts are considered to be among the most important mechanisms that address the agency problems inherent in publicly traded companies with

[1]A recent high-profile example of this is Elon Musk's $56 billion pay package, which has received a wide range of support and criticism (Coles et al., 2024a).

disperse ownership (Garen, 1994; Bebchuk and Fried, 2003). As such, CEO pay garners immense amounts of attention from investors, regulators, and other stakeholders. Third, executive compensation information, along with the firm financial metrics tied to executive pay, have been mandatory disclosure items for decades. In particular, the information that gets factored into nearly all excess CEO pay calculations—including that which determines the overpaid CEO designations that we study—is publicly available. As a result, the overpaid CEO designations that we study reveal essentially no *new* information about executive compensation or firm performance. As such, this setting allows us to study whether and when investors are influenced by opinions that are based solely on previously disclosed information.

We collect the overpaid CEO designations from every available AYS 100 List, which covers nine years of data from 2015 to 2023. We link this information to stock return data from CRSP, allowing us to analyze short-term market reactions to a firm's inclusion and rank on the list. In addition, we use data from Thomson Reuters to estimate the relation between list inclusion and institutional investors' portfolio balancing decisions. We also build out a firm-year panel that combines the AYS 100 List information with data on firm financials (e.g., Compustat), CEO characteristics (e.g., BoardEx), and governance metrics (e.g., Execucomp) to estimate the determinants of a firm's inclusion on the list. Using this panel, we also estimate the relation between list inclusion and various indicators of long-run performance outcomes, such as Tobin's Q and long-run alphas.

We begin by investigating the determinants of a firm's inclusion on the AYS 100 List, as this provides important context for evaluating investors' reactions to others' opinions about excess CEO pay. We find evidence that larger firms are significantly more likely to be included on the list. Similarly, firms with high CEO compensation vega—which incentivizes

CEOs to take risks—are more likely to be included on this list. We do not find evidence that other common governance characteristics, such as board co-option metrics or CEO-Chair duality, are significant predictors of list inclusion. The predictive power of firm size and CEO vega for list inclusion, which relate to well-established theories of rent extraction, lend credibility to the criteria underlying the AYS 100 List.

We then investigate investors' short-term reaction to a firm's inclusion on the AYS 100 List, our primary approach to testing whether investors are influenced by the opinions of others. We find evidence of negative and statistically significant stock price reactions when firms are included on the list. The magnitude of the effect is economically meaningful, as it represents a negative cumulative abnormal return of about 50 basis points over a 12-day [-1,+10] window (i.e., a 10.5% annualized decrease in value). This finding is robust to the use of several approaches to estimating abnormal returns, including the market model, the Fama-French three factor model, and the Fama-French-Carhart four factor model. We find that investors' reactions are the most negative, at -75 bps, when the firm is included on the AYS 100 List for the first time, though the magnitude of the stock price reduction remains economically significant in the later inclusion years as well. Perhaps surprisingly, the negative investor reactions are similar for firms ranked 1–50 (i.e., the most overpaid CEOs of the 100) and for firms ranked 51–100 (i.e., the least overpaid CEOs of the 100), but we find that this is attributable to firm's being ranked relatively low on this list (e.g., 51–100) in their first year of inclusion. We do not find evidence that investors react more negatively based on high levels of CEO pay, which suggests that the negative investor reactions are specifically reactions to list inclusion, and not to the level of CEO pay itself. Taken together, investors appear to be influenced by others' opinions regarding excess CEO pay, even though all the information

that goes into the overpaid CEO designation was publicly disclosed months earlier.

We then test for heterogeneity in the announcement returns across several dimensions to explore when investors react the most to the overpaid CEO designation. We find that the announcement returns are significantly negative for firms with poor accounting performance based on return on assets (-97 basis points), whereas they are negligible for better performing firms. The announcement returns are also significantly negative for highly levered firms (-85 basis points), whereas they are closer to zero and insignificant for less levered firms. Most strikingly, the announcement return were negligible before the COVID-19 global pandemic, but then they become highly negative and significant during and after the pandemic (-108 basis points). These results suggest that investors are more likely to rely on the opinions of others during times of economic uncertainty and when a firm's financial performance is poor.

We then conduct several tests to explore which of the aforementioned explanations—beauty-contest-like guessing, bounded rationality, or increased salience—are likely at play in this setting. We first test for heterogeneous responses across different types of investors to understand whether some investors react to the overpaid CEO designation more than others. By estimating changes in the portfolio holdings of institutional investors from the quarter before the AYS 100 List is published to the quarter after, we first show that institutions divest away from firms with CEOs who are designated as overpaid. We then show that these changes in portfolio holdings are greatest among relatively smaller institutions (e.g., those with less than $250 billion assets under management). As smaller investment groups likely have fewer resources with which they can monitor firms, they may be more likely to rely on the opinions of others when making subjective assessments on topics like excess CEO pay. In line with this notion, we find that the portfolio holdings of the big three institutional

investors—BlackRock, State Street, and Vanguard—do not significantly change in response to the overpaid CEO designations. This may be due, at least in part, to the fact that these institutions have substantial monitoring and information processing resources of their own, making them less reliant on the opinions of others. These findings suggest that bounded rationality, specifically the constraints some investors face in their ability to aggregate and interpret information on their own, likely provides a partial explanation for why investors react to the overpaid CEO designations.

Given the evidence of negative short-term investor reactions to firms' inclusion on the AYS 100 List, a reasonable next question is whether these firms under-perform in the long-run. To test this, we first estimate annual risk-adjusted returns based on a portfolio rebalancing exercise where we purchase the stock of each firm on the AYS 100 List in the month after the list is published, holding the stock for a year. We estimate negative risk-adjusted alphas, but they are never statistically significant. However, when we conduct a similar portfolio approach where we purchase the stock of each S&P 500 firm that is *not* on the list, we estimate positive, and statistically significant, risk-adjusted alphas. Furthermore, the difference in long-run alphas between the non-listed and listed portfolios is statistically significant. This shows that firms on the AYS 100 List under-perform in the long-run, relative to their non-listed peers.[2] This suggests the negative announcement returns were not simply an over-reaction to new signals about others' sentiment towards the firms on the AYS 100 List, nor were they likely a temporary response to increased salience of CEO pay information.

Our findings contribute to multiple strands of literature in finance, accounting, and

[2]We also find evidence of long-term under-performance when estimating Fama MacBeth monthly regressions and when estimating the effects on Tobin's Q with a stacked difference-in-differences estimator.

economics. First, our findings relate to prior work that has estimated how stakeholders respond when third-party organizations, such as the media or advocacy groups, disclose their opinions about certain companies. These studies have largely focused on recognitions and rankings that introduced *new* information to the market, such as which companies are the best to work for (Edmans, 2011), which CEOs are rated favorably by their employees (Barnes and Cheng, 2023), which boards institutional investors deem to be ineffective (Joe et al., 2009), and which executives received major awards (Malmendier and Tate, 2009).[3] Our setting differs from those in prior studies because the information used to determine the overpaid CEO designations is all publicly available in 10-Ks and proxy statements. As such, the information used to curate the AYS 100 List is *old* information, which investors could have freely accessed and analyzed prior to the publication of the list. That we find evidence of significant announcement returns and institutional investor trading activity in response to the overpaid CEO designations suggests that many investors—including sophisticated professionals—are influenced by the opinions of others when they make their investment decisions.

Second, we contribute new insights to the literature on executive compensation and, specifically, the growing stream of research on excess CEO compensation. To the best of our knowledge, we are the first to consider how others' opinions about excess CEO pay influence investor behavior. Several studies have sought to provide rationales behind the observed growth in CEO pay or to explain the causes of excess CEO compensation, with attributions related a firm's market capitalization (Gabaix and Landier, 2008), CEO power (Shin, 2016;

[3]Other studies have considered rankings related to which entrepreneurs are especially wealthy (Hawn et al., 2018), which companies are the most admired (Cheng et al., 2017), and which companies are the best corporate citizens (Lewis and Carlos, 2023).

Hill et al., 2016), and sector-specific luck (Bertrand and Mullainathan, 2001).[4] Other studies have considered how excess CEO pay relates to subsequent firm outcomes, such as investment in CSR (Ferrell et al., 2016), shareholder activism (Ertimur et al., 2011), and operating performance (Balafas and Florackis, 2014). We abstract away from the questions of whether or why CEOs are overpaid, and we instead focus on the investment decisions of investors when they are provided with information about others' beliefs about excess CEO pay. In doing so, we show that some investors—specifically those with fewer monitoring resources of their own—are more heavily influenced than are other investors by these subjective assessments.

Third, our results highlight the role of third-party organizations, such as the media or advocacy groups, in corporate governance matters. Core et al. (2008) were among the first to provide large-scale evidence of the media's role in monitoring executive compensation practices. They found, however, little evidence that firms adjusted excess CEO pay in response to negative press coverage. In contrast, Joe et al. (2009) show that, across a similar time horizon (late 1990s to early 2000s), firms take corrective actions to improve their governance measures after they are exposed for having ineffective boards. More recently, Liu et al. (2017) show that retired CEOs' board memberships are influenced by the type of media coverage they incurred while they were CEOs, showcasing the important role that the media can play in shaping corporate governance. We add to this stream of research by highlighting the impact that others' assessments of excess CEO pay can have on the investment decisions of professional investors, especially among those investors who may have limited resources to make their own assessments.

[4]Concerns around excess CEO pay have even prompted new regulation, as the SEC now requires firms to disclose information reflecting the relationship between executive compensation and the firm's financial performance (SEC, 2022). Importantly, some academics argue that CEOs are not actually overpaid. For instance, Kaplan (2008) notes that CEO pay declined in real terms from 2000 to 2006.

2 Institutional Background

The 100 Most Overpaid CEOs report is an annual publication by the non-profit shareholder advocacy organization As You Sow (AYS). Established in 1992, AYS operates at the intersection of corporate responsibility and shareholder activism. Its mission encompasses advocating for sustainable and equitable corporate practices, which includes ensuring that executive compensation reflects performance and stakeholder interests. The 100 Most Overpaid CEOs report exemplifies this mandate by discussing the factors that enable excessive CEO pay. The inaugural report, published in 2015, addressed a growing concern among investors and the public regarding income inequality and corporate governance failures. Since then, the annual report has evolved into a cornerstone of AYS's advocacy efforts. The report "[identifies] the 100 Most Overpaid CEOs among the companies in the S&P 500 index and analyze[s] the voting practices of large financial managers, mutual funds, and pension funds." The report seeks to highlight instances in which disconnects exist between CEO pay and corporate performance, while promoting accountability among institutional investors.[5]

The 100 Most Overpaid CEOs report receives substantial attention from investors, the media, and other corporate stakeholders. The report is frequently cited in high-profile financial- and business-oriented media outlets such as Fortune (Prakash, 2023), Poets and Quants (Ethier, 2023), Investopedia (Hyatt, 2023), Business Insider (Martin, 2023), Morningstar (Saldanha, 2022), HR Dive (Golden, 2022), and Fast Company (Peters, 2020). The report has also been featured in local news outlets such as the LA Times (Hiltzik, 2023) and the Nevada Current (Girnus, 2023). Coverage in these media outlets typically focuses on

[5]For additional detail, see https://www.asyousow.org/about-us.

the report's headline figures, such as the most egregious CEO-to-worker pay ratios or the companies with the highest levels of shareholder dissent during say-on-pay voting. In addition to traditional media outlets, the report is widely shared and discussed across digital platforms, including X, LinkedIn, and governance-focused forums. This widespread coverage underscores the report's influence in debates over executive compensation, corporate governance, and economic inequality.[6] Importantly, the 100 Most Overpaid CEOs reports are available for free from AYS's website without sign-ups, logins, or other restrictions, making them accessible to all equity investors.

The inclusion and ranking of firms on the 100 Most Overpaid CEOs list within the report are determined by an aggregation of three measures, which are all based on publicly available data. First, AYS uses regression analysis to determine excess CEO pay, based on executive compensation data and corporate performance outcomes in financial disclosures and proxy statements. They collaborate with HIP Investor to compare CEO compensation to financial performance metrics over the previous five years. Deviations between expected (from HIP Investor's regression analysis) and actual CEO pay are categorized as "excess pay." This methodology is analogous to the regression-based approach used by finance scholars to determine a firm's level of excess CEO pay (Ertimur et al., 2011; Ferrell et al., 2016). Second, AYS examines shareholder voting patterns. The report evaluates voting outcomes on say-on-pay resolutions, focusing on institutional investor opposition. Data sourced from SEC 13-F filings and Insightia illustrates the extent of shareholder dissent against excessive CEO pay packages. Third, AYS incorporates information on within firm pay disparities. The

[6]In addition, data on website visit trends shows that AsYouSow.org receives substantial website traffic, as it averages around 50,000 visitors each month. See https://www.similarweb.com/website/asyousow.org.

CEO-to-median worker pay ratio, mandated for disclosure under the Dodd-Frank Act (Pan et al., 2022; LaViers et al., 2024; Carter et al., 2024), serves as an additional metric in their report. This ratio contextualizes CEO pay within broader economic inequality debates, and it is publicly available in corporate proxy statements. These elements are weighted to produce a composite score—with excess pay and voting opposition each accounting for 40%, and the pay ratio contributing 20%—and this score determines a firm's inclusion and ranking on the list.

The first nine reports, from 2015 to 2023, were published between February 13th and March 1st of their respective year, capturing CEO compensation, firm performance, say-on-pay voting outcomes, and CEO pay ratios from the prior fiscal years. As such, all of the data that goes into AYS's 100 Most Overpaid CEOs inclusion and ranking decisions is available to investors before the publication of the report. This institutional detail highlights the usefulness of this setting in testing whether and when investors rely on the assessments of others when determining their investment decisions.

3 Data and Descriptive Statistics

We collect data from several sources to conduct our empirical tests. The configurations of the data samples that we use differ across the various tests (e.g., event studies versus panel regressions), so we describe each data sample on its own. We then discuss summary statistics to describe quantitative details of the empirical setting, as well as to provide a benchmark for interpreting the results of our empirical tests.

3.1 100 Most Overpaid CEOs List

In all of our tests, we use data from AYS's 100 Most Overpaid CEO lists (AYS 100 List). These lists exist from 2015 to 2023. For each list, we extract information on which firms are listed, their rank on the list (e.g., 1–100), and the CEO's level of total compensation as disclosed on the list. We also record the exact date in which the list was publicized.[7] As we discuss in detail below, we only keep firms in our sample if we have sufficient CRSP stock price data for them. This leads to 887 firm-year observations from 311 unique firms (i.e., we do not have sufficient stock return data for 13 of the firm-year observations).

Figure 1 plots the extent to which firms are added to the AYS 100 List in a given year or remain on the list from the year prior. In 2015, all firms are included in the "Added" category, as that was the first year of the list's publication. Then from 2016–2023, we observe that 49–63 of the firms that were included in the prior year's list are also included in the focal year's list ("Remained" bars). These trends suggest that many companies exhibit repeated pay patterns that lead to their continued presence on the list; in other words, many firms designated as having overpaid CEOs seem to repeat their executive compensation practices year-to-year. Importantly, though, the addition of new firms to the AYS 100 List each year—about 34–50 of the included firms—provides helpful variation across time with which we can estimate investor responses to a firm's inclusion on the list.

Next, we explore the number of times each of the firms in the sample are included on the AYS 100 List. Figure 2 plots the frequency of the number of times a firm makes the list. The trends show that most firms appear on the list a limited number of times, with the vast

[7]These dates are February 18, 2015; February 17, 2016; February 13, 2017; March 1, 2018; February 20, 2019; February 24, 2020; February 24, 2021; February 23, 2022; and February 15, 2023.

majority of firms (252/311 = 81%) being featured on the list 1–4 times. 171 firms (55%) appear on the list only once or twice, indicating that a notable group of companies experience fairly transient inclusion. The modal frequency occurs at one appearance, with two appearances being the second most common value. The frequency reduces as the number of appearances increases beyond five.[8] In conjunction with Figure 1, the frequency distribution in Figure 2 underscores the variability in firm inclusion on the list, suggesting that overcompensation practices, as evaluated by AYS, are not uniformly persistent across firms.

Lastly, in Figure 3 we group the firms that appear on the AYS 100 List into the Fama-French five industries (FFI). Among the 887 firm-year observations, about 15% come from the FFI-1 (Consumer Durables, NonDurables, Wholesale, Retail, Some Services), 20% come from FFI-2 (Manufacturing, Energy, and Utilities), and 25% come from FFI-3 (Business Equipment, and Telephone and Television Transmission). The least represented industry is FFI-4 (Healthcare, Medical Equipment, Drugs), with about 10% of the sample firms, and the most represented industry is FFI-5 (Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment, and Finance), with about 30% of the sample firms. We note that FFI-4 firms make up about 8.5% of all the firms in the FFI classification universe, so they are relatively over-represented on the AYS 100 List. Whereas FFI-5 firms make up about 33.5% of the universe, so they are relatively under-represented.

[8]Only two companies appear on the list in each of the nine years: Disney and Ameriprise Financial.

3.2 Financial and Performance Data Collection

3.2.1 Cumulative Abnormal Return (CAR) Sample

To estimate a firm's cumulative abnormal returns after its inclusion on the AYS 100 List in a given year, we gather daily stock return data from CRSP. In a given year, the cumulative abnormal returns are based on an estimation window that begins (ends) 252 trading days before (126 trading days after) the publication of the list that year. We require a minimum of 42 non-missing return observations (two trading months) within the estimation window to produce estimates of the expected return (Brown and Warner, 1985). This data requirement leads to a final CAR sample that includes 887 firm-events from 311 unique firms from the S&P 500.[9] We estimate CARs using several different approaches: the market-adjusted model (MAM), the market model (MM), the Fama-French three factor model (FF3), and the Fama-French-Carhart four factor model (FFC4). In our main CAR estimations, we use a twelve-day event window, $[-1, +10]$, with day zero being the date of the list's publication on AYS's website. We also discuss the results when using alternative event windows, such as $[-1, +1]$ and $[-1, +5]$.

3.2.2 Investor Portfolio Holdings Sample

To identify which investors react to the inclusion of firms on the AYS 100 List, we estimate changes in institutional investor portfolio holdings. This data comes from the Thomson/Refinitiv Institutional (13f) Holdings database. For every investor in the dataset,

[9]The CAR sample is 13 observations short of the expected size of 900 firm-events (i.e., 9 years of the list × 100 firms per list). However, due to the restrictions that we place on the CAR design, the missing observations lack stock return and accounting information due to company restructuring. For example, X (formerly Twitter) made AYS's overpaid CEO list in 2023, which had a publication date of 2/15/2023, yet it was taken private on 10/27/2022.

and for every firm in the S&P 500 in given year, we gather data on the investor's Q2 and Q4 holdings of the particular stock, as a percentage of its total stock holdings. We do this from Q4 of 2014 to Q2 of 2023. In doing so, we can estimate how an investor's portfolio holdings change from the quarter before the list publication (Q4 in the year before the publication) to the quarter after the AYS 100 List publication (Q2 in the year of the publication). This leads to an investor-firm-year panel of data with 2,381,924 observations.

3.2.3 Excess Future Returns Sample

Next, we create a data sample to measure excess future returns over the long run following the methodology outlined in Edmans (2011). We begin with the 887 firm-year events from the CAR sample. Then we merge in monthly stock return data from CRSP, which we use to create investment portfolios in an ex-ante trading strategy based on whether or not a firm appears on the AYS 100 List in a particular year. The portfolio updates yearly after AYS's list announcement. To test if these firms generate excess returns, portfolio formation occurs the month after the list announcement month. For example, the list announcement date in 2015 occurred in February, so the portfolio formation begins in March 2015, and it holds these firms for one year to February 2016. The portfolio formation period covers March 2015 to December 2023, which results in a sample of 106 year-month portfolio observations.

3.2.4 Panel Data Sample

We also create a firm-year panel data sample for estimating Fama-MacBeth regressions and for estimating long-term performance effects based on Tobin's Q. We begin with monthly stock return data from CRSP on all firms in the S&P 500 in a given year. We then merge

in yearly Compustat data. This results in a sample of 37,809 firm-month observations with 490 unique firms from March 2015 to February 2024.[10] We use this sample to conduct Fama-MacBeth estimations of long-run stock return performance.

To estimate the relation between AYS 100 List inclusion and long-run performance across other dimensions, we collapse the panel data sample to the firm-year level. This sample includes accounting data from Compustat on all firms on the S&P 500 from 2015 to 2023, leading to a sample of 3,010 firm-year observations. To include additional control variables into the analysis, we merge in data on CEO pay and director co-option (from Lalitha Naveen's website), and CEO tenure and CEO-chair duality (from Execucomp). We also use this data sample to estimate the predictors of list inclusion.

3.3 Summary Statistics

Table 1 reports summary statistics from the different data samples that we construct for use in our empirical analyses. Panel A summarizes data for the CAR analysis, covering 887 firm-events from 2015 to 2023 around the yearly publication of the AYS 100 List. Among firms that appear on the list, the average (median) firm is included on the list 2.67 (2.00) times. The average CEO pay is $26.90 million, while the median is notably lower at $21.21 million, reflecting a skewed distribution. Firms have an average (median) return-on-assets of 5% (5%) in the year of their inclusion on the list, and they have an average (median) leverage ratio of 0.33 (0.31). Additionally, 45% of firm-year event observations occurred during or after the COVID-19 pandemic (from 2020 onward). These last three characteristics are used

[10] As stated earlier, some firms in the S&P 500 and on the AYS 100 List do not have sufficient stock return data or financial control data to conduct these tests.

to measure effect heterogeneity in the CAR analyses.

Panel B presents summary statistics for the institutional investor portfolio holdings sample. The average Δ *Stock Weight* is 0.02%, with a standard deviation of 0.23%, reflecting small changes in stock weights held by institutional investors. The *Overpaid CEO List* variable indicates that 26% of observations correspond to companies featured on the AYS 100 List. Investor characteristics show that 97% of observations involve institutional investors with assets under management (AUM) of less than or equal to $0.25 trillion, while 45% involve investors with AUM of less than or equal to $1 billion. The Big 3 investors—BlackRock, State Street, and Vanguard—account for a very small fraction of the observations, with a mean of 0.5%. The USA-based investor variable shows that 87% of observations cover institutional investors that are U.S.-based.

Panel C summarizes portfolio returns for the Fama-French sample, which comprises 108 year-month observations (representing 9 years), from March 2015 to February 2024. Equal-weighted monthly returns average 0.85%, slightly exceeding the value-weighted monthly average of 0.78%, suggesting that smaller firms on the AYS 100 List may have experienced relatively higher returns during this time. Annualizing these monthly returns averages at about 9% per year. Given that the AYS 100 List exclusively includes firms from the S&P 500, which averaged approximately 13% returns during the sample period, the observed sample returns suggest under-performance relative to market peers.

Panel D presents summary statistics for the Fama-MacBeth firm-month panel data sample from March 2015 to February 2024. Average raw stock returns are 1.25% per month, or approximately 14.75% annually, reflecting strong performance during the sample period. The variable *Overpaid CEO List* indicates that 37% of the firm-month observations cover

companies featured on the AYS 100 List. Firm characteristics reveal an average firm size, *ln(Assets)*, of 10.01, with a median of 9.94, consistent with the large-cap nature of firms in the S&P 500. The average *Book-to-Market* ratio is 0.32, and the average *Leverage* is 0.31. CEO characteristics show an average *ln(CEO Delta)*, representing equity sensitivity, of 5.56, while *CEO Vega*, reflecting risk-taking incentives, averages 0.11.[11] The average (median) *CEO Tenure* is 6.70 (5.00) years, with 59% of CEOs holding dual roles as both CEO and board chair. Governance variables indicate that 45% of directors are co-opted, and 40% of independent directors are co-opted.

Panel E provides descriptive statistics for the firm-year panel data sample. The *List Binary* variable indicates that 19% of the firm-year observations cover companies included on the AYS 100 List that year. Performance metrics show an average *Tobin's Q* of 2.74, with a corresponding average *ln(Tobin's Q)* of 0.81. Firm financial characteristics and CEO/board characteristics are similar to those in Panel D.

4 Empirical Methodologies and Results

4.1 Which Factors Predict a Firm's Inclusion on the List?

We begin by investigating the determinants of a firm's inclusion on the AYS 100 List, as this provides important context for evaluating investors' reactions to list inclusion. The inclusion of firms on the AYS 100 List likely reflects tensions between incentive alignment and rent extraction in executive compensation. According to principal-agent theory, optimal contracts

[11] We impose the logarithmic transformation to the CEO delta values, and not to the CEO vega values, because of extreme skewness in the distribution of the former.

should align CEO incentives with shareholder interests by linking pay to performance metrics such as firm growth, profitability, and market value (Jensen and Murphy, 1990). However, disconnects between these outcomes and executive compensation may signal suboptimal contracts and other governance failures. By estimating the predictors of list inclusion, we can test whether the factors that are often discussed in theories of rent extraction do, in fact, correlate with the overpaid CEO designation. As such, these tests also allow us to better understand the AYS 100 List inclusion criteria.

To test which observable outcomes predict a firm's inclusion on the AYS 100 List, we use the firm-year panel data of S&P 500 firms (described in Section 3.2.4), and we estimate ordinary least squares regressions using the following model specification:

$$y_{i,t} = \boldsymbol{X}_{i,t-1}\beta + \tau_t + \delta_j + \varepsilon_{i,j,t}, \tag{1}$$

where $y_{i,t}$ captures a firm's inclusion on the AYS 100 List; specifically, *Overpaid CEO List*$_{i,t}$ equals one if firm i is on the AYS 100 List in year t, and zero otherwise. $\boldsymbol{X}_{i,t-1}$ is a vector of observable controls across firm and CEO characteristics, which are lagged by one year, i.e., $t-1$. Year fixed effects are captured by τ_t, industry fixed effects at the Fama-French 48 classification level are captured by δ_j, and $\varepsilon_{i,j,t}$ is the unobserved error term. We cluster standard errors by firm.

The results of these regression estimations are reported in Table 2. The focus in Column (1) is on a firm's performance outcomes and other measures of financial health: *ln(Assets)*, *Book to Market*, *Leverage*, and *ROA*. In Column (2), we focus on the CEO and board characteristics that are closely tied governance quality: *ln(CEO Delta)*, *CEO Vega*, *CEO*

Tenure, *CEO Duality*, *Co-Opted Directors*, and *Co-Opted Independent Directors*.[12] In Column (3), we regress *Overpaid CEO List* on all the potential predictors of list inclusion at once.

We find evidence that larger firms are significantly more likely to be included on the list. The positive correlation between *Overpaid CEO List* and *ln(Assets)* underscores that larger firms face greater scrutiny over CEO compensation practices, potentially reflecting heightened investor attention and public visibility. This finding is also consistent with concerns regarding empire building, wherein CEOs may have incentives to increase their span of control by, for example, engaging in value-destroying M&A (Coles et al., 2024b).

In terms of CEO and board characteristics, in Column (3) we find that firms with high CEO compensation vega—which incentivizes CEOs to take risks—are more likely to be included on this list. This finding may be surprising at first glance, as high vega contracts are meant to align the incentives of risk-averse CEOs with those of investors. It may be the case, however, that CEOs designated as overpaid are included on the list because they receive options and option-like incentives, but those incentives might not always translate into the value-creation that investors hope to achieve. We do not find evidence that other common governance characteristics, such as CEO tenure, CEO-Chair duality, or board co-option metrics, are significant predictors of list inclusion. Importantly, the significant loading on factors like firm size and CEO vega, which relate to well-established theories of rent extraction, lend credibility to the criteria underlying the AYS 100 List.

[12]These and all other variables are defined in Table A.1.

4.2 Do Equity Investors React to the Overpaid CEO Designation?

Next we investigate whether investors significantly react to the overpaid CEO designations made through the AYS 100 Lists. This provides a test of whether the subjective opinions of others can influence one's investment decisions, *even when no new objective information is being disclosed*. To do this, we use a cumulative abnormal return (CAR) event study analysis around the publication date of each list (Brown and Warner, 1985). We use the CAR data sample described in Section 3.2.1, and we define day zero as the publication date of the list on AYS's website.[13] We use the market-adjusted model (MAM), the market model (MM), the Fama-French three factor model (FF3), and the Fama-French-Carhart four factor model (FFC4) for our CAR analyses. The FFC4 model is defined as,

$$R_{i,t} - RF_t = \alpha + \beta_1(MKT_t - RF_t) + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 UMD_t + \epsilon_{it} \tag{2}$$

$$\hat{\epsilon}_{i,t} = \hat{R}_{i,t} - R_{i,t} \tag{3}$$

$$CAR_i = \sum_{-t}^{t} \hat{\epsilon}_i, \tag{4}$$

where $R_{i,t}$ is the stock return for firm i at time t, $\hat{R}_{i,t}$ is the estimated stock return, $\hat{\epsilon}_{i,t}$ captures the abnormal return, and CAR_i is the sum of the abnormal returns. The controls in the Fama-French-Carhart four factor model are as follows: MKT is the excess return on the market, SMB is the average return on the difference between the three small portfolios and the three big portfolios, HML is the difference between the average return on the two value portfolios and the two growth portfolios, and UMD is the rate of acceleration of a security's

[13]These dates are February 18, 2015; February 17, 2016; February 13, 2017; March 1, 2018; February 20, 2019; February 24, 2020; February 24, 2021; February 23, 2022; and February 15, 2023.

price. We cluster standard errors by firm.

Table 3 presents the results of the CAR analysis using a twelve-day window $[-1, +10]$ around the list announcement date. The CAR estimates are consistently negative across the four return estimation models. Specifically, the estimates range from -0.4751% to -0.5481%, which are all statistically significant at the 10% level or higher.[14] From an economic perspective, a negative CAR of approximately 0.50% over a twelve-day window is meaningful, especially for firms with large market capitalizations. Given that the average market capitalization in the sample is $83 billion, this implies that, on average, firms lose about $415 million in value over a twelve-day window after having their CEO designated as overpaid on the AYS 100 List. For a firm with a 10% cost of capital, this represents an annual loss of around $41.5 million. These findings suggest that investors react negatively and significantly to the overpaid CEO designation.

Next, we explore effect heterogeneity in the CAR reactions to better understand the circumstances in which investors react negatively to this information. In doing so, we are able to shed additional light as to when the subjective assessments of others impact investment decisions. Table 4 reports the results of the heterogeneous CARs analyses. Panel A splits CARs by the number of times a firm has appeared on the list. Firms appearing on the list for the first time experience a significant negative CAR of -0.7496% ($p < 0.1$), while those appearing for their second time or more do not realize statistically significant CARs, though the estimate continues to be negative and the magnitude is economically meaningful, -0.3792.

[14]We show in Panel A of Appendix Table A.2 that the immediate three-day $[-1, +1]$ market reaction is close to zero and varies in sign across the models. In contrast, in Panel B, the seven-day $[-1, +5]$ CARs are consistently negative and range from -0.1201% to -0.1726%, but they are not statistically significant. We attribute the somewhat delayed reaction, and early noise, to the fact that bad news often travels relatively slowly in the market (Hong et al., 2000). In Panels C and D, we show that the negative investor reactions do not reverse in the one-week or two-week period after the initial 12-day estimation window.

This heterogeneous effect suggests investors react most to the *first* overpaid CEO designation, when the subject assessment of others is brand new information to the investors.

In Panel B, we find that firms ranked in the top 50% of the list (rankings 1–50) realize similar CARs as those ranked in the bottom 50% of the list. This may be surprising at first glance, as one might expect that firms with CEOs who are designated as the most overpaid among those on the list would realize the most negative stock price reactions. We posit, however, that this is likely related to the fact that when firms are first added to the list, they are generally in the bottom half of the ranking distribution (i.e., rankings from 51–100). To highlight this, Figure A.1 shows that when firms are included on the AYS 100 List for the first time, they are generally ranked towards the bottom of the list. So, while investors react negatively to especially overpaid CEOs (those with rankings from 1–50), they also react negatively when CEOs first appear on the AYS 100 List.

In Panel C, we split firms into two groups based on the value of CEO pay as reported in the AYS 100 Lists, based on the median value. We conjecture that investors are responding to the subjective assessments of others regarding the extent to which CEOs are overpaid, and not necessarily to the level of CEO pay itself (which is stale information). In support of this notion, we find large, negative CARs both when CEOs are in the top half of the income distribution and when they are in the bottom half, albeit the CARs are only significantly different from zero in the later case. If investors were mainly reacting to CEO pay levels, we would expect to find larger (more negative) and more precise CARs in the top half of the income distribution, but we find the opposite. This finding speaks against the saliency theory explanation for investor reactions to the AYS 100 List, as it does not appear to be the case that the observed negative announcement returns are due to increased saliency of

especially high values of CEO pay.

In Panels D and E, we split firms into separate groups based on their return on assets (ROA) and leverage ratios, respectively. Firms in the bottom half of the ROA distribution experience significant negative CARs of -0.9731% ($p < 0.05$), suggesting that poorer financial performance correlates with more negative investor reactions to the overpaid CEO designation. In contrast, firms in the top half of the ROA distribution realize CARs that are much closer to zero (-0.0864). Similarly, CARs are significantly negative for firms in the top half of the leverage distribution, -0.8519% ($p < 0.05$), while they are insignificant for firms with lower leverage levels. This indicates that highly leveraged firms are subject to stronger negative market reactions.

Panel F splits the sample based on the timing of the AYS 100 Lists, specifically pre-COVID (2015–2019) versus post-COVID (2020–2023). Firms on the AYS 100 List during and after the COVID pandemic experience significantly negative CARs of -1.0765% ($p < 0.05$), whereas the pre-COVID CARs are statistically indistinguishable from zero (-0.0536), and they differ significantly from the post-COVID CARs ($p < 0.10$). This suggests that market responses to the overpaid CEO designation became more pronounced in the post-COVID period, potentially due to the economic uncertainty experienced at that time.[15]

4.3 Which Investors React to the Overpaid CEO Designation?

In this section, we examine whether institutional investors, in particular, react to firms being designated as overpaid on the AYS 100 List. It is not immediately obvious how

[15]In Table A.3, we split the CAR sample up by industry classification. We observe a significant negative CAR of -1.7982% ($p < 0.01$) for firms in Fama-French industry group 2 (Manufacturing, Energy, and Utilities). Firms in other industry groups do not exhibit statistically significant CARs, though several of the magnitudes are quite large.

institutional investors will respond to the overpaid CEO designation. On the one hand, institutional investors have access to all the data inputs that go into AYS's overpaid CEO designation, so they could have already made their own assessments regarding excess pay practices. If this is the case, then we would not expect to observe changes in institutional investor shareholdings due to the publication of the AYS 100 List. On the other hand, the beauty-contest explanation suggests investors—including sophisticated institutions—will incorporate the opinions of others into their investment decisions, even if those opinions are based on stale information. In addition, the bounded rationality explanation suggests investors with limited resources to evaluate excess CEO pay on their own may rely on the AYS 100 List to inform their investment decisions. In such cases, we would expect to estimate significant changes in investors' portfolio holdings after the publication of the AYS 100 List. The direction of the effect on portfolio holdings is difficult to predict, though, as inclusion on the list may signal poor governance practices and inefficient resource allocation, prompting divestment. Alternatively, list inclusion may be perceived by investors as an opportunity for governance reforms or activist engagement to increase firm value moving forward, leading institutions to purchase the firm's stock with the intent to exert activist-like control over certain governance measures.

To test these possibilities, we quantify institutional investors' changes in portfolio holdings around the publication of the AYS 100 Lists, following the empirical approach in Pan et al. (2022) (who focus on CEO pay ratio disclosures). Specifically, for each stock in each institutional investor's portfolio in our sample, we compute the change in the portfolio weight in constant prices between Q2 of the focal year and Q4 of the prior year, capturing the change in weight placed on a particular stock due to inclusion on the AYS 100 List in Q1 of the focal

year:

$$\Delta\text{Stock Weight}_{i,j,q,y} = \text{Stock Weight}_{i,j,q,y} - \text{Stock Weight}_{i,j,q,y-1} \tag{5}$$

$$= \frac{\eta_{i,j,q,y} p_{j,q,y-1}}{\sum \eta_{i,j,q,y} p_{j,q,y-1}} - \frac{\eta_{i,j,q,y-1} p_{j,q,y-1}}{\sum \eta_{i,j,q,y-1} p_{j,q,y-1}} \tag{6}$$

where $\eta_{i,j,q,y}$ ($\eta_{i,j,q,y-1}$) is the number of stock j shares in the portfolio of institutional investor i during Q2 (Q4) q in year y ($y-1$). We use stock prices from Q4 of the previous year, $p_{j,q,y-1}$, to compute the dollar value of portfolio holdings in Q2 of the focal year. Thus, shifts in portfolio weights represent deliberate rebalancing decisions rather than mere fluctuations in stock prices.[16]

We then estimate the following regression:

$$\Delta\text{Stock Weight}_{i,j,q,y} = \beta(\text{Overpaid CEO List})_{j,q,y} + \boldsymbol{X}_{j,y-1}\gamma + \tau_{d,y} + f_{i,j} + \varepsilon_{i,j,q,y}, \tag{7}$$

where $\Delta Stock\ Weight_{i,j,q,y}$ is the dependent variable in percent change of stock j held by institutional investor i in year y. The independent variable of interest, $Overpaid\ CEO\ List_{j,q,y}$, takes the value of one if a stock was included on the AYS 100 List in Q1 of year y, and zero otherwise. $\boldsymbol{X}_{j,y-1}$ is a vector of observable controls lagged by one year. We include firm-by-institutional investor fixed effects, $f_{i,j}$, to control for any firm-investor characteristics that may be correlated with the investors' attitudes towards CEO pay and to control for any firm characteristics that may be correlated with the firm's pay practices. We also include

[16] If we compare Q4 stock holdings in the prior year to Q1 stock holdings in the focal year, we find economically insignificant results (i.e., institutional investors do not change their holdings). This is likely the case as most of the press related to the AYS 100 List comes near the end of Q1 when holdings are reported. Therefore, due to this timing issue, we prioritize the comparison between Q4 holdings and Q2 holdings.

year-by-industry fixed effects, $\tau_{d,y}$. The coefficient β estimates the difference in the portfolio weight change with respect to whether a stock was included on the AYS 100 List. Finally, we cluster standard errors by firm-investor group.

Table 5 reports how institutional investors shift their portfolio holdings around the publication of the AYS 100 List. The specifications in Columns (1)–(4) only differ in the combination of control variables that are included in the model. The inclusion of a firm on the AYS 100 List is consistently associated with a statistically significant reduction in institutional investor holdings across all specifications, which are all statistically significant at the 1% level. Using the average of Δ Stock Weight from Panel B of Table 1, this effect suggests about a 75% decrease in stock holdings on average (i.e., $-0.015/0.02$). These findings suggest that institutional investors respond to the overpaid CEO designation by reducing their relative portfolio holdings in the corresponding firms.

The focus on institutional investors also allows us to assess whether certain types of investors are more heavily influenced by the overpaid CEO designation than others. While the results from Table 5 suggest that institutional investors decrease their holdings of firms on the list, it is the case that institutional investors often vary significantly in their objectives, resources, and strategies, which could lead to different responses to the overpaid CEO designation. In particular, we posit that smaller investors may lack the resources to determine whether CEOs realize excess compensation own their own, making them more reliant on the opinions and aggregations of others, consistent with the bounded rationality explanation. To explore this potential difference across institutional investors, we adjust Equation (7) to interact $\textit{Overpaid CEO List}_{j,q,y}$ with different time-varying observable institutional investor characteristics. The results are in Table 6.

In Column (1), investors with assets under management (AUM) of 0.25 trillion or less reduce their portfolio weight in overpaid CEO firms significantly more than the largest investors. The interaction term is -0.0115, significant at the 1% level. Column (2) examines investors with AUM of 1 billion or less. While these smaller investors generally increase their portfolio weights in firms (0.0187, significant at 1%), they decrease their holdings in firms on the AYS 100 List, as evidenced by the interaction term of -0.0132, significant at the 1% level. The coefficients on *Overpaid CEO List* are negative and significant in both Columns (1) and (2), suggesting large investors still divest away from firms on the AYS 100 List, but the significant interaction terms indicate that smaller institutional investors divest away from firms on the AYS 100 List even more than do large investors.

Column (3) differentiates between on the "Big Three" institutional investors—i.e., BlackRock, State Street, and Vanguard—and all other institutional investors, "Non-Big Three Investor." The interaction term is negative and significant (-0.0180, at the 1% level), indicating that non-big three investors are more inclined to divest from firms with overpaid CEOs, relative to big three investors. In fact, the positive coefficient on *Overpaid CEO List* in Column (3) indicates that Big Three investors do not divest from AYS 100 List firms at all, on average. This result aligns with their reputation for engagement-focused investment strategies. Across all specifications, the results reveal significant size-based heterogeneity in institutional investors' responses to firms' inclusion on the AYS 100 List. Smaller investors exhibit greater sensitivity to the list, while larger and engagement-focused investors, like the Big Three, are less likely to adjust their holdings.

5 Overpaid CEO Designation and Long-Run Outcomes

Having found evidence of negative short-term investor reactions to firms' inclusion on the AYS 100 List, especially among small institutional investors, we next assess how these firms perform in the long-run. We test this first by considering long-run alphas. Then we conduct Fama-MacBeth regressions, and we finish by estimating the effects on Tobin's Q using a stacked difference-in-differences estimator.

5.1 Long-Run Alphas

In this section, we examine the long-run drift of stock returns, which exclude any event-study reaction to list inclusion (as portfolio formation occurs in the month after the list announcement date). By integrating AYS's list into empirical asset pricing frameworks, we explore whether third-party perceptions of excess CEO pay signals future under-performance or merely reflects perceived inefficiencies without significant long-term consequences. Firms with overpaid CEOs might not systematically under-perform if markets adjust for these inefficiencies through pricing. Thus, we hypothesize that firms on the AYS 100 List exhibit neutral risk-adjusted returns over the long run, despite their reputational concerns. This perspective aligns with the concept of efficient markets, where publicly available information, such as CEO excess pay, is quickly reflected in asset prices (Fama, 1970). While firms may face temporary valuation penalties due to governance criticisms, such effects could dissipate over time, leaving no persistent long-run drift in stock returns. On the other hand, if inclusion on the AYS 100 List is predictive of negative long-run firm performance, this would suggest the negative announcement returns are not simply an over-reaction to new signals about

others' sentiment towards the firms on the list, nor are they likely a temporary response to increased salience of CEO pay information.

To ensure that any over- or under-performance of the firms with CEOs designated as overpaid does not result from risk, we control for the Fama and French (2018) six-factors using the specification,

$$R_{p,t} - RF_t = \alpha + \beta_1 MKT_t + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 UMD_t + \beta_5 RMW_t + \beta_6 CMA_t + \varepsilon_t, \qquad (8)$$

where $R_{p,t}$ is the portfolio p return at month t less the risk-free rate of one month treasury bills, RF. The independent variables are as follows: MKT is excess return on the market, SMB is the average return on the difference between the three small portfolios and the three big portfolios, HML is the difference between the average return on the two value portfolios and the two growth portfolios, RMW is robust minus weak average returns that captures profitability, CMA is conservative minus aggressive average returns that measures firm investment, and UMD is momentum defined as the rate of acceleration of a security's price. Standard errors are calculated using Newey-West standard errors with a yearly lag, which allows for ε to be heteroskedastic and serially correlated.

Our analysis reveals that firms with CEOs on the AYS 100 List exhibit significant long-term under-performance relative to S&P 500 firms that are not on the list. Panel A of Table 7 shows that alphas for equal- and value-weighted portfolios range from -0.19% to -0.05% per month, though they are not statistically significant. However, when we repeat the same analysis for a portfolio of firms on the S&P 500 that were not included on AYS's list, we find that the alphas for equal- and value-weighted portfolios range from 0.20% to 0.33% per month, with the alphas being significant at the 1% level in the six-factor model (Panel B).

A long-short position, where we long the portfolio of firms on the S&P 500 that were not included on the AYS 100 List and short the portfolio of firms on the list, generates a monthly alpha between 0.26% to 0.47% ($p < 0.01$ in the six-factor model), which translates to yearly alphas between 3.12% to 5.64%. These results suggest that while firms on the AYS 100 List do not realize negative returns themselves, these firms do significantly under-perform relative to other firms in the S&P 500.

5.2 Fama-MacBeth Regression Analysis

We next implement a Fama and MacBeth (1973) regression approach to control for a wider range of characteristics, beyond the six factors included in the risk-adjusted return model. Specifically, the model takes the form,

$$R_{i,t,y} = \gamma \text{Overpaid CEO List}_{i,t,y} + \boldsymbol{X}_{i,y-1}\beta + \varepsilon_{i,t,y}, \tag{9}$$

where $R_{i,t,y}$ is the raw return on stock i in month t during year y. The independent variable of interest, *Overpaid CEO List*$_{i,t,y}$, is a binary indicator variable that takes the value of one after a firm makes the AYS 100 List for the first time, and zero otherwise. $\boldsymbol{X}_{i,y-1}$ is a vector of observable year-level firm controls lagged by one year. Standard errors are calculated using Newey-West standard errors with a yearly lag. This specification allows for firms that do not make the list to be used as control firms, which helps to distinguish whether the documented effect is due to the overpaid CEO designation, as opposed to omitted firm characteristics.

Results of the Fama-MacBeth regressions are in Table 8. The coefficient on *Overpaid CEO List* is negative in Columns (1)–(3), and it is statistically significant in Columns (1) and

(3), but it is not statistically significant in Column (4) when controlling for all the relevant firm observables (and the coefficient is small and positive). The results from the portfolio analyses, coupled with those from the Fama-MacBeth regressions, suggest that inclusion on the AYS 100 List does not lead to a negative drift in long-run alphas, though the firms with CEOs designated as overpaid do appear to be outperformed by the rest of the S&P 500.

5.3 Tobin's Q

To finish, we test whether firms on the AYS 100 List under-perform based on an accounting-based firm value metric, Tobin's Q. Stock returns incorporate forward-looking expectations, whereas accounting performance reflects realized firm operations. For example, investors may anticipate that inclusion on the list will pressure firms to reform governance practices, ultimately mitigating the negative effects of excess CEO pay. Additionally, markets might discount the reputational implications of the overpaid CEO designation if they perceive it as a signaling mechanism rather than an indicator of intrinsic issues, leading to little or no sustained impact on stock performance. However, from an accounting value perspective, overpaid CEOs may engage in behaviors that erode firm performance—such as prioritizing short-term gains, over-investing in pet projects, or inefficiently allocating resources. These effects are directly observable in accounting metrics, even if they are not immediately reflected in stock prices. In this section, we test this idea by examining the relationship between the overpaid CEO designation and accounting firm value, as proxied by Tobin's Q.

To estimate the relation between AYS 100 List inclusion and firm value, we compare changes in Tobin's Q between treatment firms (those that are included on the AYS 100 List in

the focal year) and control firms (those that have not yet been included on the AYS 100 List). However, a traditional two-way fixed effects (TWFE) difference-in-differences (DiD) model would potentially lead to negative weighting, bias in estimates, and violations of parallel trends since we have heterogeneous timing in the inclusion on AYS's list (Goodman-Bacon, 2021; Baker et al., 2022). Thus, we use a stacked DiD approach to overcome these concerns (Gormley and Matsa, 2011; Cengiz et al., 2019).

For each year that a new AYS 100 List comes out, we construct a cohort of treatment and control firms using firm-year observations for the eight years before and the eight years after the list announcement. Firms are not required to be in the sample for all years. We then pool the data across cohorts (i.e., across all new AYS 100 Lists) and estimate the average treatment effect.[17] Specifically, we estimate the following firm-year panel regression:

$$ln(Q_{i,j,c,y}) = \beta(\text{Overpaid CEO List})_{i,j,c,y} + \boldsymbol{X}_{i,j,c,y-1}\gamma + \tau_{j,y} + f_{i,c} + \omega_{y,c} + \varepsilon_{i,j,c,y}, \qquad (10)$$

where the dependent variable is the natural log of Q for firm i in Fama-French 48 industry j in cohort c during year y. The independent variable of interest, *Overpaid CEO List*$_{i,j,c,y}$, is a binary indicator variable that takes the value of one after a firm makes the AYS 100 List for the first time, and zero otherwise.

[17]We use the "stackedev" package in Stata from Josh Bleiberg. He describes the process as follows: "The package appends together individual datasets or stacks. Each stack includes all observations from a cohort of units that receive treatment in the same time period and all units that never received treatment. Effects are identified within each stack by comparing an individual cohort of treated units to never treated units. This approach avoids erroneous comparisons of late to early implementing units that may bias TWFE estimates if effects vary across treated cohorts (Goodman-Bacon, 2021). The stacked event study is estimated in three steps. First, individual stacks are created. Second, they are appended together. Finally the package estimates coefficients via reghdfe that includes unit by stack fixed effects, time by stack fixed effects, and standard errors clustering on unit by stack." We include results from a traditional TWFE DiD in Appendix Table A.4 to show that the results are robust to including not-yet-treated firms in the control group.

Our model includes firm-cohort fixed effects, $f_{i,c}$, to ensure that we estimate the impact of exposure after controlling for any fixed differences between firms. We include year-cohort fixed effects, $\omega_{y,c}$, as a nonparametric control for any secular time trends. We allow the firm and year fixed effects to vary by cohort, because this approach is more conservative than including simple fixed effects. We also include year by Fama-French 48 industry fixed effects, $\tau_{j,y}$, to average out any time varying observables or time invariant unobservables at the industry-level. $\boldsymbol{X}_{i,j,c,y-1}$ is a vector of observable year-level firm controls lagged by one year. $\varepsilon_{i,j,c,y}$ is the unobserved error term. We cluster standard errors by firm-cohort.

We find that inclusion on the AYS 100 List is significantly associated with lower firm value. Specifically, in Table 9, regression results reveal a negative coefficient between -0.0728 and -0.0992 on the *Overpaid CEO List* indicator across all columns, which are statistically significant at the 1% level. In terms of economic significance, the list indicator suggests that Tobin's Q decreases by about 8% after a firm is included on AYS 100 List. Unlike prior studies focused narrowly on pay-performance sensitivity, we provide empirical evidence on the broader firm value implications of perceived excess CEO pay.

Since we use a DiD framework, the validity of our inference relies heavily on the parallel trends assumption. This assumption posits that, absent treatment (in this case, inclusion on the AYS 100 List), the treated and control groups would follow the same trajectory over time. Without this assumption, any observed divergence post-treatment could be due to pre-existing differences between groups rather than the treatment itself. By demonstrating parallel trends in the pre-treatment period, we can claim that any changes in Tobin's Q after inclusion on the list are attributable to the treatment effect rather than confounding factors.

We test this assumption in Figure 4 where we allow the timing of list inclusion to vary

by year using the model from the regression in Column (4) of Table 9 with the reference year being the year before list inclusion ($t-1$). The event study plot shows the estimated coefficients of ln(Tobin's Q) for the eight years before and after treatment, with t indicating the year of treatment with 95% confidence intervals plotted by dashed lines. The pre-treatment period (years $t-8$ to $t-2$) demonstrates relatively stable trends, with coefficient estimates slightly above zero and confidence intervals overlapping with the horizontal axis in most years. While not definitively conclusive, this stability provides some support for the parallel trends assumption, indicating that treated firms and control firms exhibited similar trajectories in firm value prior to the treatment.

Figure 4 also shows that, in the post-treatment period (from $t+1$ onwards), there is a clear and significant downward trend in ln(Tobin's Q). The coefficients become progressively negative. The confidence intervals in this period largely exclude zero, indicating statistical significance at the 5% level. These results align with the regression findings from Column (4) of Table 9, where inclusion on the list is associated with a significant decrease in firm value.

This graph also underscores the economic significance of the treatment effect. The downward trajectory suggests that inclusion on the list not only correlates with, but likely drives, sustained declines in accounting firm value. This reinforces the argument that excessive CEO compensation, as signaled by inclusion on the AYS 100 List, may have adverse implications for firm performance over time.[18]

[18]Taken together, these results complement the findings in a working paper by Cooper, Gulen and Rau (2016), who show that firms in the highest decile of excess compensation, based on their own measure of excess pay, earn highly significant negative future abnormal returns.

6 Conclusion

We contribute new insights as to when the investment decisions of professional investors are impacted by the opinions of others. Using nine years of data from an annual publication of the 100 most overpaid CEOs in the S&P 500, we find that equity investors respond negatively when CEOs are designated as overpaid. This negative market reaction is present even though the information that goes into the overpaid designation is all publicly available before the publication of the list, suggesting some investors rely on the opinions of others when making their investment decisions.

By analyzing changes in institutional investor portfolio holdings, we confirm that at least a portion of the immediate negative stock market reaction is driven by institutions divesting away from firms with CEOs who are designated as overpaid. In particular, we find that small institutions are more likely than large institutions to exhibit this divestment behavior. We belief this is due to small investors having fewer resources at their disposal to monitor and judge excess CEO pay themselves. As such, they are more likely to rely on and react to the opinions of others, consistent with a bounded rationality explanation of the observed results.

We also find evidence that firms under-perform in the long-run after they first appear on the overpaid CEO list. This suggests the negative announcement returns are not an over-reaction to signals about broad sentiment, nor are they likely a temporary response to increased salience of CEO pay information. While we do not claim to fully rule out alternative explanations for the observed investor reactions, our findings suggest that some investors, even sophisticated professionals, rely on the opinions of others to overcome limitations in their own ability to gather and interpret previously disclosed information.

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Tables and Figures

Figure 1: The Persistence of As You Sow's 100 Most Overpaid CEOs List

This stacked bar graph plots the make up of As You Sow's (AYS) 100 Most Overpaid CEOs list by persistence and year. The bars detail the number of firms on AYS's list that had returns available on CRSP with the ability to estimate cumulative abnormal returns (CARs) around the list announcement date. The dark blue bars show the number of new public companies added to AYS's list that year that were not on the list in the previous year. The light blue bars show the number of firms that remained on AYS's list in the current year that were also on the list in the previous year. In total, there are 887 firm-date observations with 311 unique firms from the S&P 500 on AYS's list from 2015 to 2023.

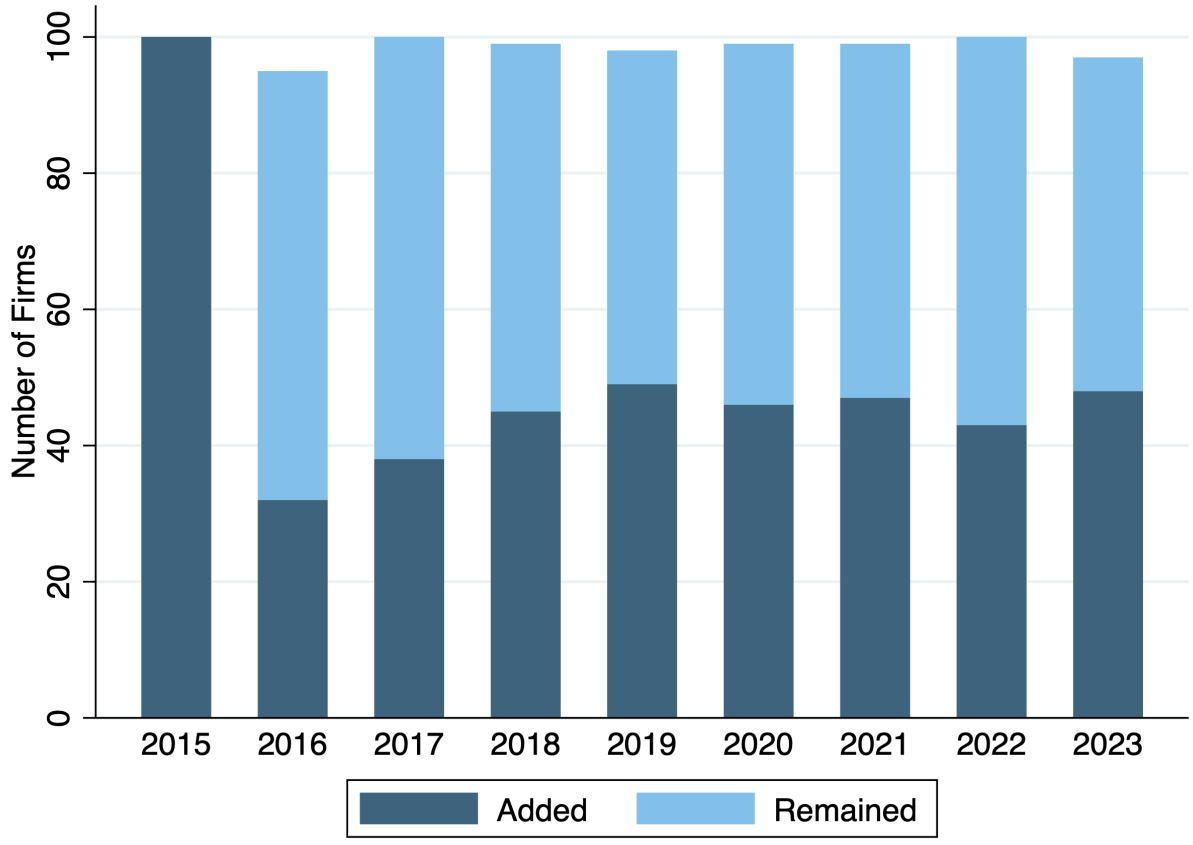


Figure 2: Number of Times on As You Sow's 100 Most Overpaid CEOs List

This bar graph reports the number of times a firm makes AYS's 100 Most Overpaid CEOs list that had returns available on CRSP with the ability to estimate CARs around the list announcement date. The x-axis shows the number of times ranging from one time on the list (1) to nine times on the list (9). The sample is from 2015 to 2023 using data from AYS and CRSP for firms that are on the S&P 500.

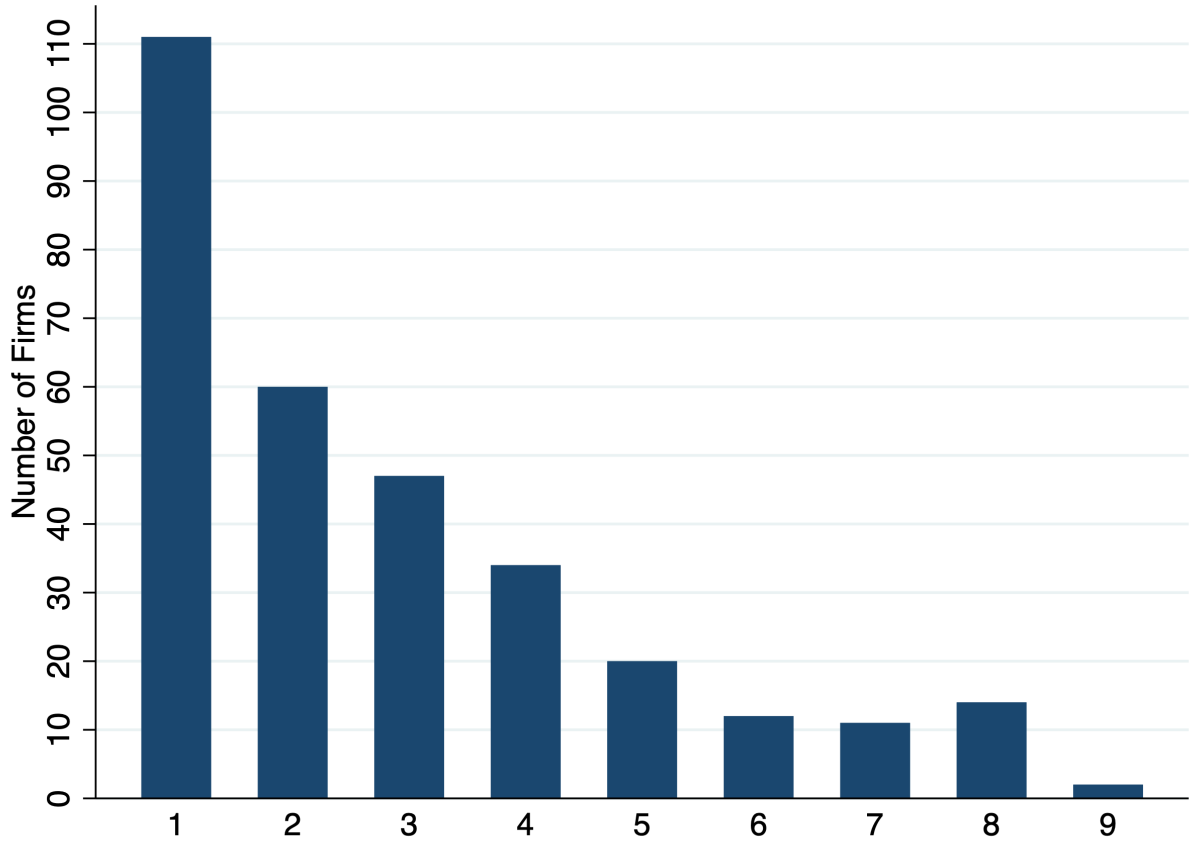


Figure 3: Industry Representation on As You Sow's 100 Most Overpaid CEOs List

This bar graph plots the fraction of industry representation on AYS's 100 Most Overpaid CEOs list that had returns available on CRSP with the ability to estimate CARs around the list announcement date. The x-axis shows the number corresponding to Fama-French Industry (FFI) five classifications. Specifically, 1 includes the sample of firms that are in FFI 1 Consumer Durables, NonDurables, Wholesale, Retail, Some Services (Laundries, Repair Shops); 2 includes the sample of firms that are in FFI 2 Manufacturing, Energy, and Utilities; 3 contains the sample of firms that are in FFI 3 Business Equipment, and Telephone and Television Transmission; 4 includes the sample of firms that are in FFI 4 Healthcare, Medical Equipment, Drugs; and 5 contains the sample of firms that are in FFI 5 Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment, and Finance. The data are from 2015–2023 as described in Section 3.

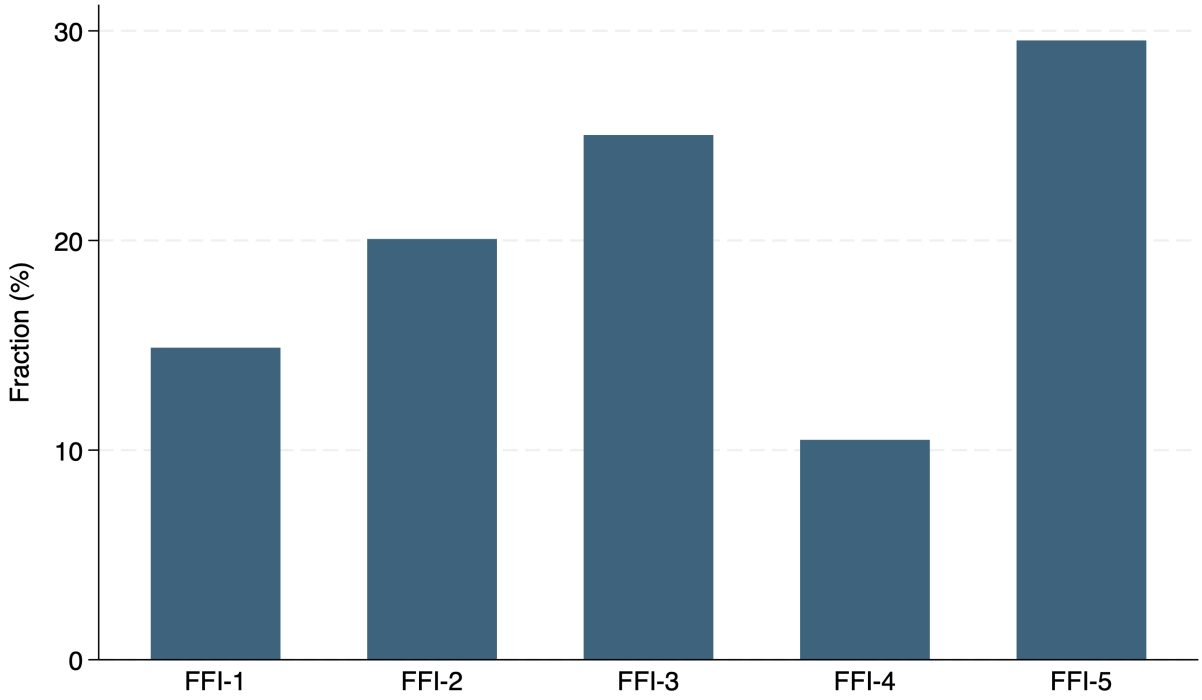


Figure 4: Firm Value Trends around As You Sow's 100 Most Overpaid CEOs List

This figure reports results from the regression in column (4) of Table 9 that allows the timing of list inclusion to vary by year. Coefficient estimates are plotted as dots and their standard errors are clustered by firm-cohort with 95% confidence intervals displayed by the vertical bands. The data are from 2015–2023 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

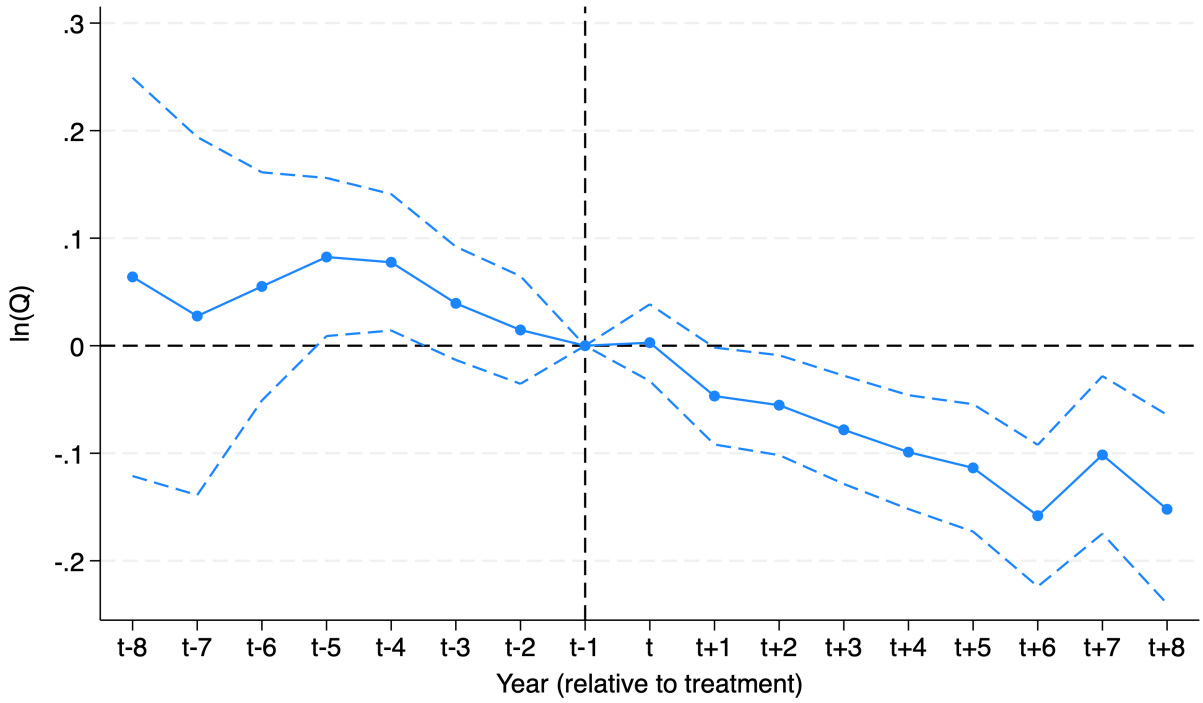


Table 1: Descriptive Statistics

This table reports number of observations, sample means, standard deviations, and medians for each sample. The data are from AYS, CRSP, Compustat, Execucomp, Lalitha Naveen's website, and Thomson-Reuters covering 2015–2023 for firms that are on the S&P 500 as described in Section 3. To mitigate outlier concerns, all continuous variables are winsorized at the 1% and 99% levels (excluding Panel C). Variable definitions are provided in Appendix Table A.1.

	(1) Obs.	(2) Mean	(3) SD	(4) Median
Panel A: CAR Sample				
Times on List	887	2.67	1.82	2.00
CEO Pay ($ mil.)	887	26.90	24.22	21.21
ROA	867	0.05	0.08	0.05
Leverage	879	0.33	0.20	0.31
Covid	887	0.45	0.50	0.00
Panel B: Institutional Investor Sample				
Δ Stock Weight (%)	2,381,924	0.02	0.23	0.00
Overpaid CEO List	2,381,924	0.26	0.44	0.00
AUM $\leq$ \$0.25 Tr.	2,381,924	0.97	0.16	1.00
AUM $\leq$ \$1 Bil.	2,381,924	0.45	0.50	0.00
Non-Big 3 Investor	2,381,924	0.99	0.07	1.00
USA Based Investor	2,381,924	0.87	0.34	1.00
ln(Assets)	2,381,924	10.60	1.40	10.62
Book to Market	2,381,924	0.30	0.27	0.22
Leverage	2,381,924	0.32	0.18	0.31
ln(CEO Delta)	2,381,924	5.76	1.20	5.70
CEO Vega	2,381,924	0.14	0.18	0.07
CEO Tenure	2,381,924	6.46	5.88	5.00
CEO Duality	2,381,924	0.65	0.48	1.00
Co-Opted Directors	2,381,924	0.45	0.28	0.42
Co-Opted Independent Directors	2,381,924	0.40	0.26	0.38
Panel C: Fama-French Sample				
Equal-Weighted Returns	108	0.85	5.48	0.77
Value-Weighted Returns	108	0.78	4.34	1.00
MKT	108	0.94	4.70	1.15
SMB	108	-0.14	2.96	-0.12
HML	108	-0.14	3.87	-0.45
UMD	108	0.16	4.16	0.42
RMW	108	0.38	2.17	0.44
CMA	108	-0.02	2.48	-0.48

Panel D: Fama-MacBeth Sample				
Raw Stock Returns (%)	37,809	1.25	8.60	1.17
Overpaid CEO List	37,809	0.37	0.48	0.00
ln(Assets)	37,809	10.01	1.41	9.94
Book to Market	37,809	0.32	0.28	0.25
Leverage	37,809	0.31	0.19	0.30
ln(CEO Delta)	37,809	5.58	1.25	5.50
CEO Vega	37,809	0.11	0.15	0.05
CEO Tenure	37,809	6.75	6.20	5.00
CEO Duality	37,809	0.59	0.49	1.00
Co-Opted Directors	37,809	0.45	0.28	0.43
Co-Opted Independent Directors	37,809	0.40	0.26	0.36
Panel E: Firm-Year Panel Sample				
Overpaid CEO List	3,010	0.19	0.39	0.00
Tobin's Q	3,010	2.74	2.09	2.02
ln(Tobin's Q)	3,010	0.81	0.60	0.70
Overpaid CEO List	3,010	0.37	0.48	0.00
Total Assets	3,010	64,176	146,760	20,506
ln(Assets)	3,010	9.99	1.41	9.93
Book to Market	3,010	0.32	0.27	0.25
Leverage	3,010	0.31	0.19	0.30
ROA	3,010	0.07	0.07	0.06
ln(CEO Delta)	3,010	5.56	1.22	5.49
CEO Vega	3,010	0.11	0.15	0.05
CEO Tenure	3,010	6.70	6.16	5.00
CEO Duality	3,010	0.59	0.49	1.00
Co-Opted Directors	3,010	0.45	0.28	0.42
Co-Opted Independent Directors	3,010	0.40	0.26	0.36

Table 2: Predictors of As You Sow's 100 Most Overpaid CEOs List

This table presents results from the estimation of equation 1. The dependent variable, Overpaid CEO List, takes the value of one if a firm is on AYS's 100 Most Overpaid CEOs List in year y and zero otherwise. All independent variables are lagged by one year $y-1$. Industry fixed effects are at the Fama-French 48 classification level. Coefficient estimates are shown, and their standard errors clustered by firm are displayed in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. The data are from 2015–2023 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

	DV: Overpaid CEO List		
	(1)	(2)	(3)
ln(Assets)	0.1095***		0.0973***
	(0.0116)		(0.0122)
Book to Market	-0.0370		0.0050
	(0.0578)		(0.0585)
Leverage	-0.0236		0.0003
	(0.0771)		(0.0773)
ROA	0.0837		0.0248
	(0.1829)		(0.1831)
ln(CEO Delta)		0.0194	0.0076
		(0.0123)	(0.0126)
CEO Vega		0.4687***	0.3450***
		(0.0951)	(0.0914)
CEO Tenure		-0.0045*	0.0006
		(0.0026)	(0.0027)
CEO Duality		0.0449**	0.0074
		(0.0227)	(0.0219)
Co-Opted Directors		0.0411	0.2095
		(0.1488)	(0.1302)
Co-Opted Independent Directors		0.0206	-0.1931
		(0.1652)	(0.1447)
N	3,010	3,010	3,010
R^2	0.1857	0.1366	0.2053
Year FE	Y	Y	Y
Industry FE	Y	Y	Y

Table 3: Equity Market Reaction around the 100 Most Overpaid CEOs List

This table reports CARs (in percent) around the announcement of AYS's 100 Most Overpaid CEOs list. Each CAR shows results from a twelve day event window, $(-1, +10)$, where $t = 0$ is the date of list announcement. We use 252 trading days (one trading year) as the amount of time to estimate the expected return and residual return variance. We allow 126 trading days (six trading months) to be established between the end of the estimation window and the beginning of the event window. We require a minimum of 42 non-missing return observations (two trading months) within the estimate window to produce estimates of the expected return. Columns (1), (2), (3), and (4) use the market-adjusted model (MAM), the market model (MM), the Fama-French three factor model (FF3), and the Fama-French-Carhart four factor model (FFC4), respectively. Coefficient estimates are shown, and their standard errors clustered by firm are displayed in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. The data are from 2015–2023 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

	MAM	MM	FF3	FFC4
	(1)	(2)	(3)	(4)
CAR_t $[-1, +10]$ $(\%)$	-0.4751*	-0.5481**	-0.5413**	-0.5091**
	(0.2748)	(0.2572)	(0.2548)	(0.2585)
N	887	887	887	887

Table 4: Cross-Sectional Variation in Equity Market Reactions

This table reports sub-sample FFC4 CARs (in percent) around the announcement of AYS's 100 Most Overpaid CEOs list. Each CAR shows results from a twelve day event window, $(-1, +10)$, where $t = 0$ is the date of list announcement. Panel A splits the sample by the number of times a firm has been on the list; column (1) and (2) include the sample of firms that appear on the list for the first time and second or more time, respectively. Panel B splits the sample by list rank; column (1) and (2) include the sample of firms above and below median of list rank, respectively. For example, column (1) includes the group of firms with list rank between 1 and 50 (where a list rank of 1 is the most overpaid CEO that year). Panel C splits the sample by CEO pay; column (1) and (2) include the sample of firms that are below and above median of CEO pay, respectively. Panel D splits the sample by ROA; column (1) and (2) include the sample of firms that are below and above median of ROA, respectively. Panel E splits the sample by leverage; column (1) and (2) include the sample of firms that are below and above median of leverage, respectively. Panel F splits the sample by COVID; column (1) and (2) include the sample of firms that are pre-COVID (2015–2019) and post-COVID (2020–2023), respectively. Column (3) in each Panel calculates the difference between columns (2) and (1). Coefficient estimates are shown, and their standard errors clustered by firm are displayed in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. The data are from 2015–2023 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

Panel A: Times on List

	First Time on List	Second + Time on List	Difference (2)-(1)
	(1)	(2)	(3)
FFC4 CAR$_t$ $[-1, +10]$ (%)	-0.7496*	-0.3792	0.3704
	(0.4376)	(0.3002)	(0.5078)
N	311	576	

Panel B: List Rank

	List Rank 1–50	List Rank 51–100	Difference (2)-(1)
	(1)	(2)	(3)
FFC4 CAR$_t$ $[-1, +10]$ (%)	-0.5271	-0.4911	0.0360
	(0.3658)	(0.3258)	(0.4607)
N	444	443	

Panel C: CEO Pay

	Bottom 1/2 of CEO Pay	Top 1/2 of CEO Pay	Difference (2)-(1)
	(1)	(2)	(3)
FFC4 CAR$_t$ $[-1, +10]$ (%)	-0.6011*	-0.4169	0.1843
	(0.3245)	(0.3935)	(0.5023)
N	444	443	

Panel D: ROA

	Bottom 1/2 of ROA	Top 1/2 of ROA	Difference (2)-(1)
	(1)	(2)	(3)
FFC4 CAR$_t$ $[-1,+10]$ (%)	-0.9731**	-0.0864	0.8259
	(0.4214)	(0.3149)	(0.5163)
N	434	433	

Panel E: Leverage

	Bottom 1/2 of Leverage	Top 1/2 of Leverage	Difference (2)-(1)
	(1)	(2)	(3)
FFC4 CAR$_t$ $[-1,+10]$ (%)	-0.2072	-0.8519**	-0.6788
	(0.2965)	(0.4122)	(0.4939)
N	440	439	

Panel F: COVID

	Pre-COVID	Post-COVID	Difference (2)-(1)
	(1)	(2)	(3)
FFC4 CAR$_t$ $[-1,+10]$ (%)	-0.0536	-1.0765**	-1.0229*
	(0.2645)	(0.4681)	(0.5337)
N	492	395	

Table 5: The 100 Most Overpaid CEOs List and Institutional Investor Portfolio Rebalancing

This table presents results from the estimation of equation 7. The dependent variable is Δ Stock Weight in percent for firm j held by institutional investor i in year y. It is calculated as the difference in holdings in year y Q2 minus the holdings in year $y-1$ Q4. The dependent variable, Overpaid CEO List, is a binary indicator variable that takes the value of one if a firm is on As You Sow's list in Q1 of year y and zero otherwise. Industry fixed effects are at the Fama-French 48 classification level. Coefficient estimates are shown, and their standard errors clustered by firm-institutional investor are displayed in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. The data are from 2015–2023 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

	DV: Δ Stock Weight			
	(1)	(2)	(3)	(4)
Overpaid CEO List	-0.0152***	-0.0152***	-0.0154***	-0.0153***
	(0.0005)	(0.0005)	(0.0005)	(0.0005)
ln(Assets)		0.0511***		0.0617***
		(0.0009)		(0.0010)
Book to Market		-0.0462***		-0.0805***
		(0.0019)		(0.0020)
Leverage		-0.0055*		-0.0228***
		(0.0029)		(0.0029)
ln(CEO Delta)			-0.0116***	-0.0177***
			(0.0004)	(0.0004)
CEO Vega			-0.0195***	-0.0138***
			(0.0022)	(0.0022)
CEO Tenure			0.0008***	0.0007***
			(0.0001)	(0.0001)
CEO Duality			0.0179***	0.0192***
			(0.0008)	(0.0008)
Co-Opted Directors			0.0427***	0.0285***
			(0.0037)	(0.0037)
Co-Opted Independent Directors			-0.0269***	-0.0046
			(0.0040)	(0.0041)
N	2,381,924	2,381,924	2,381,924	2,381,924
R^2	0.3953	0.3964	0.3962	0.3977
Year by Industry FE	Y	Y	Y	Y
Firm–Institutional Investor FE	Y	Y	Y	Y

Table 6: Cross-Sectional Variation in Institutional Investor Portfolio Rebalancing

This table presents results from the estimation of equation 7 with interaction terms. The dependent variable is Δ Stock Weight in percent for firm j held by institutional investor i in year y. It is calculated as the difference in holdings in year y Q2 minus the holdings in year $y-1$ Q4. The dependent variable, Overpaid CEO List, is a binary indicator variable that takes the value of one if a firm is on As You Sow's list in Q1 of year y and zero otherwise. Industry fixed effects are at the Fama-French 48 classification level. The controls are the same as those in column (4) of Table 5. Coefficient estimates are shown, and their standard errors clustered by firm-institutional investor are displayed in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. The data are from 2015–2023 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

	DV: Δ Stock Weight		
	(1)	(2)	(3)
Overpaid CEO List	-0.0041***	-0.0092***	0.0026
	(0.0014)	(0.0005)	(0.0041)
AUM ≤ $0.25 Tr.	-0.0090***		
	(0.0009)		
Overpaid CEO List x AUM ≤ $0.25 Tr.	-0.0115***		
	(0.0014)		
AUM ≤ $1 Bil.		0.0187***	
		(0.0008)	
Overpaid CEO List x AUM ≤ $1 Bil.		-0.0132***	
		(0.0009)	
Non-Big 3 Investor			-
Overpaid CEO List x Non-Big Three Investor			-0.0180***
			(0.0041)
N	2,381,924	2,381,924	2,381,924
R^2	0.3978	0.3980	0.3977
Controls	Y	Y	Y
Year by Industry FE	Y	Y	Y
Firm–Institutional Investor FE	Y	Y	Y

Table 7: Risk-Adjusted Stock Returns for the 100 Most Overpaid CEOs

This table presents results from the estimation of different variations of equation 8. Panel A shows the monthly regression of returns to a portfolio of firms on AYS's 100 Most Overpaid CEOs list. Panel B shows the monthly regression of returns to a portfolio of firms not on AYS's 100 Most Overpaid CEOs list. We include the market model in columns (1) and (5), the FF3 model in columns (2) and (6), the FFC4 model in columns (3) and (7), and the FF six-factor model in columns (4) and (8). The dependent variable in columns (1)–(4) and (5)–(8) are the equal-weighted and value-weighted portfolio returns less the risk-free rate, respectively. Panel C reports the difference between alphas in Panel B and A. Alphas are in percent. One-year lagged Newey-West t-statistics are in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. The data are from March 2015 to February 2024 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

Panel A: S&P 500 Firms that were on AYS's List

	Equal-Weighted Returns				Value-Weighted Returns			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
List α	-0.19	-0.10	-0.05	-0.09	-0.05	-0.06	-0.05	-0.08
	(-0.92)	(-0.81)	(-0.43)	(-0.81)	(-0.77)	(-0.92)	(-0.80)	(-0.97)
MKT	1.10***	1.07***	1.03***	1.04***	0.88***	0.90***	0.89***	0.90***
	(19.13)	(42.16)	(36.37)	(40.31)	(23.96)	(22.79)	(19.10)	(23.00)
SMB		0.14***	0.10***	0.14***		-0.09***	-0.10***	-0.07
		(3.15)	(2.65)	(2.89)		(-2.99)	(-3.88)	(-1.35)
HML		0.28***	0.25***	0.15***		0.08	0.08	-0.03
		(8.69)	(5.62)	(3.14)		(1.60)	(1.15)	(-0.43)
UMD			-0.13***	-0.14***			-0.03	-0.04
			(-2.73)	(-2.90)			(-0.41)	(-0.62)
RMW				0.07				0.02
				(1.48)				(0.26)
CMA				0.20***				0.21**
				(2.90)				(2.02)
N	108	108	108	108	108	108	108	108
R^2	0.893	0.947	0.954	0.958	0.911	0.917	0.917	0.924

Panel B: S&P 500 Firms that were not on AYS's List

	Equal-Weighted Returns				Value-Weighted Returns			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-List α	0.28*	0.32***	0.33***	0.29***	0.27***	0.22***	0.21***	0.20***
	(1.78)	(3.37)	(3.36)	(3.05)	(3.32)	(3.38)	(3.30)	(3.49)
MKT	1.00***	0.99***	0.98***	0.98***	0.95***	0.97***	0.99***	0.98***
	(35.83)	(78.48)	(69.91)	(55.31)	(47.83)	(81.03)	(89.54)	(87.03)
SMB		0.07**	0.07*	0.12***		-0.12***	-0.11***	-0.09***
		(2.20)	(1.71)	(2.97)		(-3.85)	(-3.02)	(-2.99)
HML		0.15***	0.15***	0.12**		-0.04	-0.03	-0.04
		(4.07)	(4.22)	(2.31)		(-1.64)	(-1.36)	(-1.58)
UMD			-0.00	0.00			0.04***	0.04***
			(-0.11)	(0.09)			(3.32)	(2.96)
RMW				0.12***				0.03
				(3.68)				(0.97)
CMA				0.03				0.01
				(0.35)				(0.31)
N	108	108	108	108	108	108	108	108
R^2	0.942	0.962	0.962	0.964	0.975	0.984	0.985	0.985

Panel C: Difference between Non-List α and List α

	0.47*	0.42***	0.38**	0.38***	0.32***	0.28***	0.26***	0.28***
	(1.81)	(2.70)	(2.50)	(2.60)	(3.07)	(3.04)	(2.91)	(2.78)

Table 8: Raw Stock Returns for the 100 Most Overpaid CEOs

This table shows the results of Fama-Macbeth monthly regressions using monthly raw stock returns from equation 9. The dependent variable, Overpaid CEO List, is a binary indicator variable that takes the value of one after a firm makes As You Sow's list and zero otherwise. Raw stock returns are in percent. One-year lagged Newey-West t-statistics are in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. The data are from March 2015 to February 2024 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

	DV: Raw Stock Returns (%)			
	(1)	(2)	(3)	(4)
Overpaid CEO List	-0.2241***	-0.0124	-0.1555*	0.0162
	(0.0811)	(0.0956)	(0.0871)	(0.0972)
ln(Assets)		-0.2055***		-0.1802***
		(0.0528)		(0.0502)
Book to Market		0.2026		0.1096
		(0.5707)		(0.5329)
Leverage		0.1011		0.0286
		(0.3350)		(0.3091)
ln(CEO Delta)			-0.0357	-0.0099
			(0.0771)	(0.0622)
CEO Vega			-0.3546	-0.3149
			(0.3764)	(0.3742)
CEO Tenure			0.0227***	0.0142**
			(0.0070)	(0.0068)
CEO Duality			-0.2436**	-0.1746**
			(0.0936)	(0.0867)
Co-Opted Directors			0.1383	-0.2204
			(0.3878)	(0.4066)
Co-Opted Independent Directors			-0.0680	0.3690
			(0.4322)	(0.4447)
N	37,809	37,809	37,809	37,809
R^2	0.0069	0.0551	0.0382	0.0784

Table 9: Firm Value for the 100 Most Overpaid CEOs

This table presents results from the estimation of equation 10. The dependent variable is the natural log of Tobin's Q. The independent variable, Overpaid CEO List, is a binary indicator variable that takes the value of one after a firm makes As You Sow's list and zero otherwise. Industry fixed effects are at the Fama-French 48 classification level. Coefficient estimates are shown, and their standard errors clustered by firm-cohort are displayed in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. The data are from 2015–2023 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

	DV: ln(Tobin's Q)			
	(1)	(2)	(3)	(4)
Overpaid CEO List	-0.0992***	-0.0774***	-0.0876***	-0.0728***
	(0.0238)	(0.0180)	(0.0221)	(0.0173)
ln(Assets)		-0.1622***		-0.1898***
		(0.0176)		(0.0177)
Book to Market		-0.7843***		-0.6600***
		(0.0355)		(0.0340)
Leverage		-0.0958*		-0.0540
		(0.0548)		(0.0528)
ln(CEO Delta)			0.0813***	0.0585***
			(0.0063)	(0.0058)
CEO Vega			-0.4818***	-0.3513***
			(0.0442)	(0.0403)
CEO Tenure			0.0019**	0.0010
			(0.0009)	(0.0007)
CEO Duality			0.0064	-0.0077
			(0.0132)	(0.0106)
Co-Opted Directors			-0.1830***	-0.0772*
			(0.0463)	(0.0415)
Co-Opted Independent Directors			0.1270**	0.0387
			(0.0510)	(0.0456)
N	14,842	14,842	14,842	14,842
R^2	0.9284	0.9423	0.9320	0.9439
Year by Industry FE	Y	Y	Y	Y
Year by Cohort FE	Y	Y	Y	Y
Firm by Cohort FE	Y	Y	Y	Y

Appendix

Figure A.1: AYS's 100 Most Overpaid CEOs List Ranking Histogram

This histogram plots the rankings of firms that make AYS's list for the firs time. Rank 1 is the most overpaid CEO and rank 100 is the least overpaid CEO. The data is from 2016 to 2023.

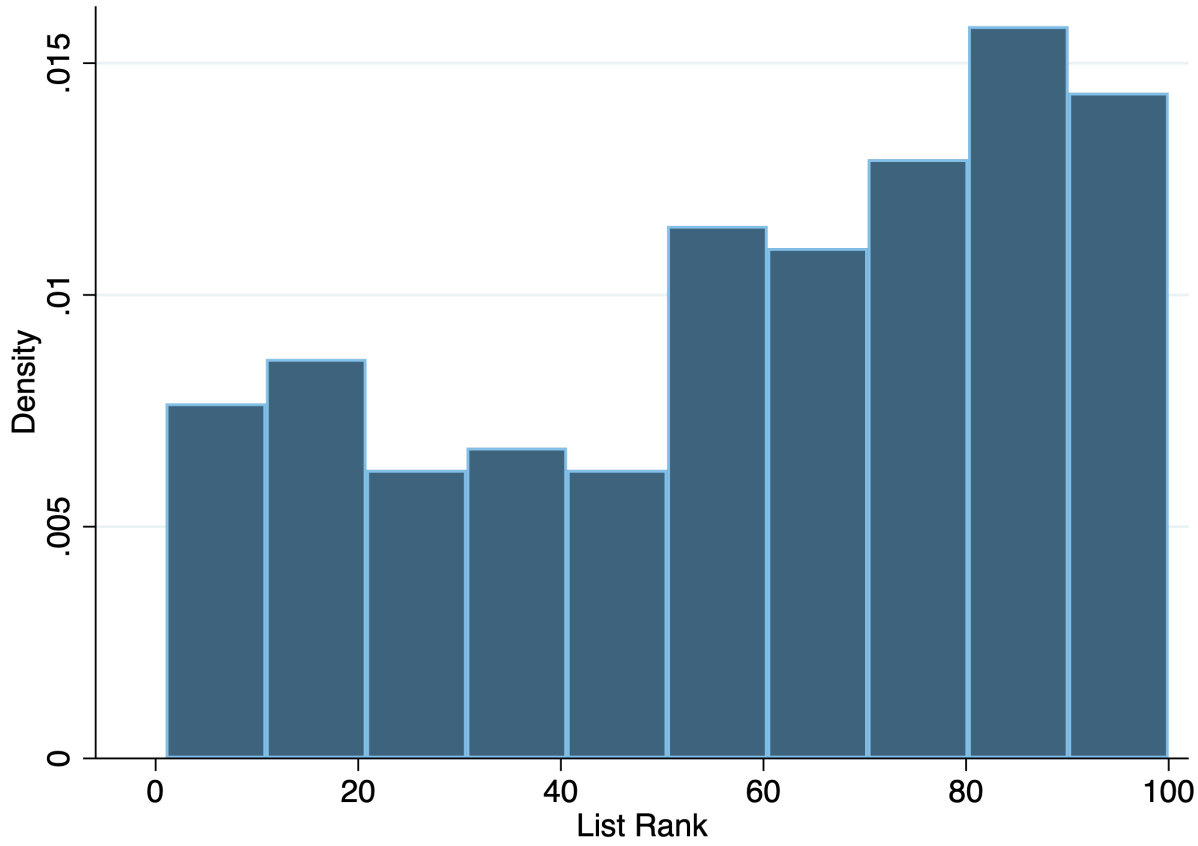


Table A.1: Variable Definitions

Variable	Definition
List Rank	The ranking that AYS gives to a firm on the 100 Most Overpaid CEO list, which ranges from 1 to 100.
Times on List	The number of times a firm has appeared on AYS's 100 Most Overpaid CEO list.
CEO Pay	The total compensation reported by AYS in their 100 Most Overpaid CEO report.
ROA	NI/AT, net income divided by total assets.
Leverage	$(DLC + DLTT)/AT$, current debt plus long term debt divided by total assets.
Covid	A binary variable that takes the value of one during and after 2020 and zero otherwise.
Equal-Weighted Returns	Equal weighted average returns of portfolio p return at month t less the risk-free rate of one month treasury bills.
Value-Weighted Returns	Value weighted average returns of portfolio p return at month t less the risk-free rate of one month treasury bills.
MKT	Excess return on the market average return.
SMB	Small minus big average returns.
HML	High minus low average returns.
UMD	Momentum defined as the rate of acceleration of a securities price.
RMW	Robust minus weak average returns.
CMA	Conservative minus aggressive average returns.
Raw Stock Returns	Monthly stock returns.
List Binary	A binary variables that takes the value of one if a firm is on AYS's 100 Most Overpaid CEO list in year y and zero otherwise.
List Rank	The rank of a firm on As You Sow's 100 Most Overpaid CEOs List in year y multiplied by negative one and zero otherwise.
Tobin's Q	$(AT + MC - CEQ)/AT$, total assets plus market equity minus book equity divided by total assets.
Firm Rating	The average firm rating from Glassdoor employee reviews.
CEO Rating	The average CEO rating from Glassdoor employee reviews.
Recommend to a Friend Rating	The average recommend to a friend rating from Glassdoor employee reviews.

Business Outlook Rating	The average business outlook rating rating from Glassdoor employee reviews.
Overpaid CEO List	A binary indicator variable that takes the value of one after a firm makes As You Sow's list and zero otherwise.
Assets	AT, total assets.
Book to Market	CEQ/MC, book equity divided by market equity.
CEO Delta	Expected dollar change in CEO wealth for a 1% change in stock price (using entire portfolio of stocks and options).
CEO Vega	Expected dollar change in CEO wealth for a 0.01 change in stock return volatility (using entire portfolio of options).
CEO Tenure	The number of years a current CEO has served as CEO.
CEO Duality	A binary indicator variable that takes the value of one if a CEO is also chairman of the board and zero otherwise.
Co-Opted Directors	Total number of directors who joined the board after the CEO assumed office divided by board size.
Co-Opted Independent Directors	Total number of independent directors who joined the board after the CEO assumed office divided by board size.
Δ Stock Weight	The difference in holdings for stock i in year y Q2 minus the holdings in year $y-1$ Q4.
AUM $\leq$ \$0.25 Tr.	A binary variable that takes the value of one if an institutional investor has less than one trillion dollars in assets under management and zero otherwise.
AUM $\leq$ \$1 Bil.	A binary variable that takes the value of one if an institutional investor has less than one billion dollars in assets under management and zero otherwise.
Non-Big 3 Investor	A binary variable that takes the value of one if the institutional investor is neither Blackrock, State Street, nor Vanguard and zero otherwise.
USA Based Investor	A binary variable that takes the value of one if an institutional investor is headquartered in the USA and zero otherwise.

Table A.2: Alternative CAR Windows

This table reports cumulative abnormal returns (CARs) around the announcement of As You Sow's 100 Most Overpaid CEOs list. Panel A shows results from a three day event window, $(-1, +1)$, where $t = 0$ is the date of list announcement. Panel B shows results from a seven day event window, $(-1, +5)$, where $t = 0$ is the date of list announcement. Panels C and D show results from $(+11, +17)$ and $(+11, +24)$, respectively. We use 252 trading days (one trading year) as the amount of time to estimate the expected return and residual return variance. We allow 126 trading days (six trading months) to be established between the end of the estimation window and the beginning of the event window. We require a minimum of 42 non-missing return observations (two trading months) within the estimate window to produce estimates of the expected return. Columns 1, 2, 3, and 4 use the market-adjusted model (MAM), the market model (MM), the Fama-French three factor model (FF3), and the Fama-French-Carhart four factor model (FFC4), respectively. Coefficient estimates are shown, and their standard errors clustered by firm are displayed in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. Variables definitions are in Appendix Table A.1.

Panel A				
	MAM	MM	FF3	FFC4
	(1)	(2)	(3)	(4)
CAR_t $[-1, +1]$ (%)	0.0563	0.0353	0.0537	-0.0020
	(0.0956)	(0.1024)	(0.1024)	(0.1040)
N	887	887	887	887
Panel B				
	MAM	MM	FF3	FFC4
	(1)	(2)	(3)	(4)
CAR_t $[-1, +5]$ (%)	-0.1220	-0.1201	-0.1726	-0.1646
	(0.1521)	(0.1554)	(0.1481)	(0.1525)
N	887	887	887	887
Panel C				
	MAM	MM	FF3	FFC4
	(1)	(2)	(3)	(4)
CAR_t $[+11, +17]$ (%)	-0.9853***	-0.9332***	-0.2786	-0.4386
	(0.2983)	(0.2896)	(0.2674)	(0.2708)
N	887	887	887	887
Panel D				
	MAM	MM	FF3	FFC4
	(1)	(2)	(3)	(4)
CAR_t $[+11, +24]$ (%)	-0.7498**	-0.6494**	0.0014	-0.1782
	(0.2903)	(0.2893)	(0.2876)	(0.2834)
N	887	887	887	887

Table A.3: Stock Price Reactions around the 100 Most Overpaid CEOs List by Industry

This table reports FFC4 CARs around the announcement of As You Sow's 100 Most Overpaid CEOs list splitting the sample by Fama-French Industry (FFI) classifications. Each CAR shows results from a twelve day event window, $(-1, +10)$, where $t = 0$ is the date of list announcement. Column (1) includes the sample of firms that are in FFI-1: Consumer Durables, NonDurables, Wholesale, Retail, Some Services (Laundries, Repair Shops). Column (2) includes the sample of firms that are in FFI-2: Manufacturing, Energy, and Utilities. Column (3) includes the sample of firms that are in FFI-3: Business Equipment, and Telephone and Television Transmission. Column (4) includes the sample of firms that are in FFI-4: Healthcare, Medical Equipment, Drugs. Column (5) includes the sample of firms that are in FFI-5: Other - Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment, and Finance. Coefficient estimates are shown, and their standard errors clustered by firm are displayed in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. Variables definitions are in Appendix Table A.1.

	FFI-1	FFI-2	FFI-3	FFI-4	FFI-5
	(1)	(2)	(3)	(4)	(5)
CAR_t $[-1, +10]$ $(\%)$	0.2603	-1.7982***	-0.5412	1.0710	-0.5546
	(0.6428)	(0.5311)	(0.4906)	(0.7403)	(0.4834)
N	132	178	222	93	262

Table A.4: Alternative Model – Firm Value for the 100 Most Overpaid CEOs

This table presents results from the estimation of a traditional TWFE DiD regression. The dependent variable is the natural log of Tobin's Q. The independent variable, Overpaid CEO List, is a binary indicator variable that takes the value of one after a firm makes As You Sow's list and zero otherwise. Industry fixed effects are at the Fama-French 48 classification level. Coefficient estimates are shown, and their standard errors clustered by firm are displayed in parentheses. ***(**)(*) Significance at the 1%(5%)(10%) two tailed level, respectively. The data are from 2015–2023 as described in Section 3. Variable definitions are provided in Appendix Table A.1.

	DV: ln(Tobin's Q)			
	(1)	(2)	(3)	(4)
Overpaid CEO List	-0.0613**	-0.0472**	-0.0559**	-0.0463**
	(0.0240)	(0.0192)	(0.0223)	(0.0184)
ln(Assets)		-0.1683***		-0.2023***
		(0.0341)		(0.0345)
Book to Market		-0.6107***		-0.4856***
		(0.0684)		(0.0656)
Leverage		-0.0260		0.0285
		(0.1167)		(0.1126)
ln(CEO Delta)			0.0801***	0.0655***
			(0.0127)	(0.0120)
CEO Vega			-0.2898***	-0.1868***
			(0.0721)	(0.0644)
CEO Tenure			0.0007	0.0007
			(0.0020)	(0.0016)
CEO Duality			0.0111	0.0113
			(0.0289)	(0.0219)
Co-Opted Directors			-0.1832*	-0.1257
			(0.1031)	(0.0902)
Co-Opted Independent Directors			0.1345	0.0816
			(0.1148)	(0.0996)
N	3,010	3,010	3,010	3,010
R^2	0.9232	0.9376	0.9271	0.9399
Year by Industry FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y