ESG Overperformance? Assessing the Use of ESG Targets in Executive Compensation Plans

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Abstract

The practice of linking executive compensation to ESG performance has recently become more prevalent in US public companies. In this paper, we document the extent of this practice within S&P 500 firms during the 2023 proxy season and, using a combination of hand coding and GPT-auditing, we extract the unstructured information that details how often executives miss, meet, or exceed the financial and ESG-based targets in their compensation plans. We find that 315 of these firms (63.0%) include an ESG component in their executives' compensation and that the vast majority of these incentives are part of the annual incentive plan (AIA) rather than a part of the long-term incentive plan (LTIP). While executives miss all of their financial targets 22% of the time in our sample, we show that this outcome is exceptionally rare for ESG-based compensation. Only 6 of 247 (2%) firms that disclose an ESG performance incentive report missing all of the ESG targets. We ask whether the ESG overperformance that we observe is associated with exceptional ESG outcomes or, instead, is related to governance deficiencies. Our findings that meeting ESG-based targets is not associated with improvements in ESG scores and that the presence of ESG-linked compensation is associated with more opposition in say-on-pay votes provides support for the weak governance theory over the exceptional performance theory.

Keywords: ESG, Executive compensation, ESG-linked compensation

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The practice of linking executive compensation to ESG performance has recently become more prevalent in US public companies. In this paper, we document the extent of this practice within S&P 500 firms during the 2023 proxy season and, using a combination of hand coding and GPT-auditing, we extract the unstructured information that details how often executives miss, meet, or exceed the financial and ESG-based targets in their compensation plans. We find that 315 of these firms (63.0%) include an ESG component in their executives' compensation and that the vast majority of these incentives are part of the annual incentive plan (AIA) rather than a part of the long-term incentive plan (LTIP). While executives miss all of their financial targets 22% of the time in our sample, we show that this outcome is exceptionally rare for ESG-based compensation. Only 6 of 247 (2%) firms that disclose an ESG performance incentive report missing all of the ESG targets. We ask whether the ESG overperformance that we observe is associated with exceptional ESG outcomes or, instead, is related to governance deficiencies. Our findings that meeting ESG-based targets is not associated with improvements in ESG scores and that the presence of ESG-linked compensation is associated with more opposition in say-on-pay votes provides support for the weak governance theory over the exceptional performance theory.

1. Introduction

In fiscal 2022, Microsoft's CEO, Satya Nadella, had a target annual incentive award (AIA) of $7.5 million.[1] Of that amount, the board based 10% of the award on whether Mr. Nadella could meet the board's expectations on measures of culture, diversity, and sustainability. At the end of the fiscal year, the board determined that he greatly exceeded those expectations, and for doing so, he received 165% of the amount allocated for these goals, or about $1.24 million. The board justified the award, in part, on its assessment that Mr. Nadella had ensured that "that Microsoft's culture evolve[d] while staying true to [its] values."[2] The board also cited increases in the percentage of Asian, Hispanic and Latinx, and Black and African-American employees, although none of those groups increased more than one percentage point as a total of all employees.[3] The compensation committee left this bonus structure intact for the following fiscal year. When that year ended, the board determined that Mr. Nadella had again exceeded

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[1] Microsoft Corporation, Definitive Proxy Statement (Schedule 14A), at 45-46 (October 27, 2022).
[2] *Id*. at 48.
[3] *Id*.

expectations for culture, diversity, and sustainability, albeit not by as much as the year before. He received 110% of the amount allocated for his performance in this area, which included conducting layoffs with "a focus on dignity and respect for the impacted employees," retaining Microsoft's "focus on diversity and inclusion," as well as meeting unspecified sustainability goals.[4]

The inclusion of these types of performance goals as well as other metrics associated with environmental, social and governance (ESG) objectives within executive compensation plans may have been a response to institutional investor demand for better ESG performance.[5] And while there are some indications that this demand is pulling back from a high point,[6] the widespread adoption of these performance measures raises several questions about their use. For one, as noted by several scholars,[7] early studies suggested that the initial use of such ESG targets tended to apply only to a company's short-term AIA plan rather than to the more substantial long-term equity incentive (LTI) plan. That was the case for Microsoft's CEO as Nardella's AIA made up only about 18% of his nearly $55 million annual compensation package, and the ESG component of his AIA was only a little over two percent of his total compensation.

More importantly, even assuming short-term bonus plans provide meaningful incentives, there are additional questions regarding the level of difficulty of achieving the specified targets. In an ideal world, the criteria for establishing a performance goal should be that it is both obtainable and challenging to achieve. Relative to financial performance measures, however, satisfying these criteria for ESG-related measures is likely to be more challenging for at least two reasons. The first relates to transparency. Whereas financial metrics used in executive compensation plans are typically tied to publicly available accounting or market metrics, ESG metrics are more likely to focus on less transparent operating measures, such as those relating to carbon emissions, workplace conditions, or hiring and promotion practices. This lack of transparency impairs the ability to assess the difficulty of an ESG performance target relative to past performance and to verify that the target has in fact been achieved.[8] The second reason relates to incentives. Given the direct relationship between management compensation and achieving performance targets, it should hardly be surprising if managers were to use less transparent targets to set targets that are easy to achieve. In the context of ESG targets, such incentives may also be amplified to the extent companies adopt ESG performance measures to satisfy investors who expect a company to outperform on its ESG goals.

In this paper, we empirically explore the current use of ESG performance targets in executive compensation plans among publicly traded U.S. firms with a particular focus on understanding the structure these plans have taken as well as the extent to which performance targets may be set at levels that are easy to achieve. For this purpose, we define an ESG

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[4] *Id*. at 44.

[5] Matthew Bell, *Why ESG Performance Is Growing in Importance for Investors*, available at https://www.ey.com/en_us/insights/assurance/why-esg-performance-is-growing-in-importance-for-investors (March 9, 2021).

[6] Patrick Temple-West, *Companies Drop DEI Targets from Bonus Plans on Pressure from Conservatives*, FIN. TIMES, July 21, 2024.

[7] *See* David I. Walker, *The Economic (In)Significance of Executive Pay ESG Incentives*, 27 STAN. JOURNAL OF LAW, BUS. & FIN. 318 (2022); Lucian A. Bebchuk & Roberto Tallarita, *The Perils and Questionable Promise of ESG-Based Compensation*, 48 J. CORP. L. 37 (2022). *See also* Dorothy S. Lund, *Corporate Finance for Social Good*, 121 COLUM. L. REV. 1617, 1632 n. 63 (2021) (noting that some companies tie executives' compensation to ESG goals, but that this component is typically a small part of pay packages).

[8] Bebchuk & Tallarita, *supra* note 7, at 63 (finding that virtually none of the firms utilizing ESG performance metrics for executive compensation do so in a way that enables outsiders to review and assess the relevant goals.)

performance target as any measurable performance target based on the company's actual performance with respect to non-financial targets focused on employee well-being, employee and worker safety, employee diversity and inclusion, environmental considerations, community health, or other benefits provided to stakeholders other than as stockholders or customers.[9] Our sample of compensation plans comes from reviewing all proxy statements filed during the 2023 proxy season by companies within the S&P 500 index.

Our first finding relates to the growing prevalence of ESG-related compensation in recent years. In a 2019 paper, Caroline Flammer, Bryan Hong, and Dylan Minor found that the fraction of S&P 500 companies that adopted compensation plans with a component tied to corporate social responsibility (CSR) grew from 12% in 2004 to 37% by 2013.[10] In contrast, within our sample, we find that 315 (63%) S&P 500 firms disclosed some form of ESG-related performance compensation during the 2023 proxy season. Consistent with research examining the 2020 pay practices among firms within the S&P100 and the 2021 pay practices of firms comprising the Business Roundtable, we also find that companies in our sample overwhelmingly tie ESG performance metrics to payouts made as part of an executive's short-term AIA, with 304 (96.5%) of these 315 firms adopting this approach. At the same time, we also find evidence that a growing number of firms have begun to use ESG performance metrics within their LTI plans as well. For instance, just over 15% (N=49) of the 315 firms using some form of ESG performance compensation conditioned a portion of the ultimate vesting of a long-term equity award made pursuant to its LTI plan on satisfying an ESG performance measure.

We additionally examine the economic weight given to the ESG performance measure for a company's executive officers, focusing for this purpose on payouts to a company's CEO. We do so by examining, when possible, disclosures regarding the weight of the measure within the compensation plan as well as the weight of the plan award on the CEO's target annual compensation. For firms incorporating ESG performance measures into a CEO's AIA, the mean (median) weight given to all ESG measures was 14.9% (10%), while the mean (median) weight of the AIA on a CEO's annual compensation was 17.7% (16%). For those companies that disclosed both measures, the successful performance on all ESG measures within the AIA could affect CEO annual compensation by an average (median) of 2.5% (2.0%). In contrast, the mean (median) weight of the LTI award on a CEO's target annual compensation was 72.2% (74%), while the mean (median) weight given to all ESG performance metrics was 13.7% (10%) among companies that disclosed utilizing a particular ESG weight in awarding LTI plan awards. For those companies that disclosed both measures for the LTI plan, the successful performance on the ESG measure within the plan could affect CEO annual compensation by an average (median) of 6.8% (6.6%). Thus, even for companies incorporating ESG measures into their LTI plan, the vast majority of a CEO's expected compensation remains tied to non-ESG outcomes.[11]

[9] We exclude customer considerations given the close link between customer welfare and short-term and long-term profitability.

[10] Caroline Flammer, Bryan Hong, and Dylan Minor, *Corporate Governance and the Rise of Integrating Corporate Social Responsibility Criteria in Executive Compensation: Effectiveness and Implications for Firm Outcomes*, 40 STRATEGIC MANAGEMENT JOURNAL 1097, 1099 (2019).

[11] This emphasis on financial performance appears to be consistent with investors' overall focus on motivating management to pursue long-term shareholder value. *See* Alex Edmans, Tom Gosling, and Dirk Jenter, *CEO Compensation, Evidence from the Field*, 150 J. FIN. ECON 103718 (2023) (finding that in large scale survey of investors, 87% of investors stated that they offer CEOs variable pay 'to motivate the CEO to improve long-term shareholder value' while just 53% stated that they offer CEOs variable pay 'to motivate the CEO to improve outcomes other than long-term shareholder value.'").

Turning to the rate of achievement, we find that ESG targets are satisfied at a rate that is notably higher than the rate at which firms satisfy their financial performance metrics. Among the 315 firms incorporating ESG metrics into their AIA plans, 247 provide disclosures regarding whether the identified targets were achieved. For each identified ESG target, we follow the common practice among sample firms of classifying the target as missed, met or exceeded, and we classify the firm's ESG performance as a whole as missed, met, or exceeded by reference to the minimum count of these individual classifications (e.g., a firm that exceeded on three targets and missed a single target would be classified as "Exceeded/Missed"). Across all 247 firms, the 2023 proxy statements for over 76% (N=188) report entirely meeting or exceeding all identified ESG performance measures, while just 2.4% (N=6) report entirely missing all identified ESG measures. In contrast, when we apply the same classification framework to a company's financial performance metrics used within its AIA plan, we are able to classify identified financial performance metrics as having been missed, met, or exceeded for 469 firms, but the overall rate of achievement is markedly different: Only 44% (N=98) of these 469 firms reported that they entirely met or exceeded all financial performance metrics, while 22.8% (N=145) reported entirely missing the identified financial metrics.[12]

We also explore two alternative theories for the high achievement rates for ESG performance targets. The first posits that firms set their ESG goals ambitiously but nevertheless are able to achieve them. The second posits that the high achievement rates might reflect governance and oversight challenges at certain firms. Under this theory, managers—particularly those at poorly governed firms—exploit less transparent ESG metrics to set them in ways that are likely to be achieved either to enhance their compensation or to appease institutional investors and other stakeholders who demand greater ESG accountability.

To assess these two theories, we examine the association between whether a firm met or exceeded all of its ESG performance targets and data regarding both a firm's past and future ESG ratings as well as proxies for the lack of oversight by a company's board of directors or compensation committee. If firms set their ESG goals ambitiously and achieve them, one might expect these high-achieving firms to have higher ESG scores prior to the 2023 proxy season. Similarly, following a firm's high ESG achievement, one might expect ESG rating agencies to take note, possibly through an upward modification of a company's ESG score. Conversely, if the high achievement rates for ESG targets reflect governance deficiencies, the high achievement rates should be associated instead with proxies for a lack of compensation oversight, such as a company's Entrenchment Score, its CEO's power, or shareholders' disapproval of the board's oversight of executive compensation as expressed through a say-on-pay vote.

Overall, our findings are consistent with the latter explanation. While we find no meaningful association between conventional measures of a firm's governance or CEO's entrenchment, firms that met or exceeded all of their ESG performance targets were significantly more likely to receive a greater percentage of "against" votes in the say-on-pay vote during the 2023 proxy season. Moreover, no such association exists with regard to firms that met or exceeded all of their financial targets set forth in their AIA plans. Examination of firms that missed one or more ESG targets also reveals a concentration among ESG targets that were set using more transparent quantitative targets based on metrics that are either formally regulated or follow an industry standard. For instance, we find that among the 59 firms that reported missing

[12] Additionally, 18 firms reported whether ESG criteria were satisfied with respect to a prior year's LTI award. Of these firms, 78% (N=14) reported entirely meeting or exceeding the ESG targets, while 22% (N=4) reported missing the identified ESG target.

one or more ESG performance goals, over one-third failed to fully meet their ESG goals because of missing a worker safety measure, typically by reference to the total reportable incident rate (TRIR) reported to the U.S. Department of Labor, Occupational Health and Safety Administration (OSHA).

In contrast, using 2023 ESG scores from the London Stock Exchange Group (LSEG), S&P Global, and Sustainalytics, and we find no statistically meaningful association between a firm's outperformance (or lack thereof) on its ESG performance metrics and either its past or future ESG score from any of these ratings agencies. While we cannot rule out the possibility that these scores reflect invalid measures of a company's ESG profile, we interpret these results as consistent with the conclusion that ESG performance targets may be tilted to ensure their achievement.

Finally, in the Appendix, we also examine the extent to which current large language models (LLMs) might be able to overcome some of the challenges of transparency with respect to evaluating the use of ESG performance targets within firms' compensation plans. To date, the primary vendors of executive compensation data such as Institutional Shareholder Services (ISS) and Equilar do not systematically track the success with which managers meet financial or non-financial performance metrics set forth in their compensation plans. Nor are these data required to be disclosed in a standardized framework in a company's proxy statement, making the process of manually collecting these data both cumbersome and prone to error. As such, there may be considerable benefits to be gained if investors and researchers can outsource this data collection process to a readily available LLM. Yet, because contemporary LLMs suffer from seemingly intractable hallucinations,[13] relying on these models could also impose other costs as users seek to disentangle the truth. Because our hand-collected data should represent the ground truth regarding both financial and ESG performance metrics in our sample of proxies, comparing these data with the results obtained from an LLM thus provides a unique opportunity to examine the potential benefits and costs of relying on LLMs in this context, at least as of this moment in the development of these models. As we discuss in detail in the Appendix, the results confirmed both the promise and potential peril of relying on LLMs in this regard.

This article proceeds as follows. Section 2 begins with an overview of executive compensation at U.S. publicly traded firms and details how ESG-linked compensation has been integrated into the structure of executive contracts. This section continues with a review of the literature on ESG-linked compensation and motivates our empirical investigation. Section 3 describes our coding of the proxy statements released during the 2023 proxy season as well as the stockholder voting and ESG datasets that we use in our analysis. Section 4 presents our results, which we discuss in Section 5. Section 6 concludes.

2. Background on Executive Compensation and Literature Review

A. Overview of Executive Compensation at U.S. Publicly Traded Firms

In nearly all public companies, a compensation committee, which is a subcommittee of the board of directors, has the responsibility for structuring and negotiating executive

[13] *See* Matthew Dahl, et al. *Large Legal Fictions: Profiling Legal Hallucinations in Large Language Models*, 16 JOURNAL OF LEGAL ANALYSIS 64 (2024) (providing systematic evidence of hallucinations across multiple LLMs).

compensation contracts, typically on an annual basis.[14] Rules promulgated under the Dodd-Frank Act require every member of a public company's compensation committee to be an independent member of the board of directors.[15] The compensation committee will typically engage a compensation consultant to advise it when structuring the company's compensation plan for the fiscal year, and those consultants will often draw on the compensation practices of a firm's industry peers.

For most companies, the annual compensation for a company's executive officers will have three primary components.[16] The first is a fixed annual salary, the second is a cash award from the company's AIA plan, and the third is an equity award from its LTI plan, which is usually in the form of restricted stock, options, or some mix of the two.[17] While companies can vary in how the LTI plan award is delivered, a common approach is to use a combination of time-based restricted stock units (RSUs) and performance share units (PSUs). For instance, a CEO might be issued a set number of restricted shares that vest over the next several years, along with a PSU that will entitle the CEO to a set number of shares if specific performance metrics are met. The salary and AIA components are typically smaller than the LTI plan, which often makes up a substantial majority of an executive's compensation. In 2020, for instance, the average target mix for S&P 500 CEOs was 13% salary, 18% AIA, and 69% LTI award.[18]

Within each of the two bonus programs, the programs will also tend to share several common attributes. Turning first to the AIA plan, nearly all AIAs are tied to performance incentives. While compensation committee practices vary, a typical structure for an AIA will begin with a target award percentage that gets multiplied by the executive's base salary to generate the target award size. As an example, an executive might have a base salary of $1 million and a target award percentage of 200%, which produces a target award of $2 million. This target award later gets multiplied by a performance factor, which reflects how executives perform relative to the performance targets specified in the AIA. If executives exactly meet their targets, the performance factor will usually be 1.0 and that will be multiplied by the target award size to determine the AIA for the year. Missing targets will produce a performance factor less than one and exceeding targets means a performance factor greater than one.

The plan will also typically define payouts under the plan across three levels—Target, Maximum and Threshold—based on the performance factor. For instance, a Threshold payout

[14] U.S. public companies are generally required to have a compensation committee comprised of independent directors due to the listing requirements of the New York Stock Exchange or Nasdaq. *See* Section 10C of the Securities Exchange Act of 1934 (requiring the SEC to adopt rules directing the national securities exchanges and national securities associations to prohibit the listing of any equity security of an issuer, with certain exceptions, that does not comply with Section 10C's compensation committee and compensation adviser requirements).

[15] Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376, § 952(a) (2010) (adopting Section 10C of the Securities Exchange Act of 1934).

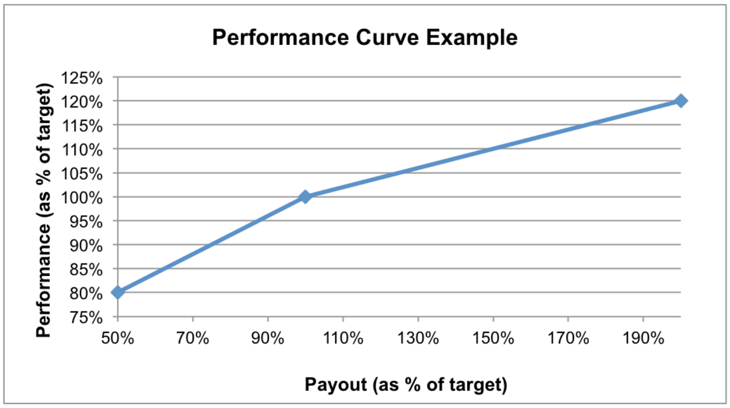
[16] Walker, *supra* note 7, at 327-29.

[17] *Id*.

[18] *See* Willis Towers Watson, *CEO Pay at S&P 1500 Companies: 2021*, Sept. 2021, available at https://www.wtwco.com/-/media/wtw/insights/2021/09/epm-30sep2021-2021-ceo-pay-at-s-p-1500.pdf. In part, this emphasis on performance-related compensation stems from tax considerations. Under Section 162(m) of the Internal Revenue Code of 1986, public companies are prohibited from deducting more than $1 million per year in compensation paid to a CEO or any other other named executive officer unless the compensation meets certain performance-based criteria. Additionally, since say-on-pay was implemented in 2011, pay for performance has become a central issue for institutional investors and a primary focus for proxy advisory firms such as Institutional Shareholder Services and Glass Lewis.

would pay the minimum level of the award (e.g., 50% of the target award size) if the performance factor meets a minimum level of achievement (e.g., 0.8) and nothing if the performance factor falls short of it. A Target payout would pay 100% of the target award size if performance factor is 1.0. And a Maximum payout would pay a multiple of the target award size (e.g., 250%) if performance factor is at a specific level above 1.0. The plan would also have to establish a payout curve to address payouts at performance levels between these three levels. For instance, Figure 1 illustrates a hypothetical payout curve illustrated by Meridian, a compensation consultant:[19]

Figure 1



At some firms, all executives have the same incentive structure for their performance factors while other firms use different inputs for each individual executive's performance factor.

Committees vary in how they structure ESG-based incentives in AIAs. The most common choice appears to be incorporating ESG targets into the calculation of the performance factor by giving a separate weight for performance related to financial targets and to ESG targets. Under this approach, a committee will determine whether an executive missed, met, or exceeded the relevant ESG target(s) and will then incorporate the outcome input into the overall performance factor. Imagine, for example, that an executive with a target bonus of $2 million has ESG-linked targets that provide a twenty percent weight in the performance factor. If there are two ESG targets—an emissions target and a diversity target—that receive equal weight and the executive meets the emissions goal and exceeds the diversity goal by fifty percent, the ESG input into the performance factor would be .5 multiplied by the emissions performance factor (1.0) and .5 multiplied by the diversity performance factor (1.5) for a total of 1.25. This would be multiplied by the ESG weight of .2 and thus the ESG component would add .25 to the overall performance factor. Put another way, $500,000 of the executive's bonus would be attributable to ESG performance.

While almost all financial AIA metrics and many ESG AIA metrics in a company's AIA plan use quantitative metrics, ESG-linked compensation sometimes uses qualitative measures to assess executive performance. A common qualitative method is to use a "business strategy scorecard" that incorporates ESG performance as an input into an executive's AIA. The Conference Board reports that, as of 2021, the ESG metrics on those scorecards often reflected a

[19] Meridian, *Annual Incentive Basics*, available at https://www.meridiancp.com/wp-content/uploads/Annual-Incentive-Basics.pdf.

data-driven, quantitative approach but with a qualitative overlay that left room for committee or board discretion.[20] Other firms adjust the AIA using an individual performance assessment that includes an ESG component. This assessment is typically a discretionary, usually qualitative, evaluation performed by the compensation committee.[21] Other approaches include using ESG as part of a financial performance rating, which also tends to involve discretionary review by compensation committees. In still other cases, following determination of the formulaic payout for the AIA based on financial performance metrics, an ESG modifier might be applied to increase or decrease the award payout based on a particular ESG performance metric. For instance, an 10% ESG modifier might be used such that the total AIA payout could either increase by up to 10% if the ESG target is exceeded or decrease by up to 10% if the ESG target is missed.

With regard to the LTI plan, a typical structure will again entail establishing a target award size, which might be set as a multiple of an executive's salary or as a desired percentage of the executive's overall annual compensation. Often, the compensation committee (in consultation with a compensation consultant) will establish a peer group of companies and set the size of the award (e.g., as a percentage of annual compensation) to reflect awards granted within the group. As noted, it is common to issue the LTI plan award using a combination time-based RSUs and PSUs. Like an award under the AIA, a typical PSU will have a Threshold, Target, and Maximum payout of shares at the end of a three-year performance period based on any number of performance metrics, with most tied to a return-based metric such as total shareholder return (often relative to the company's peer group) or earnings per share.

Although relatively few companies in the S&P 500 incorporate ESG performance into their LTI plans, the practice appears to be increasing in recent years. The firms that take this approach use systems that track what we observe with AIAs. Most of them use a performance factor that determines the size of the equity award package the executive will receive and, for the firms that incentivize ESG goals, those goals are a component of the overall performance factor. Other firms use ESG measures as a modifier to the other performance goals. This modifier can increase or decrease the overall performance equity award by some specified percentage.[22] Only a small number of firms appear to use the qualitative and discretionary approaches that we observe with some AIAs. Under these approaches, the compensation committee will engage in "holistic" review of the firm's or an executive's ESG-performance and will adjust the overall equity grant accordingly at the end of the performance period.[23]

[20] The Conference Board, *Linking Executive Compensation to ESG Performance: Lessons Learned and Insights for What's Ahead*, Oct. 28, 2022, at 8, available at https://www.conference-board.org/pdfdownload.cfm?masterProductID=41301.
[21] *Id*.
[22] For example, during FY 2023 the LTI plan for Lincoln National Corp. included a diversity modifier for long-term equity awards that can increase or decrease the amount of the award by up to 16%. *See* Lincoln National Corp, Definitive Proxy Statement (Schedule 14A), at 8 (April 13, 2023).
[23] For example, during FY 2023 the LTI plan for the AES Corporation gave a 7.5% weight for achievement of "Social" goals which would be determined by "[q]ualitative assessment by the Compensation Committee of Company performance in: (1) improving diversity measured by the increase of the representation of women within leadership roles and increasing the representation of historically underrepresented groups in the Company's employee population in the United States; and (2) creating a culture of inclusion measured by the reduction of the voluntary attrition of underrepresented groups." AES Corporation., Definitive Proxy Statement (Schedule 14A), at 41 (March 3, 2023).

B. Literature Review and Theory Development

Our analysis of the outcomes associated with ESG-linked compensation implicates two related literatures. The first is the literature on using compensation arrangements to incentivize improved ESG outcomes for firms. While that literature has documented the existence and expansion of this practice, we are not aware of any studies that report whether executives actually achieve the ESG outcomes specified in their compensation arrangements, as we do here. The second related literature is on the use of discretionary targets in executive compensation that are difficult to verify, which can implicate many ESG targets. We show that some, but not all, of the ESG targets we document fall into this category.

The research on ESG-linked compensation suggests that this practice is a relatively recent phenomenon.[24] ISS reports that only about 3 percent of firms across the world tied compensation to ESG performance in 2010 while over 30% do so now.[25] A natural question about the use of these ESG incentives is what purpose they serve. Some, such as Professors Bebchuk and Tallarita, argue that linking executive compensation to the achievement of ESG goals may allow executives to extract rents at the expense of shareholder welfare.[26] Other work finds that incentivizing ESG performance is associated with positive ESG outcomes[27] and that these incentives correlate with improved financial performance.[28]

Whether ESG-linked compensation provides incentives that further stakeholder, and potentially shareholder, interests or whether this practice facilitates rent extraction by entrenched managers has consequences for what we expect to observe. If firms use this type of pay to meet stakeholder objectives, including potentially those of shareholders, we would expect those targets to be set in a way that is roughly similar to other executive incentive targets that benefit the firm. An example here would be the financial performance targets in an executive's AIA. These targets are seen as an additional and more fine-tuned mechanism for achieving shareholder goals.[29] This mindset means that that these financial targets should not be easy to meet and, as a consequence, executives should frequently miss them. Alternatively, if ESG-linked

[24] *See* Stavros Gadinis & Amelia Miazad, *Corporate Law and Social Risk*, 73 VAND. L. REV. 1401 (2020) (noting that "tying compensation to ESG is a relatively recent phenomenon").
[25] *See* Shira Cohen, Igor Kadach, Gaizka Ormazabal, and Stefan Reichelstein, *Executive Compensation Tied to ESG Performance: International Evidence*, 61 JOURNAL OF ACCOUNTING RESEARCH 805, 806 (2023) ("According to the global ISS Executive Compensation Analytics (ECA) database, which covers a wide cross-section of firms around the world, … the share of firms designating ESG metrics as key performance indicators (KPIs) for their executives has grown from 3% in 2010 to over 30% in 2021.")
[26] *See* Bebchuk & Tallarita, *supra* note 7.
[27] Bryan Hong, Zhichuan Li, and Dylan Minor, *Corporate Governance and Executive Compensation for Corporate Social Responsibility*, 136 JOURNAL OF BUSINESS ETHICS 199 (2016) (finding that firms with more shareholder friendly corporate governance are more likely to provide compensation linked to corporate social responsibility measures and that providing such a link is an effective way to improve firm social performance); Atif Ikram, Zhichaun Li, and Dylan Minor, *CSR-Contingent Executive Compensation Contracts*, 151 JOURNAL OF BANKING AND FINANCE 27 (2019) (same); Karen Mas, *Do Corporate Social Performance Targets in Executive Compensation Contribute to Corporate Social Performance?*, 148 JOURNAL OF BUSINESS ETHICS 573 (2018) (finding that the use of quantitative targets related to corporate social performance (CSP) is an effective way to improve CSP results).
[28] Caroline Flammer, Bryan Hong, and Dylan Minor, *Corporate Governance and the Rise of Integrating Corporate Social Responsibility Criteria in Executive Compensation: Effectiveness and Implications for Firm Outcomes*, 40 STRATEGIC MANAGEMENT JOURNAL 1097 (2019).
[29] Wayne R. Guay, John D. Kepler, and David Tsui, *The Role of Executive Cash Bonuses in Providing Individual and Team Incentives*, 133 J. FIN. ECON. 441 (2019) (finding evidence that bonus plans appear to be used to reduce shirking by individual managers and to facilitate coordination across the top management team as a whole).

compensation is a green-washed version of rent extraction, we might expect the targets to be set in a different way. In that case, we might find targets that are easy to meet and are often met without an accompanying improvement in ESG performance.

These concerns about rent extraction and executive entrenchment are also themes in the second related literature. When compensation committees set targets for annual bonuses, they can do so in ways that are more and less transparent. For example, when tying annual bonuses to financial performance, committees can use GAAP-based measures, which are relatively easy to verify against a firm's audited financials, or they can use non-GAAP measures, which are harder to verify and thus less transparent. Atanasov, Black, and Boutchkova find that executives in the oil and gas industry are more likely to achieve non-transparent targets than they are to meet or exceed transparent targets.[30] They are also more likely to exactly meet or just barely meet a non-transparent target than they are to barely miss them.[31] The authors show that these types of discontinuities disappear when firms are in distress, have higher governance scores, or have better quality whistleblower programs.[32] This research ties into a broader literature that finds other evidence of rent extraction in executive compensation. This work includes Morse, Nanda, and Seru's finding that powerful CEOs "rig" the selection of performance metrics on which they are evaluated[33] and work suggesting that performance-based pay may not do as much to address agency problems as the theory of executive compensation would suggest.[34]

Of course, as with financial targets, ESG targets can also be set in a fashion that are more or less transparent, and certain categories of ESG targets might be more or less prone to different levels of transparency. Consider, for instance, a utility seeking to improve worker safety. A natural and perhaps expected way to implement this goal might be to leverage its pre-existing compliance obligations to track and report workplace safety data to OSHA. Under this approach, it might seek to achieve a year over year reduction in the number of workplace injuries suffered by its employees, and it might measure achievement against this target by reference to the TRIR reported to OSHA. In this case, the desired target (a year-over-year reduction in the TRIR) is transparent, and the means to measure its achievement (by reference to an OSHA metric) are presumably reliable given the costs of non-compliance with OSHA rules. (Indeed, in this example, the measure itself is also transparent given the public availability of firm's OSHA Form 300A.)[35] However, other ESG targets might be more amenable to less transparent, discretionary goals. For instance, a firm might seek to improve its representation of women executives but not disclose the specific target metric or the means by which it will measure achievement against the target. To the extent firms are more likely to hit their ESG targets, the prevailing literature on transparent versus non-transparent compensation targets provides a possible explanation. If ESG-based measures are a mechanism to extract rents, the earlier work

[30] Atanasov, Vladimir A., Dirk E. Black, and Maria Boutchkova. Striking Oil in the Boardroom: Overpaying Executives through Manipulating Actual Performance Metrics (2022), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3615090.
[31] *Id.*
[32] *Id.*
[33] Adair Morse, Vikram Nanda, and Amit Seru, *Are Incentive Contracts Rigged by Powerful CEOs?*, 66 J. FIN. 1779 (2011).
[34] Alex Edmans, Xavier Gabaix, Tomasz. Sadzik, and Yuliy Sannikov, *Dynamic CEO Compensation*, 67 J. FIN 67 1603 (2012).
[35]See OSHA, *Injury Tracking Application (ITA) Data: Establishment and Case Detail Work-related Injury and Illness Data* available at https://www.osha.gov/Establishment-Specific-Injury-and-Illness-Data.

on transparency suggests that we should observe more transparent targets missing at higher rates than less transparent targets.

3. Data and Methodology

Our primary source of data comes from our analysis of the proxy statements submitted by members of the S&P 500 index as it was constituted on June 30, 2023. We also used this date for purposes of pulling each company's most recent proxy filing. For 439 firms, selecting this date entailed reviewing a proxy filed in either the first or second quarter of 2023; for the remaining 61 firms, we reviewed a proxy filed in the third or fourth quarter of 2022. For convenience in exposition, we refer to all of these proxies as relating to the 2023 proxy season. In addition to our hand-collected proxy data, we additionally obtain voting and governance data from ISS, and we obtain accounting and market data from Compustat and CRSP, respectively. Our ESG ratings data comes from LSEG, S&P Global, and Sustainalytics.

Working with a team of research assistants (RAs), we assigned multiple RAs to review each proxy statement using a uniform data collection template. In general, RAs were instructed to focus their collection efforts based on their analysis of the proxy's Compensation Discussion and Analysis (CDA) section. The CDA is required of all firms in our sample and details the compensation paid to each company's named executive officers under Item 402 of Regulation S-K.[36] We additionally reviewed results for each company to confirm the accuracy of the data collected with the template. As discussed in the Appendix, we also audited our data through use of a few-shot prompt using the GPT-4o model from OpenAI. In general, the prompt replicated the hand-coding task assigned to our team of RAs. This process uncovered data that was not originally recorded in the hand-coded sample, which was then incorporated into our final sample.

Given the common compensation practices described in Section 2(A), we structured our data collection template around extracting data concerning the size and structure of the AIA plan and LTI plan for each company in our sample. For each plan, specific tasks included collecting data regarding the financial performance metrics used for the plan, how the company performed relative to these target metrics, and whether any portion of the AIA plan or LTI plan was dependent on an ESG performance measure. To the extent it was, we additionally collected data regarding the weight the ESG measures were given within the target award size for either the AIA plan or LTI plan and whether each ESG target was missed, met or exceeded. Each company's overall ESG performance level was also classified as missed, met, or exceeded by reference to the minimum count of these individual classifications (e.g., a firm that exceeded on three targets and missed a single target would be classified as "Exceeded/Missed"). We adopted a similar convention for classifying each financial target for the AIA plan and LTI plan and each company's overall financial performance relative to its financial targets for the relevant plan.

Overall, while this approach was relatively straightforward for financial targets in both plans, it was less so for ESG targets for two primary reasons. First, companies that incorporated ESG performance targets into their AIA plans often did so through the use of an individual

[36] Under Item 402(a)(3), a company's named executive officers include: (a) the company's principal executive officer during the last completed fiscal year ("PEO"), (b) anyone serving as the company's principal financial officer during the last completed fiscal year ("PFO"), (c) the company's three most highly compensated executive officers other than the PEO and PFO who were serving as executive officers at the end of the last completed fiscal year; and (d) up to two additional individuals for whom disclosure would have been provided under (c) but for the fact that the individual was not serving as an executive officer of the registrant at the end of the last completed fiscal year. 17 CFR § 229.402

performance scorecard or other holistic, individualized assessment rather than through a company-wide performance target. In such instances, we were unable to classify whether a performance target was met except in cases where the proxy specifically disclosed that the ESG target was met or the context otherwise implied that all performance goals were met or exceeded.[37] Second, even when a company expressly set forth a company-wide ESG performance target (or used an ESG modifier), it might include the ESG target as part of a broader category of "operational" or "strategic" goals. For instance, a company might give strategic goals a 20% weight within the target AIA and include among these goals a specific reduction in carbon emissions. In such a situation, we recorded the weight given to the ESG target and whether the ESG target was missed, met or exceeded only if we could make these determinations from the express language of the proxy statement. In other words, where the company conflated one or more ESG targets with other non-ESG targets under "strategic" or "operational" goals, we made no inferences regarding the ESG weight or ESG performance classification unless we could clearly substantiate such inferences from the proxy statement.

4. Results

A. Incidence and Weighting of ESG Performance Metrics

In Table 1, we present the distribution of the three primary components of a CEO's annual compensation across all firms within the S&P 500 that disclosed their CEO's annual salary along with the CEO's annual target award under the company's AIA plan and LTI plan. Column (1) provides the mean percent of the CEO's annual compensation for each of these three components for all 453 firms that provided these disclosures with the standard deviation presented in parentheses. The remaining columns provide these statistics for firms within each of the eleven industry sectors that comprise the S&P 500 based on the Global Industry Classification Standard (GICS).

Table 1: Components of CEO Compensation By Industry

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	All	Info. Tech.	Materials	Real Estate	Healthcare	Financials	Consumer Dis.	Industrials	Comm. Services	Consumer Staples	Energy	Utilities
CEO Salary	0.098	0.068	0.115	0.094	0.090	0.088	0.117	0.105	0.085	0.110	0.093	0.134
	(0.043)	(0.028)	(0.025)	(0.045)	(0.024)	(0.036)	(0.073)	(0.033)	(0.059)	(0.038)	(0.027)	(0.034)
CEO AIA	0.178	0.112	0.178	0.214	0.135	0.224	0.189	0.195	0.225	0.185	0.158	0.180
	(0.088)	(0.043)	(0.041)	(0.149)	(0.038)	(0.093)	(0.078)	(0.112)	(0.130)	(0.041)	(0.030)	(0.046)
CEO LTI	0.722	0.823	0.708	0.692	0.764	0.688	0.698	0.691	0.686	0.704	0.749	0.691
	(0.114)	(0.065)	(0.061)	(0.171)	(0.087)	(0.107)	(0.126)	(0.133)	(0.159)	(0.055)	(0.049)	(0.075)
N	453	58	28	29	60	64	48	64	16	34	22	30

As shown in column (1), the average firm within our data structures its CEO's compensation such that roughly 10% of it consists of an annual salary, 18% consists of a target

[37] For instance, if an individual performance evaluation had a maximum payout factor of 200% and an executive received a 200% payout, we inferred that the individual met or exceeded all of her individual performance goals. Where it was possible to make such an inference, we focused on the performance of the company's CEO. Additionally, some companies based the AIA payout on both assessing the company's performance on an ESG measure, along with an individualized discretionary component that might also include ESG considerations. In these situations, we focused only on whether the company's performance missed, met or exceeded the ESG target.

AIA, and 72% consists of a target award from the LTI plan. These overall weights are also largely representative of how firms within each of the eleven GICS industry sectors structure their CEOs' compensation. The only exceptions are firms within Information Technology, Healthcare, and Energy which allocate slightly more compensation toward awards under the LTI plan (Information Technology, $p<0.001$; Healthcare, $p<0.05$; Energy, $p<0.1$).

Table 2 provides summary statistics regarding the use of quantitative ESG performance targets in each firm's annual compensation plan. Panel A summarizes the extent to which a firm's proxy statement indicated that it had incorporated any form of ESG performance target into the compensation of the company's CEO or other named executive officers regardless of how it was incorporated (e.g., AIA plan or LTI plan) or whether the proxy described how performance was assessed. As shown in column (1), a notable 63% of all firms in the sample incorporated some form of ESG performance measure in awarding executive compensation for the 2023 proxy season. Table 2 also reveals considerable heterogeneity in the use of ESG performance metrics by industry. For instance, while slightly less than half of all firms within Consumer Discretionary incorporated an ESG performance metric within their compensation plans, 90% of all firms within the Utilities sector and 100% of all firms within the Energy sector did so.

Table 2: The Use of ESG Performance Targets

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	All	Info. Tech.	Materials	Real Estate	Healthcare	Financials	Consumer Dis.	Industrials	Comm. Services	Consumer Staples	Energy	Utilities
Panel A: Any ESG Performance Target												
Number of Firms	500	67	29	30	65	71	54	74	20	37	23	30
ESG in AIA/LTI Plan	315	35	23	19	37	44	25	45	12	25	23	27
% of All Firms	63.0%	52.2%	79.3%	63.3%	56.9%	62.0%	46.3%	60.8%	60.0%	67.6%	100.0%	90.0%
Panel B: AIA Plan ESG Performance Target												
# with ESG Target	304	31	22	18	37	41	24	44	12	25	23	27
% of All Firms	60.8%	46.3%	75.9%	60.0%	56.9%	57.7%	44.4%	59.5%	60.0%	67.6%	100.0%	90.0%
ESG Weight in Plan	0.149	0.115	0.161	0.130	0.115	0.119	0.160	0.123	0.150	0.120	0.221	0.213
	(0.088)	(0.061)	(0.069)	(0.049)	(0.072)	(0.080)	(0.116)	(0.055)	(0.083)	(0.066)	(0.091)	(0.116)
CEO Comp Impacted	0.025	0.012	0.028	0.025	0.016	0.025	0.025	0.022	0.037	0.021	0.034	0.037
	(0.017)	(0.006)	(0.013)	(0.013)	(0.012)	(0.022)	(0.008)	(0.011)	(0.028)	(0.010)	(0.017)	(0.020)
Panel C: LTI Plan ESG Performance Target												
# with ESG Target	48	4	3	2	2	8	6	3	0	3	3	14
% of All Firms	9.6%	6.0%	10.3%	6.7%	3.1%	11.3%	11.1%	4.1%	0.0%	8.1%	13.0%	46.7%
ESG Weight in Plan	0.137	0.125	0.133	0.335	0.100	0.148	0.110	0.125	-	0.100	0.157	0.127
	(0.087)	(0.057)	(0.058)	(0.233)	(0.000)	(0.087)	(0.070)	(0.106)	-	(0.071)	(0.081)	(0.071)
CEO Comp Impacted	0.068	0.068	0.078	0.061	0.041	0.066	0.042	0.089	-	0.049	0.077	0.080
	(0.039)	(0.015)	(0.015)	(0.037)	(0.006)	(0.029)	(0.015)	(0.073)	-	(0.024)	(0.020)	(0.055)

Panels B and C focus on the extent to which firms incorporated ESG performance metrics within their AIA plans or their LTI plans. Consistent with prior research, firms within our sample did so primarily by use of the AIA plan; as shown in Panel B, nearly 61% of firms in the sample included an ESG performance target within their AIA plans. In contrast, Panel C shows that less than 10% of firms used their LTI plans to incorporate such a metric. As with Panel A, however, these figures varied by industry with Energy and Utility firms being especially likely to have an ESG target within their AIA plans. Nearly half of all Utility firms also made an award under their LTI plans that had an ESG performance target.

Panels B and C also summarize the relative weight the ESG performance targets had within awards made under each plan ("ESG Weight in Plan"), as well as the percentage of a CEO's overall annual compensation that could be impacted by these performance targets ("CEO Comp Impacted"). As in Panel A, each column presents the mean followed by the standard deviation in parentheses; however, we limit the analysis to the subset of firms that disclosed sufficient information for us to calculate the relevant statistic. Turning first to ESG targets within a company's AIA plan, column (1) of Panel B indicates that the average weight given to all ESG performance targets was approximately 15% of the target award across all firms, with the average ranging from a low of 11.5% for firms in Information Technology and Healthcare to slightly more than 20% for firms in the Energy and Utilities sectors. However, as shown in Table 1, most of the expected compensation for executives within sample firms today comes from awards under the LTI plan. Thus, the final two rows of Panel B show that, on average, the ESG performance targets within a CEO's AIA could be expected to comprise less than 3% of her total annual compensation across all firms. Even for firms within Energy and Utilities that had larger ESG weights within their AIAs, this figure remained less than 4%.

Somewhat surprisingly, Panel C shows that even for the 48 firms that incorporated ESG performance targets within their LTI plans, the overall significance of these targets for a CEO's expected compensation remained relatively modest. Specifically, across all 48 firms, the ESG performance targets within a CEO's long-term award could be expected to comprise less than 7% of her expected annual compensation, with this figure remaining below 9% across all industries. The primary explanation for this result is that a company's LTI plan award is frequently split into a component consisting of PSUs (for which the ESG target is relevant) and a component consisting of time-based RSUs (for which it is not). As a result, the weight given to the ESG performance target within the full LTI plan award was typically lower than the weight given to the ESG performance target within firms' AIA plan. For instance, across all 48 firms the ESG performance targets had an average weight of 13.7% within the LTI plan.

Thirty-eight of these firms also incorporated ESG performance targets within the AIA, making the combined effect of the AIA and LTI plan award relevant for a CEO. For 25 of these firms, it is possible to calculate the aggregate weight of all ESG performance targets across both plans. However, the mean (median) fraction of total CEO compensation tied to an ESG performance metric in the LTI plan for this group of firms is just 3.3% (2.8%) percent. As a result, even for these firms, the mean (median) fraction of total CEO compensation tied to the ESG performance metrics in both the AIA and LTI plans was just 10.2% (9.7%).

B. Actual vs. Target Performance: ESG vs. Financial Metrics

Firms varied significantly regarding how they disclosed the specific financial and non-financial targets used in their AIA plans and LTI plans as well as how management performed in pursing them. Formally, Item 402 of Regulation S-K requires a company to disclose how it determined the amount payable to each named executive officer in its annual proxy statement to the extent it is a material element of the executive's compensation.[38] However, the provision also provides that companies are not required to disclose target levels with respect to specific quantitative or qualitative performance-related factors if doing so could lead to competitive

[38] *See* 17 C.F.R. § 229.402(b) (2024) (stating "the discussion shall explain all material elements of the registrant's compensation", including "[h]ow the registrant determines the amount (and, where applicable, the formula) for each element to pay").

harm.[39] Moreover, while Item 402 requires a company to disclose the actual number of shares that are paid to a named executive officer in the fiscal year due to PSUs awarded in the past,[40] there is no specific requirement to disclose how a prior year's PSU paid out relative to the original financial and non-financial targets, though firms often disclose this information voluntarily.

Overall, firms in our sample more frequently and more consistently described the specific financial targets used in their AIA and LTI plans—as well as how executives performed relative to these targets—than they did with regard to non-financial targets. Often this was due to the use of a holistic "scorecard" for assessing individual performance on non-financial, strategic targets, but companies also cited concerns about competitive harm as the basis for their opaque disclosures concerning their strategic goals.[41] Nonetheless, for 247 of the 304 firms that used an ESG performance target in their AIA plans, it is possible to classify how the company performed relative to each target. For firms using one or more financial targets in their AIA plans, we can make such a classification for 479 firms. Similarly,18 firms in the sample specifically disclosed how a prior year's PSU award paid out given one or more ESG performance targets that were incorporated into the award when issued (which was typically two or three years in the past.) Additionally, for 441 firms, we can assess the overall payout of a prior year's PSU relative to the (non-ESG) target payout of 100%.

(1) Actual and Target Performance: AIA Plan. As described above, we separately classified whether a firm Missed, Met or Exceeded each financial and each ESG performance target disclosed in its proxy statement, and we aggregated these disclosures by firm to create an overall classification of the firm with regard to its success in meeting its stated targets. For instance, a firm that exceeded all financial targets was classified as "Exceeded" for its financial targets, and a firm that disclosed missing all financial targets was classified as "Missed" for its financial targets. Firms could also be classified as having a more mixed result insofar that it might have met some targets and missed others. In total, there could thus be the following seven possible classifications: Exceeded, Exceeded/Met, Met, Exceeded/Met/Missed, Exceeded/Missed, Met/Missed, and Missed. We adopt this convention to reflect how companies themselves typically described their actual performance relative to their performance targets, particularly with respect to awards made under their AIA plans.

In Figure 1, we present the overall distribution of firms classified into each of these seven categories separately for ESG targets and financial targets. Each bar also includes the 95% confidence interval, and above each bar is the number of observations in each classification. Overall, the figure reveals considerable differences in the rate at which firms reported meeting

[39] *See id*. at Instruction 4 ("Registrants are not required to disclose target levels with respect to specific quantitative or qualitative performance-related factors considered by the compensation committee or the board of directors, or any other factors or criteria involving confidential trade secrets or confidential commercial or financial information, the disclosure of which would result in competitive harm for the registrant.")

[40] *See* 17 C.F.R. § 229.404(g) (requiring tabular disclosure of "each exercise of stock options, SARs and similar instruments, and each vesting of stock, including restricted stock, restricted stock units and similar instruments, during the last completed fiscal year for each of the named executive officers on an aggregated basis…")

[41] *See*, *e.g*., Advanced Mico Devices, Inc., Definitive Proxy Statement (Schedule 14A), at 60 (March 31, 2023) ("Each of the specific Strategic Milestones is highly confidential information so we try to balance that with giving our stockholders transparency. Providing our specific milestones would give competitors a greater sense of our internal goals, milestones, strategy, and timelines. Disclosure would allow our competitors to adjust their own strategy in a way that would cause us irreparable competitive harm in the highly competitive semiconductor industry. When approved, the Compensation Committee believed that each Strategic Milestone was challenging, yet reasonably achievable.")

and missing their performance targets depending on whether the targets were related to ESG or financial metrics. Specifically, while the rates at which firms reported fully exceeding all ESG or all financial metrics were statistically indistinguishable, firms were far more likely to be classified as Exceeded/Met or Met for all ESG targets than they were for their financial targets. Likewise, firms were far more likely to be classified as having Missed all financial targets. Indeed, just 6 of the 247 firms (2%) with an ESG performance classification fell into this classification compared to 107 or the 479 firms (22%) with a financial performance classification.

Figure 1A:
Actual vs. Target Performance for ESG Targets, Full Classifications

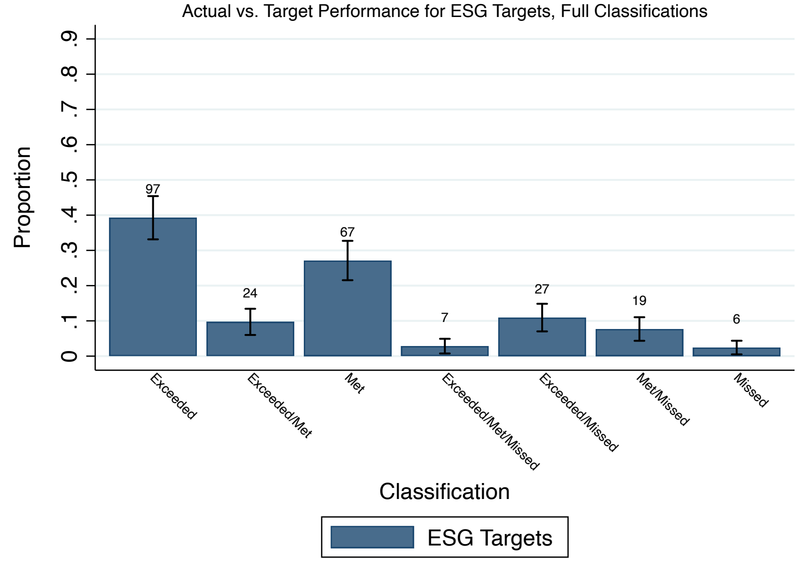
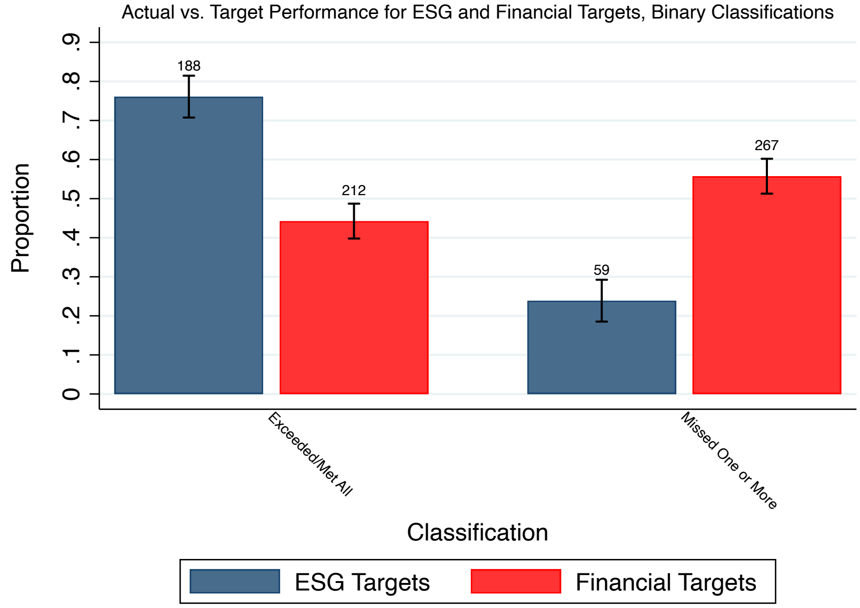


Figure 1B:
Actual vs. Target Performance for Financial Targets, Full Classifications

In Figure 2, we use an alternative classification framework that classifies each firm by whether it Exceeded or Met all its ESG targets or all its financial targets or whether they Missed at least one ESG target or one financial target. Of particular interest is the rate at which firms were classified into the former category given the challenge of meeting or exceeding every target. Nonetheless, we find that 188 of the 247 firms (76%) with an ESG performance classification fell into this classification compared to 212 of the 479 firms (44%) with a financial performance classification.

Figure 2:
Actual vs. Target Performance for ESG and Financial Targets, Binary Classifications



Given the variation by industry in the use of ESG performance targets, we additionally examine performance within the eleven GICS industries. Figure 3A presents the results for ESG performance metrics while Figure 3B presents the results for financial metrics. In each figure, the eleven industries are divided into the fraction of firms classified into each of the seven possible performance categories. Additionally, in both figures the bar graphs are color coded such that green-shaded bars highlight firms that met or exceeded all targets and red-shaded bars highlight firms that missed one or more targets.

Figure 3A: Actual vs. Target for ESG Metrics by Industry

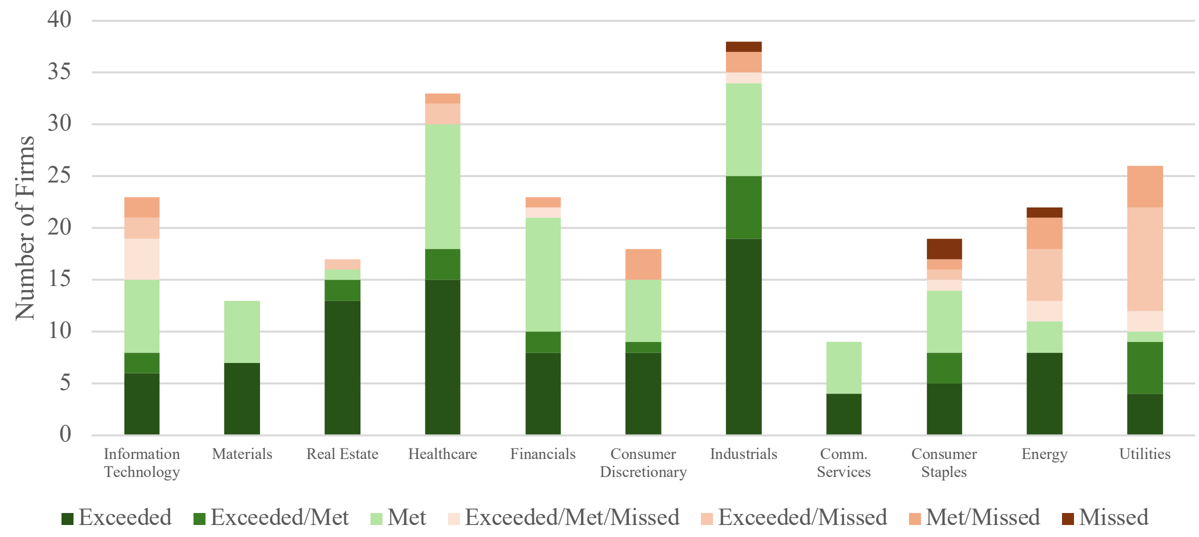
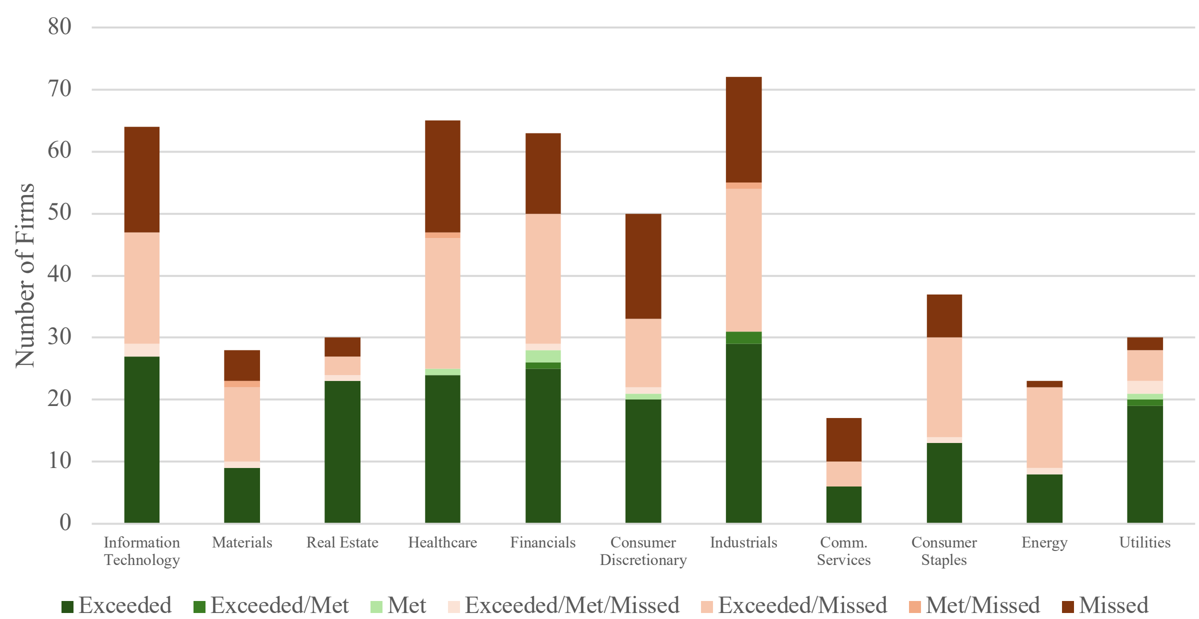


Figure 3B: Actual vs. Target for Financial Metrics by Industry



Overall, the industry figures largely track the findings from Figures 1 and 2 insofar that firms within almost all industries were much more likely to meet or exceed all ESG targets than they were for their financial targets. The only two exceptions were firms within the Energy and Utilities sectors where the rate of firms missing at least one ESG target was notably higher than in all other industries. We return to this finding when we assess possible explanations for the disparate rates of achievement between ESG and financial targets within a company's AIA.

(2) Actual and Target Performance: LTI Plan. As noted previously, just 18 firms specifically disclosed how a prior year's PSU award paid when the award incorporated one or more ESG performance targets. The modest number of firms making these disclosures largely

reflects the historical tendency of firms to focus on using their AIA plans to incorporate ESG metrics into executive compensation. However, as noted in Table 2, nearly 50 firms incorporated ESG performance metrics into their LTI plans during the sample period, suggesting this historical pattern may be changing.

Among the 18 firms disclosing performance outcomes for a prior year's PSU award, 11 Exceeded all ESG targets, 1 Exceeded/Met its ESG targets, 2 Met their ESG targets, and 4 Missed their ESG targets. Thus, over 77% of the firms reported meeting or exceeding all ESG targets, while 22% reported missing all of their ESG targets. However, given the small number of firms, we exercise caution in drawing inferences from these findings.

In contrast, 433 (87%) of firms in our sample disclosed the performance outcomes for a prior year's performance-related LTI plan award that had no ESG components. In most cases, the award reflected the vesting of a PSU having a three-year performance period, typically measured using some form of share-based metric (e.g., relative TSR or earnings per share). Overall, approximately 70% of the firms reported a payout in excess of the target award size, with the median payout award representing nearly 125% of the target award size.[42] While these figures suggest a high achievement rate for most firms issuing performance-based LTI plan awards, the fact that 30% of firms paid out less than target is generally consistent with the rate at which firms entirely missed their short-term financial targets within their AIA plans.

C. ESG Outperformance or ESG Underachievement?

The relatively high achievement rate for ESG performance targets—particularly within firms' AIAs—naturally prompts the question: Why? Here we explore two possibilities. First, we examine whether the high achievement rate may, in fact, reflect high ESG achievement by these firms. Under this theory, the high achievement rates simply reflect the fact that management is successfully delivering on their ESG commitments. Second, consistent with prior research in finance and accounting,[43] we examine whether the high achievement rates might instead reflect an underlying governance and oversight challenge at certain firms. Under this theory, managers—particularly those at poorly governed firms—exploit less transparent ESG metrics to set them at levels that are likely to be achieved either to enhance their compensation or to appease institutional investors and other stakeholders who expect firms to be attentive to ESG considerations.

To explore these possibilities, we begin by assessing the correlates of both the decision to adopt one or more ESG performance metrics in a company's AIA plan as well as the ability to meet or exceed all of these metrics. Under the first theory, managers who are especially inclined to pursue ESG goals should be the most likely to adopt an ESG performance target as part of

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[42] To explore whether these high payout rates simply reflected the positive returns to equity securities during the 2020-2022 time period, we additionally calculated for each stock its cumulative stock price return for the prior three fiscal years, along with the cumulative returns during this time frame for the CRSP value-weighted index. Somewhat surprisingly, 30% of the firms that paid out more than the target award failed to match or beat the index return during this time frame.

[43] *See, e.g.*, Morse et al, *supra* note 33, at 1781 (finding that "asymmetric information and the lack of transparency in CEO compensation arrangements can allow some powerful CEOs to rig their compensation without triggering shareholder outrage"); Sunyoung Kim, Michal Matějka and Jongwon Park, *Economic Determinants and Consequences of Performance Target Difficulty*, 98 THE ACCOUNTING REVIEW 361 (2023) (finding that difficulty of earnings targets in annual bonus plans is negatively associated with CEO entrenchment); Atanasov et al, *supra* note 30, at 28 (finding use of non-transparent financial targets are negatively associated with the quality of a firm's governance).

their AIAs, as well as to pursue the target aggressively. Note, too, this emphasis on managers' internal motivation would also seem appropriate given the relatively modest weight ESG metrics have in executive's overall annual compensation. Because we lack a measure for an executive's internal commitment to ESG goals, we turn instead to a firm's prior ESG score on the assumption that firms having high (low) ESG scores should be more likely to employ managers having higher (lower) commitments to ESG goals.

In contrast, under the second theory, ESG performance targets resemble a form of non-financial performance goal that management proposes with discretion to set at a level of its choosing. As in other contexts finding unusually high executive pay, this model of target setting should be associated with either a lack of oversight by a company's board of directors and/or high CEO entrenchment.[44] We proxy for each by turning to a company's Entrenchment Index[45] and the percent of voting power controlled by the company's CEO, respectively. Additionally, since 2011 shareholders have also been granted the right to cast advisory votes on approving a company's executive compensation program (or "say-on-pay" votes). To the extent shareholders disapprove of the board's oversight of the company's compensation, this sentiment should also appear in higher levels of "against" votes during the 2023 proxy season.

With these considerations in mind, we estimate two specifications of the following linear probability model:

$$\begin{aligned} Y_i = \alpha_i + \beta_1 ESGScore_i + \beta_2 CEO_i + \beta_3 Eindex_i + \beta_4 Against_i \\ + \beta_1 Size_i + \delta_i + \varphi_i + \varepsilon_i \end{aligned} \qquad (1)$$

In the first specification, the outcome of interest, Y_i, represents an indicator for whether firm *i* has adopted one or more ESG performance targets within its AIA plan. In the second specification, it represents an indicator for whether firm *i* met or exceeded all of these targets among all firms for which it is possible classify whether an ESG target was missed, met or exceeded. The primary covariates of interest are: $ESGScore_i$, which represents the firm's ESG score as estimated by S&P Global, CEO_i, which represents the fraction of the company's voting power held by the firm's CEO, $Eindex_i$, which represents the firm's Entrenchment Index for the fiscal year, and $Against_i$, which represents the fraction of shareholder votes cast against the company's compensation plan for the year.[46] Additionally, to account for potential size, industry and compensation consultant effects, $Size_i$ represents the natural log of the company's market value of equity, δ_i represents industry fixed effects based on the GICS industry sectors, and φ_i represents a fixed effect for the compensation consultant disclosed in the proxy statement. All values are measured for the fiscal year reflected in the sample proxy statement, except for $ESGScore_i$ which is measured with a one-year lag.

Table 3 presents the results. Column (1) provides estimates for the correlates of whether a company incorporates one or more ESG performance targets within its AIA. Consistent with the notion that ESG-focused companies will adopt ESG compensation targets, a company's prior ESG score has a positive correlation with whether a company within the S&P500 is likely to

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[44] *See supra* note 43.

[45] Lucian A. Bebchuk, Alma Cohen & Allen Ferrell, What Matters in Corporate Governance?, 22 Rev. Fin. Stud. 783 (2009) (constructing an Entrenchment Index—or E-Index—based on six governance provisions that materially constrain shareholder influence (staggered boards, limits to shareholder bylaw amendments, supermajority requirements for mergers, and supermajority requirements for charter amendments) or interfere with the market for corporate control (poison pills and golden parachutes)).

[46] Results are quantitatively and qualitatively the same regardless of whether we use ESG scores from LSEG, S&P or Sustainalytics.

have such an AIA. Moreover, the coefficient estimates for the three measures used to detect governance challenges—*Eindex, Against, and CEO*—have the opposite sign than expected if entrenched CEOs used their influence to push for adopting an AIA with an ESG target, though the estimate for *Eindex* is not statistically distinguishable from zero.

In contrast, the estimates in Column (2) are notably different. Among firms that disclose whether an ESG target was missed, met or achieved, a firm's prior ESG score shows no statistical association with whether a firm meets or exceeds all of its ESG targets, nor does there appear to be any association with a CEO's voting power or a firm's entrenchment score. However, the positive and statistically significant coefficient of 0.441 for *Against* indicates that firms meeting or exceeding all of their ESG targets were more likely to receive a higher share of "against" votes in the say-on-pay vote solicited in that year's proxy statement. We also repeat this analysis but change the outcome variable to whether a company met or exceeded all of its financial targets within its AIA plan. The results, shown in column (3), show no statistical association between firms that outperformed their financial targets and the percentage of "against" votes. While it is difficult discern why shareholders might vote against a company's compensation plan, the results in column (2) are nevertheless consistent with shareholders detecting some type of deficiency in the compensation plans among firms that were particularly successful in achieving their ESG performance targets in their AIAs.

Table 3

	(1)	(2)	(3)
	ESG AIA Target	All ESG Targets Met/Exceeded	All Financial Targets Met/Exceeded
ESG Score	0.00662***	0.0000173	-0.00336**
	[0.00143]	[0.00159]	[0.00154]
CEO	-0.932***	-0.329	-0.72
	[0.355]	[0.539]	[0.537]
Eindex	-0.0314	-0.0336	-0.0222
	[0.0377]	[0.0595]	[0.0431]
Against	-0.340*	0.441**	-0.22
	[0.177]	[0.219]	[0.186]
Size	0.0459**	0.00961	0.0661***
	[0.0218]	[0.0310]	[0.0242]
Constant	-0.208	0.513	-0.803
	[0.456]	[0.665]	[0.519]
Observations	495	244	474
R-squared	0.229	0.278	0.164
Industry FE	YES	YES	YES
Consultant FE	YES	YES	YES

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

We further explore this issue by examining how ESG rating firms assessed firms in our sample in the year following the publication of the proxy statements examined in this study. Most ESG rating agencies purport to score a company based on its ESG performance, thus providing an opportunity to examine how these agencies assessed companies in our sample before and after the publication of these proxy statements. For instance, S&P Global states that its S&P Global ESG Score "measures a company's performance on and management of material

ESG risks, opportunities, and impacts informed by a combination of company disclosures, media and stakeholder analysis, modeling approaches, and in-depth company engagement via the S&P Global Corporate Sustainability Assessment (CSA)."[47] By assessing whether a company's ESG score increased following the disclosure that it met or exceeded all of its ESG compensation targets, we can test if the rating agency agreed with the company's self-assessment of its ESG performance.

We implement this test using the following model:

$$Y_i = \alpha_i + \beta_1 2021Score_i + \beta_2 AIA'_i + \delta_i + \varepsilon_i \qquad (2)$$

Here, the outcome of interest, Y_i, represents a company's ESG score for calendar year 2023 as published by three different ratings firms: S&P Global, LSEG, and Sustainalytics. The two primary covariates are $2021Score_i$, which represents the company's ESG score from the same rating agency for calendar year 2021, and AIA'_i, which represents a particular characteristic of a company's AIA plan depending on the specification. In the first specification, it represents AIA_i^{ESG}, an indicator for whether the AIA plan includes one or more ESG performance targets. In the second, it represents AIA_i^{Met}, an indicator for whether a company met or exceeded all of its ESG targets in the AIA plan. Additionally, as in Equation (1), we also include δ_i to account for industry fixed effects.

Table 4 present the results. The first three columns use ESG scores from S&P Global, and as shown in Column (1), a company's ESG score in 2021 is strongly predictive of its 2023 score. Moreover, the coefficient estimate for AIA_i^{ESG} indicates that firms incorporating ESG performance metrics into their AIA plans were associated with higher ESG scores in 2023 than firms that did not. In Column (2), we limit the sample to those companies that had one or more ESG performance targets in its AIA plan and for which it is possible to assess whether the targets were missed, met or achieved. As shown in the table, the coefficient estimate for AIA_i^{Met} is negative, though not statistically significant. Similarly, in column (3) we estimate the same model but set AIA_i^{Met} to be zero for all firms omitted from column (2). Thus, the model estimates whether there is any notable difference in the 2023 ESG ratings for the subset of firms that met or exceeded all of their ESG performance targets compared to all other firms in the sample. As shown in the table, no such difference exists according to the estimates.

Columns (4) through (6) and (7) through (9) estimate the same specifications using ESG scores from LSEG and Sustainalytics, respectively. The primary difference is that AIA_i^{Met} in column (6) is both positive and statistically different from zero. However, the magnitude of the estimate is smaller than that for AIA_i^{ESG} in column (4), indicating a more modest "bump" in 2023 ESG scores for these "successful" firms than for firms that simply incorporated an ESG performance target within its AIA plan. The Sustainalytics analysis does not show a statistically significant association between ESG scores in 2023 and the use of ESG performance metrics in column (7).[48] As with the S&P Global and LSEG analyses, using the Sustainalytics scores shows

[47] S&P Global, *What is an S&P Global ESG Score?*, available at https://www.spglobal.com/esg/solutions/esg-scores-data#:~:text=The%20S%26P%20Global%20ESG%20Score,Global%20Corporate%20Sustainability%20Assessment%20(CSA

[48] Sustainalytics provides monthly estimates of ESG performance for the firms that it covers. We use the monthly estimate for "Overall ESG Score" as the dependent variable. The 2023 ESG score is the Sustainalytics estimate for the month of the release of the proxy in our sample, which for some of our firms was in the fourth quarter of 2022.

little evidence of a relationship between meeting ESG performance goals and an improvement in ESG scores as the coefficient estimate for AIA_i^{Met} is not statistically significant in columns (8) and (9). In combination with Table 3, the absence of any notable increase in ESG scores associated with firms' meeting or exceeding all of their ESG targets is consistent with concerns that these performance targets might be set at easily achievable levels.

Table 4

	S&P Global			LSEG			Sustainalytics		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	2023 Score	2023 Score	2023 Score	2023 Score	2023 Score	2023 Score	2023 Score	2023 Score	2023 Score
2021Score	0.721***	0.699***	0.731***	0.706***	0.716***	0.715**	0.806***	0.794***	0.806***
	[0.0182]	[0.0247]	[0.0177]	[0.0261]	[0.0370]	[0.0253]	[0.021]	[0.030]	[0.021]
AIA_i^{ESG}	1.844***			2.092***			-0.28		
	[0.563]			[0.651]			[0.285]		
AIA_i^{Met}		-0.753	0.87		0.207	1.744**		-0.699	-0.187
		[0.932]	[0.532]		[0.864]	[0.598]		[0.492]	[0.277]
N	498	246	498	484	237	484	486	241	486
R-squared	0.828	0.805	0.825	0.752	0.699	0.752	.843	.870	.843
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Finally, and consistent with the existing literature on transparent vs. non-transparent target setting, we analyze the link between missed ESG performance targets and the use of ESG targets that are standardized or regulated.

For instance, as noted above, companies operating in the Energy and Utility sectors were much more likely to have missed one or more ESG performance targets, and these firms are subject to mandatory reporting obligations relating to carbon emissions and worker safety which are often incorporated into the ESG performance targets used in their compensation plans.

As an example, consider the energy exploration company EOG Resources, Inc. In its 2023 proxy statement, the company disclosed that the company's AIA would have a 10% ESG weight based on achieving the following targets:

- year-over-year reductions in its methane, GHG and flaring emissions intensity rates
- a reduction in its oil spill rates below the prior three-year averages
- a wellhead gas capture rate of 99.8% or higher
- improvement in its safety incident rate below the prior three-year average[49]

The 2021 score for each firm is the Sustainalytics estimate for the month that is two calendar years before the month of the 2023 score. In unreported regressions, we check these results using ESG scores from the month following the release of the proxy and find results that were similar in all material ways.

[49] EOG Resources, Inc., Definitive Proxy Statement (Schedule 14A), at 27 (April 13, 2023) [hereinafter EOG Resources Proxy Statement].

Almost all of these metrics are subject to either a state or federal mandatory reporting obligation or an industry-wide voluntary reporting regime. For instance, as the company describes in its Sustainability Report,[50] the first two of the four sets of targets rely on their calculation pursuant to the American Exploration and Production Council (AXPC) framework of common ESG metrics. Moreover, the underlying data are based in large part on emissions data required to be disclosed to the U.S. Environmental Protection Agency under its Greenhouse Gas Reporting Program,[51] and oil spill disclosures that are required to be reported under state laws in the states where it operates.[52] Similarly, the company tethered its safety incident rate to the TRIR required by OSHA.[53] While the company met or exceeded most of its targets, it was not able to meet the aforementioned safety target.[54]

More generally, safety targets appear to be among the more likely ESG targets to be missed, perhaps because of their link to OSHA compliance and reporting requirements. Of the twenty-seven firms in the Energy and Utility sectors that listed missing at least one ESG target, twenty-two (81%) included one that related to a missed safety target. Likewise, within the sample, we can classify all targets that were missed into one of the following three ESG categories: safety, environmental or diversity-equity-and-inclusion (DEI). As shown in Table 5, companies that missed only a safety target constituted 34% of all firms that reported missing at least one ESG target, and when combined with other target misses, a safety miss was reported by just over half of all these companies.

Table 5: Distribution of ESG Target Misses

Area(s) of Missed Target(s)	Number	Percent of Total
DEI	19	32.2%
Environmental	8	13.6%
Safety	20	33.9%
Safety + Environmental	3	5.1%
Safety + DEI	7	11.9%
Not Specified	2	3.4%
Total	59	100.0%

Even with respect to DEI targets, many of the companies that disclose missing such a target did so because they failed to achieve a particular hiring statistic linked to data collected for its form EEO-1 required by the U.S. Equal Employment Opportunity Commission. Consider, for

[50] EOG Resources, 2022 Sustainability Report, available at https://eogresources.s3.us-east-2.amazonaws.com/EOG_2022_Sustainability_Report.pdf [hereinafter EOG Sustainability Report].
[51] *See* 40 CFR Part 98, Subparts C and W.
[52] *See* EOG Sustainability Report, *supra* note 50, at 78 (defining an oil spill by reference to "[r]egulatory spill reporting requirements (i.e., volume thresholds) for EOG's primary operating areas" in New Mexico, North Dakota, Tribal North Dakota, Oklahoma, Texas, Wyoming, and Federal lands (through Bureau of Land Management leases).
[53] *See id* at. 76.
[54] *See* EOG Resources Proxy Statement, *supra* note 49, at 27 (noting that the company "[s]ignificantly exceeded methane, GHG and flaring intensity rates and exceeded wellhead gas capture rate and oil spill rates, but did not achieve total recordable incident rate.")

instance, Figure 4, which shows the ESG performance targets and outcomes for Salesforce in its proxy statement for its fiscal year ended January 31, 2023:

Figure 4: Salesforce ESG Performance Disclosures

	ESG Measures (and Weighting)	Performance Targets	Achievement
Equality (50%)	**U.S. Underrepresented Minorities & Women (25%)**	**47.5% of our U.S. Employees** will identify as Underrepresented Minorities[1] (Black, Latinx, Indigenous, or Multiracial) and/or Women as of the end of fiscal 2023	**Exceeded** Target
	Global Women (25%)	**36.5% of our Global Employees** will identify as Women as of the end of fiscal 2023	**Below** Target
Sustainability (50%)	**Air Travel (25%)**	**50% Reduction** in air travel emissions intensity[2] (GHG emissions / Revenue) for fiscal 2023 relative to fiscal 2020 levels	**Exceeded** Target
	Supplier Engagement (25%)	**10% of Spend** in fiscal 2023 with suppliers who have signed an agreement with a Salesforce Supplier Sustainability Exhibit[3]	**Exceeded** Target
Total Attainment			**75%**

The disclosed quantitative metric for Global Women resembles a standard financial target insofar that it is amenable to a simple empirical test to determine whether it has been achieved. To be sure, as with financial metrics, the accuracy of the test will depend critically on the reliability of the data, but the public availability of the company's EEO-1 report makes manipulating these data a risky proposition.

In contrast, consider Figure 5, which shows the ESG performance targets and outcomes for Mondelez International, Inc. in its proxy statement.

Figure 5: Mondelez ESG Performance Disclosures

SPI Goals		Assessment[1]	Annual Progress
Snack Leadership (50% of SPI) Drive global leadership in snacking by accelerating growth in multiple snacking categories		↑	• **Priority & Total Snacks Share change:** Strong market share driven by (1) Pricing execution and volume growth across developed and emerging markets and (2) Strengthened portfolio through strategic high-growth acquisitions (Chipita, CLIF Bar and Ricolino)
ESG (50% of SPI)	**Sustainability:** Drive towards net zero environmental impact with sustainably sourced cocoa and wheat and reduction in packaging waste and CO_2	→	• **Sustainably Sourced Cocoa:** ~80% sustainably sourced cocoa and on track to deliver on our long-term goals via expansion of Cocoa Life Program • **End-to-end CO_2 Reduction:** Continued CO_2 reductions driven primarily by renewable energy expansions in key markets • **Recyclable Packaging:** Conversion to recycling packaging in line with annual expectations and long-term goals
	Mindful Snacking: Evolve our products and portfolio to help consumers snack mindfully	→	• **Mindful Portions:** Progress made year-over-year but limited relative to long-term goals • **Nutrients:** Progress was in line with annual expectations and long-term goals
	Colleagues: Build a winning growth and ownership culture that invests in local talent and champions diversity, equity and inclusion	↑	• **Diversity and Inclusion:** Sustained progress year-over-year for Women in Leadership roles. Continued improvement in Black Representation in Management in the U.S. in line with long-term goal • **Employee Engagement:** Flat results to prior year with key focus area improvements; Maintained scores > 2019 and benchmark companies • **Depth of Talent:** Continued significant improvement in our bench strength allowing greater internal talent sufficiency for leader roles
SPI Rating			**125%**

(1) Arrow up = above expected progress; sideways arrow = at expected progress; arrow down = limited progress

Like Salesforce, Mondelez also linked a portion of its AIA plan to an ESG target relating to DEI. However, while the proxy notes that it was "at expected progress" for its goals with respect to Women in Leadership roles and Black Representation in Management, it does not disclose the specific targets used to form this conclusion. This is not to say that Mondelez did not in fact achieve its targets, but the vague disclosure makes it more difficult to rule out the possibility that the targets were set at levels that were easy to achieve.

5. Discussion

Overall, our findings point to three central themes in understanding the current state of ESG performance targets among S&P 500 companies. First, consistent with prior research, we find that the incorporation of ESG targets into executive compensation plans is overwhelmingly done by means of the short-term AIA plan. Moreover, because the AIA plan tends to be a much smaller component of annual compensation than the LTI plan and because the ESG weights within an AIA average just 15%, the overall the overall impact on a CEO's expected annual compensation is typically 3% or less.

To the extent executives seek to maximize the payouts under their compensation plans, the modest financial impact of achieving a short-term ESG target relative to achieving short-term and long-term financial targets suggests reasons for skepticism as to whether this structure will meaningfully influence management behavior. However, the tendency of firms to use the AIA plan to implement non-financial objectives is hardly limited to the ESG context, and a growing literature in accounting has explored why it may be effective for firms to use the AIA plan for strategic or operational goals. For instance, Guay et al. argue that the performance measures in AIAs are a mechanism for coordinating incentives across the executive team.[55] These authors point to evidence that compensation committees will typically align bonus incentives across all executives when they make changes to AIAs. Alternatively, Bloomfield and co-authors argue that there may be an agency cost rationale for the incentives provided by AIAs.[56] They contend that equity-based incentives may not reward executives for investments in long-term projects and may penalize them for decisions made by past executives.

Still yet another explanation for the incorporating strategic goals within the AIAs is to communicate strategic priorities to shareholders and other stakeholders. As noted by Bushman, "targets and payoff structures are publicly observable to outsiders and so can communicate strategic objectives and signal commitment to these objectives to outside investors."[57] Those focused on ESG-based compensation have made a similar argument that incentivizing executives to pursue ESG targets may signal commitment to these goals in a way that avoids charges of "window dressing" or "greenwashing."[58] Including these incentivizes may also be a way to attract or satisfy institutional investors that pursue ESG goals in their portfolios.

Which of these theories explains our results likely differs by company, but the increase in ESG scores among firms that adopt an ESG target in its AIA plan is consistent with the use of the AIA to signal a firm's commitment to particular ESG priorities. At the same time, this finding is in tension with our second central theme, which is that targets appear to be set at levels that are likely to be achieved. One way to reconcile these findings is that, in expectation, a firm that incorporates ESG performance targets into its AIA plan is signaling a commitment to specific ESG objectives. However, this signal can also be reversed if a company appears to be *too* successful in pursuing them, such as by meeting or exceeding all of its stated ESG objectives.

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[55] *See* Guay et al., *supra* note 29.

[56] Matthew Bloomfield, Brandon Gipper, John D. Kepler, David Tsui, *Cost Shielding in Executive Bonus Plans*, 72 JOURNAL OF ACCOUNTING AND ECONOMICS 101428 (2021). In a separate paper, Bloomfield argues alternatively that disclosure of AIA criteria plays a role in communicating strategic objectives to competitors in ways that may produce anti-competitive behavior. See Matthew J. Bloomfield, *Compensation Disclosures and Strategic Commitment: Evidence from Revenue-Based Pay*, 141 J. FIN. ECON. 620 (2021).

[57] Robert Bushman, *Cash-based Bonus Plans As a Strategic Communication, Coordination and Commitment Mechanism*, 72 JOURNAL OF ACCOUNTING AND ECONOMICS 2 (2021).

[58] *See* Cohen, et al, supra note 25, at 806; *see also* C. Marquis, M. Toffel; and Y. Zhou, Scrutiny, *Norms and Selective Disclosure: A Global Study of Greenwashing*, 27 ORGANIZATIONAL SCIENCE 483 (2016).

Or, consistent with our findings regarding say-on-pay votes, the signal might be muted for a company that has deficiencies in setting executive compensation.

Finally, our findings are broadly consistent with the conclusion that setting truly challenging targets can benefit from greater transparency and standardization across two dimensions. First, the disproportionate number of "misses" relating to worker safety suggests the higher difficulty of meeting a quantitative target assessed against a standardized measure, particularly one that relates to an existing reporting obligation. Second and more generally, basic agency theory suggests that firms are more likely to set challenging targets if there is transparency around the difficulty of those targets.[59]

Institutional investor demand for increased quantification and transparency of the setting and assessment of ESG performance is consistent with these implications, and the desire for firms to move away from qualitative ESG metrics suggests that institutional investors are skeptical of these approaches.[60] This skepticism may be due to our observation that qualitative targets appear to be easier to meet than quantitative ones.[61] There may also be concerns that instead of vigorously policing the performance of executives, boards may be captured by those executives in a way that leads them to "move the goalposts" when executive compensation plans ask them to make assessments that impacts the compensation of those executives.[62] That sentiment would help account for the higher "against" votes during say-on-pay elections for firms where executives have met or exceeded all of their ESG performance goals.

All of this raises the question of how to achieve greater transparency around the difficulty of executives' performance targets. Yet as this study has shown, for outsiders lacking access to a firm's proprietary performance data, one must turn to probabilistic assessments based on success and failure rates across a large sample of firms for insight, and collecting these data remains extraordinarily challenging given current disclosure requirements. For example, notwithstanding the significant expansion of compensation disclosures over the past two decades, there remains no explicit requirement to disclose whether and how performance targets were met. Nor is there a prevailing standard for how firms should disclose this information to the extent they choose to

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[59] *Cf.* Gadinis & Miazad, *supra* note 24, at 1421-22 (noting that "the most promising changes [with regard to ESG outcomes] seem to come from companies that implement these specific [compensation] targets and scorecards and make them publicly available.")

[60] *See, e.g.*, Conference Board, *supra* note 20, at 11 (noting that "some large institutional investors have been agnostic about ESG-based pay due to the lack of standardization and transparency," and citing ISS survey data indicating that "52 percent of investors believe ESG goals should only be used in executive pay if they are specific and measurable").

[61] *Id.* ("Yet, even investors who are less focused on specific metrics may view companies' efforts with some skepticism: if a board decides to link part of executives' bonuses to qualitative ESG performance, investors may wonder whether the targets are rigorous enough, or whether that portion of the bonus is more or less guaranteed because the goals are fairly easy to achieve and/or executives are merely paid for something they already are (or should be) doing.")

[62] One potential example of ex post adjustment of an ESG performance metric comes from Cognizant Technology's proxy. It explains that when the compensation committee assessed whether executives met 2022 targets it "adjusted the target for the gender diversity metric from 17.5% to 17.2 %" due to "labor shortages across the entire industry" and because of "a large number of accepted offers to women … at year-end (which, if included, would have raised the resulting performance to 17.4%)." Cognizant Technology Solutions Corporation, Definitive Proxy (Schedule 14A) at 51 (April 21, 2023). These types of adjustments are not limited to ESG metrics. The Brown-Forman compensation committee "decided to amend the relative [financial] performance comparison from focusing solely on fiscal 2022 to focusing on our three-year compound annual growth relative to peers" in light of "our strong absolute results and our below-median relative performance." That change "moved the incentive payout from 0% to 77% for all plan participants." Brown-Forman Corporation, Definitive Proxy (Schedule 14A) at 37 (June 24, 2022).

volunteer it. The curious analyst is thus left to a costly and potentially error-prone scavenger-hunt through a firm's sprawling proxy statement. As a policy matter, this challenge suggests the value of amending Item 402 of Regulation S-K to include a standard method for disclosing whether and how performance targets have been met across both the AIA and LTI plans.

6. Conclusion

Industry guidance suggests that performance incentives for AIAs should be set at levels that are met 60% of the time.[63] While financial AIA incentives are met at rates close to this target, in this paper we show that executives meet ESG performance targets at rates that overwhelmingly exceed this standard. We explore two theories for this finding. The first is that ESG targets within a firm's executive compensation plan signal a commitment by boards and executives to the values underlying the ESG objectives. This theory implies that executives take these goals seriously and work hard to achieve them, which accounts for why they are met so often. A second theory is that ESG-based pay reflects poor corporate governance. Under this theory, that lack of governance would lead to compensation plans that enrich executives rather than reflect meaningful commitments to ESG values.[64]

While we provide some evidence that favors the first theory, the weight of our findings points to concerns about governance. Our finding that adoption of ESG performance incentives is associated with higher ESG scores for two of our three ESG measures provides support for the idea that a serious commitment to ESG underlies the adoption of these compensation plans. But when we ask whether meeting and exceeding these performance incentives is associated with an increase in ESG scores, we find no statistically significant association with any of the ESG scores that we use. Additional evidence supports concerns that ESG targets are easy to satisfy. For those firms in our sample that meet them, we observe an association with increased opposition in say-on-pay votes. That could be a product of frustrations institutional investors have with the corporate governance at these firms. A final piece of evidence comes from a closer look at the firms where executives miss ESG targets. We find that missed targets are predominately in areas where we see more frequent use of quantitative, standardized targets, such as safety and emissions. The literature in executive compensation on qualitative versus quantitative targets suggests that qualitative targets are hit more often and are more likely to barely meet these targets than barely miss them. These findings imply that some boards are indulgent of executives when making discretionary bonus determinations and that concern appears to apply in the context of qualitative ESG assessments.

The future of ESG-based performance pay is uncertain. Some institutional investors have expressed outright opposition to the practice while others are pushing for wider use of

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[63] *See* R. Saliba, *Latest Trends in Executive Pay Are Performance Awards Paying Out As Intended?* ISS Governance Insight White Paper (2016), available at https://www.issgovernance.com/library/latest-trends-in-executive-pay-are-performance-awards-paying-out-as-intended/

[64] There are, of course, additional theories that might explain what we find. It is possible, for example, that recent growth in the use of ESG-based compensation means that firms are still learning how to set appropriate thresholds. We discount this theory for several reasons. For one, it is not clear why inexperience would lead to setting targets too low. They could just as easily be set too high in the face of insufficient historical data. A second reason is that the practice of using ESG metrics, while growing, is not particularly new. As we discuss in the introduction, the practice is more than a decade old. Moreover, most firms use compensation consultants, and one reason for doing so is to draw on the broad experience that these consultants bring. Those consultants are likely to be familiar with ESG-linked compensation and should be able to supply guidance on how to adjust the relative difficulty of the performance targets.

quantitative metrics.[65] At the same time, demand for ESG performance by institutional investors is unlikely to disappear anytime soon.[66] To the degree that ESG-based pay persists as part of that demand, our study provides some guarded suggestions about moving forward. As we detail, the unstructured nature of information about ESG-based pay in proxies makes it very difficult to extract and analyze. Combined with the concerns about poor governance that we suggest, it may be advisable for interested investors and regulators to suggest, or even demand, more regularized disclosure of information about the setting and assessment of performance incentives for ESG-based pay.

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[65] *See* Temple-West, *supra* note 6.
[66] *Id*. (reporting that, as of June 2024, 66% of S&P 500 companies reported using DEI-based metrics, which was a decline from 2023, but an increase from 2021.

Appendix
Assessing the Performance of OpenAI's GPT-4o Model to Collect Financial and ESG Performance Data from Proxy Statements

In this Appendix, we explore whether recent advances in LLMs might help lessen the transparency challenge discussed in Section 5. As of this writing, LLMs developed by firms such as OpenAI, Anthropic, and others are capable of analyzing a large corpus of documents at scale as well as extracting data from them in a fashion that mimics hand-coding. Moreover, these models are increasingly being used to augment legal practice, such as through analyzing legal cases and transaction documents. Finally, while the initial context windows used to interact with LLMs were limited in size, these windows are today sufficiently large that they can ingest documents as long as most proxy statements.[67] These developments raise the possibility that perhaps the challenging, time-intensive work required to collect our sample could be outsourced to an LLM, thus vastly increasing the number of firms one could analyze in a short period of time. However, these models are also plagued by the presence of "hallucinations"—textual output that is not consistent with the true content of the document.[68] Deploying these models in our context would thus raise the risk that the output may be inaccurate and incomplete.

In principle, our hand-collected data should represent the ground truth regarding both financial and ESG performance metrics in our sample of proxies, which provides a unique opportunity to evaluate the extent of this risk, at least as of this moment in the development of these models. To do so, we turn to the OpenAI API and its GPT-4o model. To mimic the data collection process used when manually collecting our dataset, we designed an elaborate few-shot prompt to collect the performance metrics used within any of a company's executive compensation plans (including whether the metrics were missed, met, or exceeded).[69] After testing the prompt on several proxy statements to ensure the data were properly output as JSON files, we deployed the prompt across all 500 proxies.

As expected, OpenAI's analysis produced several inconsistent results. While in many cases, the inconsistency was the result of a hallucination, review of the relevant proxy in each case also revealed a number of instances where, despite multiple reviewers assessing each proxy, the original data collection process had nevertheless overlooked a disclosure concerning whether a performance measure had been satisfied, thus underscoring the potential utility of incorporating LLMs into the review process. After correcting for these errors in our hand-collected data, we assessed model performance by asking two questions: (a) how well did the model identify whether it was possible (yes/no) to assess the achievement of a financial or ESG performance metric in the AIA? and (b) among those proxy statements where both our data and the model found it possible, how frequently did the model agree with our data on whether the company missed, met or exceeded the metrics?[70]

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[67] For instance, OpenAI's most recent model as of this writing can ingest 128,000 tokens. A conventional rule of thumb says that one token corresponds to approximately 0.75 words; thus, 128,000 tokens would represent 96,000 words.

[68] *See* Dahl, supra note 13.

[69] While we classify our prompt as a few-shot prompt, we do not include any actual examples of a CDA and its classification given the length of a typical CDA. Instead, we provide illustrations in the prompt based on simple hypotheticals.

[70] Our prompt requested both that the model classify a target as missed, met or exceeded as well as to justify why it made this classification and to output each to a separate field in a JSON file. One challenge with this task is that language models cannot be relied upon to perform arithmetic accurately given that they are designed to predict text.

Overall, the model performed well across both questions, though the results also underscored the need for caution. Performance was most promising with respect to financial metrics where the model achieved an overall F1 score of 98.7% with regard to the first question. Notably, the model missed the presence of a financial target in only a single proxy statement, but it (mistakenly) hallucinated that eleven firms used a financial performance target when they did not. Performance was slightly weaker for the second question where the model had an accuracy score of 91% because it misclassified the performance of a company on one or more of its financial targets. However, for nearly half of these cases the reason appeared to arise from the fact that the only disclosure of actual performance was via a graphic image in the proxy statement. And at present, the OpenAI API cannot process images embedded within a document. Such multi-modal analysis, however, is possible by using our prompt in the ChatGPT web interface and uploading a PDF of the proxy statement. Doing so for these proxies produced results that were generally consistent with our hand-coded data. As such, accuracy rates should improve via the API (which is required for processing proxies at scale) once this multi-modal analysis of PDFs is possible through the API interface.

Performance was slightly weaker with regard to collecting ESG performance data. Overall, the model achieved an F1 score of 87.8% for identifying whether the proxy included an ESG performance target. As with identifying the presence of a financial target, hallucinating was largest reason for false positives; for 39 firms, the model classified an ESG performance metric as having been missed, met or exceeded when no such classification was possible from the proxy. The model also missed classifying performance for 23 firms, largely because the firm used a strategic weight that included an ESG target and the model failed to make an inference that the ESG target was missed, met or exceeded based other disclosures.[71] Across the 224 firms when the model made a classification of missed, met or exceeded and it was possible to make such a classification, the model scored an 82% accuracy. Examination of the inaccurate classifications revealed no consistent pattern, though several inaccuracies appeared to stem from incorporating customer-focused targets as ESG targets (despite an instruction not to do so) as well as the use of a graphic (rather than text) to illustrate actual performance.[72]

Consistent with this challenge, preliminary analysis revealed a tendency of the model to inaccurately classify a target, often making incorrect conclusions regarding whether a stated performance outcome was equal to or greater than the stated target. OpenAI's guide to prompt engineering suggests that challenge can often be overcome by providing an instruction in the prompt for the model to use its Python interpreter when performing calculations. However, despite instructions for the model to use Python to assess any numerical inequalities in making a classification, the model continued to return classifications that were both incorrect and inconsistent with the qualitative justification that it provided in the JSON file. As a result, we relied on the qualitative justification in conducting this analysis.

[71] As noted above, a company might give strategic goals a specific weight (e.g., 20%) within the target AIA and include among these goals a specific ESG target. In such a situation, we recorded the weight given to the ESG target and whether the ESG target was missed, met or exceeded if we could make these determinations from the express language of the proxy statement. While the prompt instructed the model to make such inferences, it evidently struggled with doing so.

[72] While we also collected data with regard to LTI plans, we focus on the AIA plans in the interest of brevity. Overall, the results for the LTI plans largely track those for the AIA plans insofar that performance was especially strong for finding financial performance targets and slightly weaker for finding ESG performance targets. The primary limitations of the model were (a) a moderate rate of finding a long-term financial performance target when none existed, and (b) a moderate rate of failing to find a long-term ESG performance target when one in fact existed. Notably, when it was possible to find a long-term financial performance target and the model in fact found one, accuracy rates were impressive, with the model scoring a 91% accuracy across the 400 firms that used a long-term financial target and a 100% accuracy across 12 firms using a long-term ESG target.

We conclude from this analysis that LLMs can usefully augment manual review of a company's proxy statements. While hallucinations and a failure to adhere to prompt instructions raise the risk of inaccurate output, the fact that the model detected inaccuracies in our heavily vetted hand-collected data underscores the utility these models can provide with regard to auditing data that has been hand-collected from lengthy, non-standardized documents.

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