Disclosure Costs of Relative Performance Evaluation

Melissa Martin*
mamarti@uic.edu
University of Illinois at Chicago

Oscar Timmermans
o.timmermans@lse.ac.uk
London School of Economics

Abstract:

Relative performance evaluation has become an increasingly common component of executive compensation contracts. We study how these incentive plans relate to corporate disclosure and predict that they introduce an incremental disclosure cost. This cost arises because disclosures can help competitors make better investment decisions, enhancing their performance and thereby reducing managers' expected compensation. Consistent with this prediction, we find a negative association between relative performance plans and voluntary, value-relevant management forecasts, alongside a positive association with redactions in mandatory filings. This pattern is specific to plans with accounting-based metrics and absent for plans with price-based metrics. The results for price-based metrics are consistent with the idea that the incentive to reduce information asymmetry with market participants outweighs disclosure costs in these plans. The results for accounting-based metrics are more pronounced for managers whose plans provide stronger incentives and for those whose forecasts provide meaningful information spillovers to peers. Overall, this paper contributes the idea that relative performance plans can impose disclosure costs, thereby shedding light on contracting mechanisms that discourage disclosure—a less well-understood aspect of disclosure research.

JEL classification: D22, D82, J33, L1, M12, M48

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* Corresponding author.

1. Introduction

Currently, more than half of large publicly traded U.S. firms link their managers' incentives to explicit relative performance evaluation. Not only are these incentives ubiquitous, they are also economically relevant as they account for more than half the value of all performance-based awards in managers' compensation contracts. The primary benefit of relative performance evaluation (RPE, henceforth) is its ability to mitigate compensation risk by benchmarking managerial performance against peer firms, thereby shielding managers' pay from exogenous shocks. While explicit RPE plans offer notable contracting benefits, we predict that these plans introduce an incremental disclosure cost that deters disclosure.[1]

Understanding whether RPE plans deter disclosure has important implications for capital markets as disclosure serves as the foundation for fair, orderly, and efficient markets. However, despite the critical role of disclosure, managers may be reluctant to disclose sensitive information if doing so risks jeopardizing their firms' competitive position relative to peer firms. Supporting this concern, a survey of over 400 financial managers by Graham et al. (2005) shows that the risk of exposing sensitive information is an important barrier to voluntary disclosure, noting that "managers do not want to explicitly reveal sensitive proprietary information 'on a platter' to competitors." Such concealment directly influences both the quantity and quality of information available in financial markets. Understanding the role of widespread RPE plans in this context is therefore economically interesting.

To facilitate our hypothesis development and inform the design of our empirical tests, we use a parsimonious model to formalize the intuition that managers with RPE incentives prefer different disclosures from those of their counterparts with absolute performance incentives. Our aim is not to explain firms' decisions to implement RPE incentives but to

[1] Our discussion of RPE focuses exclusively on "explicit RPE," where compensation plans explicitly define and disclose a benchmark peer group used to evaluate the firm's performance for incentive purposes. Firms that instead use "implicit RPE," where relative performance influences retention decisions, discretionary awards, or future compensation levels without being formally contracted, fall outside the scope of our analysis.

examine the consequences of these choices within this framework. We begin by formulating hypotheses for contracts tied to either an absolute or relative accounting-based performance metric, a metric consistently observed in the majority of performance-based incentive-compensation contracts (Bettis et al. 2018, Guay et al. 2019, Bloomfield et al. 2021, Carter et al. 2022). The payout to the absolute performance evaluation (APE, henceforth) plan is based only on a firm's own performance, while the RPE plan introduces a negative payout term contingent on peers' performance. Given the contract offered, managers choose whether to disclose proprietary information to maximize their expected incentive compensation.

In this setting, disclosures are costly because they can help peer firms better estimate aggregate demand and supply conditions, which in turn helps them identify investment opportunities and improve their performance (Bloom et al. 2007, Bonsall IV et al. 2013, Roychowdhury et al. 2019). As managers with RPE incentives are evaluated explicitly against the performance of peer firms, we posit that RPE plans introduce an incremental cost of disclosure related to disclosures that facilitate peer performance. This leads to our first empirical prediction: this incremental cost reduces RPE-incentivized managers' incentives to disclose compared to APE-incentivized managers.

Firms also use stock price metrics in their RPE plans, either alongside or in place of the accounting metrics referred to above (De Angelis and Grinstein 2020, Bizjak et al. 2022). We therefore next examine how contracts with these metrics may differentially relate to managers' disclosure choices. As a firm's stock price is in part shaped by interactions with the capital market, managers can use disclosure to impact price by reducing information asymmetry with market participants (Dye 1985, Diamond and Verrecchia 1991, Welker 1995).

With stock price metrics, disclosure thus confers both costs and benefits to managers, which creates a dual effect: while a price-based RPE plan continues to discourage disclosure to the extent it reveals proprietary information, it may also encourage disclosure to the extent

it reduces information asymmetry with investors—thereby positively impacting the firm's relative stock returns. Our second empirical prediction is therefore that the relation between price-based RPE and disclosure is ambiguous, due to the competing nature of disclosure objectives introduced by price.

To isolate our proposed mechanism and examine boundary conditions of our main predictions, we formulate several cross-sectional predictions. First, to investigate the proposed associations between explicit RPE plans and corporate disclosure, we examine variation in the characteristics of RPE plans. We predict that the disclosure disincentive depends both on the intensity of the RPE incentives offered to managers and on the usefulness of the firm's disclosures for its peers' investments and performance. Intuitively, the stronger the incentives in RPE plans, the greater the disincentive for managers to provide peer-relevant disclosures, as managers derive more personal benefit from improved relative performance. Similarly, the more useful the firm's disclosures are for peers' investments and performance, the higher the incremental disclosure cost for managers, as peers can better incorporate this information into their investment decisions.

Finally, to investigate boundary conditions related to the incremental disclosure costs of RPE plans beyond those of APE plans, we examine the interaction between APE incentive intensity and the degree of product substitutability. As product substitutability increases, disclosures that enhance peer firm performance increasingly harm the disclosing firm's own performance—even absent explicit RPE incentives. Thus, with high product substitutability and strong APE incentives tied to the firm's own performance, an APE plan begins to mimic the incentives generated by an RPE plan. Therefore, the incremental disclosure costs of RPE incentives, compared to APE incentives, should be most pronounced when both product substitutability and APE incentives for APE firms are low, and least pronounced when both factors are high.

In a series of empirical tests, we find support for these predictions. We first find that managers evaluated on their firms' relative accounting performance provide fewer forecasts of earnings, sales, and capital expenditures than do managers whose contracts do not include these RPE incentives. In economic terms, we find that managers evaluated on accounting-based RPE provide approximately 24% fewer earnings forecasts compared to managers not evaluated on relative accounting performance. Next, we examine redactions through confidential treatment orders, which directly enable managers to withhold information. We find some evidence that managers evaluated on their firms' relative accounting performance file more confidential treatment orders than those whose contracts do not include these RPE incentives. These findings are consistent with the idea that accounting-based RPE plans introduce an incremental cost of disclosure related to peer-relevant information.

Regarding the theoretically ambiguous setting of price-based RPE, we find that these plans are positively associated with the provision of earnings forecasts when compared to accounting-based RPE plans. Specifically, managers who are evaluated using price-based RPE provide approximately 41% more forecasts than their counterparts evaluated using accounting-based RPE. In addition, managers with price-based RPE plans redact through confidential treatment orders less often than managers with accounting-based RPE plans. Our estimates indicate that managers evaluated on accounting-based RPE have about 51% more confidential treatment orders than those using price-based RPE. These findings suggest that—on average and in our sample—the incremental incentive in price-based RPE plans to increase price by reducing information asymmetry with market participants outweighs the incremental disclosure cost of revealing proprietary information.

We next test cross-sectional predictions that the disclosure disincentive depends both on the intensity of the RPE incentives and the usefulness of a firm's disclosure for its peers' investments and performance. In these analyses, we focus on the intensive margins of these

characteristics, estimating the regressions within the subsample of firms that use RPE. We measure the intensity of RPE incentives using the size of the RPE grant and find that stronger RPE incentives amplify our main findings. Our estimates suggest that managers with the strongest accounting-based RPE incentives provide about 39% fewer forecasts and have about 72% more redactions compared to their counterparts with the weakest incentives. Furthermore, when we measure the usefulness of information as the concentration of peer group overlap, we find it is also associated with greater incremental disclosure costs.[2] Here our estimates suggest that managers with the most intense peer overlap in their accounting-based RPE plans provide about 35% fewer forecasts and have about 118% more redactions compared to their counterparts with the least intense overlapping RPE plans. Consistent with our predictions and RPE as the mechanism, our findings suggest that specific RPE plan characteristics explain variation in observed disclosure choices.

Finally, we test the prediction that the incremental disclosure disincentive introduced by RPE plans—incremental to APE plans—depends jointly on the intensity of the APE incentives and the degree of product substitutability. Supporting this prediction, we find that the differences in earnings forecast provision between RPE and APE plans are most pronounced when both product substitutability and APE incentives are relatively weak. Conversely, when product substitutability and APE incentives are strong—in which case the incentives of APE plans begin to mimic those of their RPE counterparts—we find few differential disclosure choices. Combined, these findings suggest that there exist conditions under which the disclosure incentive gap between RPE and APE plans closes.

Although we cannot rule out the possibility that an omitted correlated variable explains our results, two aspects of our study should help alleviate these concerns. First, our predictions

[2] "Peer group overlap" describes the situation where a firm and one of its peers mutually include each other in their RPE plans. Feichter et al. (2022) show that such overlaps commonly occur due to similarities between the firm and its peers.

are based on simple well-established models that outline the incremental disclosure costs in an RPE plan versus an APE plan. Second, our hypotheses offer differential predictions about the relation between disclosure and accounting-based and price-based RPE plans, which should reduce concerns about correlated omitted variables that impact the relation between disclosure and *generic* RPE use (e.g., the availability of peers and performance correlations among firms).

Specifically, if a correlated omitted variable predicting RPE usage were driving our results, it would need to produce different relations between disclosure and accounting-based RPE compared to disclosure and price-based RPE. In addition, our findings depend on the strength of RPE incentives and the usefulness of information to peers. Thus, to explain our full set of results, an omitted variable would need to at a minimum (1) be correlated with various dimensions of disclosure; (2) differentially affect firms that adopted RPE, conditional on whether the plan is based on price or accounting metrics; and (3) differentially affect firms that adopted RPE with similar metrics but with different incentive strengths or usefulness of information to peers.

Our paper contributes to the literature by highlighting an association between explicit RPE plans and managers' disclosure policy. While prior research documents associations between explicit RPE plans and the timing of earnings announcements (Gong et al. 2019), bias in forecasting (Jia et al. 2023), and strategic peer-harming disclosures (Bloomfield et al. 2024), our study takes a broader approach to examine whether and how these plans are associated with peer-relevant disclosures. In this way, it underscores the role of managers' performance-based incentives in shaping preferences for disclosure (Core 2001). Moreover, our paper adds to the growing RPE literature that pairs parsimonious models with empirical analyses. Like ours, these studies take managers' RPE incentives as given and study the impact of such contracting choices on strategic choices (Schäfer 2023) and risk-taking decisions (Tice 2024, Timmermans 2024).

Our findings suggest that managers with RPE incentives prefer different disclosure policies to those with APE incentives. In addition, our findings suggest that the details of compensation contracts—such as the use of accounting versus price-based metrics—can explain variation in observed disclosure choices even within a particular class of performance-based incentives (e.g., RPE plans). This latter finding is consistent with the results in Bloomfield et al. (2024), who show that strategic peer-harming disclosures are unique to price-based RPE plans. Our findings also complement recent work on disclosure substitution (see, e.g., Noh et al. 2019, Barth et al. 2023, Heinle et al. 2023). Specifically, our insights that incentives to minimize information asymmetry with markets dominate incentives to withhold proprietary information from peers for price-based RPE plans are consistent with the tradeoff described in these studies.

In summary, our paper contributes the idea that incentive plans based on firms' relative financial performance can impose disclosure costs. Of course, the choice to use an RPE plan is endogenous, and our analyses may not identify their causal effects due to potential omitted variables. Rather, our findings represent associations and should be interpreted as such. Even so, insofar as the associations that we document are indeed attributable to RPE plans, they potentially represent a channel through which information asymmetry in capital markets might arise. This insight should be of interest to practitioners, as information asymmetry threatens the SEC's (2025) mission to protect investors, to maintain fair, orderly, and efficient markets, and to facilitate capital formation.

The rest of the paper proceeds as follows. Section 2 discusses the literature and our hypothesis development. Section 3 describes data and presents summary statistics. Section 4 presents the empirical analysis. Section 5 concludes and offers suggestions for future research. Appendices A through C present, respectively, examples of accounting-based and price-based RPE plans, an extension of the framework, and definitions of all variables used.

2. Related literature and theory development

2.1. Related literature on relative performance evaluation

A relative performance plan refers to a performance-based incentive-compensation plan where performance is evaluated relative to competitors. Holmström (1982) shows that RPE plans are preferable to individual APE incentive plans if performance outcomes of various homogenous agents are affected by common exogenous shocks. The intuition is that peer performance can be used to filter common exogenous shocks, isolating managers' effort and performance. This filtering reduces compensation risk associated with systematic performance.

Consistent with these theoretical benefits, the use of RPE plans has surged over the last decade. More than half of U.S. executive incentive-compensation contracts now contain some form of RPE (Bloomfield et al. 2025). Further, RPE plans provide economically significant incentives to managers, as they account for nearly 50% of the value of performance-based awards in managers' incentive-compensation contracts (De Angelis and Grinstein 2020). However, while RPE plans offer efficiency-enhancing advantages for contracting, they simultaneously increase competition imposed on managers (Aggarwal and Samwick 1999). As a result, these incentive plans give managers incentives to alter their strategic decisions (Vrettos 2013, Feichter et al. 2022, Bloomfield et al. 2023, Schäfer 2023, Tice 2024, Timmermans 2024).

Through this lens, recent studies focus on the relation between explicit RPE plans and managerial disclosure. For instance, Gong et al. (2019) document differences in the timing of earnings releases, given firms' accounting-based RPE plans and related peer groups. Specifically, they suggest that managers delay earnings announcements to provide leeway in adjusting their own firms' earnings after observing earnings of peer firms, thereby improving their relative position. Jia et al. (2023) focus on the quality of management earnings forecasts

and find that RPE-incentivized managers are more likely to provide pessimistic (and hence less accurate) forecasts compared to their APE-incentivized counterparts. They posit that these low quality forecasts are strategic attempts to sabotage peer firms' performance by influencing their expectations of the focal firm's performance. Bloomfield et al. (2024) also focus on strategic peer-harming behavior and argue that it is more likely to exist in price-based RPE plans, since these plans have a direct connection to the capital market. This connection provides managers with a means to disclose information harmful to peers' stock prices. Rather than focusing on sabotage, our focus is on testing whether RPE plans provide managers with an incentive to withhold information that can be used by peers to improve their performance in expectation—but in doing so reduces the information available to market participants.

Appendix A presents two examples of firms' RPE plans through excerpts from JPMorgan Chase & Co.'s (2021) and United Parcel Service Inc.'s (2019) proxy statements. JPMorgan Chase & Co.'s plan exemplifies an accounting-based plan, with payouts linked to return on average tangible common equity. United Parcel Service Inc.'s plan exemplifies a price-based relative performance plan, with payouts tied to relative total shareowner return. Both examples illustrate the strength of RPE incentive plans. For instance, if JPMorgan Chase & Co. outperforms all its peers over the three-year period, the CEO receives 365,546 shares, with a grant date fair value of approximately $36.75 million. However, if all peers outperform JPMorgan Chase & Co., the CEO receives nothing. Likewise, in the case of United Parcel Service Inc., the CEO's target grant value equals seven times the base salary of approximately $1.25 million, with the potential to double if the firm outperforms all peers—resulting in a maximum payout of approximately $17.30 million. However, if United Parcel Service Inc. falls within in the bottom quartile of its peer group, the CEO receives nothing.

2.2. Hypothesis development

In this section, we use a series of parsimonious models to illustrate the intuition for the

effects of RPE on a manager's incentive to disclose information. The goal of this exercise is not to generate new theoretical insights beyond what is already established in the literature, but rather provide a structured and intuitive framework to support our key predictions. Our aim is not to explain firms' decisions to implement RPE incentives but to examine the consequences of these choices within this framework. To focus on the most fundamental and general intuition, we therefore deliberately abstract away from the form of managers' and investors' utility functions, how peers use the information, and how investors price it.

For a formal treatment of forces influencing disclosure, we refer the interested reader to Lambert (2001) and Bagnoli and Watts (2015). We also refer the interested reader to Bloomfield et al. (2024), Schäfer (2023), Tice (2024), and Timmermans (2024) for models on explicit RPE plans and strategic managerial decision making. Since the examples below focus exclusively on how RPE affects disclosure incentives—without considering the broader optimization process, where the optimal disclosure choice could also influence optimal incentive-compensation decisions—future research could develop a more comprehensive model that incorporates these additional dimensions. We offer some suggestions for these future research paths in the conclusion.

In the three subsections below, we discuss, respectively, (1) a setting where the manager is compensated only on an accounting-based incentive compensation contract and (2) a setting where we allow the metric underlying the incentive compensation contract to vary between accounting and price. We close this section by (3) relaxing an assumption regarding changing incentive weights in the APE plan.[3]

[3] In Appendix B, we expand the compensation contract to also include non-RPE stock-based compensation. Our theoretical predictions on the incremental disclosure incentives arising from RPE plans are not altered with the addition of similar non-RPE stock-based compensation across APE and RPE firms. In Appendix B, we also consider the effects of varying levels of non-RPE stock-based compensation across APE and RPE plans. In this case, our predictions are influenced by the levels of non-RPE stock-based compensation, and we find empirical evidence that supports this prediction.

2.2.1. Absolute versus relative performance evaluation

Consider a manager of firm i with a standard compensation contract that includes a base salary α_i and performance-based bonus. Manager i's total compensation is given by W_i. The performance-based portion of the contract compensates the manager based on the firm's own, absolute accounting performance π_i, with an incentive weight $\beta_1 \in [0, 1]$. With the introduction of RPE, the manager's compensation also depends on the accounting performance of a peer firm j, such that the manager is rewarded for π_i but penalized for π_j. The weight on π_j in manager i's compensation contract is given by $\beta_2 \in [0, 1]$. Stated formally, the contracts are designed in the following way (Holmström 1982, Holmström and Milgrom 1991):

$$\text{APE:} \quad W_i = \alpha_i + \beta_1 \cdot \pi_i + \varepsilon_i; \tag{1}$$

$$\text{RPE:} \quad W_i = \alpha_i + \beta_1 \cdot \pi_i - \beta_2 \cdot \pi_j + \varepsilon_i, \tag{2}$$

where $\varepsilon_i \sim N(0, \sigma_{\varepsilon_i})$ is some nonformulaic pay component (e.g., board subjectivity).

Given the contract structure above, the manager chooses a disclosure policy to maximize the payoff from the incentive-compensation contract. Disclosures are costly as they can provide information to peers that helps them to make better investment decisions by facilitating identification of new investment opportunities (Bloom et al. 2007, Bonsall IV et al. 2013, Roychowdhury et al. 2019). For instance, one manager's estimates of future earnings, sales, and capital expenditures can help peers develop better estimates of aggregate demand and supply conditions. In addition, disclosures can reduce uncertainty about future cash flows from an investment, thereby reducing investment adjustment costs, such as the option value of waiting to invest. This implies that a firm's accounting performance depends on its own investment opportunity set, its investment-performance sensitivity, and its peer's disclosure decision. With $f \in \{i, j\}$, let $\delta_f \geq 0$ be firm f's investment-performance sensitivity, O_f be its investment opportunity set, and D_{f^-} be the disclosure decision by its peer (i.e., if $f = i$, then $f^- =$

j, and vice versa).[4]

Not all disclosures enhance peer firms' accounting performance, as their usefulness in informing investment decisions varies. The extent to which firm *f*'s disclosure benefits its peer's performance is given by $\lambda_{ff'} \geq 0$. This benefit to peer performance does not have to come at the expense of firm *f*'s performance. However, a disclosure-driven increase in the peer's performance could damage the focal firm due to rivalry in the product market. The degree of substitutability between the two firms' products—and thus the extent of negative performance correlation—is given by $\psi \in [0, 1]$.[5] We model these peer effects in closed form, such that a firm's expected performance declines by the expected increase in peer performance driven by disclosure, conditional on both the usefulness of the information and product substitutability.

Formally, the above setup implies that firms' accounting performance is given by:

$$\mathrm{E}[\pi_i] = \delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i); \tag{3}$$

$$\mathrm{E}[\pi_j] = \delta_j \cdot O_j + \lambda_{ij} \cdot \mathbb{1}(D_i) - \psi \cdot \lambda_{ji} \cdot \mathbb{1}(D_j). \tag{4}$$

If both managers have rational expectations, then manager *i*'s expected compensation has the following form under both contract types:

$$\text{APE: } \mathrm{E}[W_i] = \alpha_i + \beta_1 \cdot [\delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i)]; \tag{5}$$

$$\begin{aligned}\text{RPE: } \mathrm{E}[W_i] = \alpha_i &+ \beta_1 \cdot [\delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i)] \\ &- \beta_2 \cdot [\delta_j \cdot O_j + \lambda_{ij} \cdot \mathbb{1}(D_i) - \psi \cdot \lambda_{ji} \cdot \mathbb{1}(D_j)].\end{aligned} \tag{6}$$

Manager *i* chooses disclosure to maximize the payoff from these contracts. The impact of the manager's disclosure choice, $\mathbb{1}(D_i)$, on expected compensation is:

[4] One could further assume that manager *i*'s choice to disclose, $\mathbb{1}(D_i)$, is directly influenced by peer *j*'s disclosure choice, $\mathbb{1}(D_j)$ (see, e.g., Baginski and Hinson 2016, Breuer et al. 2021). For example, if capital markets interpret silence differently based on other firms' disclosures (e.g., an information endowment story), then capital markets may force firms to disclose. These interactions are beyond the scope of our study.

[5] λ and ψ capture related yet distinct forces. A firm's disclosure can be highly informative for its peers' investment strategies if it reveals valuable insights related to, for instance, performance effects of recent technological advancements (i.e., high λ). However, the extent to which a peer's improved performance harms the focal firm depends on product substitutability. If peers adopt the technology inferred from the disclosure in products that closely resemble those of the focal firm (i.e., high ψ), the disclosure will negatively impact the focal firm's performance. Conversely, if peers adopt the technology in niche products that do not compete directly with the focal firm's offerings (i.e., low ψ), the peer's performance gains have a minimal effect on the focal firm.

APE: $-\beta_1\psi\lambda_{ij}$; (7)

RPE: $-\beta_1\psi\lambda_{ij} - \beta_2\lambda_{ij}$. (8)

Combined, Equations (7) and (8) indicate that as long as $\beta_2 > 0$ (i.e., there exists an RPE component such that peer firm *j*'s performance inversely determines manager *i*'s compensation) and $\lambda_{ij} > 0$ (i.e., manager *i*'s disclosure helps peer firm *j*'s performance in expectation), RPE should lead to less disclosure than APE—on average and holding all else constant.[6] In addition, this analysis shows that substitutability is a necessary condition for the APE plan to generate any incremental disclosure costs. Specifically, as $\psi \rightarrow 0$, the APE plan does not create disclosure disincentives. More importantly for our analysis, the RPE plan introduces an incremental cost of disclosure related to information that in expectation enhances peer firms' performance—regardless of product substitutability.[7] Consequently, a manager evaluated on an RPE plan is worse off when disclosing information that can benefit peers, compared to a setting with only an APE plan. This discussion leads to our first prediction:

Prediction 1. *Managers evaluated with RPE plans are more likely to withhold proprietary information than those evaluated with APE plans.*

2.2.2. Accounting versus price RPE plans

RPE plans are generally tied to either accounting-based metrics, stock price-based metrics, or both (see, e.g., Gong et al. 2011, Bizjak et al. 2022). In this section, we examine disclosure choices under accounting versus price RPE plans. Managers with stock price-based RPE have incentives to maximize their firms' relative share price. In this respect, managers may use disclosure to improve their own firms' liquidity—and consequently stock price—by reducing information asymmetry with market participants (Dye 1985, Diamond and Verrecchia

[6] It is not necessary that peer *j* acts on the information. What matters for manager *i*'s disclosure choice is the expectation that the information can benefit peer *j*'s performance.

[7] It is possible that high levels of product substitutability (e.g., $\psi \rightarrow 1$) may create disclosure disincentives that trigger withholding information even before the incremental RPE disincentive comes into play. Theoretically, this incremental RPE disincentive exists but practically it may not be binding. In untabulated analyses, we examine this possibility but find that product substitutability alone does not negate the incremental RPE disincentive in our sample.

1991, Welker 1995). This motive introduces a competing disclosure objective. Now, managers decide on their disclosure choices by considering the potential negative payout impacts stemming from proprietary information disclosure and the potential positive payout impacts of reducing information asymmetry with market participants. To illustrate this point, we analyze a setting where we distinguish between these different RPE plan types.

We assume that firm i's price, $P_i > 0$, depends on its own accounting performance and the price impact of its own disclosure (i.e., through reduced information asymmetry with market participants about the firm). In addition, we allow peer disclosure to provide information spillovers that also reduce information asymmetry with market participants about the focal firm. With $f \in \{i, j\}$, let $\tau_{ff} \in \mathbb{R}$ be the price impact of firm f's disclosure on firm f's price, and let $\tau_{ff\text{-}} \in \mathbb{R}$ be the price impact of firm f's disclosure on its peer's price. As such, firms' price is given by:

$$\mathrm{E}[P_i] = \mathrm{E}[\pi_i] + \tau_{ii} \cdot \mathbb{1}(D_i) + \tau_{ji} \cdot \mathbb{1}(D_j); \tag{9}$$

$$\mathrm{E}[P_j] = \mathrm{E}[\pi_j] + \tau_{jj} \cdot \mathbb{1}(D_j) + \tau_{ij} \cdot \mathbb{1}(D_i). \tag{10}$$

In terms of contract design, the accounting-based and price-based RPE plans for manager i are designed as follows:

$$\mathrm{RPE}^{\mathrm{accounting}}\text{: } W_i = \alpha_i + \beta_1 \cdot \pi_i - \beta_2 \cdot \pi_j + \varepsilon_i; \tag{11}$$

$$\mathrm{RPE}^{\mathrm{price}}\text{: } \quad W_i = \alpha_i + \beta_1 \cdot P_i - \beta_2 \cdot P_j + \varepsilon_i. \tag{12}$$

With rational expectations, manager i's expected compensation under both RPE plan types has the following form:

$$\begin{aligned}\mathrm{RPE}^{\mathrm{accounting}}\text{: } \mathrm{E}[W_i] = \alpha_i + &\beta_1 \cdot [\delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i)] \\ &- \beta_2 \cdot [\delta_j \cdot O_j + \lambda_{ij} \cdot \mathbb{1}(D_i) - \psi \cdot \lambda_{ji} \cdot \mathbb{1}(D_j)];\end{aligned} \tag{13}$$

$$\begin{aligned}\mathrm{RPE}^{\mathrm{price}}\text{: } \quad \mathrm{E}[W_i] = \alpha + &\beta_1 \cdot [\delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i) + \tau_{ii} \cdot \mathbb{1}(D_i) + \tau_{ji} \cdot \mathbb{1}(D_j)] \\ &- \beta_2 \cdot [\delta_j \cdot O_j + \lambda_{ij} \cdot \mathbb{1}(D_i) - \psi \cdot \lambda_{ji} \cdot \mathbb{1}(D_j) + \tau_{jj} \cdot \mathbb{1}(D_j) + \tau_{ij} \cdot \mathbb{1}(D_i)].\end{aligned} \tag{14}$$

The impact of manager i's disclosure choice, $\mathbb{1}(D_i)$, on expected compensation is:

$$\text{RPE}^{\text{accounting}}\text{: } -\beta_1\psi\lambda_{ij} - \beta_2\lambda_{ij}; \tag{15}$$

$$\text{RPE}^{\text{price}}\text{: } -\beta_1\psi\lambda_{ij} + \beta_1\tau_{ii} - \beta_2\lambda_{ij} - \beta_2\tau_{ij}. \tag{16}$$

Comparing Equation (15) to Equation (7) shows that, relative to the APE setting, the effect of *accounting*-based RPE on expected compensation is unambiguously negative, provided that $\beta_2 > 0$ and $\lambda_{ij} > 0$—i.e., when an RPE component penalizes manager *i*'s compensation based on peer *j*'s performance and when manager *i*'s disclosure helps peer *j*'s accounting performance in expectation. In contrast, comparing Equation (16) to Equations (7) and (15) indicates that the effect of *price*-based RPE on information disclosure is theoretically ambiguous relative to both the APE setting and the accounting-based RPE setting. On the one hand, disclosure can increase expected compensation by enhancing firm *i*'s stock price through reduced information asymmetry, with the benefit of this strategy increasing in τ_{ii}. On the other hand, the public nature of disclosure, along with proprietary costs, may lower expected compensation via the explicit RPE component—thereby discouraging disclosure.

Furthermore, firm *i*'s disclosure can also affect peer *j*'s price in either direction (i.e. $\tau_{ij} \in \mathbb{R}$), further complicating the effect of price-based RPE on disclosure. If $\tau_{ij} > 0$ (i.e., manager *i*'s information directly benefits peer *j*'s price), price-based RPE would further discourage disclosure, as manager *i* is penalized when peer *j*'s price rises. Conversely, if $\tau_{ij} < 0$ (i.e., manager *i*'s information directly harms peer *j*'s price), price-based RPE would encourage these disclosures (e.g., disclosures containing adverse news about peer *j*).[8] This discussion leads to our second prediction:

Prediction 2. *The effect of price-based RPE on disclosure is ambiguous due to the competing nature of disclosure objectives introduced by price related to reducing information asymmetry with market participants and by withholding proprietary information from peers.*

[8] Consistent with this prediction, Bloomfield et al. (2024) show that strategic peer-harming disclosures are common when managers are evaluated based on price-based RPE plans, but not when they are evaluated based on accounting-based RPE plans.

2.2.3. Changes in APE incentive intensity

The assumptions underlying the baseline model provide a parsimonious framework leading to our empirical predictions. Specifically, the purpose of that model is to generate testable predictions with respect to the incremental disclosure costs generated by RPE plans relative to APE plans. In doing so, we have assumed that the APE plan remains unchanged with the introduction of the RPE component; i.e., β_1 is held constant across the APE and RPE plan types in Equations (1) and (2). In this section, we extend the model to allow for changes to the incentive intensity of own performance with the introduction of RPE, as it could be that firms adjust the weight on their own performance in this situation relative to an APE plan alone.

Specifically, we now allow for a new, varying weight on own performance in the RPE plan, which we call β_1^*, such that the expected payout under the RPE plan is now defined as follows (we append these equations with an asterisk to match the corresponding equations in the subsections above):

$$\text{RPE: } \mathrm{E}[W_i^*] = \alpha_i + \beta_1^* \cdot [\delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i)] - \beta_2 \cdot [\delta_j \cdot O_j + \lambda_{ij} \cdot \mathbb{1}(D_i) - \psi \cdot \lambda_{ji} \cdot \mathbb{1}(D_j)]. \quad (6^*)$$

Manager i chooses disclosure to maximize the payoff from the APE plan and this modified RPE plan. The impact of the manager's disclosure choice, $\mathbb{1}(D_i)$, on expected compensation is:

$$\text{APE: } -\beta_1\psi\lambda_{ij}; \quad (7^*)$$

$$\text{RPE: } -\beta_1^*\psi\lambda_{ij} - \beta_2\lambda_{ij}. \quad (8^*)$$

Whether the RPE plan creates incremental disclosure incentives now depends not only on the existence of the $-\beta_2\lambda_{ij}$ term, but also on the magnitude of this disincentive relative to the change in the incentive intensity of own performance (i.e., β_1 versus β_1^*). Thus, under certain theoretical conditions, the adverse compensation impact of disclosing information useful to peers may be greater under APE plans than under RPE plans. Since the RPE plan provides

incremental disclosure disincentives when $\beta_2 > [\psi \cdot (\beta_1 - \beta_1^*)]$, APE plans can impose greater disclosure disincentives only if the following three conditions hold simultaneously: (1) the degree of product substitutability must be sufficiently high (i.e., $\psi \gg 0$); (2) the incentive intensity of own performance must be sufficiently reduced in the RPE condition (i.e., $\beta_1 \gg \beta_1^*$); and (3) the RPE plan must place minimal weight on peer firm performance ($\beta_2 \rightarrow 0$).

Put differently, APE plans can impose strong disclosure disincentives when they place significant weight on own firm performance and when disclosure is particularly harmful due to high product substitutability. Conversely, RPE plans are likely to generate weaker disclosure disincentives when they assign a low weight to own firm performance, when disclosure has little impact on own performance (i.e., low product substitutability), or when the negative weight on peer performance is minimal. Depending on these parameters in the empirical setting, it is thus possible that APE and RPE plans may provide similar disclosure disincentives, or in some cases, APE plans may even impose stronger disincentives than RPE plans. To examine these boundary conditions and assess their empirical relevance, we conduct cross-sectional analyses (see Section 4.2.2 for details).

3. Variable measurement and summary statistics

3.1. Measures of disclosure

Following the discussion in Section 2 related to managers' disclosures helping peer managers make better investment decisions (Bloom et al. 2007, Bonsall IV et al. 2013, Roychowdhury et al. 2019), we measure two aspects of managers' disclosure decisions: (1) voluntary provision of forward-looking information and (2) withholding of sensitive information in otherwise mandated disclosure.

With regard to the voluntary provision of information, we follow the literature and examine management earnings forecasts (see, e.g., Guay et al. 2016, Heinle et al. 2023). We

obtain data on management forecasts from I/B/E/S Guidance. We create a variable that counts the frequency of earnings forecasts issued by the firm during the year (*Management Earnings Forecasts*). In addition, to ensure that our inferences are not unique to the quantity of forecasts, we also examine the probability of issuing a forecast using an indicator variable that equals one if the firm provides at least one forecast during the year and zero otherwise. In robustness tests, we also examine both the frequency and likelihood of sales and capital expenditures forecasts (*Management Sales Forecasts* and *Management CAPEX Forecasts*, respectively) to assess whether our findings generalize to other forecasts that reveal proprietary information that could be useful to peers.

With regard to the withholding of sensitive information from mandated disclosures, we follow the literature and examine redactions in the form of confidential treatment orders approved by the SEC (see, e.g., Glaeser 2018, Heinle et al. 2023).[9] These orders allow managers to redact parts of their SEC filings, primarily to conceal information that would otherwise harm their competitive advantage. Confidential treatment orders thus capture another form of withholding of peer-relevant proprietary information (see, e.g., Verrecchia and Weber 2006, Boone et al. 2016). We obtain managers' confidential treatment redactions by searching their firms' 10-K and 10-Q filings via SeekINF. We use the phrases "confidential treatment has been ... ," "Rule 24b-2," "Rule 406," and "CT Order," to identify redactions (see, e.g., Glaeser 2018). We use a frequency variable that counts the number of confidential treatment redactions in each firm-year's 10-K and 10-Q filings (*Redactions*) as well as an indicator that equals one if the firm redacts at least once during the year and zero otherwise.

[9] Although managers are legally committed to mandatory disclosure, they can alter the clarity of disclosures. For example, through confidential treatment orders (approved by the SEC), managers can redact sections of their mandatory disclosures. The SEC (2010, p. 2) provides the following guidance regarding these redactions: "Sometimes disclosure of information required by the disclosure rules (e.g., Regulation S-K) can negatively affect a company's business and financial condition because of the competitive harm that could result from the disclosure. ... To address the potential disclosure hardship, the Commission has established a system that allows companies to request confidential treatment of information filed under the Securities Act and the Exchange Act." If a request is denied, the firm must publish the unredacted version of its disclosure. However, Heinle et al. (2023) note that confidential treatment orders are rarely denied (i.e., less than 0.12% of all orders in their sample).

3.2. Measures of relative performance plans

3.2.1. Existence and type of relative performance plans

We follow the literature and obtain data on RPE plans from ISS Incentive Lab (see, e.g., Gong et al. 2019, De Angelis and Grinstein 2020). This database covers the S&P 500 and much of the S&P 400 as well as firms that fall into the top 750 of market capitalization in any year and across all industries (Institutional Shareholder Services Inc. 2022). We code the presence of RPE plans if the Compensation Discussion and Analysis section of the firm's proxy statement states that executive incentive-compensation is determined based on the firm's performance relative to the performance of peers. In so doing, we also distinguish between explicit RPE plans tied to accounting-based metrics and stock returns (see, e.g., Gong et al. 2011, Bizjak et al. 2022). We label these variables *RPE-accounting* and *RPE-price*, respectively.[10]

3.2.2. Strength of RPE incentives and usefulness of information to peers

To further isolate our suggested mechanism, we examine cross-sectional variation in the strength of RPE incentives and the usefulness of information to peers. With regard to the strength of RPE incentives, we estimate the size of relative performance grants by measuring the value of the RPE grant—i.e., the current dollar value managers can maximally receive from their RPE plan. For RPE grants with equity awards, the dollar value equals the maximum number of shares the manager can receive multiplied by the firm's grant date stock price; for RPE grants with cash awards, the dollar value equals the maximum cash the manager can receive. We scale this variable by the manager's previous year's total compensation, so it expresses a percentage of total compensation and is more comparable between firms. We label this variable *RPE Grant Size*. The greater the potential awards, the greater the incentive

[10] In untabulated analyses, we find that earnings-based metrics are the most common type of performance metric in accounting-based RPE plans with more than 70% of plans using an earnings-based metric as defined in Carter et al. (2022). When examining individual metrics, we find that the five most common metrics are: (1) sales (~22%); (2) ROE (~18%); (3) ROIC (~14%); (4) EPS (14%); and (5) ROA (~7%).

strength of RPE plans.

With regard to the usefulness of information to peers, we measure the extent to which multiple firms directly compete with each other by estimating the intensity of RPE-related tournament-style incentives (see, e.g., Aggarwal and Samwick 1999, Feichter et al. 2022). The intuition here is that as firms more directly compete with each other, disclosures become increasingly useful to peer firms.[11] To create this variable, we analyze all firm-peer relationships and record which relationships are one-sided and which are reciprocal. One-sided relationships are those whereby the firm has selected a peer but this peer firm does *not* have that firm as an RPE peer (or does not use RPE at all). In a reciprocal relationship, the peer also has the firm selected as a peer. Thus, if a relationship is reciprocal, there is peer group overlap. We then count the number of overlapping relationships per firm-year and scale that by the peer group size for that firm-year. We label this variable *Peer Overlap*. The higher the fraction of reciprocal peers, the greater the usefulness of information to peers.[12]

3.3. Summary statistics

Our sample contains 11,240 observations for all firm-years in ISS Incentive Lab from 2006 to 2021 with nonmissing values for all required variables. Table 1 presents summary statistics on the use of RPE across time and industries. Our evidence in this table supports the growth in the use of explicit RPE plans over the sample period (De Angelis and Grinstein 2020, Bizjak et al. 2022, Choi et al. 2025). This average trend, however, does not highlight the nuance of each plan type. While accounting-based RPE has remained a consistent form of RPE, growing from 7% to 10% of firms between 2006 and 2021, price-based RPE has grown at a

[11] To the extent peer selection is driven by shared product markets (Jayaraman et al. 2021, Bloomfield et al. 2025), it is possible that this measure may capture both the theoretical constructs of information usefulness to peers and product substitutability. In Section 4.3.1, we conduct additional analyses using an alternative measure—earnings persistence—that more effectively isolates the usefulness of information from product substitutability.

[12] Due to data availability, we can only identify reciprocal relationships if both the firm and the peer are covered by ISS Incentive Lab. To the extent listed peers are not also covered, the percentage of listed peers with reciprocal relationships is likely biased downward.

faster rate—from 9% to 33% of firms over this period. Table 1 also suggests that multi-metric RPE usage—whereby a firm uses accounting-based and price-based plans simultaneously—is quite rare. For instance, we find that 14.70% of the observations in 2006 include some form of explicit RPE, with 6.74% and 9.24% using accounting-based and price-based RPE plans, respectively. Jointly, these statistics thus suggest that only 6.74% + 9.24% – 14.70% ≈ 1.28% of the observations in 2006 use multi-metric RPE plans; in 2021, this statistic is still only about 4.60% of the observations. In untabulated analyses, we find no evidence that multi-metric RPE usage varies with other RPE contract-design details such as the choice between cash- and share-based payout structures.

Table 2 Panels A and B present, respectively, summary statistics for the primary variables in our design for both our full sample and subsamples split by RPE use. 28% of firm-years in our sample use a relative performance plan with self-selected peers. Among these firms, we identify approximately 34% using relative accounting-based performance metrics (i.e., 9.5% of the total sample). These statistics are consistent with previous studies that rely on ISS Incentive Lab (see, e.g., Gong et al. 2019, Bizjak et al. 2022, Bloomfield et al. 2025). With regard to the strength of RPE incentives, we document that relative performance grants provide strong incentives to managers (see, e.g., De Angelis and Grinstein 2020). For example, the mean value of *RPE Grant Size* for firms using RPE is 0.901, indicating that the average RPE plan provides managers with the possibility to earn up to 90% of their previous year's total compensation (i.e., approximately $14.3 million per RPE grant on average). On average, the expected payout at the target level of performance from RPE plans is 37% of managers' previous year's total compensation. (See also Appendix A for details on grant sizes.)

Table 2 further shows that sample firms on average provide three earnings-related forecasts and redact approximately 0.21 times per year. Furthermore, 50.6% of firm-years provide at least one earnings-related forecast and 18.6% of firm-years redact at least once to

conceal proprietary information. The latter statistic is consistent with the literature (see, e.g., Glaeser 2018, Heinle et al. 2023), while the former appropriately captures disclosure behavior in our ISS Incentive Lab sample.[13]

4. Empirical analysis

4.1. Relative performance plans and disclosure

In this section, we examine how RPE plans relate to managers' disclosure decisions. Following Cohn et al. (2022) and leveraging the count-like nature of our data, we estimate the following equation using Poisson regression:

$$[Disclosure_{it}] = \beta \cdot [RPE_{it}] + \mathbf{\Phi} \cdot X_{it} + \varphi + \mathbf{T} \cdot \tau_t + \mathbf{\Omega} \cdot \nu_k + \varepsilon_{it}, \tag{17}$$

where the indices *i*, *k*, and *t* correspond to firm, industry, and time, respectively. In addition, to examine the probability of disclosure, we estimate the following equation using Probit regression:

$$\Pr([Disclosure_{it}] > 0) = \beta \cdot [RPE_{it}] + \mathbf{\Phi} \cdot X_{it} + \varphi + \mathbf{T} \cdot \tau_t + \mathbf{\Omega} \cdot \nu_k + \varepsilon_{it}. \tag{18}$$

In both specifications, [*Disclosure*] is a measure of peer-relevant disclosure, i.e., *Management Earnings Forecasts* or *Redactions*, and [*RPE*] is a measure of RPE incentives, i.e., *RPE-accounting* or *RPE-price*. (See Section 3.1 and 3.2 for details, respectively.) The vector *X* contains a variety of control variables that closely follow Heinle et al. (2023). Specifically, we control for firm size (*Size*), leverage (*Leverage*), growth opportunities (*Market-to-Book*), accounting and stock performance (*Loss*, *ROA*, and *Return*), stock return volatility (*Volatility*), the number of analysts covering the firm (*Analysts*), the number of institutional investors

[13] Two features of our sample of firms covered by ISS Incentive Lab (i.e., mainly S&P 500 and 400 firms) as compared to the Compustat universe are noteworthy. First, as in Albuquerque et al. (2019), our sample of ISS Incentive Lab firms are on average larger and better performing than the Compustat universe. Second—and relatedly—our sample of ISS Incentive Lab firms consists heavily of firms with significant market demand for earnings forecasts, which is consistent with the notion that earnings forecasts are de facto mandatory for these firms. As such, in our sample, the likelihood of issuing at least one earnings-related forecast for a firm-year (i.e., ~50%) is statistically and economically significantly higher than the statistic for the general population of Compustat firms in the same period (i.e., ~35%).

(*Institutions*), whether the firm has a Big Four auditor (*Big4*), and the number of product market competitors and their similarity with the focal firm, based on the Text-based Network Industry Classifications (TNIC) data from Hoberg and Phillips (2010, 2016) (*Product Market Size* and *Rival Similarity*). In addition, we control for the firm's shared market and industry risk (*Market Risk* and *Industry Risk*) (Bloomfield et al. 2025). Appendix C presents detailed definitions of all variables used in the empirical analysis.

To alleviate concerns that our inferences are attributable to omitted time trends (e.g., macroeconomic shocks) or industry characteristics (e.g., business models across sectors), we include year fixed effects τ_t and industry fixed effects v_k, which are based on the 48 groups identified by Fama and French (1997).[14] To correct for any arbitrary correlation in the firm-year-specific error term ε_{it} across time within a given firm, we base inferences on standard errors clustered at the level of treatment (i.e., firm), following Abadie et al. (2023). Finally, to further mitigate potential confounding effects of observable factors between firms using and not using RPE, we use entropy balancing in all specifications (Hainmueller 2017). Specifically, we balance on both the first and second moment of the distributions of all control variables plus year. After balancing, all differences in means between the two groups are statistically insignificant at conventional levels. (See Table 2 Panel B for pre-balance covariate differences between RPE firms and non-RPE firms.)

4.1.1. Accounting-based relative performance plans and disclosure

Prediction 1 states that accounting-based RPE plans relate negatively to managers' disclosure provision. We test this prediction by comparing the relation between accounting-based RPE and disclosure against three different control groups. The first includes firms that

[14] Our inferences are robust to controlling for time-varying industry features captured by industry-year fixed effects. We do not include firm fixed effects. While including firm fixed effects would allow us to estimate a within-firm specification, controlling for time-invariant firm characteristics, there is little within-firm variation in disclosure over our sample period for firms covered by ISS Incentive Lab, which consists heavily of firms with significant market demand for earnings forecasts and for which earnings forecasts are de facto mandatory. (See Section 3 for details.)

do not use accounting-based RPE (i.e., those that use price-based RPE or do not use RPE at all). The second includes only firms that use RPE but do not use accounting-based RPE (i.e., those that use price-based RPE). The third includes only firms that do not use RPE.[15] In all tests, our prediction suggests that β in Equations (17) and (18) should be negative. We tabulate results in Panel A of Tables 3 and 4, with the two tables presenting results for *Management Earnings Forecasts* and *Redactions*, respectively. We also note that our count-based dependent variables, management earnings forecasts and redactions, commonly take the value of zero for a large fraction of our sample (see Table 2 for summary statistics). In Panel B of Tables 3 and 4, we therefore also investigate the relation between our count variables and accounting-based RPE conditional on having at least one forecast or redaction, respectively.

In Table 3 Panel A column (1), we find that the coefficient on *RPE-accounting* is negative and both statistically and economically significant. This finding indicates that, compared to firm-years without accounting-based RPE, those with it are associated with less frequent earnings forecasts. In economic terms, the coefficient estimate suggests that managers evaluated on accounting-based RPE provide approximately 24% fewer forecasts compared to the control managers.[16] This statistic translates to roughly 0.7 fewer earnings forecasts per year compared to the sample mean. Given that the average firm in our sample only provides approximately 3 earnings forecasts per year, this represents a marked difference in the information provided to market participants. Panel A columns (2) and (3) are analogous to column (1), except that the control group includes only firm-years with price-based RPE and without RPE, respectively—our inferences hold. In Panel B, we limit the sample to only those

[15] We use three distinct control groups in our analysis to examine where disclosure incentives and disincentives are most pronounced. Compared to APE-only firms, we expect accounting-based RPE plans to impose a clear incremental disclosure disincentive (i.e., Prediction 1). Additionally, if the information asymmetry incentive prevails in price-based RPE plans (i.e., Prediction 2), these plans may encourage increased disclosure, even when compared to APE-only firms. Consequently, the most significant difference may then not lie between accounting-based RPE firms and non-RPE firms, but rather between accounting-based RPE firms and price-based RPE firms. By leveraging multiple control groups, we are able to test and identify these potentially differential patterns.

[16] Calculated as $(e^{-0.271} - 1) \times 100\% \approx -23.73\%$.

firm-years who have at least one earnings forecast. Our results in columns (1) through (3) are consistent with the pattern in Panel A and continue to suggest a significant negative association between accounting-based RPE plans and the frequency of management earnings forecasts. Finally, Panel A columns (4) through (6) repeat the analysis using probability models. Results of these analyses by and large resemble the frequency tests in Panel A columns (1) through (3), with the exception that the coefficient in column (6) is negative but statistically insignificant. These findings support our theoretical predictions and indicate that the use of accounting-based RPE introduces incremental disclosure costs as compared to APE plans and price-based RPE plans.

Table 4 Panel A presents results from estimating the relation between accounting-based RPE and confidential treatment orders. In column (1), we find that the coefficient on *RPE-accounting* is statistically insignificant when compared to firms that do not use accounting-based RPE, but in column (2) we find that the coefficient on *RPE-accounting* is statistically insignificant when compared to firms that do use price-based RPE. In economic terms, the coefficient estimate in column (2) suggests that managers evaluated on accounting-based RPE have approximately 51% more confidential treatment orders compared to all managers with price-based RPE incentives. We do not find that the coefficient on *RPE-accounting* in column (3) is statistically significant when solely compared against firms that do not use RPE at all, consistent with the mixed finding in column (1). Given that a large fraction of our sample does not use redactions at all, in Panel B we estimate these regressions for the subsample of firm-years that have at least one redaction. The results in columns (1) through (3) all document a significant positive relation between accounting-based RPE and redactions, conditional on redacting at least once. Finally, Panel A columns (4) through (6) present tests of the likelihood of redactions and follow the pattern of results in Panel A columns (1) through (3), with the exception that the coefficient in column (4) is statistically significant. Since redactions through

confidential treatment orders provide another way for managers to withhold peer-relevant information, these findings further corroborate the idea that accounting-based RPE plans introduce an incremental cost of disclosure that relates to peer-relevant information.

4.1.2. Price-based relative performance plans and disclosure

Prediction 2 states that the relation between price-based RPE plans and managers' disclosure decisions is theoretically ambiguous due to the competing nature of disclosure objectives introduced by price: reducing information asymmetry with market participants versus withholding proprietary information from peers. We empirically examine this prediction by comparing the relation between price-based RPE and disclosure against firms that do not use RPE at all (Tables 5 and 6) and conditional on RPE use against firms that use accounting-based RPE (Tables 3 and 4).

Table 5 presents results from estimating the relation between price-based RPE and management earnings forecasts relative to non-RPE firms. We find that the coefficient on *RPE-price* is positive and both statistically and economically significant. In economic terms, the coefficient estimate suggests that managers evaluated on price-based RPE provide about 18% more forecasts compared to non-RPE managers. Importantly, we also continue to find that the coefficient on *RPE-accounting* remains negative and both statistically and economically significant. Note that the coefficient estimates in column (2) of Table 3, discussed above, provide insight into the differential relation as compared to accounting-based RPE. These results suggest that managers evaluated on price-based RPE provide about 41% more earnings forecasts than those using accounting-based RPE.

Table 6 presents results from estimating the relation between price-based RPE and confidential treatment orders relative to non-RPE firms. Here we find no statistical relation with respect to price-based RPE compared to firms that do not use RPE at all. However, the coefficient estimates in column (2) of Table 4 provide insight into the differential relation

compared to accounting-based RPE. These results suggest that managers evaluated on accounting-based RPE have about 51% more confidential treatment orders than those using price-based RPE.

Collectively, our evidence indicates that managers with price-based RPE, compared to both those without RPE plans and those with accounting-based RPE plans, voluntarily disclose additional earnings forecasts, presumably to reduce information asymmetry with market participants.[17] While we also find differences in redaction behavior between price-based and accounting-based RPE firms, we do not find any difference in their redaction behavior compared to firms not using RPE. These findings thus suggest that—on average and in our sample—the incremental incentive in a price-based RPE plan to increase price by reducing information asymmetry with market participants outweighs the incremental disclosure cost of the revelation of proprietary information to peers.

4.2. Relative performance plans and disclosure—cross-sectional variation

4.2.1. Cross-sectional variation in incentive strength and peer relevance

The previous analyses show a relation between accounting-based RPE plans and managers' disclosure decisions. To better isolate our proposed mechanism, we test whether and how the RPE-disclosure associations are moderated by the strength of RPE plans and the usefulness of information to peers. For each of these characteristics, we re-estimate adjusted versions of Equations (17) and (18), within the subsample of firms using RPE to focus on the intensive margins of RPE plans. We tabulate these results in Tables 7 and 8, with the two tables presenting results for incentive strength and peer relevance, respectively.

[17] In order to test whether proprietary costs are also relevant for price-based RPE incentives, we attempt to identify a subsample where proprietary cost considerations outweigh benefits to reducing market asymmetry. Specifically, we repeat the analysis in which we compare accounting-based RPE plans to price-based RPE plans, but split the sample based on the number of rivals in the product market using *Product Market Size*. Untabulated results indicate that with many product market rivals, the difference in management earnings forecasts between price-based RPE and accounting-based RPE firms becomes statistically insignificant, suggesting that managers evaluated on price-based RPE do indeed face a tradeoff between revealing proprietary information to peers and reducing information asymmetry with market participants.

Based on the discussion in Section 2, we predict that the RPE-disclosure association strengthens with stronger RPE-based incentives as well as when managers' disclosures are more useful to peers. To implement a test, we measure the incentive strength of RPE plans using *RPE Grant Size* and the usefulness of information using *Peer Overlap* (see Section 3.2.2 for details). Because these variables are only available for firms using RPE, we restrict the analysis to the subsample of firms using RPE and use decile ranks of each measure to foster the interpretation of the results. As a result, the coefficients on these variables measure the change in disclosure when moving from RPE plans with the weakest incentives or peer-usefulness to RPE plans with the strongest incentives or peer-usefulness (i.e., from the bottom to the top decile of the respective independent variables), ceteris paribus.

Table 7 Panels A and B present, respectively, results from estimating whether the relation between explicit RPE plans and management earnings forecasts and redaction varies with the strength of RPE incentives. Panel A shows that the coefficients on the *RPE Grant Size* variables are negative and statistically and economically significant for accounting-based RPE and positive and statistically and economically significant for price-based RPE. In economic terms, these estimates suggest that managers with the strongest accounting-based RPE incentives provide about 39% fewer forecasts compared to their counterparts with the weakest incentives, ceteris paribus. These statistics translate to roughly 1.17 fewer forecasts about earnings per year compared to the sample mean. Panel B, examining redactions, shows that the coefficients on the *RPE Grant Size* variables are positive and both statistically and economically significant for accounting-based RPE and statistically insignificant for price-based RPE. In economic terms, these coefficient estimates suggest that managers with the strongest accounting-based RPE incentives file about 72% more redactions compared to their counterparts with the weakest ones, ceteris paribus.

Table 8 Panels A and B present, respectively, results from estimating whether the

relation between explicit RPE plans and management earnings forecasts and redaction varies with the usefulness of information to peers. Panel A shows that the coefficients on the *Peer Overlap* variables are negative and statistically and economically significant for accounting-based RPE. In economic terms, these estimates suggest that managers with the most intense peer overlap in their RPE plans—for which private information will be most useful to peers—provide about 35% fewer forecasts compared to their counterparts with the least intense overlapping RPE plans, ceteris paribus. These statistics translate to roughly 1.04 fewer forecasts about earnings per year compared to the sample mean.[18] Panel B shows that the coefficients on the *Peer Overlap* variables are positive and statistically and economically significant for accounting-based RPE and statistically insignificant for price-based RPE. In economic terms, these coefficient estimates suggest that managers with the most intense peer overlap in their accounting-based RPE plans—for which private information will be most useful to peers—file about 118% more redactions compared to their counterparts with the least overlapping accounting-based RPE plans, ceteris paribus. The insignificant findings for the relation between price-based RPE and redactions in both tables are consistent with the earlier insignificant findings shown in Table 4, where we find no on-average difference in redaction behavior between firms with price-based RPE incentives and firms not using RPE at all.

Taken together, these results suggest that characteristics of RPE plans are predictably informative of the RPE-disclosure association. In particular, our evidence suggests that managers whose accounting-based plans provide stronger incentives and those whose forecasts provide meaningful information spillovers to peers are more strongly negatively (positively)

[18] The outcome to this tradeoff between information asymmetry and incremental disclosure cost can also differ with differences in the payout structure of the RPE plan, whether it be in equity or cash. In cases with equity-based payouts, as opposed to cash, we would expect a similar tradeoff to that of price-based RPE since payouts are linked to stock prices even if performance is measured using an accounting-based metric (Timmermans 2024). In untabulated tests, we find that the difference in management earnings forecasts between accounting and price-based RPE firms is attenuated when accounting-based RPE plans are settled with equity as compared to accounting-based RPE plans settled with cash.

associated with the frequency of managers' earnings forecasts (redactions), thereby lending support to firms' RPE plans as the mechanism at play. That is, if the characteristics of RPE plans were not at least partially driving our results, we would not expect to see variation in the associations along characteristics of these plans *within* the subsample of RPE-using firms.

4.2.2. Cross-sectional variation in APE incentive strength and product substitutability

Based on the discussion in Section 2.2.3, we predict that the incremental disclosure disincentive introduced by RPE plans—compared to APE plans—depends on the intensity of the APE incentives in combination with the degree of product substitutability. APE plans can create dominant disclosure disincentives if three conditions are met: (1) the degree of product substitutability must be sufficiently high (i.e., $\psi \gg 0$); (2) the incentive intensity of own performance must be sufficiently reduced in the RPE condition (i.e., $\beta_1 \gg \beta_1^*$); and (3) the RPE plan must place minimal weight on peer firm performance ($\beta_2 \rightarrow 0$). Consequently, we expect the incremental disclosure incentives of RPE plans to be strongest when these conditions do not hold—specifically, when product substitutability is low ($\psi \rightarrow 0$) and β_1 is not much larger than β_1^*.

Given that we cannot observe the change in β_1 that potentially occurs in moving from an APE-only plan to one including RPE, we operationalize this difference using variation in APE incentive intensities across firms. In particular, we posit that β_1 (i.e., APE incentives for APE-using firms) is likely to be sufficiently larger than β_1^* (i.e., APE incentives for RPE-using firms) when either β_1 is relatively high or when β_1^* is relatively low. With this intuition in mind, we identify two cross-sectional conditions to capture when RPE plans are most and least likely to generate incremental disclosure costs compared to APE plans: (1) it will be most likely when product substitutability is low, when β_1 is low, *and* when β_1^* is high; and (2) it will be least likely when product substitutability is high, when β_1 is high, *and* when β_1^* is low.

We test these conditions by performing sample splits based on Equations (17) and (18).

In these analyses, we measure the intensity of the APE incentives using a measure analogous to the intensity of RPE incentives variable, i.e., the size of all APE grants offered to managers, where larger values indicate greater intensity of APE incentives (i.e., *APE Incentive Strength*). We measure the degree of product substitutability as the product similarity to the firm's product market rivals, as defined by Hoberg and Phillips (2010, 2016) (i.e., *Rival Similarity*), where larger values indicate higher substitutability. We tabulate these results in Tables 9 and 10, with the two tables presenting results for *Management Earnings Forecasts* and *Redactions*, respectively.[19]

Table 9 presents results from estimating whether the relation between explicit RPE plans and management earnings forecasts varies with APE incentive strength and product substitutability, with columns (1)–(2) and (3)–(4) presenting, respectively, results for the levels and probabilities of *Management Earnings Forecasts*. Specifically, columns (1) and (3) estimate the regression for the subsample with strong APE for APE firms (β_1), weak APE for RPE firms (β_1^*), and high substitutability (ψ), and columns (2) and (4) estimate the regression for the subsample with weak APE for APE firms (β_1), strong APE for RPE firms (β_1^*), and low substitutability (ψ). Across all specifications, we find that the coefficients on *RPE-accounting* (as well as *RPE-price*) are most pronounced in columns (2) and (4)—and statistically different from those in columns (1) and (3). These findings support the prediction that under certain conditions the disclosure incentive gap between RPE and APE plans can be closed, particularly when APE plans begin to mirror the incentives of RPE plans through a combination of strong incentives and high product substitutability.

Table 10 presents results from estimating whether the relation between explicit RPE

[19] In these analyses, we split β_1 and β_1^* (i.e., *APE Incentive Strength* for APE and RPE firms, respectively) based on the median of the respective groups and ψ (i.e., product substitutability) based on the top and bottom terciles to clearly distinguish between product markets characterized by low and high (versus neutral) substitutability.

plans and confidential treatment orders varies with APE incentive strength and product market competition, with columns (1)–(2) and (3)–(4) presenting, respectively, results for the levels and probabilities of *Redactions*. In this table, we do not find that the relation between explicit RPE plans and confidential treatment orders varies with APE incentive strength and product substitutability.

Taken together, these results suggest that characteristics of absolute performance plans and the competitive environment moderate the RPE-disclosure association. In particular, our evidence suggests that the association between accounting-based RPE plans and disclosure is most pronounced when compared against APE plans in settings where product substitutability and APE incentives for APE firms are weaker—such that the creation of an explicit peer group against which to compete in an RPE plan is most meaningful. Conversely, our findings suggest that high levels of product substitutability can create settings in which strong APE plans begin to mimic the incentives generated by RPE plans. However, our tests do not reveal conditions under which APE plans provide greater disclosure disincentives than their RPE counterparts.

4.3. Relative performance plans and disclosure—robustness tests

4.3.1. Non-earnings management forecasts

In our main analysis, we examine management earnings forecasts (see, e.g., Guay et al. 2016, Heinle et al. 2023). However, our theoretical intuition would predict that any disclosure containing information useful to peers should be incrementally costly in the presence of an RPE plan. In this section, we examine whether our findings generalize to non-earnings forecasts and focus on managers' forecasts about their firms' sales and capital expenditures. To do so, we repeat the analysis in Table 3 Panel A but replace the dependent variable with *Management Sales Forecasts* and *Management CAPEX Forecasts*. Results in Table 11 show that our findings generalize to these non-earnings forecast dimensions. This finding lends additional support to our underlying intuition, reinforcing the notion of incremental disclosure

costs generated by RPE plans broadly impacting disclosure.

4.3.2. Alternative proxy for the usefulness of information to peers

In our cross-sectional analysis, we use the intensity of RPE-related tournament-style incentives—the extent to which multiple firms directly compete with each other—to proxy for the usefulness of information to peers (see, e.g., Aggarwal and Samwick 1999, Feichter et al. 2022). It is possible, however, that this operationalization of peer usefulness confounds the theoretical constructs of peer usefulness (i.e., λ) and product substitutability (i.e., ψ). To better isolate the usefulness parameter, in this section we examine cross-sectional differences in the level of earnings persistence as an alternative proxy for the usefulness of information to peers. These tests are based on the idea that additional disclosure is less useful to peers when earnings are more persistent, as future earnings can be more easily predicted from current earnings. *Earnings Persistence* is measured as the slope coefficient of a firm's current quarter earnings per share on its previous quarter earnings per share, estimated on a rolling 40-quarter basis.

To test this alternative measure, we repeat the analysis in Table 3, but split the sample based on the median of *Earnings Persistence*. Consistent with our intuition, we find evidence of larger incremental disclosure costs in the low earnings persistence group, in which earnings forecasts are particularly useful for peers as it is more difficult to predict future earnings from current earnings. This test provides additional evidence on the incremental disclosure cost mechanism and further supports our cross-sectional findings in Tables 7 and 8 with respect to the usefulness of information to peers (see Section 4.2.1 for details).

5. Conclusion

We examine the relation between explicit RPE plans and managers' disclosure decisions. We predict that accounting-based RPE plans introduce an incremental cost of disclosure relating to peer-relevant information and find evidence supporting this prediction.

Specifically, we find a negative relation between accounting-based RPE and the provision of voluntary, value-relevant management forecasts and a positive relation with respect to redactions in mandatory filings. Further supporting our proposed mechanism, we show that these disclosure patterns move predictably with multiple characteristics of these RPE plans, namely incentive strength and the usefulness of information to peers.

We do not find the same results for price-based RPE plans, which is consistent with our prediction that the relation between price-based RPE and disclosure is theoretically ambiguous due to the competing nature of disclosure objectives introduced by price-based RPE. While price-based RPE metrics provide incentives to withhold proprietary information from peers, these plans also provide incentives to increase disclosure to reduce information asymmetry with market participants—thereby positively impacting the firm's relative stock returns. Our findings suggest that the incentives to reduce information asymmetry with market participants dominate the incentives to withholding proprietary information from peers—leading to an observed positive relation between price-based RPE use and voluntary earnings forecasts.

Our combined evidence thus indicates that characteristics of RPE plans are associated with different disclosure choices. This insight matters for several reasons. First, it highlights the ways in which managers' performance-based incentives shape their preferences for disclosure. Second, and relatedly, it suggests that accounting-based RPE plans are associated with less frequent disclosure of peer-relevant information, whereas price-based RPE plans are associated with more frequent disclosures. Thus, our study speaks to the idea of disclosure-specific costs—and hence the benefits of modeling and studying the full system of disclosure channels and methods simultaneously (i.e., disclosure substitution) (see, e.g., Noh et al. 2019, Barth et al. 2023, Heinle et al. 2023).

With regard to the predictions and findings in our study, we must note that our focus is primarily on disclosure-related forces that are fundamental to a single manager's decision to

disclose or withhold different types of information (i.e., characteristics of managers' own incentive-compensation contracts). From the perspective of a manager, who arguably makes decisions to maximize expected incentive-compensation and utility, his or her own incentives are of the first order. Nevertheless, we acknowledge that there could be higher-level equilibrium interactions that our hypothesis development does not consider. We outline several of these forces that are beyond the scope of our current study but might be useful for assisting future analytical work and empirical investigations.

For example, our hypothesis development focuses exclusively on how RPE affects disclosure incentives—without considering the broader optimization process, where the optimal disclosure choice could also influence optimal incentive-compensation decisions. As such, future analytical research could aim to develop a more comprehensive model that incorporates this optimization process in the context of RPE plans, similar to Bagnoli and Watts (2015) in the context of revenue-based plans. Furthermore, another avenue for future research could include considering peers' actions by asking questions such as how peers react to the use of RPE, how they react to different types of disclosures, and how peer reactions affect the firm's optimal strategies. It could be the case that proprietary costs to one manager may increase—or perhaps not arise at all—because of characteristics of the incentive plans managers at other firms. Our analysis can also be extended by considering that peer firms' (non)disclosure choices directly influence focal managers' choice to disclose due to, for instance, capital market effects. Relatedly, one could extend the analysis by considering the role of a firm's stock price in influencing its own accounting performance. For example, improved stock price performance through the mitigation of information asymmetry could allow the focal firm to exploit more investment opportunities and improve their own accounting performance. This characterization would provide managers evaluated using accounting-based RPE plans with an incentive to disclose to attract capital if, for instance, private sources of

capital are not available—such that accounting-based RPE plans could also introduce a tradeoff between the costs of proprietary disclosure with the benefits of reduced information asymmetry. Finally, we believe there are opportunities for future research to further link explicit (e.g., RPE plans) and implicit (e.g., product market competition) interactions among firms. We hope that future research will build upon our study to deepen the understanding of firms' disclosure choices, particularly in relation to the coexistence and specifics of explicit relative performance plans.

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Appendix A—Examples of two relative performance plans

The following text contains excerpts from the DEF 14A filings of JPMorgan Chase & Co. (2021, p. 47) and United Parcel Service Inc. (2019, pp. 36-38), where both firms describe their RPE plans. Panel A presents JPMorgan Chase & Co.'s plan, which is an *accounting*-based relative performance plan. Panel B presents United Parcel Service Inc.'s plan, which is a *price*-based relative performance plan.

Panel A. Accounting-based plan of JPMorgan Chase & Co. (2021)

Performance share unit program

Process to determine payout

As part of the design of the PSU program, the ultimate number of PSUs paid out at vesting is determined by a pre-established formula determined at the time of the award based on the Firm's absolute and relative ROTCE performance over the subsequent three years, with the value of the payout ranging from 0% to 150%, subject to risk and control features. Similar to RSUs, the value upon vesting of PSUs is also directly tied to the Firm's performance through its stock price. The CMDC believes that the PSU design continues to appropriately incentivize strong performance by our OC members, does not encourage excessive risk-taking and is aligned with long-term shareholder interests. Since PSUs were first introduced in 2015, we have received positive shareholder support for this aspect of our executive compensation program.

In determining companies to include in the relative ROTCE scale, the CMDC selected competitors with business activities that overlap with at least 30% of the Firm's revenue mix. These are unchanged from prior years and include Bank of America, Barclays, Capital One Financial, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, Morgan Stanley, UBS and Wells Fargo.

At the maximum level of performance, the value of PSUs awarded in 2019 would be: $36,750,000 for Mr. Dimon.

Panel B. Price-based plan of United Parcel Service Inc. (2019)

Relative Total Shareowner Return

Relative TSR is measured by covering our TSR to the TSR a peer group of companies during a three-year performance period. The Compensation Committee evaluates the peer group annually to determine if the companies included in the group are the most appropriate comparators for measuring the success of our executives in delivering shareowner value.[20]

Three-Year TSR Compared to Peer Group	Percentage of Target Earned for TSR Portion of LTIP Award)
Greater than 75th Percentile	200%
Median	100%
25th Percentile	50%
Less than 25th Percentile	0%

[20] The peer group considered by the Compensation Committee for 2018 compensation purposes (the "2018 Peer Group") is unchanged from the peer group used for 2017 compensation, and consisted of the companies below:

The Boeing Company
Caterpillar Inc.
The Coca-Cola Company
Costco Wholesale Corporation
FedEx Corporation
The Home Depot, Inc.
Johnson & Johnson
The Kroger Co.
Lockheed Martin Corporation
The Procter & Gamble Company
Sysco Corporation
Target Corp.
Lowe's Companies, Inc.
McDonald's Corp.
PepsiCo, Inc.
United Technologies Corporation
Walgreen Boots Alliance, Inc.

The maximum payout for the TSR portion of the award is capped at 200% of target. If our TSR over the three-year measurement period is negative, even if it exceeds the median of the peer group, the maximum payout percentage for the TSR portion of LTIP awards is capped at 100% of target.

2018 LTIP Awards

The performance measures selected by the Compensation Committee for the 2018 LTIP awards are:

- Growth in Adjusted Consolidated Revenue;
- Adjusted Operating Return on Invested Capital ("ROIC"); and
- Relative Total Shareowner Return ("TSR").

Each goal is measured independently and applied equally in determining final payouts. The Compensation Committee approved the following target values as a percent of base salary for the 2018 LTIP awards:

Executive Officers	LTIP Target (% Base Salary)	Base Salary
Chief Executive Officer	700	1,234,992
Chief Operating Officer	575	693,676
Chief Financial Officer	450	552,654
Chief Strategy Officer	450	613,500
Other executive officers	350	

Target values are based on internal pay comparison considerations and market data regarding total compensation of comparable positions at similarly sized companies. Differences in the target award values are based on increasing levels of responsibility among the executive officers.

Appendix B—Adding shares of the firm's stock to the manager's incentive contract

Existing evidence indicates that managers of large U.S. firms are often required to hold shares of their firms' stock for incentive alignment purposes (Core and Guay 1999, Conyon et al. 2011). Consequently, managers may also care about increasing their firms' stock price irrespective of the existence of an RPE plan or its performance metric. In this respect, managers are motivated to use disclosure to improve their firms' liquidity by reducing information asymmetry with market participants (Dye 1985, Diamond and Verrecchia 1991, Welker 1995). This disclosure motive provides a competing disclosure objective such that managers make decisions about disclosure weighing the tradeoff between maximizing the value of their stock holdings and maximizing their contractual incentive-compensation payouts (based on accounting performance in our setting) by withholding proprietary information.

In terms of contract design, the addition of shares implies that the value of managers' annual compensation plus firm-related wealth can be expressed as follows:

$$\text{APE:} \quad W_i = \alpha_i + \beta_1 \cdot \pi_i + n \cdot P_i + \varepsilon_i; \tag{B1}$$

$$\text{RPE:} \quad W_i = \alpha_i + \beta_1 \cdot \pi_i - \beta_2 \cdot \pi_j + n \cdot P_i + \varepsilon_i, \tag{B2}$$

where n is the number of shares the manager holds, each valued at the firm's price, $P_i > 0$. As before, firm i's price is given by:

$$\mathrm{E}[P_i] = \mathrm{E}[\pi_i] + \tau_{ii} \cdot \mathbb{1}(D_i) + \tau_{ji} \cdot \mathbb{1}(D_j). \tag{B3}$$

With rational expectations, the value of manager i's expected compensation plus firm-related wealth under both plan types equals:

$$\begin{aligned}\text{APE: } \mathrm{E}[W_i] = {} & \alpha_i + \beta_1 \cdot [\delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i)] \\ & + n \cdot [\delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i) + \tau_{ii} \cdot \mathbb{1}(D_i) + \tau_{ji} \cdot \mathbb{1}(D_j)]; \end{aligned} \tag{B4}$$

$$\begin{aligned}\text{RPE: } \mathrm{E}[W_i] = {} & \alpha_i + \beta_1 \cdot [\delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i)] \\ & - \beta_2 \cdot [\delta_j \cdot O_j + \lambda_{ij} \cdot \mathbb{1}(D_i) - \psi \cdot \lambda_{ji} \cdot \mathbb{1}(D_j)] \\ & + n \cdot [\delta_i \cdot O_i + \lambda_{ji} \cdot \mathbb{1}(D_j) - \psi \cdot \lambda_{ij} \cdot \mathbb{1}(D_i) + \tau_{ii} \cdot \mathbb{1}(D_i) + \tau_{ji} \cdot \mathbb{1}(D_j)]. \end{aligned} \tag{B5}$$

Manager i chooses disclosure to maximize the payoff from these contracts plus firm-related wealth. The impact of the manager's disclosure choice, $\mathbb{1}(D_i)$, on expected compensation plus

firm-related wealth is:

$$\text{APE: } -\beta_1\psi\lambda_{ij} - n\psi\lambda_{ij} + n\tau_{ii}; \tag{B6}$$

$$\text{RPE: } -\beta_1\psi\lambda_{ij} - \beta_2\lambda_{ij} - n\psi\lambda_{ij} + n\tau_{ii}. \tag{B7}$$

Equations (B6) and (B7) indicate that as long as n (i.e., the number of shares the manager holds) and τ_{ii} (the pricing impact of own disclosure) are, on average, similar for both plan types, then adding shares to the manager's incentive-compensation contract does not alter Prediction 1. This aligns with the intuition in Sections 2.2.1 and 2.2.2. Relaxing the assumption that the remaining terms remain unchanged with the introduction of the RPE plan (as in Section 2.2.3) may, however, lead to different predictions.

To assess whether differences in stock-based compensation across contract types are empirically descriptive, we conduct untabulated analyses to compare the proportion of stock- and options-based compensation as a percentage of total compensation between firms using RPE and those only using APE. We find that firms with RPE allocate approximately 76.9% of total compensation to stock and options, compared to 70.5% for firms using only APE. Given these differences and the documented role of information asymmetry in our price-based RPE tests, we also examine whether our results vary based on the level of non-RPE stock- and options-based compensation. We find that the negative relation between accounting-based RPE plans and management forecasts weakens as non-RPE stock- and options-based compensation increases. This result aligns with our main findings for price-based RPE, reinforcing the broader inference that managers weigh the costs of proprietary disclosure against the benefits of reducing information asymmetry.

Appendix C—Variable definitions

See Table C1.

Table C1. Variable definitions

Panel A. Disclosure outcomes

Variable	Description	Data source(s)
Management Earnings Forecasts	The number of forecasts about earnings issued by the firm during the fiscal year.	I/B/E/S.
Management Sales Forecasts	The number of forecasts about sales issued by the firm during the fiscal year.	I/B/E/S.
Management CAPEX Forecasts	The number of forecasts about capital expenditures issued by the firm during the fiscal year.	I/B/E/S.
Redactions	The number of redactions in firms' 10-K and 10-Q filings.	SeekINF.

Panel B. Contract-design characteristics

Variable	Description	Data source(s)
RPE	An indicator variable equal to one if the firm's proxy statement explicitly states that executive compensation is determined based on the firm's performance relative to the performance of other firms, zero otherwise.	ISS Incentive Lab.
RPE-accounting	RPE restricted to firms with accounting-based metrics.	ISS Incentive Lab.
RPE-price	RPE restricted to firms with price-based metrics.	ISS Incentive Lab.
RPE Grant Size	The maximum value the manager can receive from the RPE plan, scaled by the manager's previous year's total compensation.	ISS Incentive Lab, CRSP and ExecuComp.
Peer Overlap	The number of overlapping peer relationships, scaled by the size of peer group.	ISS Incentive Lab.
APE Incentive Strength	The maximum value the manager can receive from the APE plan, scaled by the manager's previous year's total compensation.	ISS Incentive Lab, CRSP and ExecuComp.

Panel C. Firm fundamentals

Variable	Description	Data source(s)
Size	The natural logarithm of one plus market value of equity.	Compustat.
Leverage	Long term debt plus short-term debt scaled by total assets.	Compustat.
Market-to-Book	The market value of equity plus book value of liabilities scaled by total assets.	Compustat.
Loss	An indicator variable equal to one if income before extraordinary items is negative, and zero otherwise.	Compustat.
Return	The buy and hold return over the fiscal year.	Compustat.

Table C1. Variable definitions (continued)

Panel C. Firm fundamentals (continued)

Variable	Description	Data source(s)
Volatility	The standard deviation of *Return*, computed over the past 5 fiscal years.	Compustat.
ROA	Income before extraordinary items scaled by total assets.	Compustat.
Analysts	The natural logarithm of one plus the number of analysts that issue one-year ahead earnings forecasts during the fiscal year.	I/B/E/S.
Institutions	The natural logarithm of one plus the number of institutional investors during the fiscal year.	Thomson Reuters.
Big4	An indicator variable equal to one if the firm has a Big Four auditor, zero otherwise.	Compustat.
Product Market Size	The natural logarithm of one plus the number of product market peers as defined by the TNIC data from Hoberg and Phillips (2010, 2016).	Hoberg-Phillips Data Library. See https://hobergphillips.tuck.dartmouth.edu/ for data and details.
Rival Similarity	The firm's mean similarity to its product market peers as defined by the TNIC data from Hoberg and Phillips (2010, 2016).	
Market Risk and *Industry Risk*	Firm-level risk factors. We estimate on a rolling 36-month basis: (1) a firm-specific regression of firm returns on market returns: $Return_{it} = \alpha_{it} + \beta_{1it} Return_{mt}^{MKT} + \varepsilon_{it}$; and (2) a firm-specific regression of firm returns on market returns and industry returns (defined at the two-digit SIC industry level): $Return_{it} = \alpha_{it} + \beta_{1it} Return_{mt}^{MKT} + \beta_{2it} Return_{jt}^{SIC2} + \varepsilon_{it}$. We define each firm-year's risk factors by the proportion of firm risk that is explained by each respective factor. Formally, the firm's market risk is defined as the proportion of firm risk that is explained by market risk—i.e., $R_{(1)}^2$. The firm's industry risk is defined as the proportion of firm risk that is explained by industry risk and unexplained by market risk—i.e., $R_{(2)}^2 - R_{(1)}^2$.	CRSP.
Earnings Persistence	The slope coefficient of a firm's current quarter earnings per share on its previous quarter earnings per share, estimated on a rolling 40-quarter basis.	Compustat.

This table presents definitions of all variables used in the empirical analyses. Panel A presents definitions of variables measuring disclosure outcomes. Panel B presents definitions of variables measuring contact-design characteristics. Panel C presents definitions of variables measuring firm-specific characteristics.

Table 1. Relative performance plans by year and industry

Panel A. Year distribution

	RPE	*RPE-accounting*	*RPE-price*
2006	14.70%	6.74%	9.24%
2007	16.80%	8.10%	10.90%
2008	17.10%	7.99%	11.00%
2009	18.20%	7.64%	12.60%
2010	21.90%	8.76%	15.60%
2011	24.40%	9.69%	17.60%
2012	29.90%	10.90%	22.40%
2013	30.70%	10.40%	24.30%
2014	33.70%	11.70%	27.00%
2015	34.60%	11.00%	28.30%
2016	34.40%	11.10%	27.80%
2017	34.50%	11.20%	28.20%
2018	34.80%	8.17%	29.60%
2019	34.80%	9.20%	29.60%
2020	36.10%	9.79%	30.20%
2021	38.30%	10.20%	32.70%

Panel B. Industry distribution

	RPE	*RPE-accounting*	*RPE-price*
Consumer non-durables	27.30%	3.62%	23.70%
Consumer durables	38.80%	8.12%	33.10%
Manufacturing	33.20%	11.70%	24.30%
Oil, gas, and coal extraction	67.00%	13.70%	62.90%
Chemicals and allied products	30.30%	9.46%	24.30%
Business equipment	13.00%	5.35%	9.24%
Telephone and television transmission	22.30%	0.93%	21.40%
Utilities	72.00%	9.66%	69.20%
Wholesale and retail	11.80%	5.86%	7.59%
Healthcare and medical equipment	16.80%	2.54%	14.80%
Finance	31.70%	19.10%	19.60%
Other	21.20%	7.02%	15.20%

This table presents summary statistics about relative performance plans. Panel A presents the percentage of firm-year observations using explicit relative performance plans across time. Our sample begins in 2006 when mandatory disclosure requirements facilitate identification of RPE plans use. Panel B presents the percentage of firm-year observations using relative performance plans across industries pooled across time. The industry classification follows the 12 industry groups identified by Fama and French (1997). Appendix C defines all variables.

Table 2. Summary statistics

Panel A. Full sample

Disclosure outcomes	Mean	Std. Dev.	10th	25th	50th	75th	90th
Management Earnings Forecasts	2.995	3.980	0.000	0.000	1.000	5.000	8.000
Pr(*Management Earnings Forecasts* > 0)	0.506						
Management Sales Forecasts	1.667	2.681	0.000	0.000	0.000	4.000	5.000
Pr(*Management Sales Forecasts* > 0)	0.391						
Management CAPEX Forecasts	1.868	2.548	0.000	0.000	1.000	4.000	5.000
Pr(*Management CAPEX Forecasts* > 0)	0.501						
Redactions	0.201	0.461	0.000	0.000	0.000	0.000	1.000
Pr(*Redactions* > 0)	0.186						

Contract-design characteristics	Mean	Std. Dev.	10th	25th	50th	75th	90th
RPE	0.276	0.447					
RPE-accounting	0.095	0.293					
RPE-price	0.214	0.410					
RPE Grant Size	0.248	0.987	0.000	0.000	0.000	0.000	0.718
Peer Overlap	0.046	0.124	0.000	0.000	0.000	0.000	0.190
APE Incentive Strength	0.845	2.647	0.000	0.000	0.358	0.749	1.312

Firm fundamentals	Mean	Std. Dev.	10th	25th	50th	75th	90th
Size	8.586	1.289	7.007	7.752	8.528	9.508	10.467
Leverage	0.291	0.264	0.009	0.106	0.250	0.403	0.565
Market-to-Book	2.143	1.533	1.013	1.192	1.623	2.465	3.869
Loss	0.156	0.363	0.000	0.000	0.000	0.000	1.000
Return	0.150	0.416	–0.310	–0.088	0.116	0.329	0.593
Volatility	0.385	0.302	0.134	0.198	0.299	0.463	0.711
ROA	0.049	0.097	–0.029	0.015	0.050	0.095	0.149
Analysts	2.619	0.617	1.792	2.303	2.708	3.091	3.332
Institutions	6.070	0.658	5.293	5.638	6.026	6.479	6.953
Big4	0.960	0.196	1.000	1.000	1.000	1.000	1.000
Product Market Size	3.591	1.521	1.386	2.485	3.555	4.762	5.720
Rival Similarity	2.683	2.479	0.620	1.205	1.980	3.080	6.121
Market Risk	0.291	0.184	0.051	0.140	0.276	0.424	0.549
Industry Risk	0.143	0.150	0.004	0.026	0.093	0.213	0.366
Earnings Persistence	0.356	0.319	–0.027	0.115	0.340	0.598	0.797

Table 2. Summary statistics (continued)

Panel B. Subsamples

Disclosure outcomes	*Non-RPE*		*RPE*		*RPE-accounting*		*RPE-price*	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Management Earnings Forecasts	2.954	3.969	3.102	4.010	1.976	3.199	3.437	4.156
Pr(*Management Earnings Forecasts* > 0)	0.496	0.500	0.533	0.499	0.387	0.487	0.577	0.494
Management Sales Forecasts	1.826	2.754	1.249	2.433	0.727	1.757	1.373	2.558
Pr(*Management Sales Forecasts* > 0)	0.426	0.494	0.299	0.458	0.216	0.412	0.316	0.465
Management CAPEX Forecasts	1.716	2.370	2.268	2.929	1.594	2.664	2.514	3.060
Pr(*Management CAPEX Forecasts* > 0)	0.485	0.500	0.543	0.498	0.398	0.490	0.588	0.492
Redactions	0.218	0.468	0.158	0.441	0.188	0.483	0.147	0.412
Pr(*Redactions* > 0)	0.203	0.402	0.140	0.347	0.165	0.372	0.134	0.340

Contract-design characteristics	*Non-RPE*		*RPE*		*RPE-accounting*		*RPE-price*	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
RPE Grant Size			0.901	1.716	0.934	1.900	0.924	1.726
Peer Overlap			0.167	0.188	0.167	0.195	0.172	0.186
APE Incentive Strength	0.788	2.530	0.993	2.927	1.097	3.376	1.020	3.014

Firm fundamentals	*Non-RPE*		*RPE*		*RPE-accounting*		*RPE-price*	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Size	8.438	1.305	8.977	1.156	9.137	1.140	8.953	1.169
Leverage	0.279	0.268	0.321	0.249	0.288	0.289	0.334	0.230
Market-to-Book	2.320	1.671	1.677	0.939	1.679	0.971	1.673	0.956
Loss	0.166	0.372	0.130	0.337	0.090	0.287	0.145	0.352
Return	0.162	0.442	0.120	0.339	0.123	0.303	0.120	0.345
Volatility	0.409	0.321	0.321	0.233	0.301	0.217	0.325	0.233
ROA	0.050	0.104	0.047	0.074	0.055	0.073	0.043	0.074
Analysts	2.559	0.636	2.775	0.532	2.844	0.537	2.757	0.532
Institutions	5.982	0.647	6.303	0.628	6.349	0.662	6.309	0.623
Big4	0.952	0.213	0.980	0.140	0.989	0.106	0.977	0.151
Product Market Size	3.503	1.522	3.822	1.494	4.087	1.556	3.758	1.462
Rival Similarity	2.552	2.405	3.026	2.634	3.697	3.237	2.788	2.329
Market Risk	0.283	0.181	0.310	0.190	0.337	0.190	0.299	0.188
Industry Risk	0.123	0.136	0.194	0.172	0.190	0.168	0.201	0.175
Earnings Persistence	0.375	0.317	0.317	0.321	0.410	0.311	0.280	0.316

This table presents summary statistics on the variables used in the main empirical analyses. Panel A presents summary statistics for the full sample of firm-year observations. Panel B presents summary statistics split by RPE plan type. The sample contains 11,240 observations for all firms in ISS Incentive Lab from 2006 to 2021 with non-missing values for all required variables. Appendix C defines all variables.

Table 3. Accounting-based RPE and management earnings forecasts

Panel A. Main analysis

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable:			Dependent variable:		
Variable	*Management Earnings Forecasts*			Pr(*Management Earnings Forecasts* > 0)		
RPE-accounting	–0.271***	–0.346***	–0.275**	–0.201**	–0.418***	–0.184
	(0.094)	(0.098)	(0.120)	(0.098)	(0.118)	(0.121)
Size	–0.020	–0.065	0.027	–0.056	–0.144	0.003
	(0.064)	(0.084)	(0.073)	(0.078)	(0.136)	(0.083)
Leverage	0.389**	0.619***	0.321*	0.110	0.565***	0.010
	(0.158)	(0.225)	(0.182)	(0.160)	(0.200)	(0.180)
Market-to-Book	–0.042	0.007	–0.072**	–0.055	0.076	–0.101**
	(0.029)	(0.037)	(0.035)	(0.036)	(0.070)	(0.039)
Loss	–0.363***	–0.241**	–0.383***	–0.504***	–0.574***	–0.461***
	(0.090)	(0.108)	(0.108)	(0.091)	(0.143)	(0.107)
Return	0.175***	0.153**	0.168***	0.156**	0.082	0.181**
	(0.051)	(0.066)	(0.063)	(0.065)	(0.104)	(0.077)
Volatility	–0.009	0.279*	–0.044	–0.188	0.004	–0.181
	(0.109)	(0.148)	(0.126)	(0.119)	(0.225)	(0.131)
ROA	–0.861**	–0.954*	–0.858*	–1.554***	–1.694**	–1.562***
	(0.417)	(0.558)	(0.479)	(0.487)	(0.733)	(0.558)
Analysts	0.267***	0.007	0.359***	0.188**	–0.182	0.294***
	(0.085)	(0.123)	(0.095)	(0.090)	(0.157)	(0.097)
Institutions	0.111	0.305*	0.023	0.328**	0.551**	0.233
	(0.127)	(0.164)	(0.145)	(0.164)	(0.273)	(0.174)
Big4	–0.179	–0.292	–0.166	–0.150	–0.410	–0.047
	(0.293)	(0.315)	(0.356)	(0.254)	(0.391)	(0.237)
Product Market Size	–0.047	–0.023	–0.059	–0.057	–0.022	–0.067
	(0.039)	(0.048)	(0.045)	(0.044)	(0.067)	(0.049)
Rival Similarity	–0.080***	–0.037	–0.087***	–0.072***	–0.042	–0.075***
	(0.022)	(0.031)	(0.026)	(0.023)	(0.033)	(0.026)
Market Risk	–0.175	0.303	–0.320	–0.265	–0.064	–0.285
	(0.182)	(0.249)	(0.213)	(0.211)	(0.326)	(0.236)
Industry Risk	–0.352*	–0.294	–0.309	–0.330	–0.340	–0.301
	(0.208)	(0.233)	(0.263)	(0.260)	(0.332)	(0.306)
Estimator	Poisson	Poisson	Poisson	probit	probit	probit
Control group	price-RPE and non-RPE	price-RPE	non-RPE	price-RPE and non-RPE	price-RPE	non-RPE
Fixed effects	industry, year	industry, year	industry, year	industry, year	industry, year	industry, year
Observations	11,240	3,058	8,837	11,240	3,058	8,837
Adjusted pseudo R^2	20.008%	27.915%	19.024%	22.916%	29.388%	21.386%

Table 3. Accounting-based RPE and management earnings forecasts (continued)

Panel B. Conditional on at least one earnings forecast

	(1)	(2)	(3)
	Dependent variable:		
Variable	*Management Earnings Forecasts*		
RPE-accounting	–0.128**	–0.124**	–0.114*
	(0.051)	(0.059)	(0.059)
Estimator	Poisson	Poisson	Poisson
Control group	price-RPE and non-RPE	price-RPE	non-RPE
Controls included	yes	yes	yes
Fixed effects	industry, year	industry, year	industry, year
Observations	5,694	1,645	4,304
Adjusted pseudo R^2	4.741%	7.873%	4.615%

This table presents results from estimating the relation between accounting-based RPE and management earnings forecasts. Columns (1) through (3) in Panel A present results from estimating the frequency of management earnings forecasts using Poisson regression to conform to Cohn et al. (2022). Columns (4) through (6) in Panel A present results from estimating the probability of management earnings forecasts using probit regression. Panel B repeats the analyses in columns (1) through (3) from Panel A, except that it presents results from estimating the relation between accounting-based RPE and management earnings forecasts using the subset of observations for which the dependent variable is greater than zero. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Appendix C defines all variables.

Table 4. Accounting-based RPE and confidential treatment orders

Panel A. Main analysis

	(1)	(2)	(3)	(4)	(5)	(6)
Variable	Dependent variable: *Redactions*			Dependent variable: Pr(*Redactions* > 0)		
RPE-accounting	0.249	0.414***	0.217	0.179*	0.282**	0.091
	(0.152)	(0.159)	(0.174)	(0.106)	(0.126)	(0.121)
Size	–0.041	0.203	–0.140	–0.001	0.141	–0.074
	(0.102)	(0.156)	(0.123)	(0.069)	(0.124)	(0.079)
Leverage	0.289	0.204	0.256	0.245	0.094	0.253
	(0.252)	(0.374)	(0.276)	(0.166)	(0.231)	(0.180)
Market-to-Book	–0.124**	–0.052	–0.122**	–0.019	–0.009	–0.016
	(0.054)	(0.077)	(0.056)	(0.038)	(0.066)	(0.042)
Loss	–0.053	–0.202	–0.014	0.024	–0.117	0.065
	(0.176)	(0.201)	(0.190)	(0.101)	(0.153)	(0.115)
Return	0.015	–0.008	0.052	–0.017	–0.014	0.003
	(0.088)	(0.146)	(0.107)	(0.064)	(0.109)	(0.076)
Volatility	0.670***	0.835***	0.653***	0.625***	0.739***	0.656***
	(0.153)	(0.213)	(0.152)	(0.127)	(0.228)	(0.142)
ROA	–0.765	–1.893**	–0.498	–1.277***	–1.700**	–1.124**
	(0.549)	(0.900)	(0.569)	(0.441)	(0.708)	(0.503)
Analysts	0.192	–0.182	0.289*	0.145	–0.080	0.210*
	(0.154)	(0.281)	(0.166)	(0.103)	(0.168)	(0.117)
Institutions	0.036	–0.256	0.178	–0.104	–0.197	0.000
	(0.238)	(0.265)	(0.261)	(0.145)	(0.206)	(0.172)
Big4	0.981**	1.713**	0.834	0.527**	1.072***	0.374
	(0.451)	(0.689)	(0.620)	(0.218)	(0.318)	(0.251)
Product Market Size	0.148*	0.192**	0.150*	0.084*	0.124*	0.086
	(0.076)	(0.097)	(0.084)	(0.049)	(0.070)	(0.055)
Rival Similarity	0.056*	0.096**	0.042	0.021	0.046	0.010
	(0.033)	(0.043)	(0.035)	(0.024)	(0.031)	(0.028)
Market Risk	–0.473	–0.712	–0.443	–0.692***	–0.506	–0.733***
	(0.507)	(0.508)	(0.576)	(0.221)	(0.337)	(0.247)
Industry Risk	–0.451	0.092	–0.437	–0.115	0.169	–0.192
	(0.350)	(0.516)	(0.487)	(0.260)	(0.373)	(0.305)
Estimator	Poisson	Poisson	Poisson	probit	probit	probit
Control group	price-RPE and non-RPE	price-RPE	non-RPE	price-RPE and non-RPE	price-RPE	non-RPE
Fixed effects	industry, year	industry, year	industry, year	industry, year	industry, year	industry, year
Observations	11,085	2,872	8,688	11,085	2,872	8,688
Adjusted pseudo R^2	8.563%	8.700%	9.369%	12.503%	10.722%	13.520%

Table 4. Accounting-based RPE and confidential treatment orders (continued)

Panel B. Conditional on at least one confidential treatment order

	(1)	(2)	(3)
		Dependent variable:	
Variable		*Redactions*	
RPE-accounting	0.065*	0.113***	0.126**
	(0.038)	(0.039)	(0.049)
Estimator	Poisson	Poisson	Poisson
Control group	price-RPE and non-RPE	price-RPE	non-RPE
Controls included	yes	yes	yes
Fixed effects	industry, year	industry, year	industry, year
Observations	2,090	428	1,768
Adjusted pseudo R^2	–4.268%	–9.253%	–5.289%

This table presents results from estimating the relation between accounting-based RPE and confidential treatment orders. Columns (1) through (3) in Panel A present results from estimating the frequency of confidential treatment orders using Poisson regression to conform to Cohn et al. (2022). Columns (4) through (6) in Panel A present results from estimating the probability of confidential treatment orders using probit regression. Panel B repeats the analyses in columns (1) through (3) from Panel A, except that it presents results from estimating the relation between accounting-based RPE and confidential treatment orders using the subset of observations for which the dependent variable is greater than zero. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Appendix C defines all variables.

Table 5. Price-based RPE and management earnings forecasts

Variable	(1) Dependent variable: *Management Earnings Forecasts*	(2) Dependent variable: Pr(*Management Earnings Forecasts* > 0)
RPE-accounting	–0.295***	–0.256***
	(0.093)	(0.098)
RPE-price	0.162***	0.309***
	(0.055)	(0.073)
Estimator	Poisson	probit
Control group	non-RPE	non-RPE
Controls included	yes	yes
Fixed effects	industry, year	industry, year
Observations	11,240	11,240
Adjusted pseudo R^2	20.180%	23.343%

This table presents results from estimating the relation between accounting-based RPE, price-based-RPE, and management earnings forecasts. Column (1) presents results from estimating the frequency of management earnings forecasts using Poisson regression to conform to Cohn et al. (2022). Column (2) presents results from estimating the probability of management earnings forecasts using probit regression. For parsimony, we do not tabulate coefficients on control variables. Control variables include *Size*, *Leverage*, *Market-to-Book*, *Loss*, *Return*, *Volatility*, *ROA*, *Analysts*, *Institutions*, *Big4*, *Product Market Size*, *Rival Similarity*, *Market Risk*, and *Industry Risk*. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Appendix C defines all variables.

Table 6. Price-based RPE and confidential treatment orders

Variable	(1) Dependent variable: *Redactions*	(2) Dependent variable: Pr(*Redactions* > 0)
RPE-accounting	0.303**	0.205**
	(0.146)	(0.103)
RPE-price	–0.318*	–0.141
	(0.193)	(0.096)
Estimator	Poisson	probit
Control group	non-RPE	non-RPE
Controls included	yes	yes
Fixed effects	industry, year	industry, year
Observations	11,085	11,085
Adjusted pseudo R^2	8.774%	12.611%

This table presents results from estimating the relation between accounting-based RPE, price-based RPE, and confidential treatment orders. Column (1) presents results from estimating the frequency of confidential treatment orders using Poisson regression to conform to Cohn et al. (2022). Column (2) presents results from estimating the probability of confidential treatment orders using probit regression. For parsimony, we do not tabulate coefficients on control variables. Control variables include *Size*, *Leverage*, *Market-to-Book*, *Loss*, *Return*, *Volatility*, *ROA*, *Analysts*, *Institutions*, *Big4*, *Product Market Size*, *Rival Similarity*, *Market Risk*, and *Industry Risk*. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Appendix C defines all variables.

Table 7. Within-RPE and disclosure—intensive margins by incentive strength

Panel A. Management earnings forecasts

	(1)	(2)
	Dependent variable:	Dependent variable:
Variable	*Management Earnings Forecasts*	Pr(*Management Earnings Forecasts* > 0)
RPE Grant Size-accounting	–0.498***	–0.446***
	(0.141)	(0.164)
RPE Grant Size-price	0.056	0.313**
	(0.085)	(0.136)
Estimator	Poisson	probit
Control group	accounting-RPE and price-RPE	accounting-RPE and price-RPE
Controls included	yes	yes
Fixed effects	industry, year	industry, year
Observations	3,058	3,058
Adjusted pseudo R^2	29.024%	30.868%

Panel B. Confidential treatment orders

	(1)	(2)
	Dependent variable:	Dependent variable:
Variable	*Redactions*	Pr(*Redactions* > 0)
RPE Grant Size-accounting	0.543***	0.379**
	(0.204)	(0.170)
RPE Grant Size-price	–0.484**	–0.385**
	(0.227)	(0.170)
Estimator	Poisson	probit
Control group	accounting-RPE and price-RPE	accounting-RPE and price-RPE
Controls included	yes	yes
Fixed effects	industry, year	industry, year
Observations	2,872	2,872
Adjusted pseudo R^2	9.616%	13.298%

This table presents results from estimating the intensive margins of the relation between explicit RPE plans and disclosure by the strength of RPE incentives. Panels A and B present, respectively, results from estimating management earnings forecasts and confidential treatment orders. In both panels, we estimate in column (1) the frequency of disclosure using Poisson regression to conform to Cohn et al. (2022) and in column (2) the probability of disclosure using probit regression. To ease the interpretation of the coefficients of interest, we use decile ranks that are set to zero for firms not using the respective RPE plan, such that the coefficients measure the change in disclosure when moving from RPE plans with the weakest to the strongest characteristics (i.e., the top decile of *RPE Grant Size*), ceteris paribus. For parsimony, we do not tabulate coefficients on control variables. Control variables include *Size*, *Leverage*, *Market-to-Book*, *Loss*, *Return*, *Volatility*, *ROA*, *Analysts*, *Institutions*, *Big4*, *Product Market Size*, *Rival Similarity*, *Market Risk*, and *Industry Risk*. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Appendix C defines all variables.

Table 8. Within-RPE and disclosure—intensive margins by peer relevance

Panel A. Management earnings forecasts

Variable	(1) Dependent variable: *Management Earnings Forecasts*	(2) Dependent variable: Pr(*Management Earnings Forecasts* > 0)
Peer Overlap-accounting	–0.431***	–0.517***
	(0.166)	(0.180)
Peer Overlap-price	0.089	0.375***
	(0.093)	(0.138)
Estimator	Poisson	probit
Control group	accounting-RPE and price-RPE	accounting-RPE and price-RPE
Controls included	yes	yes
Fixed effects	industry, year	industry, year
Observations	3,058	3,058
Adjusted pseudo R^2	28.878%	31.433%

Panel B. Confidential treatment orders

Variable	(1) Dependent variable: *Redactions*	(2) Dependent variable: Pr(*Redactions* > 0)
Peer Overlap-accounting	0.783***	0.592***
	(0.240)	(0.192)
Peer Overlap-price	–0.148	–0.041
	(0.210)	(0.150)
Estimator	Poisson	probit
Control group	accounting-RPE and price-RPE	accounting-RPE and price-RPE
Controls included	yes	yes
Fixed effects	industry, year	industry, year
Observations	2,936	2,936
Adjusted pseudo R^2	9.617%	13.173%

This table presents results from estimating the intensive margins of the relation between explicit RPE plans and disclosure by the usefulness of information to peers. Panels A and B present, respectively, results from estimating management earnings forecasts and confidential treatment orders. In both panels, we estimate in column (1) the frequency of disclosure using Poisson regression to conform to Cohn et al. (2022) and in column (2) the probability of disclosure using probit regression. To ease the interpretation of the coefficients of interest, we use decile ranks that are set to zero for firms not using the respective RPE plan, such that the coefficients measure the change in disclosure when moving from RPE plans with the weakest to the strongest characteristics (i.e., the top decile of *Peer Overlap*), ceteris paribus. For parsimony, we do not tabulate coefficients on control variables. Control variables include *Size*, *Leverage*, *Market-to-Book*, *Loss*, *Return*, *Volatility*, *ROA*, *Analysts*, *Institutions*, *Big4*, *Product Market Size*, *Rival Similarity*, *Market Risk*, and *Industry Risk*. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Appendix C defines all variables.

Table 9. Accounting-based RPE and management earnings forecasts—split by APE incentive strength and product substitutability

Subsample	(1) strong APE for APE (β_1), weak APE for RPE (β_1^*), high substitutability (ψ)	(2) weak APE for APE (β_1), strong APE for RPE (β_1^*), low substitutability (ψ)	(3) strong APE for APE (β_1), weak APE for RPE (β_1^*), high substitutability (ψ)	(4) weak APE for APE (β_1), strong APE for RPE (β_1^*), low substitutability (ψ)
Variable	Dependent variable: *Management Earnings Forecasts*		Dependent variable: Pr(*Management Earnings Forecasts* > 0)	
RPE-accounting	0.073	–0.449**	0.030	–0.755***
	(0.209)	(0.189)	(0.192)	(0.213)
RPE-price	0.266	0.352***	0.167	0.636***
	(0.177)	(0.080)	(0.197)	(0.139)
Estimator	Poisson	Poisson	probit	probit
Control group	non-RPE	non-RPE	non-RPE	non-RPE
Controls included	yes	yes	yes	yes
Fixed effects	industry, year	industry, year	industry, year	industry, year
Observations	1,865	1,862	1,865	1,862
Adjusted pseudo R^2	16.420%	42.893%	19.922%	21.461%
Test of signed difference in *RPE-accounting*	0.522**		0.785***	
Test of signed difference in *RPE-price*	–0.086		–0.469**	

This table presents results from estimating whether the relation between accounting-based RPE, price-based-RPE, and management earnings forecasts varies with both absolute performance incentive strength (i.e., β_1 and β_1^*) and product substitutability (i.e., ψ). Columns (1)–(2) and (3)–(4) present, respectively, results from estimating the frequency of management earnings forecasts using Poisson regression to conform to Cohn et al. (2022) and from estimating the probability of management earnings forecasts using probit regression. For parsimony, we do not tabulate coefficients on control variables. Control variables include *Size*, *Leverage*, *Market-to-Book*, *Loss*, *Return*, *Volatility*, *ROA*, *Analysts*, *Institutions*, *Big4*, *Product Market Size*, *Rival Similarity*, *Market Risk*, and *Industry Risk*. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Signed differences in coefficients are tested using one-sided pair *t*-tests. Appendix C defines all variables.

Table 10. Accounting-based RPE and confidential treatment orders—split by APE incentive strength and product substitutability

Subsample	(1) strong APE for APE (β_1), weak APE for RPE (β_1^*), high substitutability (ψ)	(2) weak APE for APE (β_1), strong APE for RPE (β_1^*), low substitutability (ψ)	(3) strong APE for APE (β_1), weak APE for RPE (β_1^*), high substitutability (ψ)	(4) weak APE for APE (β_1), strong APE for RPE (β_1^*), low substitutability (ψ)
Variable	Dependent variable: *Redactions*		Dependent variable: Pr(*Redactions* > 0)	
RPE-accounting	–0.302	0.246	–0.176	0.066
	(0.269)	(0.347)	(0.240)	(0.201)
RPE-price	–0.106	–0.094	–0.247	–0.106
	(0.328)	(0.251)	(0.262)	(0.165)
Estimator	Poisson	Poisson	probit	probit
Control group	non-RPE	non-RPE	non-RPE	non-RPE
Controls included	yes	yes	yes	yes
Fixed effects	industry, year	industry, year	industry, year	industry, year
Observations	1,782	1,745	1,782	1,745
Adjusted pseudo R^2	15.369%	4.670%	25.442%	5.170%
Test of signed difference in *RPE-accounting*	–0.549		–0.241	
Test of signed difference in *RPE-price*	–0.012		–0.141	

This table presents results from estimating whether the relation between accounting-based RPE, price-based-RPE, and confidential treatment orders varies with both absolute performance incentive strength (i.e., β_1 and β_1^*) and product substitutability (i.e., ψ). Columns (1)–(2) and (3)–(4) present, respectively, results from estimating the frequency of confidential treatment orders using Poisson regression to conform to Cohn et al. (2022) and from estimating the probability of confidential treatment orders using probit regression. For parsimony, we do not tabulate coefficients on control variables. Control variables include *Size*, *Leverage*, *Market-to-Book*, *Loss*, *Return*, *Volatility*, *ROA*, *Analysts*, *Institutions*, *Big4*, *Product Market Size*, *Rival Similarity*, *Market Risk*, and *Industry Risk*. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Signed differences in coefficients are tested using one-sided pair *t*-tests. Appendix C defines all variables.

Table 11. Accounting-based RPE, price-based RPE, and management forecasts beyond earnings—sales and capital expenditures

Panel A. Management sales forecasts

	(1)	(2)
	Dependent variable:	Dependent variable:
Variable	*Management Sales Forecasts*	Pr(*Management Sales Forecasts* > 0)
RPE-accounting	–0.538***	–0.308***
	(0.131)	(0.107)
RPE-price	0.098	0.114
	(0.076)	(0.077)
Estimator	Poisson	probit
Control group	non-RPE	non-RPE
Controls included	yes	yes
Fixed effects	industry, year	industry, year
Observations	11,185	11,185
Adjusted pseudo R^2	36.343%	29.022%

Panel B. Management capital expenditures forecasts

	(1)	(2)
	Dependent variable:	Dependent variable:
Variable	*Management CAPEX Forecasts*	Pr(*Management CAPEX Forecasts* > 0)
RPE-accounting	–0.184**	–0.225**
	(0.094)	(0.111)
RPE-price	0.032	0.039
	(0.073)	(0.077)
Estimator	Poisson	probit
Control group	non-RPE	non-RPE
Controls included	yes	yes
Fixed effects	industry, year	industry, year
Observations	11,185	11,185
Adjusted pseudo R^2	21.224%	33.391%

This table presents results from estimating the relation between accounting-based RPE, price-based-RPE, and management forecasts beyond earnings. Panels A and B present, respectively, results from estimating management sales forecasts and management capital expenditures forecasts. In both panels, column (1) presents results from estimating management forecasts using Poisson regression to conform to Cohn et al. (2022), and column (2) presents results from estimating the probability of management forecasts using probit regression. For parsimony, we do not tabulate coefficients on control variables. Control variables include *Size*, *Leverage*, *Market-to-Book*, *Loss*, *Return*, *Volatility*, *ROA*, *Analysts*, *Institutions*, *Big4*, *Product Market Size*, *Rival Similarity*, *Market Risk*, and *Industry Risk*. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Appendix C defines all variables.

Table 12. Accounting-based RPE, price-based RPE, and management earnings forecasts—by historical earnings persistence

	(1)	(2)
Subsample	low *Earnings Persistence*	high *Earnings Persistence*
	Dependent variable:	
Variable	*Management Earnings Forecasts*	
RPE-accounting	–0.435***	–0.136
	(0.128)	(0.134)
RPE-price	0.059	0.239**
	(0.069)	(0.094)
Estimator	Poisson	Poisson
Control group	non-RPE	non-RPE
Controls included	yes	yes
Fixed effects	industry, year	industry, year
Observations	3,861	3,871
Adjusted pseudo R^2	1.079%	15.196%
Test of the signed difference in *RPE-accounting*: –0.501**		
Test of the signed difference in *RPE-price*: –0.165		

This table presents results from estimating whether the relations between accounting-based RPE, price-based-RPE, and management earnings forecasts vary with firms' historical earnings persistence. We estimate these models using Poisson regression to conform to Cohn et al. (2022). For parsimony, we do not tabulate coefficients on control variables. Control variables include *Size*, *Leverage*, *Market-to-Book*, *Loss*, *Return*, *Volatility*, *ROA*, *Analysts*, *Institutions*, *Big4*, *Product Market Size*, *Rival Similarity*, *Market Risk*, and *Industry Risk*. In this table, the number of observations is lower than the preceding tables due to missing values for *Earnings Persistence*. To achieve covariate balance, we reweight the RPE subsamples by entropy balancing on both the first and second moment of all control variables plus year. The industry classification follows the 48 industry groups identified by Fama and French (1997). Standard errors are in parentheses and are adjusted for within-cluster correlation at the level of treatment (i.e., firm) to conform to Abadie et al. (2023). *, **, and *** denote statistical significance at two-tailed probability levels of 10%, 5%, and 1%, respectively. Signed differences in coefficients are tested using one-sided pair *t*-tests. Appendix C defines all variables.