

When disclosing effective compliance backfires: Evidence from experiments with retail investors and preparers

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Abstract

Firms voluntarily disclose information to reduce information asymmetry between managers and stakeholders by signaling positive characteristics, such as compliance or performance. However, stakeholders may misinterpret such signals. Disclosing effective compliance, such as a well-used whistleblowing system, may be especially vulnerable to misinterpretation because it consists of a positive signal (i.e., well-functioning internal whistleblowing systems) and a negative signal (i.e., misconduct cases uncovered by whistleblowers). Drawing on literature from criminology and exploratory interviews with practitioners, we predict that investors receiving disclosures on the number of internally detected misconduct cases fail to process the positive signal of better internal compliance, thus misinterpreting the disclosures as a purely negative signal. The results of a series of experiments (overall $N = 1,214$) with retail investors are consistent with our predictions. Holding the number of actual misconduct cases constant, we first find that investors perceive a firm as worse if it detects and discloses more misconduct cases. This result is robust to several additional manipulations. Second, we find that preparers anticipate this behavior and, under voluntary reporting regimes, reduce disclosure. Third, under mandatory reporting regimes, preparers reduce their compliance efforts altogether.

Keywords: compliance, disclosure, experiment, misconduct, whistleblowing

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INTRODUCTION

We study investors' interpretation of disclosed misbehavior created by effective compliance systems and the subsequent adaptation of preparers' (e.g., CEOs) disclosure behavior in a voluntary disclosure setting and compliance efforts in a mandatory disclosure setting. Economic theory on disclosure suggests that it is generally beneficial for firms to voluntarily disclose information if the costs of disclosure are sufficiently low (Clarkson et al. 1996, Diamond & Verrecchia 1991, Gibbins et al. 1990, Levitt 1999). However, empirical research has shown that some companies deliberately choose to reduce disclosure (Ge et al. 2021, Jin et al. 2021, Villiers & van Staden 2006) or only selectively disclose information (Depoers et al. 2016, Lyon & Maxwell 2011). An obvious criterion to decide whether to disclose voluntarily is whether a firm's private information is good or bad. However, some information can be both. Specifically, information about a firm's compliance management could necessarily combine the good signal of effective internal monitoring with the bad signal that this effective monitoring has proven the existence of corporate misconduct cases. Whether firms choose to disclose these signals voluntarily depends on their expectations of how stakeholders interpret this information, as these competing quotes by two of our interviewees show:¹

“[This] always comes up: you guys have by far the most [misconduct] cases. The others don't have that many cases. And then you have to look at it [...] with more transparency, there are naturally more comparisons, and then exactly these kinds of questions are asked. And then you don't want to be portrayed in the wrong light. [...] We want to make it clear to everyone: we have cases, compliance is not just theory, and we are effectively able to identify cases and then respond appropriately. (Interviewee 11)

“In some cases, we have also decided not to report figures for individual categories because, in principle, these figures can always be used against us.” (Interviewee 8)

¹ We conducted exploratory interviews to inform our hypothesis development and experimental design and increase the practical relevance of our research. The interviews are also the primary data source for a separate research project with a different research question published in Friedrich and Quick (2024).

Our paper explores the dynamics behind a firm's choice to acquire private information and then disclose or withhold this information by asking the following research questions: Do shareholders misinterpret incidents of disclosed misbehavior created by effective compliance systems? Do preparers anticipate misinterpretations and adapt their compliance and disclosure behavior?² We specifically study these questions in the context of internal whistleblowing systems and disclosures about the internal reports they generate. Many countries, including the U.S. (Sarbanes Oxley Act of 2002, US Dodd-Frank-Act of 2010), the European Union (EU Directive 2019/1937), or China and India (Oelrich & Erlebach 2021), have introduced mandatory implementation of internal reporting channels through which employees can disclose misconduct, such as fraud. Internal whistleblowing is an important and effective mechanism to detect misconduct early on (Dyck et al. 2010, Near & Miceli 1985, Stubben & Welch 2020) and, therefore, an important compliance system. Yet, in the named jurisdictions, firms have no obligation to disclose information about their whistleblowing channels to stakeholders. Analyzing all US Fortune100 firms' 2022 reports (10-K reports, sustainability reports, code of conducts, proxy statements), we found that only 7 percent disclose the number of internal whistleblowing reports.

Based on exploratory interviews with compliance officers and CEOs of multinational organizations (N=17) and drawing on criminological literature, we propose that shareholders are systematically unable to extract all information from control-induced signals. Criminology has shown that increasing the control and prosecution of misconduct, although intended to reduce crime incidents, yields perceptions of higher crime incidents because more of the already existing crimes become known and thus visible (Bussmann 2007, Mayhew & Hough 1988, Vold 1966). Consider

² Alternatively, preparers could choose to accompany the bundled positive and negative signal by narratives explaining the nature and complexity of the information and emphasizing the positive aspect. However, recent research on employee reactions to CEO pay ratio disclosures shows that employees strongly react to salient numerical information that is inherently multifaceted, and accompanying narratives hardly affect these reactions (Boone et al., 2024).

Volkswagen's revised whistleblowing system after the Diesel scandal. Before, they received approximately 500 reports per year. After the revision, they received almost 3000 reports, while misconduct at Volkswagen has most likely not increased *after* the Diesel scandal. On the one hand, the disclosure of detected cases informs about an effective compliance system that is "able to identify cases and then respond appropriately" (Interviewee 11), thus sending a positive signal about the governance quality of the firm:

"It also shows that we take this seriously, that we are doing something about it, and that we don't need to be ashamed of it. On the contrary: we are proud that we can now demonstrate that we have an effective system in place." (Interviewee 11).

On the other hand, it signals that misconduct is prevalent in a firm. Disclosing such misconduct, while credibly conveying the effectiveness of the compliance systems, could thus also create adverse shareholder reactions, leading to "great reluctance to report more to the public" (Interviewee 10). For instance, interviewees argued that while stakeholders are "very interested in ensuring that we have a proper organizational structure and workflow, as well as a reasonable control environment," this would not be valued when reported: "However, no one will ever thank you for uncovering a problem" (Interviewee 15). For corporate disclosure, we therefore predict that shareholders are willing to pay less for a firm disclosing (versus withholding) outcomes of effective compliance systems.

To address our first research question, we conducted a series of incentivized, context-rich experiments ($N = 568$) with retail investors from Prolific in several variations of a one period-setting for the same firm. In a single period, the total number of misconduct cases *is constant*. However, if the firm has an (a more) effective internal whistleblowing systems, it will *uncover more* cases than without an (with a less effective) internal whistleblowing system. Hence, the number of *detected* misconduct cases is a relatively objective and positive signal of compliance system effectiveness. However, we predict that stakeholders will interpret the effectiveness signal

as a signal of the total number of misconduct cases.³ We tested this hypothesis in our experiments by eliciting investors' willingness to invest in a hypothetical firm. To hold the true total number of misconduct cases constant, we provided participants in all experimental conditions with the same information on press-detected misconducts within the firm as an objective, external signal of misconduct prevalence in the firm. We then manipulated (i) whether the firm disclosed the number of internally detected misconduct cases (treatment) or the number of European facilities (control), (ii) whether the number was 60 or 240, (iii) whether we informed participants about deterministic press and internal detection likelihoods corresponding to the reported cases (effectiveness of the system), and (iv) whether we informed participants that the firm had installed a dedicated whistleblowing system (quality of the system).

In line with our expectations, we found that investors receiving the disclosure of internally detected misconduct cases were significantly less willing to invest in the disclosing firm and perceived the total number of misconduct cases to be higher. This finding remained robust across different numbers of reported cases and to providing deterministic detection likelihoods or reporting about the introduction of a whistleblowing system to make the positive nature of the compliance signal more salient.

To address our second research question (i.e., do firms anticipate this and thus reduce voluntary disclosure or change compliance efforts in a mandatory reporting regime?), we conducted a second series of experiments with 646 retail investors. The second group of experiments is based on the first series of experiments, but we asked participants to take the

³ We acknowledge that participants could update their *perceptions* about misconduct cases without violating the fact that they are *factually* constant because prior perceptions could have been wrong. To prevent this, we initially provide information about the number of press-detected misconduct cases, which we keep fixed. We also acknowledge that (press- and internally) detected misconduct cases are always the product of total misconduct cases and a detection likelihood, and that participants could now simultaneously update perceptions of both total misconduct cases and detection likelihoods without violating the validity of the fixed press-detected cases we provide. We discuss and empirically test this possibility below. Our results are consistent with our hypothesis and inconsistent with the alternative explanation.

preparer (firm) side of disclosure. We manipulated (i) whether preparers privately received information about the number of European facilities or the number of internally detected misconduct cases, (ii) whether the number was 6, 60, or 240, (iii) whether disclosing the privately received number of misconduct (facilities) was mandatory or voluntary, (iv) and whether participants were able to influence the number of internally detected cases through changes in the compliance system or not.

Based on traditional theories on voluntary disclosure and real effects of mandatory disclosure, as well as our interviews, we make two predictions for preparer behavior depending on whether compliance disclosure is voluntary or mandatory. In a voluntary regime, we hypothesize that preparers are less likely to disclose their private compliance information. In a mandatory disclosure setting, we hypothesize that preparers choose compliance systems with worse performance, leading to mandatory disclosure of less compliance incidents. Consistent with our expectations, we found that preparers reduced voluntary disclosure of such contested compliance signals and reduced their compliance efforts in both a voluntary and mandatory reporting regime.

Collectively, our findings present new evidence on (1) shareholders' misinterpretation of compliance signals; (2) why firms may choose, in voluntary disclosure settings, to withhold compliance information, and (3) why mandatory compliance disclosure can lead to reductions in compliance efforts. Thereby, we contribute to the literature on voluntary disclosure (Clarkson et al. 1996, Levitt 1999, Ge et al. 2021, Jin et al. 2021) and selective or reduced disclosure (Villiers & van Staden 2006, Depoers et al. 2016, Lyon & Maxwell 2011) by exploring a specific disincentive of disclosure that naturally arises for many compliance systems. Hence, it is a central issue in understanding and designing the increasingly important disclosure on corporate governance.

Moreover, we contribute to theory by introducing a criminological concept (Bussmann 2007, Mayhew & Hough 1988, Vold 1966) to the disclosure literature. Our exploratory interviews and experimental findings highlight its validity and applicability in the context of corporate misconduct. Evidence from our additional variables and robustness tests provide an initial indication that investors' robust interpretation of detected cases as indicative of total misconduct, ignoring detection probabilities, is the primary contributor to this phenomenon. Leveraging insights from criminological theory can enhance our understanding of stakeholder and firm behavior in areas of misconduct.

Finally, we contribute to the literature on unintended consequences of disclosure regulation (Brüggemann et al. 2013, Hombach & Sellhorn 2019), which is also relevant to regulators and practitioners. Our findings show a barrier to voluntary disclosure of firms' compliance efforts. While investors would typically demand more disclosure and otherwise punish firms for remaining opaque, this mechanism fails in the setting of compliance disclosure because of investors' adverse interpretation of the compliance signal sent by the firm. A natural reaction by regulators when voluntary disclosure fails is a disclosure mandate. However, regulators considering mandating compliance disclosure should be aware of possible unintended consequences of our studied phenomenon. At worst, a disclosure mandate could reduce firms' compliance efforts and contribute to higher misconduct prevalence.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

In this section, we draw on prior literature in accounting and criminological theory as well as insights from our exploratory interviews to develop our hypotheses. We argue that investors are less willing to invest in a firm when it discloses effective compliance, which naturally is a joint signal of effectiveness and the prevalence of misconduct compared to firms who report lower quality systems. We develop further hypotheses from a preparers (e.g., CEO) perspective, where

we argue that preparers will be less willing to disclose such effectiveness signals in a voluntary setting. Furthermore, in a mandatory disclosure setting, preparers are incentivized to reduce their compliance efforts.

Investor Perceptions

We draw on criminology to predict how stakeholders interpret the joint positive and negative signals created by disclosing the outcomes of effective compliance systems, i.e., internally detected misconduct cases by an internal whistleblowing system. Criminological research has shown that increasing the control of crime seemingly leads to more crime (Vold 1966, 3): “There is therefore always the uncomfortable paradox: A community enacts laws to control crime, yet it seems to follow that the more law a community has, the greater will be the amount of crime as well.” Criminology, therefore, distinguishes between the bright and dark field of crime. Simply put, some criminal activities are observed and reported, while others – for various reasons – are not. The former enter the “bright field,” they become known to the authorities and the public, while the latter remain hidden, thus constituting the “dark field” (Mayhew & Hough 1988). Control activities, such as a focus on drug control, police willingness to believe victims’ accounts of rape, or an increase in border patrols, can increase the bright field. They make more of the dark field visible through more reports, convictions, or incarcerations (Maguire 2012, Stemen 2017). However, they do not have an “immediate crime-reducing impact” (Bussmann 2007, 263; see also Bussmann & Niemeczek 2019). Instead, since crime is now more visible and thus has *seemingly* increased, it leads to a misperception among the population that the overall criminal activity has increased. For instance, Zhang et al. (2021) report that people felt less safe when there were many visitors during the day in their neighborhood—even though this was not correlated to actual crime rates. Yet, they did not feel less safe when there were many visitors at night—which correlated with crime rates. Simply because they did not *see* the visitors during the night whereas the ones during

the day were more observable. Researchers have documented similar misinterpretations when people watch news entailing crime (Manning et al. 2022; Weaver & Wakshlag 1986).

Translating these insights into the context of firm disclosures, an increase in *visible misconduct* (i.e., the bright field) expectedly increases stakeholders' perceptions of a firm's total misconduct (i.e., the sum of the bright and dark field), even if the *detection rate*, which determines the relative size of the bright field, does neither influence (in the short term) nor correlate with the *entirety of misconduct* within the firm. Rather, as with increased control in a criminological setting, differences in the control environment of a firm (i.e., in the detection rate) primarily shift already existing misconduct from the dark field to the bright field. This is echoed in our interviewees' sentiment when they argue that they are afraid to be called out for making misconduct visible:

“That's when the objection always comes up: You have by far the most [misconduct] cases. The others don't have that many [misconduct] cases. And then you have to look [...] because you can't compare apples with oranges.” (Interviewee 11)

We test these proposed mechanisms in the context of internal whistleblowing systems. We assume a firm with several total misconduct cases (i.e., the sum of the bright and dark fields) in a given financial year about which the firm retrospectively discloses financial and nonfinancial information. The firm operates an internal whistleblowing system that internally uncovers a fraction of the total misconduct cases based on how effective the whistleblowing system is. Whether these internally discovered misconduct cases become public depends on the firm's choice to disclose them or not. Independent of the firm's system or disclosure choice, some misconduct cases will have become public knowledge during the financial year because the press reports them. Something that regularly happens, according to our interviewees: “employees can threaten to go to the press about anything and everything” (Interviewee 13) or “the path to the press is often very short. As a company, you cannot control this, of course” (Interviewee 14). This number of cases constitutes the initial bright field, and the detection rate by the press is fixed, i.e., the same number

of disclosed incidents by the press indicates the same level of misconduct in a firm. If the firm later decides to retrospectively disclose the number of cases it detected internally, the bright field increases and the dark field decreases, but the number of total misconduct cases remains unchanged.

We consider a retail investor deciding whether to invest in the firm. This investment willingness is our primary outcome of interest, and we expect it to be based on the perception of the firm's misconduct cases. The investor has information on press-detected misconduct (initial bright field), which she uses to form her initial perception of the total number of misconduct cases. Suppose the investor later receives a disclosure of internally detected misconduct cases; the bright field increases and there is no indication that the total number of misconduct cases has changed. The press detection likelihood and the original bright field are unchanged and thus are the total misconduct cases. Hence, the disclosure only contains information about the internal detection likelihood. However, following insights from criminology that individuals confuse the bright field with total misconduct cases as well as our interviewees experiences, who caution that reporting effective systems can backfire, as you might "be portrayed in a negative light" (Interviewee 11), we expect the investor to interpret the firm's disclosure as a signal about total misconduct cases instead. Therefore, we hypothesize as follows.

H1. Investors are less willing to invest in a firm when it discloses internally detected misconduct numbers than when it does not.

Preparer Behavior

When preparers have private information and investors are aware of this information, absent frictions, unraveling leads to full voluntary disclosure because investors would otherwise infer the most negative possible information for non-disclosers (Grossman, 1981; Milgrom, 1981). However, frictions allow preparers to avoid disclosing signals with the most negative effect on firm

value (e.g., Verrecchia, 1983). H1 predicts that internally detected misconduct cases are a value-reducing signal. Therefore, a preparer who anticipates that disclosing internally detected misconduct cases reduces firm value is less likely to disclose this information compared to a neutral signal, which seems to be the reasoning among many of our interviewees, where “there is considerable reluctance to report more to the public” (Interviewee 10) and “we're not ready yet” (Interviewee 9). We expect the average preparer to successfully anticipate investor reactions, thus leading to the following hypothesis.

H2. In voluntary disclosure settings, preparers are less willing to disclose internally detected misconduct numbers than the number of facilities (a neutral signal).

Honest preparers cannot maximize firm value through disclosure when it is mandatory. Hence, mandatory disclosure tends to induce real effects, i.e., changes to firm behavior that change the true economic reality underlying the disclosure mandate (Leuz & Wysocki, 2016). When the mandatory disclosure potentially reveals value-reducing signals, those real effects tend to entail avoidance behavior, i.e., shifting the adverse economic reality away from the disclosures scope. A prime example is evidence of corporate divestment strategies related to greenhouse gas emission reporting (Ecker & Keeve, 2023). Transferred to our context, preparers could strategically choose whistleblowing systems with lower detection likelihoods to keep the bright field small because they must report it to the public. This is also echoed in some of our respondents' arguments, who argued that if “Yes, and if we then write in the annual report that there were a single-digit number of such cases [...] that's just what we know” (Interviewee 8). One interviewee also stated it plainly:

There is also a widespread belief that not-knowing on the part of management would lead to exemption from liability, because they were simply unaware of any misconduct within the company. (Interviewee 10)

which leads us to the following hypothesis.

H3. In mandatory disclosure settings, preparers choose compliance systems so that less misconduct numbers are internally detected and, thus, reported.

INTERVIEW METHODOLOGY

In the exploratory interview stage of our research, we held semi-structured discussions with 17 CEOs, compliance officers, or legal experts in large multinational and medium-sized organizations. Each interviewee provided consent prior to the interviews. One author conducted all interviews in person or online via Zoom, recorded, and later transcribed them. Another researcher from the author team analyzed the interviews and selected the quotes. The researcher who interviewed the practitioners helped to ensure that the quotes adequately reflected their perception of the interviewees' intent (see, for instance, Corbin & Strauss 1990, Miles & Huberman 1994). Confidentiality regarding their answers and identity was promised to enable an open conversation. As such, we anonymize identities throughout the paper. More details on the interview process and the interviewees are in Friedrich and Quick (2024) who use the interviews to answer a separate research question.

INVESTOR EXPERIMENTS

We conducted three incentivized, context-rich, between-subjects manipulations experiments. Participants took a retail investor perspective and made investment decisions in a fictive firm based on presented key performance indicators.

Our first experiment tested H1 that investors are less willing to invest in a firm when it discloses internally detected misconduct numbers than when it does not. We manipulated (i) whether participants received information on the number of European facilities ($TREAT = CONTROL$) or the number of internally detected misconduct ($TREAT = TREATED$) and (ii)

whether the number was 60 (*CASES* = 60) or 240 (*CASES* = 240). We chose the number of cases based on real reports in representative companies.

Next, we wanted to understand if our results were driven by a misperception of detection likelihoods, i.e., the effectiveness of the compliance system. In our second experiment, we thus manipulated (i) whether the number of internally detected misconduct was 60 (*CASES* = 60) or 240 (*CASES* = 240) and (ii) whether participants received information on press and internal detection likelihoods (*DETECTION* = *NO REVEAL* vs. *REVEAL*).

We finally probed if our results were driven by a misperception of the quality of the compliance system (i.e., whether a whistleblowing system exists). Therefore, in our third experiment, in which the number of internally detected misconduct cases was presented as 240, we manipulated whether participants received information on the implementation of a system to internally report misconduct (*WHISTLEBLOWING* = *UNKNOWN* vs. *EXISTS*).

For economic and design reasons, we collected data for all three experiments in a single iteration with partly overlapping cells, i.e., we use some experimental groups in e.g., both the first and second experiment. Table 1 provides an overview. Appendices B, C, and D contain side-by-side comparisons of our manipulations. Next, we describe the participants, the experimental procedure, and the dependent and additional variables, which are common across all experiments and experimental cells.

Participants

We recruited retail investors from Prolific, a platform providing a participant pool for academic research (Palan & Schitter 2018, Peer et al. 2017), in line with prior accounting research (Evans et al., 2025; Zickfeld et al., 2024). We required participants to be U.S.-born U.S. residents with English as their first and primary language, have at least a 99% approval rate on prior assignments, and self-reported prior investment experience in the common stock market. We used

power analysis (g*power 3.1) prior to recruitment to estimate the required sample sizes. Our sample comprised 568 participants; the median participant reported 6 years of investment experience. The remuneration per participant was 1.20 GBP and 0.60 GBP bonus⁴, and the median participants took 5 minutes and 53 seconds to complete the study. 98% passed our attention checks (556 participants). 58% (326 participants) passed all attention and manipulation checks. Our results are robust against using either sample, and significant differences materialize even stronger in the more restrictive samples.

Experimental Procedure

Participants assumed the role of a retail investor with a significant portfolio of stocks, considering investing in *Spechem* to maintain a diversified portfolio. Participants then viewed some background information on *Spechem* and its industry, alerting them to the importance of facility management (which we use in our control condition) and corporate conduct. We also informed them that all firms experience misconduct, the press rarely discovers misconduct cases and firms internally discover additional cases, but never all cases. Participants also viewed some key performance indicators and read that the press reported 6 misconduct cases within *Spechem* in 2023.

After reminding participants of their role, they made an initial assessment and investment decision of *Spechem*, which served as pre-manipulation measurement of our dependent and additional variables. After choosing their responses, which they could not change afterward, participants viewed their manipulations and had the option to view the initial information again. Finally, we reminded them that they now had to make their final assessment and collected our post-manipulation measurement. Participants then moved on to the post-experiment questionnaire

⁴ We told participants that they can earn a 50% bonus based on how precise some of their answers are to increase their attention. Every participant that passed the attention checks received the bonus.

which included manipulation checks and questions on participants' investment experience. Appendix A contains the detailed information participants received.

Dependent and Additional Variables

We measured all our dependent and additional variables as the difference between the variables' post-manipulation and pre-manipulation values. The measurement of all variables is identical before and after the manipulation. Our primary dependent variable is the difference in participants' willingness to invest in *Spechem* (ΔWTI). Following Asay et al. (2023), we measured the pre- and post-manipulation versions of the variable as the average of the answers to the following three items on a 101-point scale from 0 to 100:⁵ "How willing are you to invest in Spechem's stock?", "Do you view Spechem's stock as less favorable or more favorable in general?", and "Are your feelings towards Spechem's stock as a potential investment generally more negative or more positive?"

All our additional variables, measured on a 101-point scale from 0 to 100, consist of a single item. Specifically, to construct $\Delta \#Cases$, we asked: "How many total corporate misconduct cases do you believe happened within Spechem in 2023?" $\Delta Press$ used the question: "How likely do you believe it is that the press becomes aware of an existing corporate misconduct case at Spechem in 2023?" We constructed $\Delta Detect$ by asking: "How well do you believe Spechem is able to detect existing cases of corporate misconduct internally?" $\Delta \#Facilities$ is based on responses to the question: "How many total facilities do you believe Spechem operated in 2023?" Finally, we asked the following question to measure $\Delta ManQual$: "How well do you believe Spechem manages its dispersed facilities?" Table 1 provides an overview.

⁵ Our inferences remain interpretatively unchanged if we use any single item instead of the corresponding scales in our analyses.

Experiment 1: Misconduct Detection Disclosure

Manipulation

For the *TREAT* manipulation, after participants viewed information on Spechem for the latest fiscal year and made their initial assessment, we either told them that the new regulation required firms to disclose their number of facilities by continent (*CONTROL*) or their internally detected incidents of misconduct (*TREATED*) for the latest fiscal year. Framing the disclosure in the experiment as mandatory ensured that there was no inferred signal from the firm's choice to disclose voluntarily that could contaminate the intended experimental treatment. We then provided participants with the respective disclosures in tabular format.

We realized the *CASES* manipulation by reporting 60 or 240 misconduct cases (facilities) in this table. We chose this design to ensure that focusing on a number alone did not lead to perceptions of higher misconduct cases but that the context of detected misconduct was necessary to induce this perception. We manipulated the size of the number to explore whether participants reacted primarily qualitatively (i.e., in a specific direction with a similar reaction size) or quantitatively (i.e., in a specific direction with the reaction size proportional to the number they received).

Results

Table 2 and Figure 1 report our primary analysis. Panel A of Table 2 shows the number of participants, means, and standard deviations of ΔWTI by experimental cell. Figure 1 graphically illustrates those means and 95 percent confidence intervals. On average, participants' change in willingness to invest was substantial and negative in the *TREATED* conditions (13 to 15 points) and marginal and positive in the *CONTROL* conditions (0 to 2 points).

Panel B of Table 2 presents the results from a full-factorial ANOVA with ΔWTI as the dependent variable and the manipulations *TREAT* (*CONTROL* vs *TREATED*) and *CASES* (60 vs

240). We found a significant main effect of *TREAT* ($p < 0.001$) and neither a main effect of *CASES* nor an interaction effect ($p \geq 0.356$). Finally, Panel C of Table 2 presents simple effects tests showing that the difference between the *CONTROL* and *TREATED* conditions was significant regardless of the case numbers. The effect was economically significant, as the difference was about one standard deviation of ΔWTI in the *CONTROL* conditions: respondents decreased their WTI by 13-15 points. These results are consistent with H1 that investors are less willing to invest in a firm when it discloses internally detected misconduct numbers than when it does not. Moreover, among *TREATED* participants, the number of cases the firm disclosed made no difference to their willingness to invest ($p = 1$). These results indicate that participants primarily reacted qualitatively to firms' disclosures of the outcomes of internal compliance systems, such as whistleblowing channels.

Experiment 2: Salience of Compliance System Effectiveness

Manipulation

One reason for our results testing H1 is that participants failed to update their internal detection likelihood perceptions, i.e., they inferred higher misconduct from the whistleblowing disclosures instead of inferring higher detection likelihoods without updating misconduct perceptions. We therefore made the effectiveness of the detection salient by showing respondents the actual detection likelihood for each *CASES* condition as well as the detection likelihood through the press by introducing an explicit information about detection likelihood as additional treatment (*DETECTION* = *REVEAL* vs *NO REVEAL*) *DETECTION* is either *NO REVEAL*⁶, in which case no additional information is presented, or *REVEAL* (cells E, with *CASES* = 60, and F, with *CASES* = 240), where we informed participants that the press detection likelihood was 1 percent and that the

⁶ For economic reasons, we use the corresponding cells (*TREAT* = *TREATED*) from the previous experiment, which become the *NO REVEAL* conditions, and only add the *REVEAL* conditions for *CASES* = 60 and *CASES* = 240.

internal detection likelihood was 10 percent (when *CASES* is 60) or 40 percent (when *CASES* is 240). Implicitly, the true number of misconducts was therefore 600 and constant across conditions.

Results

Our results are presented in Table 3 and Figure 2. Collectively, we find no evidence that informing participants about detection likelihoods changed their willingness to invest. We found no significant results in the ANOVA ($p = 0.132$) and no significant simple effects comparisons ($p \geq 0.388$). Hence, these results suggest that the primary effect we observed in our first experiment is robust even when providing participants with full deterministic information about underlying detection likelihoods.

Experiment 3: Salience of Compliance System Quality

Manipulation

Lastly, we added a treatment to make the positive nature of the compliance signal salient by explicitly informing about the presence of a whistleblowing system as a sign of quality of the compliance system. Within the *TREATED* and 240 manipulations, we introduced the new *WHISTLEBLOWING* manipulation. *WHISTLEBLOWING* was either *UNKNOWN*, when no explicit mention was made, or *EXISTS*, when it was explicitly mentioned. Here, we additionally informed participants that *Spechem* had installed a dedicated system to internally report misconduct. The manipulation aimed to alert participants that this system was a likely source of higher internal detection rates (and not higher total misconduct), which, in turn, are desirable from a governance and compliance perspective. As such, it served as a signal of the quality of *Spechem*'s compliance and the fact that internal detection likelihood was higher.

For exploratory analyses, we also introduced a condition in which both the quality salience (*WHISTLEBLOWING* = *EXISTS*) and the effectiveness salience from experiment 2 (*DETECTION* = *REVEAL*) were present.

Results

We found no significant difference in ΔWTI ($T = 0.246$, $p = 0.806$) between not informing investors about the quality of the compliance system ($N = 74$, $\Delta WTI = -14.83$, $SD = 20.10$) and informing investors ($N = 72$, $\Delta WTI = -15.64$, $SD = 19.67$).

Next, we explored the combination of making both the quality and effectiveness of the compliance system salient. Table 4 and Figure 3 present the results. The only significant effect in the *ANOVA* in Panel B of Table 4 was a significant main effect of *DETECTION* ($p = 0.006$). However, the simple effects comparison tests in Panel C of Table 4 showed no significant effect of informing about effectiveness of the system (detection likelihoods) and / or quality of the system (presence of a whistleblowing system). Hence, this again corroborates findings from our prior tests. Overall, our findings from these additional analyses indicated the robustness of our primary results to multiple information treatment aimed at correcting negative beliefs about Spechem's compliance performance by clearly showing the effectiveness and quality of their compliance system.

Tests of additional assessments by investors

Lastly, we considered several assessment variables to explore the underlying perceptions of investors' WTI further ($\Delta \#Cases$, $\Delta Press$, $\Delta Detect$, $\Delta \#Facilities$, $\Delta ManQual$).

$\Delta Press$. Recall that our experimental designs held the true total number of misconduct cases constant by providing the same number of press-detected misconducts in all experimental cells. Throughout the experiments 1 to 3, we expected that participants would not change their perceptions of the press detection likelihood ($\Delta Press$: "How likely do you believe it is that the press becomes aware of an existing corporate misconduct case at Spechem in 2023?"). In untabulated analyses, we repeated all tests above with $\Delta Press$ as DV instead of ΔWTI . We found no significant effects on the $\Delta Press$ in either experiments 1 or 2 (all p 's > 0.10). We found a significant effect in the exploratory 2x2 ANOVA of *DETECTION* x *WHISTLEBLOWING*. Here, the main effect of

DETECTION was significant ($F = 3.511$, $p = 0.062$) as well as the interaction effect ($F = 6.589$, $p = 0.011$). Overall, this indicates that participants largely understood that the press detected the same level of misconduct. As such, participants with information-consistent beliefs should not have changed their beliefs about the true number of misconduct across all experimental cells.

ΔManQual and ***Δ#Facilities***. For control purposes, we measured the perception of number of facilities (*Δ#Facilities*: “How many total facilities do you believe Spechem operated in 2023?”) and the quality with which they were managed. Untabulated analyses show that *Δ#Facilities* was significantly influenced by whether facilities were explicitly presented (*TREAT*: *CONTROL* vs *TREATED*, $F = 14.303$, $p < 0.001$) and the interaction of *TREAT* x *CASES* ($F = 7.110$, $p = 0.008$). No significant effects were found in any of the other experiments (2 and 3, all p ’s > 0.001). Similarly, the management quality of facilities *ΔManQual* (“How well do you believe Spechem manages its dispersed facilities?”) was significantly higher when information on the facilities was present in experiment 1 (main effect of *TREAT*: $F = 14.973$, $p < 0.001$). It was not significant (all p ’s > 0.1) in any of the other experiments 2 and 3 where no information on facilities was provided. Overall, these control analyses point to the fact that investors did perceive neutral information correctly. This also serves as an indicator that investors paid attention to the experimental material beyond our assessment of attention and manipulation checks.

Δ#Cases. We tested how the number of cases was perceived by investors across experimental cells (“How many total corporate misconduct cases do you believe happened within Spechem in 2023?”). Untabulated analyses suggest that investors in experiment 1 mainly reacted to the presence of case numbers ($F = 52.615$, $p < 0.001$) but not to the number of cases (all p ’s > 0.1). Similarly, we found no significant differences between perceived number of cases in experiments 2 and 3. This indicates that participants mainly reacted qualitatively to the presence of misconduct and that the WTI and total case perceptions move with similar patterns. Together with

our additional results on detection likelihood perceptions, these results further indicate that participants do not form information-consistent beliefs but beliefs following information-paradox patterns similar to those described in criminology.

ADetect. We also wanted to understand how investors perceived the ability of the firm to detect misconduct (“How well do you believe Spechem is able to detect existing cases of corporate misconduct internally?”). We found no significant effects in experiments 1 and 3 (all p 's > 0.1, untabulated). In experiment 2 (untabulated), there was a significant interaction effect of *DETECTION* x *CASES* ($F = 6.279$, $p = 0.013$). Pairwise comparisons showed that this effect stems from differences in having the detection likelihood information (no information vs. 10 % detection likelihood) in the case with 60 reports and from different numbers of reports (60 vs. 240) when having the detection likelihood information. While these results together with our primary findings indicate that our manipulation successfully corrected investors' beliefs about internal detection likelihood, but that this correction of beliefs was insufficient to make investors form fully information-consistent beliefs on all compliance-relevant parameters.

The findings of all three experiments and our additional analyses indicate converging, robust evidence in support of H1, that investors are less willing to invest in a firm when it discloses internally detected misconduct numbers, even when being shown that this signal contains information on an effective and qualitative compliance system, which should be perceived as a positive signal compared to a firm that shows signs of weak compliance systems.

PREPARER EXPERIMENTS

We again conducted three incentivized context-rich, between-subjects manipulations experiments. Now, participants took the perspective of a preparer (the CEO) of a firm and made decisions regarding the effectiveness of their whistleblowing system and / or the disclosure of

information to investors. We used the same material as in our first group of experiments with modifications only when necessary to change the perspective and introduce relevant manipulations.

The first experiment tested H2 which proposed that in voluntary disclosure settings, preparers are less willing to disclose internally detected misconduct numbers than the number of facilities (a neutral signal). We therefore manipulated, in the presence of a voluntary disclosure setting (*DISCLOSE = VOLUNTARY*), (i) whether preparers dealt with information about the number of European facilities (*TREAT = CONTROL*) or the number of internally detected misconduct cases (*TREAT = TREATED*) and (ii) whether the number of cases CASES was 6, 60, or 240.

The second experiment tested H3, which proposed that in mandatory disclosure settings, preparers choose compliance systems so that less misconduct numbers are internally detected and, thus, reported. Instead of giving respondents a predetermined number of detected misconduct cases, they were able to choose the compliance effectiveness by manipulating their whistleblowing system, and they operated in a mandatory disclosure regime. They were effectively able to influence the reported and disclosed misconduct cases to be 6, 60, or 240.

In experiment three, we further explored decisions of preparers if they have both the compliance effectiveness and the disclosure choice. The difference to experiment 2 was therefore that disclosure was voluntary, while participants could also influence the misconduct detection (6, 60, 240). In exploratory analyses, we thus compared the decisions between experiments 2 and 3.

Participants

We again recruited participants with investment experience from Prolific and required them to be U.S.-born U.S. residents with English as their first and primary language, have at least a 99% approval rate on prior assignments, and self-reported investment experience in the common stock

market. We conducted a power analysis (g*power 3.1) to estimate the necessary sample size. Our sample comprised 646 participants. The remuneration per participant was 1.50 GBP (2.25 GBP with bonus)⁷, and the median participants took 9 minutes and 44 seconds to complete the study. 93 % (600 participants) passed our attention checks. 83 % (539 participants) passed all attention and manipulation checks. Our results are robust against using either sample. Significant differences materialize stronger in the more restrictive samples.

Experimental Procedure

All three experiments followed the same procedure. Participants took the role of the CEO of *Spechem*. Participants then viewed some background information on *Spechem* and its industry, alerting them to the importance of annual reports. They were told that some information in these reports may be voluntary and that their task was to decide which information to disclose or not disclose. We also told them that they could not lie.

After reminding participants of their role, they viewed the applicable regulation. While the disclosure of financial statement items was always mandatory, depending on the experimental setting, we manipulated the regulation regarding misconduct (facilities) disclosures (*DISCLOSE*) as either voluntary (*DISCLOSE = VOLUNTARY*) or mandatory (*DISCLOSE = MANDATORY*). In the first experiment, we presented participants with a predetermined number of reported misconduct (facilities); whereas in experiments two and three, they were able to practically choose the reported misconduct numbers (6, 60, 240).

⁷ We told participants that they can earn a 50% bonus based on whether their decisions aligned with the positive evaluation of the majority of investors in a prior experiment. This prior experiment is the first investor perspective experiment reported in this study. Every participant that finished the experiment and chose decisions in line with the higher WTI of the majority of participants in experiment 1 received the bonus.

All participants then entered the end of the reporting period and received the condensed financial reports as well as the (randomly assigned or self-chosen) misconduct (facility) numbers by their staff. They then had to choose what to report. They had to mark all items to be reported (including the mandatory items). If they did not mark the mandatory items, an error message appeared, reminding participants that mandatory items had to be disclosed to comply with the law. They then saw a draft of the disclosure based on their choices and had the option to confirm or adapt their final decision.

After the decisions were final, we also asked participants about their anticipation of potential investors' willingness to invest in their company (*WTI*). Participants then completed several comprehension and attention checks, an open answer question, and sociodemographic questions. Appendices E and F contain the detailed information participants received.

Dependent and Additional Variables

We measured all our dependent variables as binary and ordinal decision outcomes. For H2 and H3, our primary dependent variables were the decision to either disclose or not disclose the misconduct (facility) numbers ($REPORT = \{0; 1\}$) and the decision to choose a worse (6 cases, $ADJUST = -1$), equal (60 cases, $ADJUST = 0$), or better (240 cases, $ADJUST = 1$) compliance system (the cases of the previous period were always 60). As an additional variable, we measured participants anticipation of potential investors' willingness to invest in their company (*WTI*) by using the same three items as in the investor perspective experiments on a 101-point scale from 0 to 100 while adjusting the wording slightly so that participants took the perspective of a potential investor of the firm they managed.

Experiment 1: Preparer's Voluntary Disclosure

Manipulation

We manipulated between-subjects if they received information on the number of facilities ($TREAT = CONTROL$) or the number of internally reported misconduct ($TREAT = TREATED$). We also randomly assigned participants to either receiving a reported case number ($CASES$) of 6, 60, or 240 ($CASES = 6$, $CASES = 60$, $CASES = 240$).

Results

H2 posits that, in voluntary disclosure settings, preparers would be less willing to disclose internally detected misconduct numbers compared to a neutral signal, such as the number of facilities. We tested this hypothesis by comparing the proportion of participants choosing to disclose ($REPORT = 1$) in the *CONTROL* versus *TREATED* condition. Figure 5 reports our results. Of 114 (112) participants in the *CONTROL* (*TREATED*) condition, 72.8 percent (29.3 percent) chose to disclose voluntarily. This difference is significant ($\chi^2 = 41.802$, $p < 0.001$). This finding held for all pairwise comparisons regardless of how many misconduct cases (facilities) participants randomly received (6 cases/facilities: $\chi^2 = 7.757$, $p = 0.005$; 60 cases/facilities: $\chi^2 = 36.45$, $p < 0.001$; 240 cases/facilities: $\chi^2 = 3.487$, $p = 0.062$). We attained inferentially similar results when we conducted a logistic regression (untabulated) with the binary DV ($REPORT = \{0; 1\}$), and IVs $CASES$ (1 = 6; 2 = 60; 3 = 240), $TREAT$ (0 = *CONTROL* vs 1 = *TREATED*), and their interaction ($CASES \times TREAT$), where both main effects $TREAT$ ($z = 3.021$, $p = 0.002$) and $CASES$ ($z = 1.99$, $p = 0.047$) were significant predictors for disclosure but not their interaction ($z = -0.749$, $p = 0.454$). That is, respondents in the *CONTROL* condition (facility), where about 11.7 times more likely to disclose the number of facilities compared to the *TREATED* group, which could disclose number of discovered misconduct.

Next, we asked participants to imagine a potential investor and to assess an investor's *WTI*. Untabulated ANOVA results showed that when only comparing the *TREAT* and *CASES* conditions, *TREAT* ($F = 7.131$, $p = 0.008$) was significant. From here, we therefore collapsed the *CASES* conditions for further analyses because the previous analyses did not show significant differences. When including the disclosure decision, it then became the only significant predictor for *WTI* ($F = 5.137$, $p = 0.024$) so that more disclosure leads to a higher *WTI* perception. This result is consistent with preparers choosing a disclosure strategy that maximizes their expected stock prices. That is, the majority appears to believe that not disclosing misconduct would lead to a higher *WTI* from investors. At the same time, the minority that did disclose the information believed that this would lead to a higher *WTI*.

Experiment 2: Preparer's Compliance System Manipulation

Manipulation

Participants were placed in a mandatory disclosure setting (*DISCLOSE = MANDATORY*) and only received information on the number of reported misconduct (*TREAT = TREATED*). They were presented a report of the chief compliance officer. They learned that the internal misconduct reporting system received 60 reports last year and that they had to choose if they wanted to change the system in a way that the expected number of reports for the next period would be 6, 60, or 240. We explicitly stated that the changes would be “where and how to find it [the internal reporting system].” Thus, there was no indication that the actual number of misconduct cases would be influenced but only the number of reports because it would be more, equally, or less difficult to file a report. We also kept the expected costs for the system constant and framed the decision in a neutral way, i.e., we avoided labelling a system change an improvement, cut, or similar.

Results

H3 posits that, in a mandatory disclosure setting, preparers would choose weaker compliance systems so that less misconduct numbers are detected internally. To test this hypothesis, we analyzed the compliance decisions from participants when disclosure was mandatory, but the internally reported and subsequently mandatorily disclosed misconduct could be influenced by changing the compliance system's effectiveness. Recall that in this condition, the reference point was a compliance system with 60 internal misconduct reports in the previous period, and participants were free to choose a system with expected reports of either 6, 60, or 240. We found that participants, on average, chose to manipulate their systems to decrease the report volume (from 60 to 6) compared to increasing the detected misconduct. Specifically, 37% (75 of 201 participants) chose to manipulate the system to reduce the expected reports to 6, 49% opted for no change (98 participants), and only 14% chose to expand expected reports to 240 (28 participants). This reduction in the compliance systems quality was significant (*ADJUST*: $M = -0.234$, $t = -4.888$, $p < 0.001$).

None of the ANOVA analyses (untabulated) for *WTI* showed significant differences (all p 's > 0.166). This result is consistent with an interpretation that preparers can choose an outcome that they believe leads to the highest *WTI* by investors. They act, based on their beliefs about *WTI* by investors, rationally. Here, the majority seemed to anticipate that investors would be more willing to invest in a firm with low detected misconduct, which mirrors the real *WTI* we found in the investor experiments above.

Experiment 3: Preparer's Voluntary Disclosure and Compliance System Manipulation

Manipulation

Contrary to experiment two, participants were placed in a voluntary disclosure setting (*DISLCOSE* = *VOLUNTARY*) and only received information on the number of reported misconduct (*TREAT* = *TREATED*). Like in the second experiment, they were then presented a report of the chief compliance officer. They learned that the internal misconduct reporting system received 60 reports last year and that they had to choose if they wanted to change the system in a way that the expected number of reports for the next period would be 6, 60, or 240.

Results

In this exploratory analysis, we were interested in what participants would choose if they could both manipulate the discovered misconduct and whether to disclose it or not. When we endowed participants with both choices to adjust the compliance system and voluntarily disclose, we observed a stark difference between those who choose to disclose and those who choose to withhold the internally detected misconduct cases. For those who disclosed, on average, we did not see a significant change in compliance systems quality: 22% reduced and 23% increased the compliance system's quality (*ADJUST*: $N = 100$, $M = 0.010$, $t = 0.148$, $p = 0.882$). For those who did not disclose, we saw a decrease in compliance systems quality with 46% reductions versus 14% increases (*ADJUST*: $N = 103$, $M = -0.320$, $t = -4.625$, $p < 0.001$). In further exploratory analyses, we also compared the decisions between the mandatory and the voluntary disclosure settings. A reduction of the effectiveness of the compliance system was more likely in the *VOLUNTARY* condition (46%) compared to the *MANDATORY* condition (37%). However, this difference was insignificant ($p = 0.305$).

Again, *WTI* was not significantly different between any of the mandatory disclosers or voluntary (non-) disclosers (untabulated ANOVAs, all p 's > 0.287), consistent with our previous findings and interpretations that preparers rationally act based on their expectations of investors' *WTI*.

We finally compared the disclosure decisions of participants in voluntary disclosure regimes who receive predetermined whistleblowing numbers with those that can also change the effectiveness of the whistleblower system and found that those with the effectiveness choice are more likely to disclose ($\chi^2 = 11.256$, $p < 0.001$). Comparing their *WTI* in an untabulated ANOVA analyses showed that *WTI* was significantly higher regardless of disclosure decision in the condition with choice over the reported misconduct ($F = 4.634$, $p = 0.032$). This result is consistent with an interpretation that preparers feel more confident in their choices when they also have influence over the content of disclosure.

DISCUSSION

Firms voluntarily disclose information to reduce information asymmetry between managers and stakeholders when disclosure costs are sufficiently low. Misunderstanding by stakeholders is a possible disclosure cost, especially when disclosing the outcomes of compliance management because they contain a joint positive signal of compliance effectiveness (uncovering many issues) and a negative signal of compliance issues (the natural subject of compliance management). Drawing on criminological literature and using two well-powered incentivized experiments (overall $N=1,214$), we first highlight stakeholders' systematic misperception of such disclosures because stakeholders interpret the signal only as a negative signal of compliance issues (Experiment 1). Second, we show that preparers of this information anticipate this negative interpretation of such signals and withhold this information if disclosure is voluntary or, if forced

to disclose, reduce compliance efforts internally (Experiment 2). Thus, our paper presents new evidence on (1) stakeholder misinterpretation of compliance signals; (2) under which conditions firms may choose to withhold information in voluntary disclosure settings; and (3) under which conditions mandatory disclosure can lead to reductions in compliance efforts.

Our findings contribute to research and practice in several ways. First, we contribute to the literature on voluntary disclosure (Clarkson et al. 1996, Levitt 1999, Ge et al. 2021, Jin et al. 2021) and selective or reduced disclosure (Villiers & van Staden 2006, Depoers et al. 2016, Lyon & Maxwell 2011) by exploring a specific disincentive of disclosure that naturally arises for many compliance systems, such as whistleblowing systems. This adds to the literature on voluntary disclosure, as prior research predominantly focused on strategic disclosure of information that can be bundled with existing or mandatory disclosures. In contrast, we show that voluntary disclosure reduces due to shareholders' anticipated misinterpretation of a signal. This is particularly problematic, as firms with effective compliance systems face incentives to reduce disclosure even though their compliance quality should be a positive signal for shareholders. Instead, the market rewards firms with less disclosure or those with lower compliance efforts.

Second, we contribute to theory and theory development by introducing a criminological concept (Bussmann 2007, Mayhew & Hough 1988, Vold 1966) to the disclosure literature. Our findings highlight its validity and applicability in the context of stakeholder-firm interactions. The moderation-of-process evidence from our robustness tests provides an initial indication that investors' interpretation of joint signals as a single signal is the primary contributor to this phenomenon. Our approach shows that leveraging insights from criminological theory can enhance our understanding of shareholder and firm behavior in areas of misconduct. More broadly, our research adds a new theoretical lens through which we can examine (strategic) disclosure and internal compliance decisions.

Third, we contribute to the literature on unintended consequences of disclosure regulation (Brüggemann et al. 2013, Hombach & Sellhorn 2019), which is also relevant to regulators and practitioners. Our findings show a barrier to voluntary disclosure, which cannot easily be solved by a disclosure mandate due to possible unintended consequences. At worst, a disclosure mandate could reduce firms' compliance efforts and contribute to higher misconduct prevalence. Moreover, our findings may also translate to policymakers and firms as stakeholders that succumb to such misinterpretations. For instance, supply chain due diligence laws may prompt firms to exclude partners with high whistleblowing report volumes or many cases of uncovered human rights violations, misinterpreting these as signs of high-risk partners. Similarly, policymakers may misallocate resources by placing less pressure or regulatory focus on firms with presumably better compliance, exacerbating the effect of high risk among such firms or even industries.

While our experimental approach offers a first insight into this misperception of compliance signals and disclosure, we encourage additional research to complement this initial evidence. For instance, future research could use archival data to systematically investigate how and what firms disclose and what capital market consequences are to understand what signals are not perceived as detrimental and who discloses how much under which conditions. Qualitative research may be suited to shed further light on whether managers anticipate this effect and, if so, the strategic responses that firms employ to counter it.

Future research could also examine how other information signals can be effectively bundled with these prompts. Prior literature in other disclosure contexts has looked at bundling strategies of disguising information (Melloni et al. 2017), “bragging” behavior and over-disclosing, using different outlets, such as social media or investor calls (Grant et al. 2018), or in terms of qualitative versus quantitative disclosures (He et al. 2019). More focus can also be placed on the effects on firms with ineffective compliance systems.

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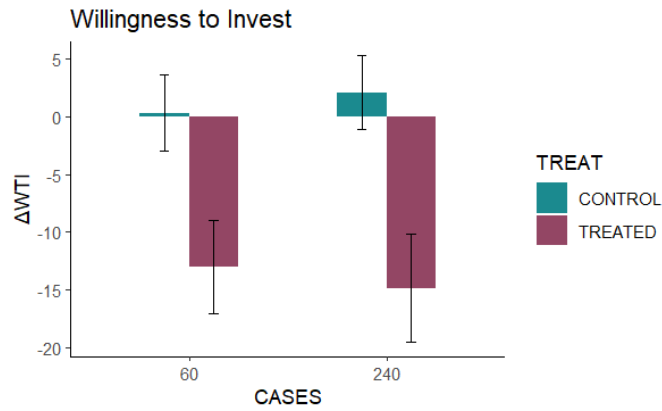
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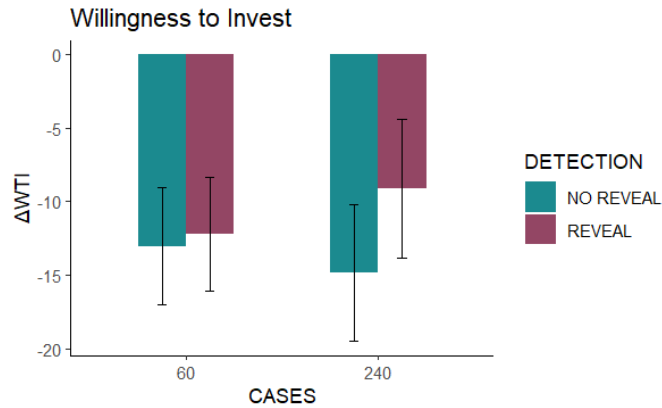
Figures and Tables

Figure 1: Experiment 1: Effects of disclosing internally detected misconduct on changes in investors' investment willingness



Notes: The figure plots the means and 95% confidence intervals by experimental cell (see Table 1, Panel B) from our primary results that we present in more detail in Table 2. Panel A presents the results when using ΔWTI (for definition, see Table 2) as the dependent variable, just as in Table 2.

Figure 2: Experiment 2: Effects of disclosing effectiveness of misconduct discovery on changes in investors' investment willingness



Notes: The figure plots the means and 95% confidence intervals by experimental cell (see Table 1, Panel C) from our primary results that we present in more detail in Table 3. It presents the results when using ΔWTI (for definition, see Table 3) as the dependent variable, just as in Table 3.

Figure 3: Experiment 3: Effects of disclosing effectiveness of misconduct discovery and quality of system on changes in investors' investment willingness (CASES = 240)



Notes: The figure plots the means and 95% confidence intervals by experimental cell (see Table 1, Panel D) from our primary results that we present in more detail in Table 4. It presents the results when using ΔWTI (for definition, see Table 4) as the dependent variable, just as in Table 4.

Table 1: Overview of experimental cells

Manipulation	Misconduct disclosure	Number of cases	Information on effectiveness of CS	Information on quality of Compliance system			
Levels	Binary (X)	60 vs. 240	Binary (X)	Binary (X)	<i>N (full)</i>	<i>N (attention checks passed)</i>	<i>N (all checks passed)</i>
Var. name	<i>TREAT</i>	<i>CASES</i>	<i>DETECTION</i>	<i>WHISTLEBLOWING</i>			
Cell A		60			70	68	48
Cell B	X	60			71	70	42
Cell C		240			70	69	42
Cell D	X	240			74	71	39
Cell E	X	60	X		72	72	46
Cell F	X	240	X		65	61	35
Cell G	X	240		X	72	72	41
Cell H	X	240	X	X	74	73	33
Experiment 1: Misconduct Detection Disclosure (N = 285)							
Cell A		60			70	68	48
Cell B	X	60			71	70	42
Cell C		240			70	69	42
Cell D	X	240			74	71	39
Experiment 2: Salience of Compliance System Effectiveness (N = 282)							
Cell B	X	60			71	70	42
Cell D	X	240			74	71	39
Cell E	X	60	X		72	72	46
Cell F	X	240	X		65	61	35
Experiment 3: Salience of Compliance System Quality (N = 146)							
Cell D	X	240			74	71	39
Cell G	X	240		X	72	72	41
Experiment 3: Exploratory analyses (N = 285)							
Cell D	X	240			74	71	39
Cell F	X	240	X		65	61	35
Cell G	X	240		X	72	72	41
Cell H	X	240	X	X	74	73	33

Table 2: Experiment 1. Effects of disclosing internally detected misconduct on changes in investors' investment willingness

Panel A Descriptive Statistics – Mean (Standard Deviations)					
N = 285		Misconduct disclosure			
Number of Cases	CONTROL	TREATED	Overall		
60	0.31 (13.77) N=70 [cell A]	-13.03 (16.96) N=71 [cell B]	-6.41 (16.79) N=141		
240	2.08 (13.30) N=70 [cell C]	-14.83 (20.10) N=74 [cell D]	-6.61 (19.07) N=144		
Overall	1.19 (13.52) N=140	-13.95 (18.58) N=145			
Panel B Two-way ANOVA Results, DV = ΔWTI					
Source	Sum of Squares	df	F	p-value	
Intercept	11,555	1	43.34	<0.001***	
TREAT	16,288	1	61.10	<0.001***	
CASES	0	1	<0.01	0.994	
INTERACTION	228	1	0.86	0.356	
Error	74,910	281			
Panel C Planned contrasts with simple effects tests (Bonferroni corrected)					
Contrast	Estimate	SE	df	t-stat	p-value
A vs B	13.33	2.75	281	4.848	<.0001***
A vs C	-1.78	2.76	281	-0.644	1
A vs D	15.14	2.72	281	5.561	<.0001***
B vs C	-15.11	2.75	281	-5.494	<.0001***
B vs D	1.81	2.71	281	0.666	1
C vs D	16.91	2.72	281	6.213	<.0001***

Notes: Experiment 2. Panel A presents the mean, standard deviation (in parentheses), and number of observations (N) of participants' change in willingness to invest in *Spechem* (ΔWTI) for each experimental cell. Columns denote the *TREAT* manipulation and rows denote the *CASES* manipulation which we present in detail in Appendix B. ΔWTI is measured as the difference of participants' average answer to a three-item construct measured before and after the manipulation. The three items are (on a scale from 0 to 100): (i) "How willing are you to invest in Spechem's stock?"; (ii) "Do you view Spechem's stock as more favorable or less favorable in general?"; (iii) "Are your feelings towards Spechem's stock as a potential investment generally more positive or more negative?". Panel B reports results of a full-factorial ANOVA with ΔWTI as the dependent variable, and the *TREAT* and *CASES* manipulation as treatment variables. Panel C presents Bonferroni adjusted T-tests (two-tailed) of the mean of ΔWTI between two experimental cells in each line. *, **, and *** denote significance at the 10-, 5-, and 1-percent levels, respectively.

Table 3: Experiment 2. Effects of informing participants about detection likelihoods on changes in investors' investment willingness

Panel A Descriptive Statistics – Mean (Standard Deviations)					
N = 282		Information on detection likelihoods			
Number of Cases	<i>NO REVEAL</i>	<i>REVEAL</i>	Overall		
60	-13.03 (16.96) N=71 [cell B]	-12.21 (16.50) N=72 [cell E]	-12.62 (16.67) N=143		
240	-14.83 (20.10) N=74 [cell D]	-9.09 (19.04) N=65 [cell F]	-12.15 (19.75) N=139		
Overall	-13.95 (18.58) N=145	-10.73 (17.75) N=137			
Panel B Two-way ANOVA Results, DV = ΔWTI					
Source	Sum of Squares	df	F	p-value	
Intercept	42,498	1	128.22	<0.001***	
<i>DETECTION</i>	757	1	2.28	0.132	
<i>CASES</i>	30	1	0.09	0.763	
<i>INTERACTION</i>	426	1	1.28	0.258	
Error	92,142	278			
Panel C Planned contrasts with simple effects tests (Bonferroni corrected)					
Contrast	Estimate	SE	df	t-stat	p-value
B vs E	-0.82	3.04	278	-0.269	1
B vs D	1.81	3.02	278	0.597	1
B vs F	-3.94	3.13	278	-1.259	1
E vs D	2.62	3.01	278	0.871	1
E vs F	-3.12	3.11	278	-1	1
D vs F	-5.74	3.09	278	-1.855	0.3879

Notes: Experiment 2. Panel A presents the mean, standard deviation (in parentheses), and number of observations (N) of participants' change in willingness to invest in *Spechem* (ΔWTI) for each experimental cell. Columns denote the *DETECTION* manipulation and rows denote the *CASES* manipulation which we present in detail in Appendix C. ΔWTI is measured as the difference of participants' average answer to a three-item construct measured before and after the manipulation. The three items are (on a scale from 0 to 100): (i) "How willing are you to invest in Spechem's stock?"; (ii) "Do you view Spechem's stock as more favorable or less favorable in general?"; (iii) "Are your feelings towards Spechem's stock as a potential investment generally more positive or more negative?". Panel B reports results of a full-factorial ANOVA with ΔWTI as the dependent variable, and the *DETECTION* and *CASES* manipulation as treatment variables. Panel C presents Bonferroni adjusted T-tests (two-tailed) of the mean of ΔWTI between two experimental cells in each line. *, **, and *** denote significance at the 10-, 5-, and 1-percent levels, respectively.

Table 4: Effects of informing participants about detection likelihoods and the existence of a whistleblowing system on changes in investors' investment willingness

Panel A Descriptive Statistics – Mean (Standard Deviations)					
Information on detection likelihoods	Information on whistleblowing				
	UNKNOWN	EXISTS	Overall		
NO REVEAL	-14.83 (20.10) N=74 [cell D]	-15.64 (19.67) N=72 [cell G]	-15.23 (19.82) N=146		
REVEAL	-9.09 (19.04) N=65 [cell F]	-8.70 (18.94) N=74 [cell H]	-8.88 (18.92) N=139		
Overall	-12.15 (19.75) N=139	-12.12 (19.55) N=146			
Panel B Two-way ANOVA Results, DV = ΔWTI					
Source	Sum of Squares	df	F	p-value	
Intercept	41,380	1	109.36	<0.001***	
DETECTION	2,859	1	7.55	0.006***	
WHISTLEBLOWING	3	1	0.01	0.928	
INTERACTION	26	1	0.07	0.894	
Error	106,328	281			
Panel C Planned contrasts with simple effects tests (Bonferroni corrected)					
Contrast	Estimate	SE	df	t-stat	p-value
D vs G	-5.741	3.31	281	-1.736	0.5018
D vs F	0.81	3.22	281	0.252	1
D vs H	-6.135	3.2	281	-1.918	0.3364
G vs F	6.551	3.33	281	1.968	0.300
G vs H	-0.394	3.31	281	-0.119	1
F vs H	-6.945	3.22	281	-2.157	0.1912

Notes: Panel A presents the mean, standard deviation (in parentheses), and number of observations (N) of participants' change in willingness to invest in *Spechem* (ΔWTI) for each experimental cell. Columns denote the *WHISTLEBLOWING* manipulation and rows denote the *DETECTION* manipulation which we present in detail in Appendix D. ΔWTI is measured as the difference of participants' average answer to a three-item construct measured before and after the manipulation. The three items are (on a scale from 0 to 100): (i) "How willing are you to invest in *Spechem*'s stock?"; (ii) "Do you view *Spechem*'s stock as more favorable or less favorable in general?"; (iii) "Are your feelings towards *Spechem*'s stock as a potential investment generally more positive or more negative?". Panel B reports results of a full-factorial ANOVA with ΔWTI as the dependent variable, and the *DETECTION* and *WHISTLEBLOWING* manipulation as treatment variables. Panel C presents Bonferroni adjusted T-tests (two-tailed)

of the mean of ΔWTI between two experimental cells in each line. *, **, and *** denote significance at the 10-, 5-, and 1-percent levels, respectively.

APPENDIX A

Experimental material (Manipulations are in Appendices B, C, and D)

Please assume that you own a significant portfolio of stocks. You are doing a regular review of that portfolio, and you **consider investing** in the special chemicals industry to maintain a diversified portfolio, specifically in the (fictional) **company Spechem AG**.

Please use the **information on the next pages** to make **your investment decision**. There are **no right or wrong answers**, and we are not interested in how others would decide in these scenarios.

However, you can earn up to **50% on top of your base pay**, depending on **your performance** regarding precision of some of your answers.

Spechem AG is a leading specialty chemicals company. Despite its comparably high maturity, the chemical industry remains a growing market. At the same time, it faces a radical transformation. The challenge for many chemical companies currently is to serve existing and developing areas of application with sustainable products and to design global supply chains efficiently, fairly, securely, and sustainably. Spechem manages a dispersed network of facilities across Europe. It has released several codes of conduct to ensure fair operations in all its dispersed facilities.

Nevertheless, there is always some corporate misconduct behind closed doors. The press, in rare cases, comes across information of incidents of corporate misconduct. Companies also come across some of the cases internally. They will always know of at least as many cases as the press does, but never of all cases that happened.

Important KPIs of Spechem AG

KPI	2023	2022
Stock price/share year end (\$)	56.20	56.80
Dividend/share (\$)	1.70	1.70
Earnings per share (\$)	3.66	3.84
Price-Earnings-Ratio	15.36	14.79
Total assets (b\$)	25.26	25.32

During 2023, the press reported 6 corporate misconduct cases within Spechem AG.

Recall that you own a diversified portfolio of stocks, and **you are considering investing in Spechem**. The report with the above numbers just came out, and you are performing an **initial assessment** of Spechem. After considering any possible additional information you may encounter, you will make a final assessment later.

How willing are you to invest in Spechem's stock?

not at all
willing

extremely
willing

Do you view Spechem's stock as more favorable or less favorable in general?

extremely
less
favorable

extremely
more
favorable

Are your feelings towards Spechem's stock as a potential investment generally more positive or more negative?

extremely
negative

extremely
positive

Base information on Spechem AG (repetition)

Recall that you own a diversified portfolio of stocks, and **you are considering investing in Spechem**. The report with the above numbers just came out, and you are performing an **initial assessment** of Spechem. After considering any possible additional information you may encounter, you will make a final assessment later.

How well do you believe Spechem is able to detect existing cases of corporate misconduct internally?

extremely
badly

extremely
well

How well do you believe Spechem manages its dispersed facilities?

extremely
badly

extremely
well

How many total corporate misconduct cases do you believe happened within Spechem in 2023?

very few

very many

How many total facilities do you believe Spechem operated in 2023?

very few

very many

How likely do you believe is it that the press becomes aware of an existing corporate misconduct case at Spechem in 2023?

very unlikely

very likely

Base information on Spechem AG (repetition)

[Manipulations, see Appendices B, C, and D]

Finally, same set of question as before the manipulations, but with the following introductory text: “It’s time to make your final investment assessment. Please note that your answer to each question should reflect your final investment assessment, not how you would adjust your preliminary assessment.”

APPENDIX B

Manipulations in the first 2 x 2 experiment (Difference between Cells highlighted in grey)

CONTROL	TREATED												
Recall: The press, in rare cases, comes across information of incidents of corporate misconduct. Companies also come across some of the cases internally. They will always know of at least as many cases as the press does, but never of all cases that happened. During 2023, the press reported 6 corporate misconduct cases within Spechem AG.													
New regulation requires all firms to disclose their number of facilities by continents from 2023 onwards. Spechem discloses the number of its European facilities. Spechem has no operations on other continents. The new regulation does not mandate disclosure of facilities retrospectively for 2022.	New regulation requires all firms to disclose internally detected incidents of corporate misconduct from 2023 onwards. Spechem discloses all incidents of corporate misconduct that came to light. The new regulation does not mandate disclosure of any incidents retrospectively for 2022.												
Cell A	Cell B												
Spechem reports as follows: <table><tr><td>Facilities</td><td>2023</td><td>2022</td></tr><tr><td>Europe</td><td>60</td><td>--</td></tr></table>	Facilities	2023	2022	Europe	60	--	Spechem reports as follows: <table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>60</td><td>--</td></tr></table>	KPI	2023	2022	Corporate misconduct cases	60	--
Facilities	2023	2022											
Europe	60	--											
KPI	2023	2022											
Corporate misconduct cases	60	--											
Cell C	Cell D												
Spechem reports as follows: <table><tr><td>Facilities</td><td>2023</td><td>2022</td></tr><tr><td>Europe</td><td>240</td><td>--</td></tr></table>	Facilities	2023	2022	Europe	240	--	Spechem reports as follows: <table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>240</td><td>--</td></tr></table>	KPI	2023	2022	Corporate misconduct cases	240	--
Facilities	2023	2022											
Europe	240	--											
KPI	2023	2022											
Corporate misconduct cases	240	--											
Base information on Spechem AG (repetition)													

APPENDIX C

Manipulations in the second 2 x 2 experiment (Difference between Cells highlighted in grey)

NO REVEAL	REVEAL												
Recall: The press, in rare cases, comes across information of incidents of corporate misconduct. Companies also come across some of the cases internally. They will always know of at least as many cases as the press does, but never of all cases that happened. During 2023, the press reported 6 corporate misconduct cases within Spechem AG. New regulation requires all firms to disclose internally detected incidents of corporate misconduct from 2023 onwards. Spechem discloses all incidents of corporate misconduct that came to light. The new regulation does not mandate disclosure of any incidents retrospectively for 2022.													
Cell C	Cell E												
Spechem reports as follows:	Spechem reports as follows:												
<table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>60</td><td></td></tr></table>	KPI	2023	2022	Corporate misconduct cases	60		<table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>60</td><td>--</td></tr></table> Suppose that the likelihood that the press comes across an incident is 1% and the likelihood that Spechem detects an incident is 10%.	KPI	2023	2022	Corporate misconduct cases	60	--
KPI	2023	2022											
Corporate misconduct cases	60												
KPI	2023	2022											
Corporate misconduct cases	60	--											
Cell D	Cell F												
Spechem reports as follows:	Spechem reports as follows:												
<table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>240</td><td>--</td></tr></table>	KPI	2023	2022	Corporate misconduct cases	240	--	<table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>240</td><td>--</td></tr></table> Suppose that the likelihood that the press comes across an incident is 1% and the likelihood that Spechem detects an incident is 40%.	KPI	2023	2022	Corporate misconduct cases	240	--
KPI	2023	2022											
Corporate misconduct cases	240	--											
KPI	2023	2022											
Corporate misconduct cases	240	--											
Base information on Spechem AG (repetition)													

APPENDIX D

Manipulations in the third 2 x 2 experiment (Difference between Cells highlighted in grey)

UNKNOWN	EXISTS												
Recall: The press, in rare cases, comes across information of incidents of corporate misconduct. Companies also come across some of the cases internally. They will always know of at least as many cases as the press does, but never of all cases that happened. During 2023, the press reported 6 corporate misconduct cases within Spechem AG. New regulation requires all firms to disclose internally detected incidents of corporate misconduct from 2023 onwards. Spechem discloses all incidents of corporate misconduct that came to light. The new regulation does not mandate disclosure of any incidents retrospectively for 2022.													
Cell D	Cell G												
Spechem reports as follows: <table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>240</td><td>--</td></tr></table>	KPI	2023	2022	Corporate misconduct cases	240	--	In addition to the above-mentioned compliance efforts, Spechem has installed a dedicated system where people can report observed cases of corporate misconduct. Spechem reports as follows: <table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>240</td><td>--</td></tr></table>	KPI	2023	2022	Corporate misconduct cases	240	--
KPI	2023	2022											
Corporate misconduct cases	240	--											
KPI	2023	2022											
Corporate misconduct cases	240	--											
Cell F	Cell H												
Spechem reports as follows: <table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>240</td><td>--</td></tr></table> Suppose that the likelihood that the press comes across an incident is 1% and the likelihood that Spechem detects an incident is 40%.	KPI	2023	2022	Corporate misconduct cases	240	--	In addition to the above-mentioned compliance efforts, Spechem has installed a dedicated system where people can report observed cases of corporate misconduct. Spechem reports as follows: <table><tr><td>KPI</td><td>2023</td><td>2022</td></tr><tr><td>Corporate misconduct cases</td><td>240</td><td>--</td></tr></table> Suppose that the likelihood that the press comes across an incident is 1% and the likelihood that Spechem detects an incident is 40%.	KPI	2023	2022	Corporate misconduct cases	240	--
KPI	2023	2022											
Corporate misconduct cases	240	--											
KPI	2023	2022											
Corporate misconduct cases	240	--											

Base information on Spechem AG (repetition)
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APPENDIX E

Please assume the role of the head of a company, the CEO of Spechem AG. The company Spechem AG is publicly traded. That means, investors buy and sell shares in the company on the stock market. Many things influence investor decisions. But an **important influence are the annual statements** about the firm's financial and non-financial situation.

As the CEO, part of your compensation is based on your company's share price on the stock market. In this experiment, **you can earn up to 50% on top of your base pay**, depending on **investors' willingness to invest in your company** (which determines the company's share price). The investors in this game are real people and they invested in a previous round for similar possible sets of information you can decide to provide.

In the following, you will be given information about the firm you work for. You will then be given a condensed version of several information items. Some of them must be disclosed (mandatory) to investors and some of them can be disclosed (voluntary) to investors. **Your task is to make decisions about which information you would like to disclose to investors. Investors will NOT know which information you choose to withhold (i.e., NOT disclose).**

Because the information that you disclose is being audited, **you cannot lie about the information**. If you (choose to) disclose information, it is always what you really know.

You are the CEO of Spechem AG

E003

It is the beginning of the year 2024. Your company **Spechem AG** is a leading specialty chemicals company. Despite its comparably high maturity, the chemical industry remains a growing market. At the same time, your industry faces a radical transformation. The challenge for many chemical companies like yours currently is to serve existing and developing areas of application with sustainable products and to design global supply chains efficiently, fairly, securely, and sustainably. You manage a dispersed network of facilities across Europe. You have released several codes of conduct to ensure fair operations in all your dispersed facilities.

Treatments TREAT and DISCLOSE (Appendix F)

Only for the treatment where participants were allowed to influence the compliance system (i.e., MANIPULATE = YES) within the treatment TREAT = TREATED

Policies and actions regarding corporate misconduct reporting systems.

E301

Your chief compliance officer (CCO) asks you to review the current policies and actions regarding corporate misconduct reports. **He reminds you that last year the system recorded around 60 incidents.** He offers you the following alternative actions. The costs associated with the three options are similar.

Option 1: You can adjust your corporate misconduct reporting system (e.g., where and how to find it) to potentially change the reporting volume. Your CCO estimates that the number of reports will adjust to around **6** reports per year.

Option 2: You can review your corporate misconduct reporting system (e.g., where and how to find it) to maintain the current reporting volume. Your CCO estimates that the number of reports will remain at around **60** reports per year.

Option 3: You can adjust your corporate misconduct reporting system (e.g., where and how to find it) to potentially change the reporting volume. Your CCO estimates that the number of reports will adjust to around **240** reports per year.

Only for the treatment where participants were allowed to influence the compliance system (i.e., MANIPULATE = YES) within the treatment TREAT = TREATED

Please choose from one of the options given:

E302

- ☐ **Option 1:** You can adjust your corporate misconduct reporting system (e.g., where and how to find it) to potentially change the reporting volume. Your CCO estimates that the number of reports will adjust to around **6** reports per year.
- ☐ **Option 2:** You can review your corporate misconduct reporting system (e.g., where and how to find it) to maintain the current reporting volume. Your CCO estimates that the number of reports will remain at around **60** reports per year.
- ☐ **Option 3:** You can adjust your corporate misconduct reporting system (e.g., where and how to find it) to potentially change the reporting volume. Your CCO estimates that the number of reports will adjust to around **240** reports per year.

For all:

It is now the end of the reporting period (end of the year 2024) and you now have all information that can be disclosed. Below is a comprised account of the information you may disclose:

E401

Important KPIs of Spechem AG

KPI	2024	2023
Stock price/share year end (\$)	56.20	56.80
Dividend/share (\$)	1.70	1.70
Earnings per share (\$)	3.66	3.84
Price-Earnings-Ratio	15.36	14.79
Total assets (b\$)	25.26	25.32

It is now the end of the reporting period and time to choose the disclosure items for 2024. Mandatory information must be disclosed, as this is mandated by regulation. For voluntary information, you can freely choose if you disclose the information. Recall that you cannot lie, alter the information, or omit mandatory disclosures, as this would be a violation of the law and constitute fraud.

E408

As CEO, I choose to disclose the following items to investors and the general public as part of our annual statements.

E411

Please mark all items to be disclosed!

- ☐ Important KPIs reflecting Financial Statements (mandatory)
- ☐ Corporate misconduct case reports (mandatory)

*Brackets dependent on treatment DISCLOSE (VOLUNTARY vs MANDATORY)
and second line item dependent on treatment TREAT (CONTROL vs TREATED)*

Below, you can see what the disclosure will look like for an investor:

Important KPIs of Spechem AG

KPI	2024	2023
Stock price/share year end (\$)	56.20	56.80
Dividend/share (\$)	1.70	1.70
Earnings per share (\$)	3.66	3.84
Price-Earnings-Ratio	15.36	14.79
Total assets (b\$)	25.26	25.32

Spechem reports as follows:

KPI	2024	2023
Corporate misconduct cases	60	--

“Spechem reports as follow” based on decisions in DISCLOSE = VOLUNTARY condition.

Number dependent on either CASES or decision in condition with choice to adapt reporting system.

Line item dependent on treatment TREAT (CONTROL vs TREATED)

Are you sure you want to disclose these items?

If you click yes, you sign off on their disclosure and they will be reported to the public.

- ☐ Yes, I want to disclose these items.
- ☐ No, go back to selection.

Reasons for your decision

Please briefly describe your reason(s) for your actions and disclosure decisions regarding corporate misconduct reports!

Line item dependent on treatment TREAT (CONTROL vs TREATED)

How willing do you think are potential investors to invest in Spechem's stock?

E603

not at all willing

extremely willing

Do you think potential investors view Spechem's stock as more favorable or less favorable in general?

E604

extremely less
favorable

extremely more
favorable

Do you think potential investors' feelings towards Spechem's stock as a potential investment are generally more positive or more negative?

E605

extremely negative

extremely positive

How well do you believe your company internally is able to detect existing cases of corporate misconduct?

extremely badly

extremely well

How well do you believe your company manages your dispersed facilities?

extremely badly

extremely well

How many total corporate misconduct cases do you believe happened within your company in 2024?

very few

very many

How many facilities do you believe your company operated in 2024?

very few

very many

Next

How high would you self-assess your expertise with respect to...

Accounting

very low ————— very high

Capital Markets

very low ————— very high

Investment decisions

very low ————— very high

Fraud and related misconduct

very low ————— very high

For how many years have you invested in shares?

Please state here: years

What is your highest level of education?

- ☐ Below High School
 - ☐ High School
 - ☐ Bachelor's or equivalent
 - ☐ Master's or equivalent
 - ☐ PhD or equivalent
-

APPENDIX F

TREAT = *CONTROL* group (facilities) vs *TREATED* (misconduct)

For *TREATED*: *DISCLOSE* = *VOLUNTARY* (voluntary disclosure regime) vs *MANDATORY* (mandatory disclosure regime)

CONTROL x *VOLUNTARY*

Applicable regulation

E201

As part of the annual statements, accounting **regulation mandates disclosure of all financial statement items**, in particular the balance sheet, income statement, cash flow statement, and notes, as well as non-financial statements.

In addition, there is **no regulation that mandates disclosure of number of facilities** by continents. This means that such a **disclosure is entirely voluntary**.

TREATED x *VOLUNTARY*

Applicable regulation

E203

As part of the annual statements, accounting **regulation mandates disclosure of all financial statement items**, in particular the balance sheet, income statement, cash flow statement, and notes, as well as non-financial statements.

In addition, new regulation **requires** all firms to **disclose internally detected incidents of corporate misconduct from 2024 onwards**. The new regulation does not mandate disclosure of any incidents retrospectively for 2023.

TREATED x *MANDATORY*

Applicable regulation

E202

As part of the annual statements, accounting **regulation mandates disclosure of all financial statement items**, in particular the balance sheet, income statement, cash flow statement, and notes, as well as non-financial statements.

In addition, there is **no regulation that mandates disclosure of internally detected incidents of corporate misconduct**. This means that such a **disclosure is entirely voluntary**.