Title	Think Twice Before Going for Incentives: Social Norms and the Principal's Decision on Compensation Contracts
Author(s)	Cardinaels, Eddy; Yin, Huaxiang
Citation	Cardinaels, E., & Yin, H. (2015). Think Twice Before Going for Incentives: Social Norms and the Principal's Decision on Compensation Contracts. Journal of Accounting Research, 53(5), 985-1015.
Date	2015
URL	http://hdl.handle.net/10220/39741
Rights	© 2015 Accounting Research Center. This is the author created version of a work that has been peer reviewed and accepted for publication in Journal of Accounting Research, published by University of Chicago on behalf of Accounting Research Center. It incorporates referee's comments but changes resulting from the publishing process, such as copyediting, structural formatting, may not be reflected in this document. The published version is available at: [http://dx.doi.org/10.1111/1475-679X.12093].

Think Twice before Going for Incentives: Social Norms and the Principal's Decision on

Compensation Contracts

EDDY CARDINAELS
KU Leuven
KU Leuven, Department of Accountancy, Finance and Insurance
Naamsestraat 69, 3000 Leuven, Belgium
Email: eddy.cardinaels@kuleuven.be

Tilburg University
Tilburg University, Department of Accountancy,
P.O. Box 90153, 5000LE Tilburg, The Netherlands
Email: e.cardinaels@uvt.nl

HUAXIANG YIN
Nanyang Technological University
Nanyang Technological University, Division of Accounting,
639798 Singapore
Email: hxyin@ntu.edu.sg

Think Twice before Going for Incentives: Social Norms and the Principal's Decision on Compensation Contracts

Abstract

Principals make decisions on various issues, ranging from contract design to control system implementation. Few studies examine the principal's active role in these decisions. We experimentally investigate this role by studying how a principal's choice for an incentive contract that may discourage misrepresentation, compared to a fixed-salary contract, affects the honesty of their agents' cost reporting. Results show that besides an incentive effect and a principal trust effect (Christ et al. [2012]), the active choice for incentives produces a negative "information leakage" effect. When principals use incentives, their choices not only incentivize truthful reporting and signal distrust, but they also leak important information about the social norm; namely, that other agents are likely to report dishonestly. Agents conform to this social norm by misrepresenting cost information more. Our results have important practical implications. Managers must recognize that their decisions can leak information to their agents, which may produce unanticipated consequences for the social norms of the organization.

Key words: Incentive contract, information leakage effect, social norms, honesty

1. Introduction

Principals often use their authority to enforce decisions on compensation contract design, control system implementation, and the delegation of decision rights. Anecdotal evidence suggests that principals' decisions have not only a "hard" influence (e.g., a change in the compensation structure) but also a "soft" influence by setting a "tone at the top". This soft influence can strongly influence the norms in the organization (Lucas and Koerwer [2004], Tourish and Vatcha [2005], Association of Certified Fraud Examiner [2006]). While principals' decisions are clearly pivotal (Christ, Sedatole, and Towry [2012], Christ [2013]), most research ignores their potential to leak information to agents about what the principals have observed of other agents. We examine whether such information leakage occurs, and if so, whether it produces unanticipated consequences for behavior (i.e., social norms) in the organization.

We study the consequences of a principal's decision on compensation contracts in a capital budgeting context. The principal can choose to either rely on the agent's inherent motive to report truthfully (i.e., choose a fixed wage contract) or implement an incentive contract that may discourage misrepresentation. Incentive contracts are often seen as effective tools for improving honest reporting. Recent literature shows that incentives can reduce information misrepresentation in capital budgeting (Mittendorf [2006]). In practice, companies often use contracts that make misrepresentation less attractive (Zimmerman [2009]).

However, prior studies also show that principal's choice for incentives may signal distrust to agents (Christ et al. [2012], Christ [2013]). We presume that the use of incentive contracts can ultimately reveal more to agents than distrust. In organizations, principals often implement these contracts after experiences with employees in the budgeting process that might justify the use of

incentives. However, the decision to implement the incentive contract may suggest to an agent how other employees in the organization behave, which can affect that agent's behavior.

We run a two-stage experiment in a capital budgeting game. After the first stage (i.e., the Information Stage), participants in the principal's role receive information about agents' reporting behavior. Before the second stage starts (i.e., the Main Stage), principals choose a contract for their new agents. The new contract is either a fixed-salary contract in which agents can build in slack through misrepresenting costs or an incentive contract that may discourage such misrepresentation through variable salary decreasing at reported costs. Our results show that changing from the fixed-salary contract to the incentive contract produces an important negative consequence. While the choice for the incentive contract reduces slack building (i.e., the incentive effect) and signals distrust to agents (i.e., the principal trust effect as shown in Christ et al. [2012]), it also leaks information to agents; namely, that people in general misrepresent costs. Results show that agents adjust their perception of the social norms and conform to this norm by increasing their own misrepresentation of costs. We label this effect the "information leakage" effect of incentive contracts. Robustness tests reveal that this information leakage effect is present even when we control for the potential difference in agents' inherent dishonesty levels. Additional analyses show that this effect is stronger for participants who have higher levels of conformity to norms. This effect materializes only when principals can act on the observation of other agents' past behavior.

Our research makes important contributions to the literature. First, it contributes to agency theory on the effects of incentive contracts. While prior studies (for a review, see Sprinkle and Williamson [2006]) have extensively examined the incentive effect and the self-selection effect of incentive contracts, we focus on the information leakage effect of such contracts. Our study

documents that the decision to choose for incentives can produce negative effects. We offer a social norm–based explanation for these negative effects. The principal's active choice for the incentive contract over the fixed-salary contract leaks important information about the social norm; namely, that other agents tend to be self-interested. The agents who in turn receive the incentive contract tend to conform to this selfish norm. This information leakage effect can materialize in many companies because managers have ample opportunities to observe their agents' behavior and have the decision rights to act on this information.

Second, our study offers important insights on how the norms within a company can endogenously evolve as a consequence of principals' active interventions. Previous authors tend to accept these organizational norms as given and focus instead on how they affect the design and use of control systems (O'Connor [1995], Chow, Harrison, McKinnon, and Wu [2002], Sunder [2002], Bhimani [2003], Henri [2006]). Other studies examine the effects of control systems on organizational norms by showing that higher relative wages among coworkers can promote social norms that reduce coworkers' intentions to collude (Chen and Sandino [2012]). Little research addresses how principals' active interventions in the control system or contract design stage can shape norms in the organization. Our study finds that the principals' decisions about compensation contracts can affect the agents' perceptions of organizational norms. These perceptions can lead to important changes in norms at play in the organization (Sunder [2002]).

Third, our study has direct practical implications. In observing their subordinates' behavior, superiors often receive crucial information that is tempting to act on immediately. Our results confirm that many superiors act on such information. After receiving information about agents' past reporting behavior, most principals choose incentive contracts for their new subordinates. Our results suggest, however, that superiors should use these incentive schemes with care to

avoid that such schemes leak "harmful" information. Rather than being actively involved in compensation design, which may trigger the information leakage effect, superiors may avoid leaking such information by delegating the decision right to third parties, such as compensation consultants (Coffman [2011], Bartling and Fischbacher [2012]). Furthermore, our study suggests that top management should ensure that their use of incentive devices sends information that is consistent with the norms they want to promote within the company. If they want to promote a trust-based norm, relying on trust-based contracts can in the long run be more beneficial.

The remainder of this paper is organized as follows: section 2 develops our model and hypotheses; section 3 describes our experiment; section 4 presents and discusses our results; and section 5 concludes this paper.

2. Theoretical Model and Hypotheses

Incentives or controls do not always induce the desired behavior. The desired effects of incentives and controls may be offset by negative effects or crowding-out effects on people's social preferences (Gneezy and Rustichini [2000a], [2000b]). Nevertheless, the different mechanisms through which such negative effects occur and, in particular, the role played by the principals' active decisions herein have received scant attention. In many organizations principals actively intervene by changing and implementing new forms of compensation contracts and control systems, after observing employee behavior.

Most studies in accounting, however, compare control or incentive devices between-subjects without leaving this choice to the discretion of the principal. These studies show that pro-social preferences may be eclipsed by incentives that change an agent's decision frame from an ethical decision to a business-related decision (Tenbrunsel and Messick [1999]). Tayler and Bloomfield [2011] find that the presence of strong initial controls for agents to contribute to a public-good

4

game may induce participants to frame their decisions as being related to business. This framing can activate a self-interested norm, which reduces participants' motivation to donate to the public good. Rankin, Schwartz, and Young [2008] compare agents' motivations to be honest in budget settings, where principals either have or do not have the right to reject agents' budget requests. Endowing principals with the right to reject budget requests provides agents with some economic incentives to tell the truth. Nevertheless, agents also perceive budgeting as a strategic, rather than an ethical interaction. Their intrinsic motivation to be honest strongly decreases when principals can reject budget requests, compared to when they cannot.

Only recently, a few studies have examined the principal's active role. In settings where trust in principals is important, the principal's initial preference for incentives or controls can signal his or her intentions. Christ et al. [2012] show that the principal's choice of a negatively framed contract, compared to a positively framed contract, signals distrust to agents and this distrust subsequently reduces the agents' effort. Christ [2013] further shows that when controls are clearly imposed by principals, agents react more negatively to the control system, compared to situations in which intentions to use controls are ambiguous or controls clearly do not signal distrust, such as when controls are exogenously determined. None of the above studies, however, consider situations in which principals exercise their decision rights after they have observed behavior of some of their employees.

In many companies, principals observe the behavior of employees. Principals often act on what they see by reassigning decision rights, by introducing incentives, or by installing new forms of controls for (new) employees. Professionals, proposing that principals' decisions can shape the norms in the organization, also call for a more active role of principals in promoting ethical norms (Committee of Sponsoring Organizations of the Treadway Commission [1992],

5

[2004]). However, principals' decisions in such settings may not always induce the desired behavior and they may reveal more than just distrust. This study explores the idea that principals' decisions can leak important private information to agents about social norms, a phenomenon we call the information leakage effect. We investigate this effect in a capital budgeting task, in which agents face trade-offs between pro-social motivations for honesty and economic incentives for pursuing self-interest. Figure 1 describes the theoretical model with three different channels. We predict that, besides the incentive effect and the principal trust effect (Christ et al. [2012], Christ [2013]), the principal's active choice for an incentive contract that may discourage misrepresentation through variable pay decreasing at reported costs can produce an important information leakage effect that can adversely change agents' norm perceptions in firms.

[Insert Figure 1 here]

2.1 INCENTIVE EFFECT OF ACTIVE CHOICE FOR INCENTIVES

Prior studies show that many agents produce capital budgeting reports that are partially honest. Such reports arise because agents face an important dilemma: they can either report truthfully based on pro-social concerns for the interest of the principal or act in self-interest to achieve the pecuniary gains of misrepresentation (Luft [1997], Evans, Hannan, Krishnan, and Moser [2001]). Agents solve the dilemma by balancing these two motives: they misrepresent information to the point that pecuniary gains from increasing misrepresentation equal the costs of sacrificing the pro-social concerns.

Providing incentives may reduce information misrepresentation when agents value both pro-social behavior (i.e. honesty) and pecuniary gains. We focus on a common incentive scheme that makes dysfunctional actions (in our setting, the misrepresentation of cost information) less

6

attractive (Zimmerman [2009]). The use of the incentive scheme by principals specifies that the

agents' compensation from the principal decreases at a higher reported cost, making slack

creation through misrepresentation less attractive. This scheme, compared to a fixed-salary

contract, reduces the pecuniary gain of increasing misrepresentation. Assuming that this incentive

scheme does not affect the agents' pro-social motivations, this scheme can reduce

misrepresentation by decreasing the pecuniary gains of misrepresentation (Luft 1997).[1] We label

this the incentive effect, which predicts that agents will misreport private information less under

the incentive contract than under a fixed-salary contract (H1, Figure 1). This prediction is

summarized in hypothesis 1.

> H1 (*Incentive effect*): Compared to the use of a fixed-salary contract, the principals' use of the
>
> incentive contract reduces the agents' level of information misrepresentation.

2.2 THE PRINCIPAL TRUST EFFECT OF INCENTIVES

The incentive contract can, however, adversely affect the agents' pro-social motivations,

especially when the principal decides on the contract. The principals' use of formal controls or

incentives can signal distrust (Christ [2013]). When agents feel distrusted, they are less willing to

cooperate with principals and less likely to consider their interest (Christ et al. [2012]). This

distrust can increase information misrepresentation in capital budgeting. Following this line of

literature, we predict that the principals' use of the incentive contract over a fixed wage contract

will make agents feel distrusted (H2a, Figure 1). This distrust subsequently increases the agents'

---

[1] This prediction relies on an assumption that agents value honesty. For the prediction to hold, we assume that the marginal disutility from misreporting is higher when there is a higher level of misrepresentation. This assumption makes sense as prior research has shown that many people produce partially dishonest reports, refraining from high levels of misrepresentations (Evans et al. 2001; Rankin et al. 2008). Based on this assumption, we can predict that compared to a fixed-salary contract, a contract with variable pay decreasing at higher reported costs can discourage misrepresentation. If people only value the pecuniary gains from misreporting, both contracts are equivalent.

level of information misrepresentation (H2b, Figure 1). We label this effect as the principal trust effect. We summarize this prediction in hypothesis 2.

H2a (*Principal trust effect*): Compared to the use of a fixed-salary contract, the principals' use of the incentive contract reduces the agents' level of perceived trust by principals.

H2b *(Trust effect on truth telling)*: Reduced trust increases information misrepresentation.

2.3 THE INFORMATION LEAKAGE EFFECT OF INCENTIVES

The principals' decisions can, however, reveal more than distrust. In practice, principals often receive information about how agents perform through experiences with other agents or by observing their behavior. As such, principals have access to private information about employees, which could be relevant to current employees (Benabou and Tirole [2003]). Principals often use this private information in decision-making. Their decisions may reveal some of this information, which could produce important consequences on the behavior of current employees in the company. We empirically examine whether such information leakage occurs and if so, whether it influences agents' reporting behavior.

In a capital budgeting task, the incentives that reduce agents' compensation from principals at higher reported costs can be attractive if principals have the impression that many agents misrepresent information. While the out-of-pocket costs of providing incentives remain constant, the benefits to principals of providing incentives can vary with the level of their agents' pro-social preferences. To assess their agents' pro-social preferences, principals often rely on their private information about norms in the organization (Cialdini and Trost [1998]). Principals can use such information to draw inferences about the level of pro-social preferences among agents in general (Sliwka [2007]). For instance, after observing many agents in capital budgeting who

report very high costs, principals may conclude that agents in general are dishonest, including their agents. Conversely, if principals observe that many agents ask for reasonable levels of funding, they may infer that agents in general are honest, including their agents.

The principals' assessment of the net benefits of using economic incentives, relative to relying on a trust-based contract (e.g., fixed wage), depends on whether principals infer that their agents are honest or dishonest. Using the incentives over a fixed salary (which relies on intrinsic motivation for honesty) might be preferred if principals have the impression that agents engage in high levels of misreporting. However, when principals have the impression that agents already possess a certain level of pro-social preferences that motivate them to report in the best interest of principals, principals may prefer to rely on the agents' inherent motivation to report truthfully.

Following this argument, principals' decisions on incentives have the potential to tell agents something about the typical behavior of other agents in the organization (Sliwka [2007]). Agents are often uncertain about choosing between serving self-interest and following pro-social motivations. This uncertainty makes them vulnerable to external behavior cues that are commonly acceptable in a particular environment (Cialdini [2001]). Descriptive social norms can be defined as commonly acceptable behavior shared by the group of agents (Cialdini and Trost [1998]). Agents often cannot assess the behavior of their peers because such information is not available or disclosed in the organization (Feltham and Hofmann [2012]). Nevertheless, agents can still rely on indirect cues from the principals' decisions to infer the appropriate behavior. Principals' decisions on compensation contracts as such can provide agents with indirect cues about the descriptive norm in the organization. Therefore, the principals' choice of contract can affect the agents' behavior, because agents want to conform to the accepted organizational norm (Bicchieri and Xiao [2009]).

Specifically, in capital budgeting, the principals' decision to provide incentives could convey a descriptive norm of dishonesty. Agents who derive information that indicates a norm of dishonesty likely conclude that reporting high cost is acceptable, and thus they increase their level of misreporting. Conversely, the choice of a fixed-salary contract conveys a descriptive norm of honesty. Agents who derive information that suggests a more honest norm are less likely to increase their misreporting. Principals' choice of a compensation contract can thus leak information about social norms (H3a, Figure 1) and in turn influence the level of misreporting (H3b, Figure 1). We label this effect the information leakage effect.

H3a (*Information leakage effect*): Compared to the use of a fixed-salary contract, the principals' use of the incentive contract conveys a more dishonest norm to employees.

H3b *(Information leakage and misreporting)*: A more dishonest norm increases information misrepresentation.

3. Experiment

We run a two-stage experiment wherein a subordinate (i.e., an agent) reports costs to a superior (i.e., a principal) who is less informed about these costs. Superiors observe part of the population of agents after the first stage of play (i.e., the Information Stage), during which all participants work under a fixed-salary contract and have the opportunity to build slack. In the second stage (i.e., the Main Stage), we introduce the type of contract the superior chooses (i.e., the incentive contract or the fixed-salary contract) as the between-subject factor. The choice of contract is at the discretion of participants in the role of superior. We test our hypotheses by focusing on the following three dependent variables: the subordinates' perception of the social norm (H3a), the perception of trust after superiors have made their choice (H2a), and the subordinates' mean level of misreporting in the Main Stage (H3b, H2b, and H1). Similar to Maas, van Rinsum, and Towry

[2012], we randomly match superiors who control the independent variable (contract type) with new subordinates in the Main Stage who control all the dependent variables. This random-matching procedure, if successful, enables us to assess causality more reliably and thus attributes differences in the dependent variables to differences in the independent variable.

3.1 PARTICIPANTS

We recruited participants from accounting courses in a business studies program at a Western European university. In total, 128 students participated in the experiment.[2] The experiment consists of 16 rounds of play, divided into two stages (i.e., the Information Stage and the Main Stage). Each session involves 16 participants, with eight participants in the role of superior and eight in the role of subordinate. Participants were 21.05 years old on average, and 71.09 percent were male. On average, they had taken 2.88 accounting courses and worked for 23.88 months in part-time jobs, and 78.91 percent of the participants reported having had some work experience.

3.2 EXPERIMENTAL TASK

We adapt our experimental task from Hannan, Rankin, and Towry [2010]. Subordinates submit budget requests stating their cost of production. Superiors know that the report can range from 1 to 20 with increments of 1. Throughout the experiment, only subordinates learn the actual costs before reporting their cost to their superiors. Subordinates thus have an economic incentive to

---

[2] We performed two administrations of the experiment to increase sample size. Participants in the first administration came from an introductory accounting course (80); those from the second came from an intermediate accounting course (48). The two populations are similar with respect to age, work experience, and social value orientation (all p values > 0.31, two-tailed). Compared to participants from the introductory course, those from the intermediate course followed more accounting courses (M = 4.33 courses vs. M = 2.01 courses; $t_{126} = 3.34$, two-tailed $p < 0.01$) and include more males (85.4 percent vs. 62.5 percent, $\chi^2(1, N = 128) = 7.67$, two-tailed $p < 0.01$). For subordinate participants ($N = 64$), we find that the subordinates from the intermediate course are more honest (mean level of misreporting in all 16 rounds: 0.63) than those from the introductory course (mean level of misreporting in all 16 rounds: 0.76; $t_{62} = -2.07$, two-tailed $p < 0.05$), presumably because the former group includes more persons classified as fair based on social value orientation (42 percent) than does the latter group (25 percent), although this difference is not significant (two-tailed $p = 0.11$). Importantly, the two groups of subordinates are similar on all dependent variables, including the level of misreporting in the Main Stage, norm perception, and perceived trust (all p values > 0.20, two-tailed). We therefore pool these two populations together in subsequent analyses.

misrepresent these costs to their superiors, who are less informed about the costs. Subordinates are given payoff tables for all potential cost reports they can submit. Like Rankin et al. [2008], we randomly generate eight sets of actual cost draws with eight actual costs in each set, one set for each subordinate in the Information Stage of the experiment. The same set of actual cost draws is used for the subordinate in the Main Stage, but in a different order.[3] The superior must always accept the report and fund the subordinate. Our analyses focus mainly on the subordinates' behavior in the experiment.

Figure 2 displays the sequence of events. Two participants make up a cohort. In each cohort, one participant is randomly assigned to the role of superior, the other to the role of subordinate. They maintain this cohort until the beginning of the Main Stage. In the Information Stage, all subordinates report under a fixed-salary contract, the so-called trust-based contract in Evans et al. [2001]. Before the Main Stage begins, the superiors receive information about the reporting behavior of half of the subordinates who participated in the Information Stage. To let the superiors act on different social norms (i.e., honest vs. dishonest), we distinguish between two groups of subordinates. Specifically, we rank all eight subordinates in one session based on their mean reported cost in the Information Stage. Half of the superiors receive information for the four highest ranked subordinates, while the other half receive information for the four lowest ranked subordinates. Superiors only view the average reported cost information for the four subordinates, for the eight rounds individually and then in total. Subordinates are re-matched with new superiors in the Main Stage and superiors actively choose either the fixed-salary contract or the incentive contract for their new subordinates. We inform all subordinates that, before choosing the compensation contract, their superiors were informed about the average cost as

---

[3] Although the set of actual costs is held constant for each participant across the Information Stage and the Main Stage, actual costs may differ per participant. The average cost across the range of participants varies between 9 and 10.75. For the full sample, the average cost is close to the expected value of 10 (M = 9.92).

reported by half of the subordinates. As identity is a factor that drives individuals to conform to descriptive norms (Cialdini [2001]), we have participants play both stages so that we can observe their conformity to descriptive norms.[4]

[Insert Figure 2 here]

3.3 EXPERIMENTAL MANIPULATION

Before the Main Stage begins, the superior can actively choose between a fixed wage contract or an incentive contract for his or her new subordinate in the Main Stage. The superior's contract choice affects his or her own payoff as well as the payoff of the subordinate. The superior earns a contribution of 30 euros minus the subordinate's reported costs and minus the subordinate's compensation (see Formula 1). If the subordinate receives a fixed-salary contract, then the compensation is fixed at 4 euros. If the subordinate receives the incentive contract, then the compensation is a variable pay, which is the difference between 20 and the reported costs multiplied by 0.6.

Superiors' payoff $= 30 -$ reported cost $-$ compensation to the subordinates $\qquad$ (1)

For the superiors, the trade-off between these two contracts depends on their expectations of cost reported by their new subordinates in the Main Stage. At high reported costs, superiors give less compensation to their subordinates under the incentive contract than under the fixed-salary contract. The incentive contract thus saves money for superiors when they expect subordinates to report high costs (i.e., when they expect more misrepresentation). The superiors thus have to assess whether their new subordinates will report high costs. Superiors may use the average reported cost they have observed from the subordinates in the Information Stage to assess which

---

[4] The contract choice can leak the information about behavior of other subordinates in a session. Subordinates may identify more strongly with participants that are part of their session.

contract is more beneficial. The higher the average reported cost the superiors have observed, the higher the reported cost they may expect from their new subordinates and the more likely they choose the incentive contract.

The subordinates' payoff consists of the compensation from their superiors and the rent extraction they receive from misrepresenting the costs, which is equal to the difference between the reported costs and the actual costs (see Formula 2).

Subordinates' payoff = Compensation from Superior + (reported cost − actual cost) (2)

When the superior decides to use the fixed-salary contract, the subordinate receives a fixed-salary of 4 euros (compensation from superior = 4 euros). The salary to the subordinates who receive the incentive contract is, however, variable, and decreases at the reported costs. Specifically, the compensation from superiors in Formula 2 is then equal to $0.6 \times (20 -$ reported cost). Compared to the fixed-salary contract, the incentive contract thus reduces the marginal profit to be gained from misreporting which potentially encourages the subordinates to misreport less (Luft 1997). We label this effect the incentive effect (Sliwka [2007]).

Because subordinates are informed of their superiors' payoff structure, subordinates are able to assess the superiors' trade-off between the two contracts. We test the prediction if subordinates infer some information from their superiors' choice of contract in the Main Stage. A choice of incentives is likely to "tell" subordinates that other subordinates in the Information Stage may have reported high costs. This can potentially increase the subordinates' level of misreporting of their own information, which we call the information leakage effect. Because we theorize that the information leakage effect will affect subordinates' motivation to be honest, we must ensure that the trade-off between honest reporting and self-interested motivation to report dishonestly is

14

maintained under the incentive contract. In other words, the variable pay component of the incentive contract should not force subordinates to tell the truth. Therefore, the purely self-interested economic prediction under the incentive contract is similar to the strategy under the fixed wage; that is, complete dishonesty leads to the highest payoff for the subordinates.[5]

3.4 EXPERIMENTAL PROCEDURES

We conducted a total of eight sessions. Each session lasted about one hour. Participants were randomly assigned to the role of either superior or subordinate upon entering the computer lab and kept these roles throughout the experiment. Participants entered demographic information into a computer, but they did not enter their names to guarantee anonymity. They received a ticket number to claim their payout. They continued with a task that measured their social-value orientation using the instrument from van Lange et al. [1997].[6] Participants then played a distracter task and moved on to the capital-budgeting task.

Participants first received detailed information about the capital-budgeting task and the payoff structure for both the superior and the subordinate. In the Information Stage, all subordinates were compensated via the fixed-salary contract. To ensure that participants understood the game, we administered a quiz in which they received feedback on the right answer after each question.

---

[5] Compared to the optimal contract in Mittendorf [2006], our incentive contract drops the hurdle. We exclude the hurdle to avoid the situation in which the motivation to report honestly is influenced by agents' concerns for distributional fairness. As shown in Evans et al. [2001], an incentive contract with a hurdle may make agents feel treated unfairly because a hurdle reduces the maximum share agents can collect. This distributional fairness effect influences agents' motivation to report honestly in the same direction as the information leakage effect, which would make it difficult for us to disentangle the information leakage effect from the distributional fairness effect in the data. This incentive contract may still discourage misreporting, when the agents' marginal disutility from misreporting is higher at higher levels of misreporting (Luft 1997).

[6] We measure participants' social-value orientation using nine questions in which participants allocate points to oneself and a hypothetical other (van Lange et al. [1997]). Participants who make at least six consistent choices can be classified into a particular category. Competitive agents are those who want to maximize the difference between their payoffs and others' payoffs. Individual agents always maximize their own payoffs. Both of these categories of agents can be classified as pro-self agents. Pro-social agents sacrifice a bit of money to maximize the joint payoffs such that both parties receive a large payoff.

Then they played eight rounds of reporting decisions. Following Hannan et al. [2010], the program prevented the subordinates from underreporting their costs.

At the end of the Information Stage, subordinates were told that they had been randomly re-matched to new superiors whom they had never met previously. In the Main Stage, participants received new information, mainly about the incentive contract and the impact of such a contract on both parties' payoffs. They again took a quiz to enhance task understanding. All participants were told that superiors received information about the reporting behavior of half of the subordinates in the Information Stage. Superiors then actively chose one of the two contracts for their new subordinates. Subordinates were informed about this choice. Then both parties played eight rounds of the capital-budgeting task under the contract chosen by the superior.

At the end of the experiment, participants filled out an exit questionnaire that contained several items on task understanding as well as other manipulation checks. The data show that 95.3 percent of the participants assigned to the role of subordinate understood that participation was fully anonymous and 92.2 percent agreed that there was a trade-off between their reporting decision and their superior's payoff. Seventy-five percent of subordinates indicated that they derived information from the superior's choice of contract in the Main Stage.[7] This exit questionnaire also measured, among other things, the subordinates' perceptions of others' reporting behavior, their perceived trust by their superiors, and their susceptibility to interpersonal influence.

---

[7] The data do not show any significant differences in the level of misreporting between the seventy-five percent of subordinates who indicated they learned information from the contract (score higher than the midpoint of 4 on a 7-point Likert scale) and those who indicated they did not learn information from the contract in the Main Stage (score below or equal to the midpoint). We find differences in norm perception among the contract choices (M = 6.03 for the incentive contract receivers versus M = 4.50 for the fixed-salary receivers, t_{46} = 3.90, two-tailed $p < 0.01$) only for the participants who indicated to have learned information from contract choice. This result suggests that the difference in norm perception between the two contract groups is (partially) driven by the information leaked by the superiors' contract choice. All the results in the subsequent sections remain similar if we focus on the subordinates who indicated that they had learned information from the superior's contract choice (untabulated).

Participants were informed that one round of play would be randomly drawn for payout. Experimental earnings were converted to euros at an exchange rate of 1. Each euro earned represented one euro in cash (see also Hannan et al. [2010]). Subordinates earned an average of 10.71 euros, and superiors earned an average of 10.11 euros.

3.5 TEST VARIABLES

Analyses are conducted on subordinate participants ($N = 64$). In accordance with our theoretical model, we compare the subordinates who received the incentive contract in the Main Stage with those who received the fixed-salary contract in the Main Stage. As in Evans et al. [2001], we measure the level of cost misrepresentation in the main stage as the ratio of the difference between mean reported costs and mean actual costs to the difference between the maximum reported costs possible and mean actual costs.[8] We label this variable as MISREPORT. The higher this ratio, the more the subordinate misreported their cost information.

After the experiment, we measure the subordinates' perception of the social norm by asking subordinate participants to indicate the extent to which they agree that others reported high costs in this experiment. We use a 7-point Likert scale, ranging from "fully disagree" (1) to "fully agree" (7). We label this measure PERCEIVEDNORM. The higher the score on this measure, the more subordinates perceive that others reported high costs. This measure captures the subordinates' norm perception after seeing their superiors' contract choice. [9]

---

[8] We miss one reported cost observation (the third round of the Main Stage) from one subordinate because of an incorrect entry. The measure of the level of misreporting for this subordinate includes only seven rounds.
[9] The results remain qualitatively similar if we use an alternative measure of norm perception by adding another two questions that ask subordinates about their perception of their superiors' norm perception on the same 7-point Likert scale. Specifically, these two questions ask subordinates to indicate whether they agree with the following two statements: (1) *My superior in stage 2 (referred to in the text as the Main Stage) thinks that people in general will report high cost to him/her*; (2) *My superior in stage 2 thinks that I will report high cost to him/her*.

We also measure the subordinates' perception of being trusted by superiors in the Main stage. We asked subordinates to indicate the extent to which they agree that their superiors in the Main Stage trusted them. We use a 7-point Likert scale, ranging from "fully disagree" (1) to "fully agree" (7). We label this measure PERCEIVEDTRUST (Christ et al. [2012]). The higher the score on this measure, the more subordinates perceive that they are trusted by their superiors.

Given these measurements, we expect positive relations between CONTRACT and PERCEIVEDNORM (H3a) and between PERCEIVEDNORM and MISREPORT (H3b). We expect negative relations between CONTRACT and PERCEIVEDTRUST (H2a), and between PERCEIVEDTRUST and MISREPORT (H2b), and between CONTRACT and MISREPORT (H1).

[Insert Figure 3 here]

In additional analyses, we explore whether or not the impact of information leakage on reporting behavior (H3b) is stronger for participants who are more receptive to norms. We use the scale of consumer behavior on susceptibility to interpersonal influence developed by Bearden, Netemeyer, and Teel [1989] to measure the subordinates' level of conformity to norms established by others. Tayler and Bloomfield [2011] have also used this scale in social dilemma settings. The scale comprises 12 questions to be answered on a 7-point Likert scale (See Appendix, Cronbach's alpha 0.89). The higher the answers on each question, the more subordinate participants are influenced by others in choosing products and brands. Using this susceptibility scale, we construct two dummy variables. The first measure labeled as CONFORMIST equals one if participants' level of susceptibility to interpersonal influence on all 12 items of the scale is above the median and zero otherwise. The second measure focuses on the items of the scale that more closely relate to conformity to others' expectations in norm-related

18

settings. These questions ask participants to rate the extent to which they consult others in buying, care about whether others like their choice of brands, observe others' decisions, and buy things that others expect (items 1, 3, 4 and 11). These items better capture conformity in ethical decision contexts: that is, in ethical dilemmas, such as whether to misreport cost information, some individuals tend to follow others' decisions. We therefore mainly focus on this measure in the corresponding analyses. A combination of the participants' answers to the four items (Cronbach's alpha 0.71) proxies for the subordinates' level of conformity in ethical decision settings. Using these four items we create a dummy variable labeled as CONFORMIST_ETHICS, which is equal to one if participants' score on this measure is equal to or above the median and zero otherwise. [10]

4. Results

4.1 MAIN RESULTS

4.1.1 Manipulation check and summary statistics

We first analyze the superiors' contract choice for the Main Stage. Most superiors (54 out of 64) choose an incentive contract for the Main Stage and do not continue with the fixed-salary contract.[11] Results from the post-questionnaire show that the majority of superiors (75 percent) indicate having used the average cost information from the Information Stage to choose their contract for the Main Stage. Superiors who switched to the incentive contract have observed higher average reported costs (mean of 17.10) than those who continued with the fixed-salary

---

[10] Besides being theoretically more closely related to the construct of conformity to others in our ethical decision context, CONFORMITY_ETHICS also has better statistical properties. The two groups of subordinates (fixed-salary and incentive contract receivers) are more comparable in terms of distribution among the measure (percentage of conformists: 50% (fixed-salary) versus 59% (incentive contract),χ^2 $(1, N = 64) = 0.30$, two-tailed $p = 0.59$). Second, as shown in Table 1, CONFORMITY_ETHICS does not correlate with the independent variable PERCEIVEDNORM (two-tailed $p > 0.10$), nor with the dependent variable MISREPORT (two-tailed $p > 0.53$), consistent with the criteria of a good moderator (Baron and Kenny [1986]).

[11] This is consistent with the accountability demand documented in Evans et al. [1994] and Birnberg et al. [2008]. It is also consistent with people's preference for exercising control.

contract (mean of 15.40) ($t_{62} = 2.17$, two-tailed $p < 0.05$). These results indicate that superiors act

on their past observations and in line with the norms they observe in the Information Stage. [12]

The summary statistics in Panel A of Table 1 compare the subordinates' perception of norms,

their level of misreporting, and several other measures between subordinates who receive the

incentive contract in the Main Stage ($n = 54$) and subordinates who receive the fixed-salary

contract in the Main Stage ($n = 10$). Consistent with the information leakage effect (H3a), the

subordinates' perception of norms differs between these two groups. The subordinates with the

incentive contract are more likely to perceive others as reporting high costs compared to those

with the fixed-salary contract ($t_{62} = 3.22$, two-tailed $p < 0.01$). The subordinates' perception of

being trusted by their superior in the Main Stage also differs between the two groups ($t_{62} = -3.14$,

two-tailed $p < 0.01$). The level of misreporting in the Main Stage does not significantly differ

between these two groups ($t_{62} = 0.16$, two-tailed $p = 0.87$). As we will later confirm in the path

analyses, this result can arise because the positive effect of the incentives (i.e., incentive effect) is

offset by the two negative effects of the incentives (i.e., the principal trust effect and the

information leakage effect). The correlation matrix in Panel B of Table 1 provides evidence in

support of the indirect effect of the superiors' contract decision on the subordinates' behavior

through norm perception and trust. The correlation matrix shows that the subordinates' norm

perception and perceived trust are correlated with their level of misreporting in the Main Stage

($r_{62} = 0.31$ and two-tailed $p < 0.05$ for norm perception; $r_{62} = -0.30$ and two-tailed $p < 0.05$ for

---

[12] Note that, this result is also consistent with the notion that some participants acting as principals have anticipated that choosing incentives may produce negative effects on the next agent (information leakage effect). If principals did not anticipate any costs, then they would expect to earn more by switching to incentives when observing an average cost of 13.3. At a cost higher than 13.3, the incentive contract outperforms the fixed-salary contract in terms of profit for the principal. However, we see that principals switch to incentives at a much higher point, indicating that some of them may consider other factors (e.g., potential costs of information leakage) before choosing incentives.

perceived trust). Together with the effect of contract choice on norm perception and perceived

trust, these correlations suggests that contract choice indirectly influences subordinates' behavior.

Compared to the group of subordinates with the fixed-salary contract in the Main stage, the

subordinates with the incentive contract in the Main Stage misreport more in the Information

Stage, although this difference is not statistically significant ($t_{62} = 1.46$, two-tailed $p = 0.15$).[13] [14]

The correlation matrix further shows that the subordinates' inherent dishonesty (i.e. misreporting

in the Information Stage) correlates with the three dependent variables. It positively correlates

with their level of misreporting in the Main Stage ($r_{62} = 0.65$, two-tailed $p < 0.01$). It also

correlates with their norm perception and perceived trust ($r_{62} = 0.33$ and two-tailed $p < 0.01$ for

norm perception; $r_{62} = -0.33$ and two-tailed $p < 0.01$ for perceived trust), presumably because

dishonest individuals also tend to perceive others as less trustworthy (Kanagaretnam et al.

[2009]). As a robustness check, we therefore control for the effect of subordinates' inherent

dishonesty level on all the three dependent variables.

[Insert Table 1 here]

4.1.2 Test of theoretical model

We use structural equations-based path analysis to estimate our theoretical model. All paths in

our theoretical model are estimated jointly using the quasi-maximum likelihood (QML)

---

[13] We find that this weak association is attributable to the fact that some sessions contained more honest participants. Controlling for session fixed effects, we find that the effect of contract type on inherent dishonesty is insignificant ($t_{55} = 0.72$, two-tailed $p = 0.47$).
[14] Because participants in the role of superior choose the contract, we end up with unequal cell sizes. We further check if our random assignment is successful by comparing participant demographics. The two groups of subordinates are similar with respect to the percentage of males, work experience, number of accounting courses, and social value orientation (all p values > 0.48, two-tailed). Expect for age, subordinates who received the incentive contract are slightly younger (M = 20.96 years; $t_{62} = -2.59$, two-tailed $p < 0.05$) than are subordinates who received the fixed-salary contract (M = 22.60 years). Our results do not change if we include those variables as covariates.

method.[15] For both the main tests and all the subsequent analyses, solid lines disclose paths with significant coefficients, and dotted lines represent paths with insignificant coefficients. The sample size of 64 observations is sufficient for carrying out path analysis, given the degrees of freedom in our models (Kim [2005]).[16]

Figure 3 displays the results of the main model. The results support our hypotheses. When the superior chooses an incentive contract instead of a fixed-salary contract, subordinates perceive that others reported high costs (H3a) and subsequently increase their own level of misreporting (H3b). The contract choice is positively related to the subordinates' norm perception ($z = 3.05$, two-tailed $p < 0.01$), and the subordinates' norm perception increases their level of misreporting ($z = 2.70$, two-tailed $p < 0.01$). We thus document an information leakage effect; namely, that the principal's choice of contract leaks information about the social norm to the subordinates (H3). Consistent with H2, we find support for the principal trust effect of the incentive contract. The contract choice negatively affects the subordinates' perceived trust ($z = -4.81$, two-tailed $p < 0.01$) (H2a), and the level of perceived trust is negatively related to the level of misreporting ($z = -2.92$, two-tailed $p < 0.01$) (H2b). Consistent with H1, Figure 3 shows weak support for the incentive effect of contract choice on misreporting ($z = -1.49$, two-tailed $p = 0.14$, $p = 0.07$ one-tailed). Compared to a fixed-salary contract, the incentive contract offers some incentives to the subordinates to misreport less in the Main Stage, after controlling for the two negative effects.

---

[15] The QML method is more appropriate for analyzing the data because some of our variables are not randomly distributed, as a result of unequal cell size. The QML method does not require that the errors follow a normal distribution, nor does it require errors to be identically distributed. Untabulated results show that our results are similar if we use maximum likelihood, asymptotic distribution free, or ordinary least squares as estimation method.
[16] We calculate the goodness-of-fit statistic using the standardized root mean square of the residual (SRMR). SRMR values smaller than 0.10 are considered favorable (Bentler [1995], Weston and Gore [2006]). All of our models have SRMR values close to or lower than 0.10, which suggests that model fit is satisfactory. We also assess whether our sample is sufficiently large for path analysis by performing power analysis (Kim [2005]). To calculate the minimal sample size, we use one plus the critical noncentrality parameter ($\delta_{0.9}$), implied by degree of freedom and a power level at 0.90, times a parameter based on the number of variables (p) and cutoff value for Steiger's Gamma ($\gamma = 0.90$), as this formula $\frac{2\gamma}{p(1-\gamma)}\delta_{0.9} + 1$. Using the formula, models in Figure 3 would require around 48 observations, models in Figure 4 around 39, and models in Figure 5 around 50, indicating that our sample size is sufficient.

The results still hold if we replace our dependent variable misrepresentation with the profits that

the superior realizes. Untabulated results show that superiors earn more when they choose the

incentive contract, compared to when they choose the fixed-salary contract (H1) ($t_{62} = 4.30$, two-

tailed $p < 0.01$). The path model with superiors' profit as the dependent variable shows again that

the gains realized from choosing the incentive contract are partially offset by the information

leakage effect and the principal trust effect, consistent with H3 and H2.[17] This result indicates

that, for principals, the incentive contract, although saving salary costs at high reported costs and

generating incentive effect, also produces costs through increased misreporting.

[Insert Figure 3 here]

4.2 ROBUSTNESS CHECKS

The choice of contract in our main experiment is made at the discretion of participants in the role

of superior. This discretion creates a sample with two unequal size groups (i.e., 54 subordinates

receive the incentive contract, while 10 subordinates receive the fixed-salary contract). To

mitigate the concern that the differences in dependent variables between the two groups are

driven by different inherent dishonesty levels, we control for the inherent dishonesty level of

participants in our path model. We re-estimate the theoretical model by including the effects of

the inherent dishonesty level on the three dependent variables, norm perception, perceived trust,

and the Main Stage misreporting. After controlling for the effects of inherent dishonesty, the

associations between contract type and all the dependent variables can only be attributable to the

casual effect of contract type on the dependent variables (Wooldridge [2012], p. 89).

---

[17] When estimating the theoretical model with the superiors' profits in the Main Stage as the dependent variable, the
two-tailed p-values are significant at the 10 percent level or less for all five paths: the path from type of contract to
norm perception (H3a); the path from norm perception to superiors' profits (H3b); the path from type of contract to
perceived trust (H2a); the path from perceived trust to superiors' profits (H2b); and the path from type of contract to
superiors' profits (H1).

Figure 4 shows that our main results are robust, suggesting that contract type causally influences the dependent variables, thereby providing support to our theory. As expected, the subordinates' inherent dishonesty influences their level of misreporting ($z = 6.25$, two-tailed $p < 0.01$) as well as norm perception ($z = 2.52$, two-tailed $p < 0.05$) and perceived trust ($z = -2.42$, two-tailed $p < 0.05$). Controlling for these influences, we still provide support for the information leakage effect. The subordinates receiving the incentive contract are more likely to perceive others as reporting high costs than subordinates receiving the fixed-salary contract ($z = 2.54$, two-tailed $p < 0.05$) (H3a). Subordinates who perceive others as reporting high costs misreport more ($z = 1.74$, two-tailed $p < 0.10$) (H3b). The effect size of norm perception on misreporting is a bit weaker (path coefficient decreases from 0.34 in Figure 3 to 0.17 in Figure 4), suggesting that inherent dishonesty is an important control variable. We also find support of the incentive effect ($z = -1.75$, two-tailed $p < 0.10$), consistent with H1. We find weak support of the principal trust effect because the effect of trust on misreporting (H2b) is marginally significant ($z = -1.51$, two-tailed $p = 0.13$, $p = 0.07$ one-tailed).[18]

[Insert Figure 4 here]

In sum, these results suggest that the effects of contract type on all the dependent variables are unlikely to be driven by the difference in inherent dishonesty levels between the two contract conditions. In other words, the superiors' choice of the incentive contract causes the agents to perceive a more selfish norm and subsequently causes the agents to increase misreporting.

4.3 ADDITIONAL RESULTS

---

[18] Another way to mitigate the concern of inherent dishonesty, is to generate a subsample in which groups are more comparable in terms of their inherent dishonesty level. In addition to 10 subordinates who receive the fixed-salary contract ($n = 10$; inherent dishonesty = 0.556 see Table 1), the subsample includes the 27 lowest-ranked subordinates on inherent dishonesty level out of the 54 incentive contract receivers ($n = 27$; inherent dishonesty = 0.481). The two groups of subordinates are more comparable in terms of inherent dishonesty ($t_{35} = 0.91$, two-tailed $p = 0.37$). Results on this subsample are inferentially identical to our main results (untabulated).

Our theory argues that agents adjust their behavior according to the information about norms they derive from the principals' contract choice. This argument implies that the information leakage effect is stronger for participants who are more receptive to norms established by others. To test this conjecture, we use the dummy variable CONFORMIST_ETHICS, as defined earlier, to classify subordinates as conformists. More specifically, we test the effect of the interaction between this variable and the subordinates' norm perception on their level of misreporting in the Main Stage.

Figure 5 presents the results. The interaction effect of norm perception ×
CONFORMIST_ETHICS is positive and significant (coefficient: 1.23; $z = 2.20$, two-tailed $p <$ 0.05), consistent with our expectation. This result suggests that subordinates classified as conformists relative to those classified as non-conformists increase their misreporting more in response to the norm information they derived.

[Insert Figure 5 here]

In his theoretical model, Sliwka [2007] further argues that only individuals who have an inherent inclination to conform to norms established by others (conformist) should be sensitive to norm information. To test this argument, we separately examine the effect of norm perception on the subordinates' misreporting behavior for subordinates classified as conformists and for subordinates classified as non-conformists based on the variable CONFORMIST_ETHICS. In these regressions, we control for the type of contract and the measure perceived trust. Untabulated results show that reporting behavior of subordinates classified as conformists is affected by their norm perceptions (coefficient: 0.15; $t_{33} = 3.51$, two-tailed $p < 0.01$). Reporting behavior of individuals classified as non-conformists is not affected by their norm perceptions (coefficient: 0.02; $t_{23} = 0.48$, two-tailed $p = 0.64$). These results suggest that subordinates who are

classified as conformists particularly respond to the norm information derived from the superiors' contract choice. This would be consistent with the argument that information leakage effect materializes only for conformists. [19]

This evidence provides some assurance that the information leaked by the principals' contract choice is about norms and therefore indirectly supports the validity of our norm perception measure. Because superiors often do not know whether their subordinates are conformists or not, imposing incentive contracts based on their experience with past subordinates can potentially produce adverse consequences in organizations.

4.4 ADDITIONAL EXPERIMENT

Our theory argues that the information leakage effect materializes because principals decide on compensation contracts. This argument implies that if principals cannot decide on contracts, we do not anticipate an information leakage effect. To test this conjecture, we run an additional experiment using the same procedures as in the main experiment, but this time the experimenter randomly chooses the contract by tossing a coin for each subordinate. The outcome of the coin toss determines which contract the superior will assign to the subordinate (heads = the incentive contract; tails = the fixed-salary contract). Because the contract choice is random, it should not leak information about the superiors' observation of others' behaviors in the Information Stage. Thus, subordinates should not infer information from the contract choice in the Main Stage. An additional 64 participants, recruited from an accounting course in a business studies program,

---

[19] We also analyzed the CONFORMIST measure, and found qualitatively similar results. In the path analyses, the interaction effect of norm perception $\times$ CONFORMIST to the level of misreporting is positive, consistent with our expectation, but the effect is not significant (coefficient: 0.65; $z = 0.99$, two-tailed $p = 0.32$). Yet subsample analyses indicate that the behavior of those subordinates who are classified as conformists using this general measure is affected by their norm perceptions ($t_{28} = 2.35$, two-tailed $p < 0.05$), while the behavior of those subordinates who are classified as non-conformists is not affected by their norm perceptions ($t_{28} = 1.21$, two-tailed $p = 0.24$). This subsample result again confirms our conjecture.

participated in this experiment (none participated in the main experiment). Half of them played the role of superior ($n = 32$) and half played the role of subordinate ($n = 32$).[20]

The results of this additional experiment confirm our conjecture. Untabulated results show that the type of contract used in the Main Stage does not influence the subordinates' perception of whether others reported high costs ($z = -0.17$, two-tailed $p = 0.86$).[21] Specifically, the mean perception of participants who receive the incentive contract equals 5.60, which is similar to the mean perception of participants who receive the fixed-salary contract (5.67) ($t_{30} = -0.16$, two-tailed $p = 0.87$). The type of contract thus does not leak information about norms to subordinates. The results show that the principal trust effect also fails to materialize because the contract type does not influence the subordinates' perception of being trusted by superiors ($z = -0.08$, two-tailed $p = 0.94$). We further do not find evidence of the incentive effect ($z = 1.28$, two-tailed $p = 0.20$), presumably because in the additional experiment, principals cannot actively signal that the principal prefers more honest reporting (Brink, Coats, and Rankin [2012]).[22]

Given that we do not find evidence of information leakage in the additional experiment, we can reasonably infer that the principal's active contract decisions in our main experiment drive the differences in the norm perception of subordinates across contract type.

5. Conclusions

---

[20] These subordinates are demographically similar to the subordinates in the main experiment with respect to age, accounting courses followed, and work experience. These subordinates, however, include fewer males than the subordinates in the main experiment.

[21] Also when controlling for inherent dishonesty in the additional experiment, results still show that contract choice does not affect the subordinates' perception of norms ($z = -0.33$, two-tailed $p = 0.74$).

[22] We also perform a multi-group path analysis to compare the results of this additional experiment to the results of our main experiment. The results show that the coefficient of the path from contract type to subordinates' norm perception is different across these two experiments (Wald test $\chi^2(1, N = 96) = 5.27$, two-tailed $p < 0.05$). The coefficient of the path from contract type to subordinates' level of misreporting is also different (Wald test $\chi^2(1, N = 96) = 3.65$, two-tailed $p < 0.10$), consistent with the presence of a weak incentive effect in the main experiment and the absence of such an effect in this additional experiment.

Principals' decisions can leak important information. The decision to use incentive contracts produces not only an incentive effect and a principal trust effect but also a "negative" information leakage effect. Using a capital budgeting setting, we show that a principal's choice of an incentive contract over a fixed-salary contract can suggest that other agents are likely to report high costs, revealing crucial information about social norms in the setting. This information changes the agents' norm perception and may increase their level of misreporting. The information leakage effect remains present when we control for the potential differences in the inherent dishonesty level of agents. Although changing from the fixed-salary contract to the incentive contract increases profits for principals in our experiment, it also produces a negative information leakage effect, which partially offsets its gains. Additional analyses further show 1) that the information leakage effect is stronger for agents who have higher levels of conformity, and 2) that such information leakage only occurs when principals actively decide on contract design.

Very little research has examined the consequences of principals' active intervention in the design of control systems and incentives. Examining this active role of principals helps us to disentangle the potentially harmful consequences of their decisions. Our results reveal that after observing agents' reporting behavior, most principals prefer to offer an incentive contract over continuing with the fixed-salary contract. We find that principals' contract choices are influenced by their past observations of agent's reporting behavior. Although choosing the incentive contract increases the principals' payoffs in our experiment, it also produces a negative information leakage effect that partially offsets these gains.

Our results contribute to the literature on norms in an organization. Although firms with different organizational norms use different management accounting systems (O'Connor [1995],

28

Chow et al. [2002], Sunder [2002], Bhimani [2003], Henri [2006]), we show that the principals'
active intervention in the design of the management accounting system can shape the norms in
the organization (Dent [1991], Sliwka [2007]). Our results show that principals who act on
"dishonest" employee behavior also reveal important information about the social norms to other
new agents in the organization. As such, principals' decisions can shape norms and may slowly
crowd out pro-social motivations at play in the organization.

Our results provide guidance on use of incentive devices in settings in which agents have pro-
social concerns. Superiors should consider that their decisions may have some unintended "soft"
impacts. Specifically, top management should make sure that their decisions deliver information
that matches the organizational norms they intend to promote. Our results also offer room for
testing new empirical predictions about the role of compensation consultants (Murphy and
Sandino [2010]). By delegating the decision rights on incentives to these third parties, the
superiors may keep some distance, which can mitigate the potential negative impact of incentives.

Our study suggests several areas for future research. One possibility is to examine the
moderating role of organizational identity on the information leakage effect. As companies
increasingly realize the importance of organizational identity, they invest more resources in
building such identity among employees. While it is believed that team identification benefits
companies (Ashforth and Mael [1989]), our results imply that a strong identity can backfire.
When employees identify with their peers, they may conform more to the norm information
inferred from their superiors' decisions. More disconnected peer groups may potentially reduce
the information leakage effect of principal's decisions.

Professionals argue that norms in an organization can get self-reinforced. However, we know
little about the role of management control systems in the self-reinforcing process. Our results

suggest that management control systems may facilitate the self-reinforcing process by leaking the information about norms to other employees. In some companies, principals may be more likely to observe dishonest or self-interested behavior. The presence of some self-interested employees may prompt principals to provide incentives, which in turn leaks information of self-interested norms to more employees.

Finally, researchers can further explore our findings in settings that involve productive effort. Danilov and Sliwka [2013] find that the principal's choice of incentives over fixed wage after receiving information about effort choices of other agents, may reveal a selfish norm to agents and subsequently agents reduce their effort. These authors use a strategy method to elicit the agents' responses under both contract choices, which may produce the experimenter demand effect (Zizzo [2010]). Having participants compare the different contract choices under the strategy method may signal to agents that the experimenter wants them to infer information from contract choices. Future research should possibly consider the direct response method, as in our study, to disentangle conformity to norms established by their peers. For example, employees often work on multiple tasks. Changing the reward structure or target-setting process after the principals receive output information may provide information to agents about how other agents in the organization allocate efforts, thereby potentially reducing the effectiveness of the target-setting process or incentive schemes.

REFERENCES

ASHFORTH, B. E., and F. MAEL. "Social Identity Theory and the Organization." *Academy of Management Review* 14 (1989): 20–39.

ASSOCIATION OF CERTIFIED FRAUD EXAMINERS. *Tone at the top: How management can prevent fraud in the workplace.* Austin, TX, 2006. Available at: http://www.acfe.com/uploadedFiles/ACFE_Website/Content/documents/tone-at-the-top-research.pdf.

BARON, R. M., and D. A. KENNY. "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations." *Journal of Personality and Social Psychology* 51 (1986): 1173–1182.

BARTLING, B., and U. FISCHBACHER. "Shifting the Blame: On Delegation and Responsibility." *Review of Economic Studies* 79 (2012): 67–87.

BEARDEN, W. O.; R. G. NETEMEYER; and J. E. TEEL. "Measurement of Consumer Susceptibility to Interpersonal Influence." *Journal of Consumer Research* 15 (1989): 483–481.

BENABOU, R., and J. TIROLE. "Intrinsic and Extrinsic Motivation." *Review of Economic Studies* 70 (2003): 489–520.

BENTLER, P. M. *EQS 6 Structural Equations Program Manual.* Encino, CA: Multivariate Software, 1995.

BHIMANI, A. "A Study of the Emergence of Management Accounting System Ethos and Its Influence on Perceived System Success." *Accounting, Organizations and Society* 28 (2003): 523–638.

BICCHIERI, C., and E. XIAO. "Do the Right Thing: But Only if Others Do So." *Journal of Behavioral Decision Making* 22 (2009): 191–208.

BIRNBERG, J. G.; V. B. HOFFMAN; and S. YUEN. "The Accountability Demand for Information in China and the U.S.: A Research Note." *Accounting, Organizations and Society* 33 (2008): 20–32.

BRINK, A. G.; J. C. COATS; and F. W. RANKIN. "Who's the Boss? The Economic and Behavioral Implications of Various Characterizations of the Superior in Participative Budgeting Research." Working paper, Virginia Commonwealth University, and Colorado State University, 2012. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2132107.

CHEN, C. X., and T. SANDINO. "Can Wages Buy Honesty? The Relationship Between Relative Wages and Employee Theft." *Journal of Accounting Research* 50 (2012): 967–1000.

CHOW, C. W.; G. L. HARRISON; J. L. MCKINNON; and A. WU. "The Organizational Culture of Public Accounting Firms: Evidence from Taiwanese Local and U.S.-Affiliated Firms." *Accounting, Organizations and Society* 27 (2002): 347–360.

CHRIST, M. H. "An Experimental Investigation of the Interactions among Intentions, Reciprocity, and Control." *Journal of Management Accounting Research* 25 (2013): 169–197.

CHRIST, M. H.; K. L. SEDATOLE; and K. L. TOWRY. "Sticks and Carrots: The Effect of Contract Frame on Effort in Incomplete Contracts." *The Accounting Review* 87 (2012): 1913–1938.

CIALDINI, R. B. *Influence: Science and Practice*. 4th ed. New York, NY: HarperCollins, 2001.

CIALDINI, R. B., and M. R. TROST. "Social Influence: Social Norms, Conformity and Compliance," in *The Handbook of Social Psychology*, Vol. 2, edited by D. T. Gilbert, S. T. Fiske, and G. Lindzey. New York, NY: McGraw-Hill, 1998: 151–192.

COFFMAN, L. "Intermediation Reduces Punishment (and Reward)." *American Economic Journal: Microeconomics* 3 (2011): 77–106.

COMMITTEE OF SPONSORING ORGANIZATIONS OF THE TREADWAY COMMISSION. *Executive Summary: Internal Control; Integrated Framework*. New York: AICPA, 1992. Available at http://www.coso.org/documents/Internal%20Control-Integrated%20Framework.pdf.

COMMITTEE OF SPONSORING ORGANIZATIONS OF THE TREADWAY COMMISSION. *Executive Summary: Enterprise Risk Management; Integrated Framework*. New York: AICPA, 2004. Available at http://www.coso.org/documents/coso_erm_executivesummary.pdf.

DANILOV, A., and D. SLIWKA. "Can Contracts Signal Social Norms? Experimental Evidence." IZA Discussion Paper, 2013. Available at http://ftp.iza.org/dp7477.pdf.

DENT, J. F. "Accounting and Organizational Cultures: A Field Study of the Emergence of a New Organizational Reality." *Accounting, Organizations and Society* 16 (1991): 705–732.

EVANS, J. H.; R. L. HANNAN; R. KRISHNAN; and D. V. MOSER. "Honesty in Managerial Reporting." *The Accounting Review* 76 (2001): 537–559.

EVANS, J. H.; V. B. HEIMAN-HOFFMAN; and S. RAU. "The Accountability Demand for Information." *Journal of Management Accounting Research* 6 (1994): 24–42.

FELTHAM, G. A., and C. HOFMANN. "Information Suppression in Multi-Agent Contracting." *Review of Accounting Studies* 17 (2012): 254–278.

GNEEZY, U., and A. RUSTICHINI. "A Fine Is a Price." *Journal of Legal Studies* 29 (2000a): 1–17.

GNEEZY, U., and A. RUSTICHINI. "Pay Enough or Don't Pay At All." *Quarterly Journal of Economics* 115 (2000b): 791–810.

HANNAN, R.; F. W. RANKIN; and K. L. TOWRY. "Flattening the Organization: The Effect of Organizational Reporting Structure on Budgeting Effectiveness." *Review of Accounting Studies* 15 (2010): 503–536.

HENRI, J. F. "Organizational Culture and Performance Measurement Systems." *Accounting, Organizations and Society* 31 (2006): 77–103.

KANAGARETNAM, K.; S. MESTELMAN; K. NAINAR; and M. SHEHATA. "The Impact of Social Value Orientation and Risk Attitudes on Trust and Reciprocity." *Journal of Economic Psychology* 30 (2009): 368–380.

KIM, K. H. "The Relation among Fit Indexes, Power, and Sample Size in Structural Equation Modeling." *Structural Equation Modeling: A Multidisciplinary Journal* 12 (2005): 368–390.

LUCAS, N., and V. S. KOERWER. "Featured Interview Sherron Watkins, Former Vice President for Corporate Development of Enron." *Journal of Leadership & Organizational Studies* 11 (2004): 38–47.

LUFT, J. L. "Fairness, Ethics and the Effect of Management Accounting on Transaction Costs." *Journal of Management Accounting Research* 9 (1997): 199–216.

MAAS, V. S.; M. VAN RINSUM; and K. L. TOWRY. "In Search of Informed Discretion: An Experimental Investigation of Fairness and Trust Reciprocity." *The Accounting Review* 87 (2012): 617–644.

MITTENDORF, B. "Capital Budgeting When Managers Value Both Honesty and Perquisites." *Journal of Management Accounting Research* 18 (2006): 77–95.

MURPHY, K. J., and T. SANDINO. "Executive Pay and "Independent" Compensation Consultants." *Journal of Accounting and Economics* 49 (2010): 247–262.

O'CONNOR, N. G. "The Influence of Organizational Culture on the Usefulness of Budget Participation by Singaporean-Chinese Managers." *Accounting, Organizations and Society* 20 (1995): 383–405.

RANKIN, F. W., S. T. SCHWARTZ, and R. A. YOUNG. "The Effect of Honesty and Superior Authority on Budget Proposal." *The Accounting Review* 83 (2008): 1083–1099.

SLIWKA, D. "Trust as a Signal of a Social Norm and the Hidden Costs of Incentive Schemes." *American Economics Review* 97 (2007): 999–1012.

SPRINKLE, G. B., and M. G. WILLIAMSON. "Experimental Research in Managerial Accounting," in *Handbook of Management Accounting Research*, edited by C. Chapman, A. Hopwood, and M. Shields. Philadelphia, PA: Elsevier Science, 2006.

SUNDER, S. "Management Control, Expectations, Common Knowledge, and Culture." *Journal of Management Accounting Research* 14 (2002): 173–187.

TAYLER, W. B., and R. J. BLOOMFIELD. "Norms, Conformity, and Controls." *Journal of Accounting Research* 49 (2011): 753–790.

TENBRUNSEL, A. T., and D. M. MESSICK. "Sanctioning Systems, Decision Frames, and Cooperation." *Administrative Science Quarterly* 44 (1999): 684–707.

TOURISH, D., and N. VATCHA. "Charismatic Leadership and Corporate Cultism at Enron: The Elimination of Dissent, the Promotion of Conformity and Organizational Collapse." *Leadership* 1 (2005): 455–480.

VAN LANGE, P.; W. OTTEN; E. M. N. DE BRUIN; and J. A. JOIREMAN. "Development of Prosocial, Individualistic, and Competitive Orientations: Theory and Preliminary Evidence." *Journal of Personality and Social Psychology* 73 (1997): 733–746.

WESTON, R., and P. A. GORE. "A Brief Guide to Structural Equation Modeling." *The Counseling Psychologist* 34 (2006): 719–751.

WOOLDRIDGE, J. M. *Introductory Econometrics: A Modern Approach*. 5th ed. Manson, OH: Cengage Learning, 2012.

ZIMMERMAN, J. *Accounting for Decision Making and Control*. 6th ed. New York, NY: McGraw-Hill, 2009.

ZIZZO, D. J. "Experimenter Demand Effects in Economic Experiments." *Experimental Economics* 13 (2010): 75–98.

APPENDIX

Instrument for susceptibility to interpersonal influence (Bearden et al. [1989])

1. I often consult other people to help choose the best alternative available from a product class.
2. If I want to be like someone, I often try to buy the same brands that they buy.
3. It is important that others like the products and brands I buy.
4. To make sure I buy the right product or brand, I often observe what others are buying and using.
5. I rarely purchase the latest fashion styles until I make sure my friends approve of them.
6. I often identify with other people by purchasing the same products and brands they buy.
7. If I have little experience about a product, I often ask my friends about the product.
8. When buying products, I generally purchase those brands that I think others will approve of.
9. I like to know what brands and products make good impression on others.
10. I frequently gather information from my friends or family about a product before I buy.
11. If others can see me using a product, I often purchase the brand they expect me to buy.
12. I achieve a sense of belonging by purchasing the same brands and products that others purchase.

FIGURE 1

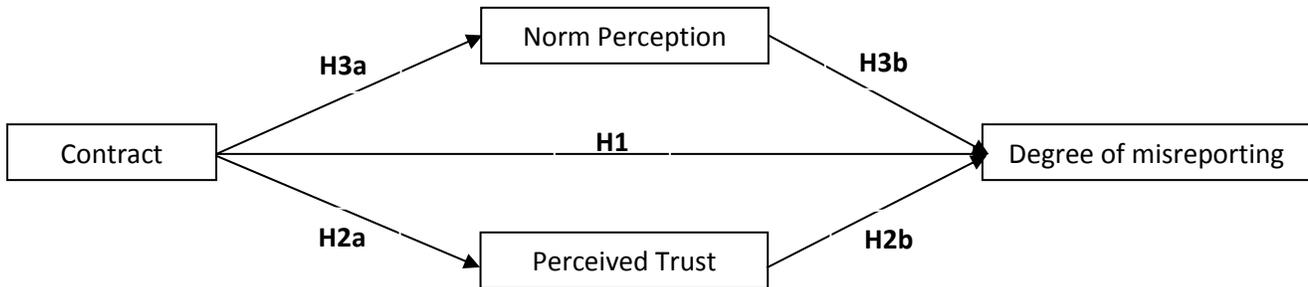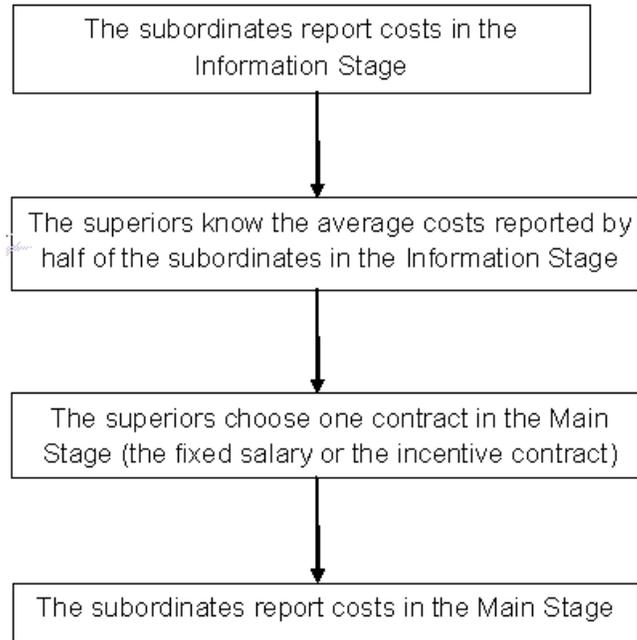*Theoretical model of the effect of contract type on degree of misreporting*

Figure 1 depicts the theoretical model, which predicts that the principal's choice of compensation contract influences the agent's degree of misreporting through three channels. First, hypothesis 1 (*incentive effect*) predicts that the use of an incentive contract that reduces agents' compensation from principals at higher reported costs has a direct effect on the agent's degree of misreporting, compared to the use of a fixed-salary contract, holding the agent's perception of being trusted and of norm constant. Second, hypothesis 2 (*principal trust effect*) predicts that the principal's choice of contract affects the agent's perception of being trusted (H2a), which affects the agent's degree of misreporting (H2b). Third, hypothesis 3 (*information leakage effect*) predicts that the principal's choice of contract influences the agent's norm perception (H3a), which then affects the agent's degree of misreporting (H3b).

FIGURE 2

Experimental design

```
┌─────────────────────────────────────────┐
│   The subordinates report costs in the   │
│           Information Stage              │
└─────────────────────────────────────────┘
                    │
                    ▼
┌─────────────────────────────────────────┐
│  The superiors know the average costs reported by │
│  half of the subordinates in the Information Stage │
└─────────────────────────────────────────┘
                    │
                    ▼
┌─────────────────────────────────────────┐
│  The superiors choose one contract in the Main   │
│  Stage (the fixed salary or the incentive contract) │
└─────────────────────────────────────────┘
                    │
                    ▼
┌─────────────────────────────────────────┐
│  The subordinates report costs in the Main Stage │
└─────────────────────────────────────────┘
```

Experimental design: In the Information Stage, all subordinates report costs under a fixed-salary contract. When the Information Stage finishes, the superiors receive information about the average costs reported by half of the subordinates. Half of the superiors observe the average costs reported by the four highest reporting subordinates, and the other half observe those reported by the four lowest reporting subordinates. Before the Main Stage starts, the superiors choose either the fixed-salary contract or an incentive contract for their new subordinates (i.e., superiors are randomly re-matched with new subordinates in the Main Stage). After observing their superiors' contract choice, the subordinates continue to report cost in the Main Stage under the chosen contract.

FIGURE 3

Empirical test of the theoretical model

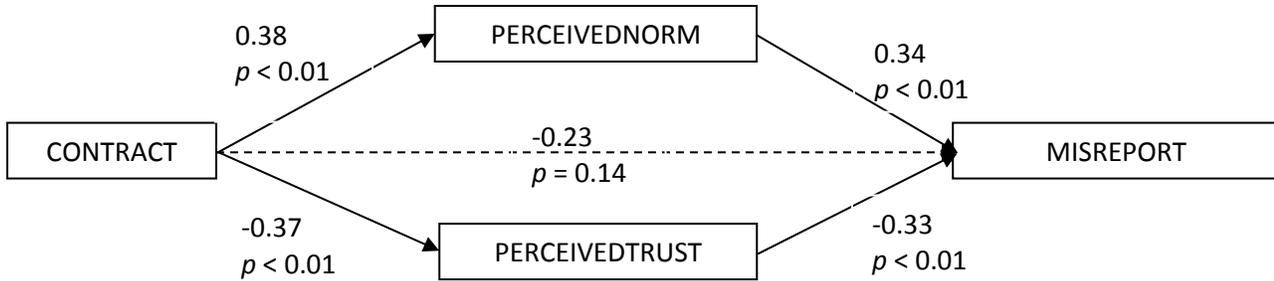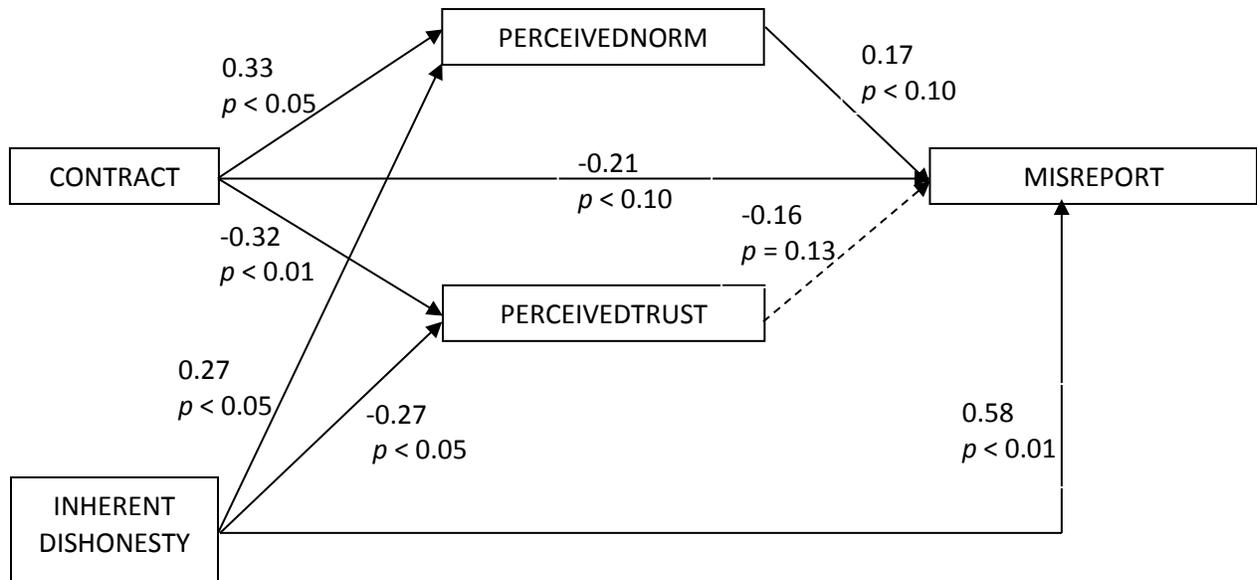Figure 3: This figure shows the results of the path analysis ($N = 64$). All paths displayed in this figure are estimated, and they are estimated jointly using quasi-maximum likelihood (QML) method. The standardized path coefficient and corresponding two-tailed *p*-value are shown next to each path. The paths with coefficients significant at the 0.10 level or less are depicted in solid lines, and other paths are in dotted lines. We calculate goodness-of-fit of this model using the standardized root mean square of the residual (SRMR). The SRMR of the model is 0.02; values lower than 0.10 are considered to be favorable (Bentler [1995], Weston and Gore [2006]).
CONTRACT is the contract received by the subordinates in the Main Stage of the experiment. This variable equals 1 if the contract is the incentive contract and 0 if the contract is the fixed-salary contract.
PERCEIVEDNORM represents the extent to which subordinates agree that others reported high costs in the experiment, on a 7-point scale (1 = "Fully disagree", 4 = "Neither agree nor disagree", 7 = "Fully agree").
PERCEIVEDTRUST captures the subordinates' perception of being trusted by their superiors in the Main Stage. The subordinates are asked to rate whether they agree that their superiors in the Main Stage trusted them on a 7-point scale (1 = "Fully disagree", 4 = "Neither agree nor disagree", 7 = "Fully agree").
MISREPORT is the level of misreporting in the Main Stage, calculated as the ratio of the difference between the average reported cost and the average actual cost to the difference between 20 and the average actual cost (Evans et al. [2001]).

FIGURE 4

Empirical test of the theoretical model controlling for the subordinates' inherent dishonesty levels

PERCEIVEDNORM

0.33
$p < 0.05$

0.17
$p < 0.10$

CONTRACT

-0.21
$p < 0.10$

-0.16
$p = 0.13$

MISREPORT

-0.32
$p < 0.01$

PERCEIVEDTRUST

0.27
$p < 0.05$

-0.27
$p < 0.05$

0.58
$p < 0.01$

INHERENT DISHONESTY

Figure 4: This figure shows the results of the path analysis ($N = 64$). All paths displayed in this figure are estimated, and they are estimated jointly using quasi-maximum likelihood (QML) method. The standardized path coefficient and corresponding two-tailed p-value are shown next to each path. The paths with coefficients significant at the 0.10 level or less are depicted in solid lines, and other paths are in dotted lines. We calculate goodness-of-fit of this model using the standardized root mean square of the residual (SRMR). The SRMR of the model is 0.00; values lower than 0.10 are considered to be favorable (Bentler [1995], Weston and Gore [2006]). CONTRACT is the contract received by the subordinates in the Main Stage of the experiment. This variable equals 1 if the contract is the incentive contract and 0 if the contract is the fixed-salary contract.
PERCEIVEDNORM represents the extent to which subordinates agree that others reported high costs in the experiment, on a 7-point scale (1 = "Fully disagree", 4 = "Neither agree nor disagree", 7 = "Fully agree").
PERCEIVEDTRUST captures the subordinates' perception of being trusted by their superiors in the Main Stage. The subordinates are asked to rate whether they agree that their superiors in the Main Stage trusted them on a 7-point scale (1 = "Fully disagree", 4 = "Neither agree nor disagree", 7 = "Fully agree").
INHERENT DISHONESTY is measured by the level of misreporting in the Information Stage, calculated as the ratio of the difference between the average reported cost and the average actual cost to the difference between 20 and the average actual cost in the Information Stage (Evans et al. [2001]).
MISREPORT is the level of misreporting in the Main Stage, calculated as the ratio of the difference between the average reported cost and the average actual cost to the difference between 20 and the average actual cost (Evans et al. [2001]).

FIGURE 5

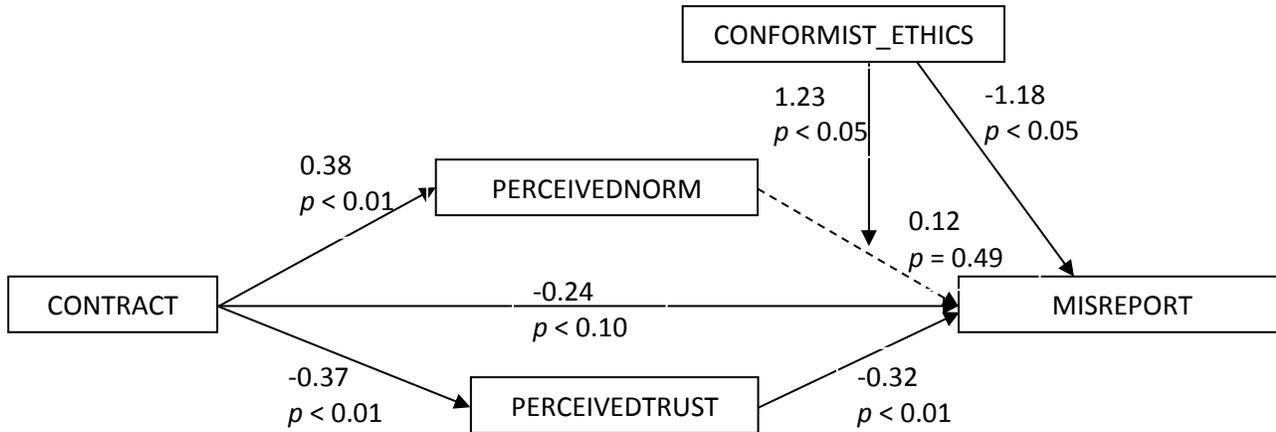*Empirical tests that explore the impact of the subordinates' conformity to norms*

Figure 5: This figure shows the results of path analyses that explore the moderating role of the subordinates' levels of conformity on the effect of norm perceptions ($N = 64$). All paths displayed in this figure are estimated, and they are estimated jointly using quasi-maximum likelihood (QML) method. The standardized path coefficient and corresponding two-tailed *p*-value are shown next to each path. The paths with coefficients significant at the 0.10 level or less are depicted in solid lines, and other paths are in dotted lines. We calculate goodness-of-fit of this model using the standardized root mean square of the residual (SRMR). The SRMR of the model is 0.12; values lower than 0.10 are considered to be favorable (Bentler [1995], Weston and Gore [2006]).

CONTRACT is the contract received by the subordinates in the Main Stage of the experiment. This variable equals 1 if the contract is the incentive contract and 0 if the contract is the fixed-salary contract.

PERCEIVEDNORM represents the extent to which subordinates agree that others reported high costs in the experiment, on a 7-point scale (1 = "Fully disagree", 4 = "Neither agree nor disagree", 7 = "Fully agree").

PERCEIVEDTRUST captures the subordinates' perception of being trusted by their superiors in the Main Stage. The subordinates are asked to rate whether they agree that their superiors in the Main Stage trusted them on a 7-point scale (1 = "Fully disagree", 4 = "Neither agree nor disagree", 7 = "Fully agree").

CONFORMIST_ETHICS is a dummy variable based on a measure that looks at the items from the susceptibility scale (Bearden, Netemeyer, and Teel [1989]) that are closely related to ethical decisions. This measure combines the participants' answers to questions 1, 3, 4, and 11 of the susceptibility scale (see Appendix). CONFORMIST_ETHICS equals 1 if the subordinate's score is equal to or greater than the median score for all subordinates and 0 otherwise.

MISREPORT is the level of misreporting in the Main Stage, calculated as the ratio of the difference between the average reported cost and the average actual cost to the difference between 20 and the average actual cost (Evans et al. [2001]).

TABLE 1

Summary Statistics, Comparison of Means, and Correlation Table

Panel A: Means, Standard Deviations, and Means Comparison

Condition	All subordinates		Incentive-contract receivers		Fixed-salary receivers		Difference
	N	Mean (St.dev)	n	Mean (St.dev)	n	Mean (St.dev)	Incentive − Fixed (t-stat/χ^2)
PERCEIVEDNORM	64	5.656 (1.211)	54	5.852 (1.089)	10	4.600 (1.350)	1.252 (3.22***)
PERCEIVEDTRUST	64	3.281 (1.777)	54	3.000 (1.748)	10	4.800 (1.033)	−1.800 (−3.14***)
MISREPORT							
- Main Stage	64	0.752 (0.308)	54	0.755 (0.306)	10	0.737 (0.337)	0.017 (0.16)
- Information Stage (INHERENT DISHONESTY)	64	0.669 (0.269)	54	0.690 (0.251)	10	0.556 (0.344)	0.134 (1.46)
CONFORMIST	64	0.500 (0.504)	54	0.537 (0.503)	10	0.300 (0.483)	0.237 ($\chi^2(1,64) = 1.90$)
CONFORMIST_ETHICS	64	0.578 (0.498)	54	0.593 (0.496)	10	0.500 (0.527)	0.093 ($\chi^2(1,64) = 0.30$)

Panel B: Pearson Correlation Matrix ($N = 64$)

	1	2	3	4	5	6	7
(1)CONTRACT	1.00						
(2)PERCEIVEDNORM	0.38***	1.00					
(3)PERCEIVEDTRUST	−0.37***	−0.19	1.00				
(4)CONFORMIST	0.17	0.29**	0.04	1.00			
(5)CONFORMIST_ETHICS	0.07	0.20	0.30**	0.73***	1.00		
(6)INHERENT DISHONESTY	0.18	0.33***	−0.33***	−0.03	−0.21	1.00	
(7)MISREPORT	0.02	0.31**	−0.30**	0.04	−0.08	0.65***	1.00

***, **, and * denote significance at 0.01, 0.05, and 0.10 levels, respectively (two-tailed).

CONTRACT is the contract received by the subordinates in the Main Stage of the experiment. The variable equals 1 if the contract is the incentive contract and 0 if the contract is the fixed-salary contract.

PERCEIVEDNORM represents the extent to which subordinates agree that others reported high costs in the experiment, on a 7-point scale (1 = "Fully disagree", 4 = "Neither agree nor disagree", 7 = "Fully agree").

PERCEIVEDTRUST captures the subordinates' perception of being trusted by their superiors in the Main Stage. The subordinates are asked to rate whether they agree that their superiors in the Main Stage trusted them on a 7-point scale (1 = "Fully disagree", 4 = "Neither agree nor disagree", 7 = "Fully agree").

CONFORMIST is a dummy variable, which equals 1 if the subordinate's score on the measures of susceptibility to others' influences (Bearden, Netemeyer, and Teel [1989]) is greater than the median score for all subordinates and 0 otherwise.

CONFORMIST_ETHICS is a dummy variable based on a measure that looks at the items from the susceptibility scale (Bearden, Netemeyer, and Teel [1989]) that are closely related to ethical decisions. This measure combines the participants' answers to questions 1, 3, 4, and 11 of the susceptibility scale (see Appendix). CONFORMIST_ETHICS equals 1 if the subordinate's score is equal to or greater than the median score for all subordinates and 0 otherwise.

INHERENT DISHONESTY is measured by the level of misreporting in the Information Stage, calculated as the ratio of the difference between the average reported cost and the average actual cost to the difference between 20 and the average actual cost in the Information Stage (Evans et al. [2001]).

MISREPORT is the level of misreporting in the Main Stage, calculated as the ratio of the difference between the average reported cost and the average actual cost to the difference between 20 and the average actual cost (Evans et al. [2001]).