

The effect of systems of management controls on honesty in managerial reporting[☆]

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ABSTRACT

While budgetary controls with capital rationing are theoretically optimal and widespread in practice, empirical research documents their association with higher employee dishonesty compared to budgetary controls without rationing. In this study, we examine whether combining budgetary controls with mission statements in a system of management controls decreases employee dishonesty. We predict that the system's effect on dishonesty depends on the interaction of the social norms conveyed by each control instrument within the system. We study two types of budgetary controls that differ in whether they include budget rationing and two types of mission statements that differ in whether they emphasize integrity or financial values. We provide experimental evidence that mission statements reduce employee dishonesty more if combined with budget rationing controls than non-rationing budgetary controls. This effect is enhanced when the mission statement conveys a norm of integrity, as opposed to a norm of financial performance. Our results suggest that mission statements can mitigate the downsides of budget rationing, but this effect is less pronounced when the norms conveyed by each instrument are redundant.

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1. Introduction

A key choice in the design of budgetary controls is whether to use capital rationing to discourage employees' opportunistic budgetary misreporting (Antle & Eppen, 1985; Antle & Fellingham, 1995; Mukherjee & Hingorani, 1999). While the use of capital rationing in budgeting (hereafter budget rationing) is widespread in practice, empirical research has documented higher rates of opportunistic behavior associated with budget rationing compared

to budgetary controls that do not include such provisions (e.g., Evans, Hannan, Krishnan, & Moser, 2001). We examine if *different configurations* of management control systems (i.e., combinations of budgetary controls and mission statement types) are *differentially effective* in curbing employees' opportunistic behavior (i.e., dishonesty).

The effect of a system of management controls on employee behavior depends on the interactions between the individual instruments included in the system (Bedford, 2020; Bedford, Malmi, & Sandelin, 2016; Bol & Loftus, 2019; Grabner & Moers, 2013; Malmi & Brown, 2008; Tessier & Otley, 2012). However, research shows that not every control instrument that is individually effective is also effective when combined with others (Bedford et al., 2016; Brüggén & Luft, 2001; Indjejikian & Matějka, 2012). Thus, managers must carefully select the instruments they include in their management control systems. We extend this line of inquiry by examining the interactions between control instruments based on the *information* each conveys about expected behaviors within the organization. Since each control instrument conveys information about social norms in the organization (Fischer & Huddart,

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2008; Tayler & Bloomfield, 2011; Christ, 2012; Christ, Sedatole, & Towry, 2015), we posit that employee behavior is influenced by the interaction of the social norms activated by the instruments in the system. For tractability, we limit our systems to configurations of two types of control instruments: budgetary controls with or without budget rationing and mission statements that convey either financial performance or integrity as organizational priorities.

Budget rationing occurs through a budgetary hurdle, whereby the organization funds only budget requests up to a certain amount (Evans et al., 2001; Fisher, Maines, Pfeffer, & Sprinkle, 2002; Heinle, Ross, & Saouma, 2013; Rankin, Schwartz, & Young, 2008). Theoretically, budget rationing reduces the potential for employees to opportunistically exploit their private information and offers greater protection for company profits (Antle & Eppen, 1985; Harris & Raviv, 1996). However, as prior empirical research shows, these benefits come at the cost of greater employee dishonesty (Evans et al., 2001) and perception of management distrust (Christ, Sedatole, & Towry, 2012) compared to budgetary controls that do not include budget rationing (i.e., trust-based budgetary controls). By choosing whether to include budget rationing, the organization signals different levels of trust and conveys the organization's expectations (i.e., injunctive norms) about employee behavior (e.g., Cialdini, Kallagren, & Reno, 1991; Cialdini, Reno, & Kallagren, 1990).¹ By choosing rationing, the organization signals mistrust and the expectation that employees will misreport. Thus, rationing can *implicitly* provide information about a norm of opportunistic behaviors. On the other hand, trust-based budgetary controls convey a norm of integrity and the expectation that employees will not misreport. We examine how other controls in the system, such as mission statements, interact with rationing and non-rationing budgetary controls.

A mission statement provides information about the core values *explicitly* espoused by the organization (Feldman, 1984), thereby communicating organizational expectations about *desired* employee behaviors.² As we detail later, there is significant variation in how firms leverage mission statements as control instruments and the types of values and goals they choose to highlight. Empirical research analyzing how mission statements contribute to systems of management controls is relatively scant. Malmi and Brown (2008, p. 288) note that the focus of extant literature has been on accounting-based controls, and there is "limited understanding of the impact of other types of controls (such as administrative or cultural) and whether/how they complement or substitute for each other in different contexts."

We explore the effects of the interaction between budgetary controls and mission statements within management control systems on employee dishonesty. Specifically, we predict that mission statements can reduce dishonesty by activating socially-oriented norms, which contrast with the self-interested norm of opportunistic behavior conveyed by budget rationing. As against this, trust-based budgetary controls convey socially-oriented norms; thus, combining them with mission statements will equate to instituting redundant controls within the system (Bedford, 2020; Bedford et al., 2016).

We test our predictions using a 3x2 between-subjects laboratory experiment using an organizational setting where the employee has private information about the true cost of a project. The employee can engage in opportunistic behavior by reporting a

cost that is higher than the actual cost. Using extant literature (Evans et al., 2001; Mittendorf, 2006), we operationalize two types of budgeting controls, which differ on whether they include a budgetary hurdle (modified trust contract) or do not include any capital rationing (trust contract). We design three mission statement conditions: no mission statement, a mission statement highlighting values associated with financial performance (hereafter: financial mission statement), and a mission statement highlighting values related to integrity and ethical behavior (hereafter: integrity mission statement).

Theory predicts that budget rationing contracts such as modified trust contracts are optimal in the presence of a mix of employees, some of whom have preferences for honesty and others for wealth maximization (Mittendorf, 2006). At the same time, prior empirical research documents an unanticipated effect – increased dishonesty associated with modified trust contracts compared to trust contracts (Evans et al., 2001). Our findings are consistent with these results; however, comparing dishonesty levels across budgetary controls is not a goal of this study. Instead, we are interested in the *incremental* effect of mission statements on employee dishonesty when *combined* with budgetary controls. That is, we explore whether, by combining other control instruments with modified trust contracts, the firm can continue to benefit from capital rationing while reducing the tendency for such contracts to induce greater dishonesty. We first examine the difference in dishonesty when each type of budgetary control is combined with *any* mission statement in a system of controls. We find that the increase in dishonesty in systems with budget rationing relative to systems with non-rationed budgets is lower in the *presence* of any of the two mission statements. This is because, while dishonesty serves the employee's self-interest *at the firm's expense*, a mission statement highlights firm-level goals and triggers socially-oriented norms. Our results are also consistent with the idea that control instruments conveying similar norms (e.g., trust contract and mission statement) may be redundant (Bedford, 2020).

We further unpack the interactions between social norms conveyed by individual control instruments within a system by examining the effect of the mission statement *content* – i.e., the specific core values highlighted by the mission statement – on dishonesty. We predict that the increase in dishonesty in systems with budget rationing relative to systems with non-rationed budgets is lower in the presence of an *integrity* mission statement. Similarly, we predict that using an integrity mission statement within a system of controls is more effective in curbing dishonesty than using a *financial* mission statement when budget rationing is present. A financial mission statement, while activating values consistent with organizational goals, can still legitimize self-interested behavior, which could help employees rationalize dishonesty. Empirical test results support our predictions.

Additional analyses of systems with budget rationing deepen our exploration into mechanisms underlying the observed relations. Using information collected via post-experiment questionnaires, we find that employees' willingness to misreport partially mediates the relation between the configuration of the control systems and the corresponding dishonesty. Systems that combine budget rationing and integrity mission statements are associated with a lower willingness to misreport compared to budget rationing by itself and compared to systems that include budget rationing and financial mission statements. Lower willingness to misreport is associated with lower dishonesty. Consistent with psychology theory, which posits that inconsistent messages attract more attention and are processed more deeply (Brewer & Treyens, 1981; Küppers & Bayen, 2014), we find that systems that combine budget rationing and integrity mission statements are associated with greater mission statement salience than systems

¹ Injunctive norms refer to beliefs about what others expect one to do (e.g., Chen, Nichol, & Zhou, 2017; Cialdini et al., 1990; Thøgersen, 2008).

² By communicating what the organization approves or disapproves of, a mission statement also conveys an injunctive norm.

with financial mission statements. Greater mission statement salience is, in turn, associated with lower dishonesty.

Our study makes several contributions. First, we add to the literature on systems of controls. Research has focused on the design of budgeting, such as the presence or absence of a budgetary hurdle (Evans et al., 2001), the mode of budgetary communication (Rankin et al., 2008), and authority and distributional fairness in the budgetary process (Douthit & Stevens, 2015). Scant empirical literature examines how combining different controls influences their efficacy. As Hanzlick and Brühl (2013, p. 3) note, existing frameworks “do not address why particular management control elements should be expected to occur together and how they are or should be linked to each other.” We operationalize a tractable system of management controls consisting of budgetary controls and mission statements and show that different configurations of these instruments within a management control system have different impacts on dishonesty. Specifically, we show that the system's effect depends not only on what instruments it includes but also on the social norms that each instrument conveys.

Second, we add to the accounting literature that shows that the design of management control instruments can signal different organizational norms, which can influence employee behavior (Hannan, Rankin, & Towry, 2006; Rankin et al., 2008; Schatzberg & Stevens, 2008; Stevens, 2002, 2019). Rankin et al. (2008, p. 1096) note that “the design of budgeting systems requires a delicate balance between promoting nonpecuniary motivations and administering formal control.” We extend this line of inquiry by showing that the social norms promoted by one control instrument (budgeting) interact with the social norms communicated by another control instrument (mission statement). The effects of these interactions on dishonesty depend on whether these norms activate values that contrast with each other. The incremental effect of combining control instruments is smaller when they convey similar norms and therefore have redundant effects.

Finally, limited research examines how cultural controls influence employees' behavior. By focusing on mission statements, we operationalize a specific type of cultural control and offer insights into the role of the *content* of mission statements and the importance of the *contextual settings* in which they are implemented. Our results highlight the practical importance of carefully designing mission statements and analyzing their interdependencies with other management control practices (Bedford et al., 2016). Our study also provides practical insights about control practices that can mitigate the drawbacks of capital rationing—a commonly used control—while maintaining its benefits. As we mention in Section 2.2, about 65% of the Global 500 firms do not disclose a formal mission statement. The underutilization of this powerful control instrument could arise from an insufficient understanding of its potential. Our study addresses this gap and informs practitioners about the benefits of adopting a mission statement within a system of controls.

2. Background: budgeting and mission statements in practice

We examine how management control instruments combine as a system to influence outcomes and whether some combinations are more effective than others. Before we discuss the theoretical framework motivating the hypotheses, we provide evidence of the practical relevance of the two instruments that are the subject of our study—namely, budget rationing and mission statements.

2.1. Budget rationing in practice

Budget rationing, whereby firms provide their managers with fewer resources than requested and deliberately refrain from

pursuing value-added production, is an enduring puzzle (Han, Hirschleifer, & Persons, 2008) and pervasive in practice (Brüggen & Luft, 2001; Burns & Walker, 2009; Ross, 1986; Jagannathan, Matsa, Meier, & Tarhan, 2016). Mukherjee and Hingorani (1999) find that 64% of Fortune 500 firms ration resources using budgetary hurdles. Poterba & Summers' (1995) survey of Fortune 1000 firms finds that most firms use hurdle rates higher than the cost of capital in their budgeting practices. Graham and Harvey (2001) survey 392 CFOs and find that 56.94% of firms state that they “always” or “almost always” use a hurdle rate for capital budgeting that is higher than the cost of capital. A similar pattern is reported by Jagannathan et al. (2016). A survey of 157 firms located in Nordic countries by Brunzell, Liljeblom, and Vaihekoski (2013) provides evidence of a hurdle rate that is about four percentage points higher than the cost of capital, while Meier and Tarhan's (2007) survey of 127 U.S. companies reports an average hurdle rate of about 5.11%. Thus, budget rationing is a pervasive form of control instrument used throughout the world.

2.2. Mission statements in practice

Academicians and practitioners alike emphasize the importance of a mission statement that articulates the company's values (Epley & Kumar, 2019; Kanze, Conley, & Higgins, 2021). A Bain and Company (2018) survey of 1,268 managers found that 32% of the companies that participated in the survey had a mission statement. To obtain a better understanding of the prevalence of mission statements, we hand-collected mission statements of the Global 500 firms.³ We found that 172 firms (34.4%) disclosed a formal mission statement, consistent with the Bain and Company (2018) survey. Two Master of Accounting students, a research assistant, and the authors coded the values in the mission statements into “financial,” “integrity,” and “others.”⁴ Among the 172 mission statements, 12 (6.97%) highlighted integrity, and 17 (9.88%) mentioned financial performance. In some cases (10 companies, 5.81%), the mission statement included both integrity and financial values. The remainder (133, 77.32%) communicated other core values, such as environmental sustainability, quality, technology, safety, reliability, employee development, and community contributions. Appendix A summarizes our findings and provides examples of mission statements. Our data reveal that there seems to be an underutilization of formal mission statements in practice. However, Hanzlick and Brühl (2013) find that organizations that adopt a mission statement assign high importance ratings to it.

3. Literature and hypotheses

3.1. Design of budgeting and social norms

Budgetary controls aim to prevent employees from exploiting their private information for personal gains at the expense of organizational financial outcomes (Baiman & Evans, 1983; Brown, Evans, & Moser, 2009; Heinle et al., 2013). For example, budgets can include budget rationing, which sets an upper bound on budgetary funding and ensures that firm profit does not fall below a threshold. However, the design of budgetary controls communicates information about the organization's norms and expectations regarding employee behavior (Christ et al., 2012; Feldman, 1984; Fischer & Huddart, 2008). Individuals tend to adapt their behaviors

³ See <https://fortune.com/global500/> for the list of Global 500 companies in 2019.

⁴ All raters worked independently. After all ratings were collected, they were discussed as a group and consensus was reached with respect to those cases in which the initial classifications did not match.

to conform to the social norms in their work environment (Robinson & O'Leary, 1998). Thus, the social norms conveyed by control instruments can influence employee behavior (Tayler & Bloomfield, 2011).

Budgetary controls convey information about the behavior managers expect to observe among the employees. Sliwka (2007, p. 1000) posits that the principal can “choose to trust or control the agent” and, while there is uncertainty about the distribution of agent types (i.e., honest vs. opportunistic), “the principal has superior information about the type of distribution due to her experience with previous employees.” Thus, workers likely interpret budgetary controls as informative about the normatively appropriate behavior in the organizational context (Heinicke, König-Kersting, & Schmidt, 2022). In other words, budgetary controls convey information about the norms about misreporting and influence the employee's perceptions regarding the appropriateness of misreporting in the focal setting (Krupka & Weber, 2013).

When budgetary controls do not include rationing, the supervisor's budgetary allocation is equal to the employee's budget request. The downside of such non-rationed budgets is that they include no protection for the firm against the adverse effects of employee dishonesty (Mittendorf, 2006). However, an upside of non-rationed budgets is that they communicate the firm's trust that the employee will report honestly (Christ et al., 2012). Prior research notes that when organizations use non-rationed budgets (e.g., trust contract in Evans et al. (2001)), subordinates frame the budgetary reporting decision as an ethical dilemma, bringing to focus honesty and related non-pecuniary motivations (Rankin et al., 2008). Thus, a non-rationed control instrument activates socially-oriented norms of honest reporting. Employees in this setting are likely to regard dishonesty as a violation of the organizational norm of honesty. Even if an individual's norm violation remains unknown to others, the transgression produces feelings of guilt and pressure to conform to the norm (Fischer & Huddart, 2008).

Budgets with capital rationing (e.g., the modified trust contract in Evans et al. (2001)) limit opportunities for profiting from dishonesty by imposing a hurdle for reported costs above which production will not occur. However, the restrictive nature of budget rationing communicates that management questions the integrity of the employees (Christ et al., 2012). Thus, budget rationing communicates a social norm of self-interested opportunistic behavior—that is, the hurdle feature communicates the firm's expectations that employees will report costs dishonestly. By imposing production restrictions, the firm indicates that the loss associated with foregone production is smaller than the loss arising from employee opportunism, conveying that dishonesty is widespread in the organization. Therefore, employees may perceive a norm legitimizing dishonesty (Robinson & O'Leary, 1998). The resulting behavior attenuates the theorized benefits of budget rationing. Accordingly, budget rationing is associated with greater dishonesty (Evans et al., 2001). Combining budgetary controls with other control instruments (such as mission statements) that communicate socially-oriented norms can activate values that contrast with self-interested behaviors and improve firm profitability (Tayler & Bloomfield, 2011).

3.2. Mission statements and social norms

By formally codifying the organization's core values, mission statements help inform employees' choices of actions (Amabile & Kramer, 2012; Bart, Bontis, & Taggar, 2001; Johansson, 2018). Mission statements are a form of belief system, defined by Simons (1994, p. 170) as “formal systems used by top managers to define, communicate, and reinforce the basic values, purpose, and direction for the organization.” Mission statements are different from

codes of conduct. A code of conduct specifies rules the employees must adhere to in specific situations and includes explicit sanctions for noncompliance. A mission statement is aspirational in that it communicates core values and principles without being prescriptive. However, because mission statements are communicated to employees and outsiders, they act as a vehicle to create commitment and accountability aiming to shape employees' behaviors in all organizational transactions. The goal is to communicate norms that *ought* to become part of employees' system of values, with corresponding feelings of obligation to obey them.

Mission statements can take a myriad of forms based on the stakeholders mentioned (e.g., customers, employees, shareholders, society) and the values emphasized (ethics, financial performance, etc.). We posit that these choices have important implications for the social norms conveyed to employees, especially when mission statements are combined with other control instruments within a system of management controls.

3.3. Mission statements and budgeting as systems of controls

The overall effectiveness of a system of controls comprised of mission statements and budgeting depends on the interdependencies between the two instruments (Bol & Loftus, 2019; Grabner & Moers, 2013). These interdependencies are not only driven by the design of technical features of the instruments (i.e., the form of control exerted) but also by the social norms that are communicated implicitly or explicitly by choosing a specific design form (Stevens, 2019). Not every control instrument that is effective in isolation provides incremental effects on employee behavior when combined with other control instruments within a system of management controls (Bedford et al., 2016). As Bedford (2020) explains, certain combinations of control instruments are complementary (i.e., one instrument counteracts the weaknesses of another), while others may be redundant (i.e., the addition of a control instrument does not generate incremental effects on the desired behavior). Depending on the system configuration, a mission statement can activate norms and values consistent or contrasting with the norms signaled by the budgetary control. By highlighting organizational goals, a mission statement activates socially-oriented norms that contrast with the opportunistic norm conveyed by budget rationing. Conversely, non-rationed budgets already convey a norm of honesty. Thus, adding a socially-oriented norm via a mission statement may be redundant and less likely to generate an incremental effect on employee honesty.

Based on extant research (Evans et al., 2001), we have an *a priori* expectation that, in the absence of a mission statement, *budget rationing will increase dishonesty relative to non-rationing*. Therefore, in all our hypotheses, we compare the increase in dishonesty under budget rationing *relative* to non-rationing in various control systems. In *Hypothesis 1*, we begin with a prediction that a mission statement will be more effective in curbing dishonest budgetary reporting when it is combined with budget rationing than when it is combined with non-rationing.

HYPOTHESIS 1. *Budget rationing increases dishonesty less when combined with a mission statement than in the absence of a mission statement.*

3.4. Role of mission statement content in a system of controls

The core values organizations formalize in their mission statements vary. We focus on two kinds of values in mission statements—namely, integrity values and financial values. We posit that the interaction between the norms cued by the mission statement and those cued by the budgeting control influences the moderating

effect of the mission statement in the relation between the system of management controls and employee dishonesty.

Budget with (without) rationing conveys a norm of self-interested behavior (honesty). A mission statement emphasizing integrity signals core values centered on ethical behavior (Rousseau, 2000), thus conveying a social norm of honesty. Therefore, when an integrity mission statement is combined with a trust-based budgetary control, it is redundant to curb employee dishonesty. In contrast, for an employee experiencing budget rationing, the associated signal is that opportunistic behavior is a social norm in the organization. For this employee, exposure to a mission statement that highlights integrity will trigger socially-oriented values, thus reducing the employee's motivation to act selfishly. Thus, we predict:

HYPOTHESIS 2. *Budget rationing increases dishonesty less when combined with an integrity mission statement than in the absence of a mission statement.*

Mission statements emphasizing financial performance can influence employees' conduct away from self-interested opportunistic behaviors like dishonesty by highlighting the impact of such dishonesty on firm outcomes. However, financial mission statements also draw attention to the monetizable elements of organizational exchanges (Dabos & Rousseau, 2004; Rousseau, 1995) and could implicitly legitimize self-interested behaviors as an acceptable part of the organization's social norms. The self-interest norm cued by budget rationing thus contrasts to a greater extent with the socially-oriented norms cued by an integrity mission statement than by a financial mission statement. Accordingly, we predict the following:

HYPOTHESIS 3. *Budget rationing increases dishonesty less when combined with an integrity mission statement than when combined with a financial mission statement.*

4. Experimental design

4.1. Setting

The experimental design is adapted from Evans et al. (2001) and consistent with the theoretical models of Antle and Eppen (1985), Antle and Fellingham (1995), and Mittendorf (2006). Participants act as managers in an organization with information asymmetry between the owner and the manager. As in Evans et al. (2001), the experimenter plays the role of the owner. This design choice is important because our experiment operationalizes two theoretically optimal budgeting contracts (trust contract or modified trust contract) in a series of independent budgeting rounds (Antle & Eppen, 1985). The construct of interest is employee dishonesty. Our design reduces the possibility of confounding factors, such as sub-optimal budget contract choices made by participant-supervisors. We do not have design elements such as supervisor authority or particular communication methods that would require participant supervisors.⁵ Our design reduces scope for dyadic reciprocity, reputation, or distributional concerns, which could confound our results. As stated in Evans et al. (2001, p. 540), our design aims to be "consistent with calls for simpler and sharper empirical tests comparing predictions from the conventional

⁵ Participant supervisors are used by Rankin et al. (2008), who examine the joint effect of the mode of communication of the budget proposal by the subordinate and the supervisor's authority to reject the budget, Douthit & Stevens (2015) who examine the effect of distributional fairness and reciprocity norms on dishonesty, Zhang (2008), and Douthit & Stevens (2015) who examine the effect of reciprocity on dishonesty.

economic model to alternative hypotheses (Luft, 1997; Young & Lewis, 1995)".

4.2. Participants and logistics

Participants included 133 post-graduate students (77% male, 18% female, and 5% undisclosed gender) from a large U.S. university. The mean (median) work experience was 6.36 (5.41) years. Participants were assigned random identification numbers that were not traceable to their identity. These numbers were subsequently used to compensate them. The design was 3 (mission statement types) x 2 (budget types) between-subjects. The mission statement types included: no mission statement (NMS), financial mission statement (FMS), and integrity mission statement (IMS). The budget types were a contract without budget rationing, operationalized as the Evans et al. (2001) trust contract (TC), and a contract with budget rationing, operationalized as the Evans et al. (2001) modified trust contract (MTC). Participants were randomly assigned to one of the six treatment cells.

Participants acted as managers of a manufacturing division in a corporation producing an item for which there was a demand of 1,000 units at a fixed unit selling price of 6.00 Lira (an experimental currency). Managers were responsible for submitting a budget request to their supervisor at the corporate headquarters at the beginning of each productive period for ten independent periods. At the start of each period, both the corporate headquarters and the manager knew that the cost of production was uniformly distributed between 4.00 and 6.00 Lira per unit. After the budgeting cycle began, only the manager could observe the actual cost. Corporate headquarters would only observe the budget request submitted by the manager. Managers could keep the difference between the budget allocated to them by the corporate headquarters and what was used in the actual production (i.e., the actual cost). Corporate would never learn about the actual cost at any point, nor would they receive any information allowing them to estimate the actual cost or how much the manager retained. Managers were also paid a fixed salary of 250 Lira per period, regardless of the actual or reported cost or whether production occurred.

Like Evans et al. (2001), we determined the actual cost for each participant in advance of the experiment. For each participant, we randomly drew ten actual costs per unit from the distribution (4, 4.05 ... 5.95, 6.00) with replacement, using the Excel random number generation function. We repeated this procedure 133 times, generating one independent set of 10 costs for each of the 133 participants. Participants observed their actual cost of production and submitted their budget requests. The approved budget varied as a function of the budgeting contract. Participants were not informed that there were different types of budgeting contracts, nor were they given any information about the algorithm that would determine their approved budgets. Each participant, however, received examples relevant to their particular contract as part of the pre-experiment instructions to ensure that they understood the budgeting system and their earnings potential. At the end of the experiment, participants were paid in US dollars at the rate of 30 Lira = \$1.00, based on their earnings corresponding to one randomly selected period.⁶ A student unconnected with the experiment prepared sealed payment envelopes marked only with the participant number. The payment to each participant was made by appointment by another student unconnected with the experiment. Thus, strict anonymity was maintained.

⁶ This design, which was adopted from Evans et al. (2001) was to ensure that participants did not perceive the experiment as a repeated period game, to prevent reputation formation, and to prevent end-game effects.

After they had submitted budget requests for all ten periods, participants were asked to fill out a post-experiment questionnaire. The questions related to their understanding of the experiment, the payoff structure, the budget contract design, anonymity, and cognitive processes. The questionnaire also included questions about demographic characteristics.

4.3. Mission statement types

Participants were randomly assigned to three mission statement conditions: no mission statement (NMS), financial mission statement (FMS), and integrity mission statement (IMS).

We operationalized the presence and the type of mission statement as follows: (a) For participants in the *no mission statement* condition, the instructions stated: "You are the manager of a manufacturing division in a corporation"; (b) for participants assigned to the *financial mission statement* condition, the instructions stated: "You are the manager of a manufacturing division in a corporation. The mission statement of your corporation is as follows: Our mission is to operate with dedication to every client's success and meet aggressive financial targets, whatever the economic environment"⁷; (c) for participants in the *integrity mission statement* condition, the instructions stated: "You are the manager of a manufacturing division in a corporation. The mission statement of your corporation is as follows: Our mission is to operate with dedication to every client's success by fostering a culture of integrity and trust in all relationships."⁸ If present, the mission statement was embedded in the description of the participant's managerial role.

4.4. Budgeting contract types

Participants assigned to the trust contract (TC) condition received a budget allocation amount equal to their budget request, provided the request was between 4.00 and 6.00 Lira, corresponding, respectively, to the minimum and maximum cost realization that could occur in the setting.⁹ If, for example, the actual cost was 4.50 Lira and the participant submitted a budget request of 6.00 Lira, the participant received 6,000 Lira (6 Lira multiplied by 1,000 units of production) from the headquarters. Due to dishonest reporting, the participant would earn 1,500 Lira (the difference between the headquarters' remittance of 6,000 Lira and the 4,500 Lira used in production). Additionally, the participant would receive the 250 Lira of salary.

Participants assigned to the modified trust contract (MTC) condition received a budget allocation amount corresponding to their budget request, provided the request was less than or equal to 5.00 Lira, which was the budgetary hurdle cost. Thus, the MTC included a capital rationing mechanism. For example, if the actual cost was 4.50 Lira and the participant submitted a budget request of 5.00 Lira, the participant would receive 5,000 Lira (5 Lira multiplied by 1,000 units of production) from the headquarters. Due to dishonest reporting, the participant would earn 500 Lira (the difference between the headquarters remittance of 5,000 Lira and the amount used in production of 4,500 Lira). Additionally, the

participant would receive the 250 Lira of salary. Instead, if the participant submitted a budget request of 4.50 Lira (corresponding to the actual cost), the participant would receive 4,500 Lira (4.5 Lira multiplied by 1,000 units of production) from the headquarters. The participant would only earn the salary of 250 Lira, as the money assigned by headquarters would be entirely used to cover the production costs. For a budget request greater than 5.00 Lira, no production would occur, and the participant would only receive the salary of 250 Lira. Fig. 1, Panel A describes the experimental conditions, and Fig. 1, Panel B describes the sequence of activities.

4.5. Dependent variable

The dependent variable *Dishonesty* is calculated as the average percentage of dishonesty across the ten periods at the participant level (i.e., for each participant, we compute the average percentage of dishonesty across all periods).¹⁰ The period-participant measure of dishonesty is calculated as follows:

$$Dishonesty_Period = \frac{(Reported\ Cost - Actual\ Cost)}{(Max\ Reportable\ Cost - Actual\ Cost)} \quad (1)$$

For example, suppose a participant in an MTC condition had an actual cost draw of 4.00 Lira in a certain period and submitted a budget request of 4.50 Lira. *Dishonesty_Period* for this participant-period would be 0.5 (or 50%) calculated as $(4.50 - 4.00) / (5.00 - 4.00)$. If the participant submitted a budget request of 4.75 Lira, *Dishonesty_Period* for this participant-period would be 0.75 (or 75%) calculated as $(4.75 - 4.00) / (5.00 - 4.00)$.¹¹ Similarly, if a participant in a TC condition had an actual cost draw of 4.00 Lira in a period and submitted a budget request of 4.50 Lira, *Dishonesty_Period* for this participant-period would be 0.25 (or 25%) calculated as $(4.50 - 4.00) / (6.00 - 4.00)$.¹² *Dishonesty* at the participant level is calculated by averaging dishonesty across all participant-periods. We use participant-level *Dishonesty* as the unit of analysis.

5. Results

Panel A of Table 1 contains information about the sample, and Panel B provides the distribution of the observations. Of the 133 participants who performed the experimental task for ten periods each, one participant had missing reported costs, and another nine failed the manipulation check question that tested whether the participant understood that their reports were anonymous. Our final sample consists of 123 participant observations.¹³

Panel A of Table 2 reports the means and standard deviations of *Dishonesty* at the participant level for each experimental condition.¹⁴ Univariate analyses indicate that *Dishonesty* is higher in MTC relative to TC (60.6% vs 38.7%; *t* statistic = 3.48; two-tailed *p*-value < 0.01). This is consistent with our apriori expectation that budget rationing will increase dishonesty relative to non-rationing. *Dishonesty* also varies by type of mission statement. *Dishonesty* is

⁷ At the time the experimental instrument was designed, this was the mission statement of United Technologies, which ranked number 50 on the Fortune 500 list in terms of revenues (<http://www.utc.com/How-We-Work/Our-Commitments/Pages/default.aspx>).

⁸ At the time the experimental instrument was designed, this was the mission statement of IBM Corporation.

⁹ In case the budget request exceeded the maximum of 6.00 Lira, there would be no production and the subject would receive an allocated budget of zero. Participants would still receive their fixed salary of 250 Lira.

¹⁰ Our definition of dishonesty is identical to Evans et al. (2001), Rankin et al. (2008), Cardinaels & Yin (2015), and Douthit & Stevens (2015).

¹¹ *Dishonesty* is not calculated for MTC participants in the periods where their reported costs exceeded the hurdle of 5.00 Lira since there would be no production and no scope for dishonesty. Therefore, in some MTC cases participant-level *Dishonesty* is calculating by averaging across fewer than 10 periods.

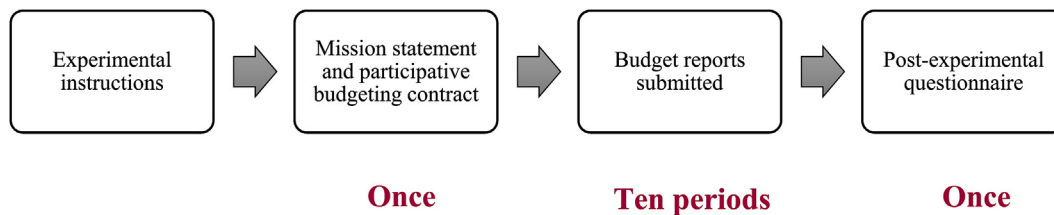
¹² *Dishonesty* is not calculated for TC and MTC participants if the actual cost draw equaled 6.00 Lira since there was no opportunity for dishonest reporting.

¹³ All analyses include a control for mean actual cost draws since this affects the opportunity to gain from dishonesty.

¹⁴ Appendix B contains variable definitions. Appendix C reports the mean and standard deviation of *Dishonesty* for each period and experimental condition.

Panel A: Experimental Cells

Mission Statement Type	Contract Type	
	Trust Contract (TC)	Modified Trust Contract (MTC)
	Budget Allocation = Budget Request	(i) If Budget Request ≤ 5.00 : Budget Allocation = Budget Request (ii) If Budget Request > 5.00 : Budget Allocation = 0
No Mission	N/A	
Financial Mission	Our mission is to operate with dedication to every client's success and meet aggressive financial targets, whatever the economic environment.	
Integrity Mission	Our mission is to operate with dedication to every client's success by fostering a culture of integrity and trust in all relationships.	

Panel B: Sequence of Activities**Fig. 1.** Experimental design.

Notes: Panel A of Fig. 1 describes the contract type and the mission statement types experienced by participants in each condition. Panel B provides the sequence of the activities in the experiment.

Table 1

Sample characteristics.

Panel A: Sample selection – Participant level			
Number of participants (n)			133
Less: Participants who did not clear manipulation checks			10
Participants for whom mean dishonesty levels were calculated (N)			123
Panel B: Distribution of participants by experimental cell			
Mission Statement Type	Contract Type		Full Sample
	Trust Contract (TC)	Modified Trust Contract (MTC)	
NMS	23	21	44
FMS	19	21	40
IMS	20	19	39
Full Sample	62	61	123

Notes: Panels A and B show the sample selection process and distribution across experimental cells at the participant level.

significantly lower in the IMS condition relative to the NMS condition (37.3% vs 52.7%, t statistic = 2.33, two-tailed p -value = 0.02), and relative to the FMS condition (37.3% vs 55.7%, t statistic = 2.33, two-tailed p -value = 0.02). Dishonesty in the FMS condition is not statistically different than in the NMS condition (55.7% vs 54.9%, t statistic = -0.09, two-tailed p -value > 0.10). Fig. 2 provides a graphical representation of these results. Panel B of Table 2 presents univariate tests comparing the effect of mission statements combined with different budgeting controls.

5.1. Test of hypotheses

Hypothesis 1 states that budget rationing (i.e., MTC) increases dishonesty less when combined with a mission statement than in the absence of a mission statement. We compare the increase in dishonesty under budget rationing (MTC) relative to non-rationing (TC) in various control systems. We pool together the FMS and IMS conditions and construct an indicator variable (MS) equal to one if a

mission statement (either FMS or IMS) is present and zero otherwise. We capture the budgeting contract type via an indicator variable, MTC , which takes the value of one if the participant was assigned a budgeting contract with capital rationing and zero otherwise.

We first estimate our hypothesis testing models using ANOVA. Results of the ANOVA reported in Table 3, Panel A, indicate non-significant interaction effects between MTC and MS on dishonesty. However, since ANOVA is best suited to test for specific ordinal patterns and can lack the power to detect ordinal patterns, we estimate planned contrasts and follow the Guggenmos, Piercey, and Agoglia (2018) three-part approach for testing patterns of means.

To support **Hypothesis 1**, the MTC must increase dishonesty less when combined with MS than with NMS . In other words, while under NMS , the MTC increases dishonesty relative to TC (apriori expectation), this increase in dishonesty between the MTC and TC is reduced in the presence of an MS . As we predict a specific ordinal

Table 2
Participant-level dishonesty under various systems of controls.

Panel A: Means (standard deviation) of Dishonesty under different control systems			
Mission Statement Type	Contract Type		
	TC	MTC	Full Sample
NMS	TC & NMS 0.411 (0.308) N = 23	MTC & NMS 0.699 (0.381) N = 21	0.549 (0.370) N = 44
MS	TC & MS 0.373 (0.324) N = 39	MTC & MS 0.556 (0.372) N = 40	0.466 (0.360) N = 79
FMS	TC & FMS 0.407 (0.353) N = 19	MTC & FMS 0.691 (0.366) N = 21	0.557 (0.383) N = 40
IMS	TC & IMS 0.340 (0.301) N = 20	MTC & IMS 0.407 (0.329) N = 19	0.373 (0.312) N = 39
Full Sample	0.387 (0.316) N = 62	0.606 (0.378) N = 61	0.496 (0.364) N = 123

Panel B: Univariate tests		
T-test	TC	MTC
NMS vs MS	Diff = -0.038 t = -0.456 p = 0.649	Diff = -0.143 t = -1.42 p = 0.161
FMS vs NMS	Diff = -0.004 t = -0.037 p = 0.970	Diff = -0.008 t = -0.072 p = 0.943
IMS vs NMS	Diff = -0.071 t = -0.761 p = 0.451	Diff = -0.293 t = -2.59 p = 0.014
IMS vs FMS	Diff = -0.067 t = -0.641 p = 0.526	Diff = -0.285 t = -2.58 p = 0.014
IMS vs NMS&FMS	Diff = -0.069 t = -0.803 p = 0.425	Diff = -0.288 t = -2.93 p = 0.005

Notes: Panel A of Table 2 reports mean dishonesty for each mission statement and contract type at the participant level and Panel B reports corresponding univariate tests. Dishonesty is computed for each period and each participant as follows. First, we calculate *Dishonesty_Period* as described in equation (1). Next, we calculate *Dishonesty* at the participant level by averaging *Dishonesty_Period* across ten periods.

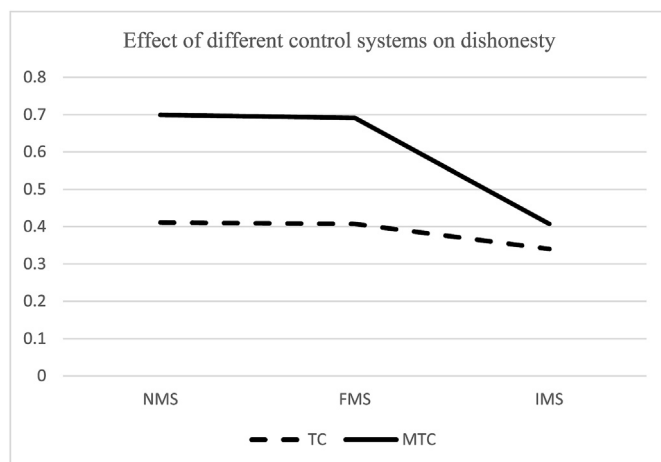


Fig. 2. Effect of systems of controls on dishonesty.

Notes: Fig. 2 reports the participant-level mean dishonesty in each of our six experimental conditions, resulting from our 3x2 between-subjects design, where we manipulate three levels of mission statements (none, integrity mission statement, financial mission statement), and two levels of budgeting contracts (trust contract, and modified trust contract).

interaction, we estimate and test a planned interaction contrast with weights of $\{-1, -2, 4, -1\}$ corresponding to $\{MTC \& MS, TC \& MS, MTC \& NMS, TC \& NMS\}$. Simple effects reported in Table 3, Panel A, indicate that while in the absence of a mission statement, the MTC increases dishonesty relative to a TC (contrast = 0.29, two-tailed p -value < 0.01), this increase reduces in the presence of a mission statement (contrast = 0.19, $p = 0.02$).¹⁵

Per Guggenmos et al. (2018), we perform a visual evaluation of fit, which shows a reasonable overlap between the predicted pattern (see Fig. 3, Panel A, left side) and the observed pattern (see Fig. 3, Panel A, right side) of dishonesty.¹⁶ Second, tests of significance reported in Panel A of Table 3 support our planned contrast, which is significant ($t = -3.33$, two-tailed p -value < 0.01). Third, quantitative evaluation of the residual between-cells variance (untabulated) reveals it to be insignificant ($F_{2,119} = 1.55$, two-tailed

¹⁵ Additional analysis of simple effects indicates that relative to not having a mission statement (NMS) in a TC, combining a mission statement (MS) with a TC has no significant effect on dishonesty ($\{TC \& NMS - TC \& MS\}$ contrast = 0.04, two tailed p -value > 0.10), providing additional evidence of redundant controls. However, combining a MS with the MTC yields a significant reduction in dishonesty ($\{MTC \& NMS - MTC \& MS\}$ contrast = 0.15, two-tailed p -value = 0.10).

¹⁶ The only difference is that while we expected a reduction in dishonesty even when using a mission statement with a TC, we find that this is not the case. That is, the existence of a mission statement has no effect under the TC.

Table 3
Test of Hypotheses – Participant level analyses – ANOVA.

Panel A: H1 - Effects of mission statement on dishonesty under different budgetary controls (N = 123)				
Source	SS	Df	F	P > F
Model	2.02	4	4.23	0.00
MTC	1.63	1	13.60	0.00
MS (Existence of MS vs NMS)	0.26	1	2.17	0.20
MTC * MS	0.08	1	0.65	0.43
Mean Actual Cost Draw	0.26	1	2.15	0.17
Error	14.15	118		
Total	16.18	122		
Simple Effects				
MTC & NMS – TC & NMS	Contrast	SE	t	p
	0.29	0.10	2.81	<0.01
MTC & MS – TC & MS	0.19	0.08	2.41	0.02
Contrasting systems of controls				
{(MTC & MS) – (TC & MS)} < {(MTC & NMS) – (TC & NMS)}	–1.12	0.34	–3.33	<0.01
Panel B: H2 - Effects of integrity mission statement relative to no mission statement on dishonesty under different budgetary controls (N = 83)				
Source	SS	Df	F	P > F
Model	2.10	4	5.04	0.00
MTC	0.67	1	6.41	0.01
IMSVNMS	0.93	1	8.90	0.00
MTC * IMSvNMS	0.28	1	2.71	0.10
Mean Actual Cost Draw	0.50	1	4.86	0.03
Error	8.14	78		
Total	10.25	82		
Simple Effects – IMS vs NMS				
MTC & NMS – TC & NMS	Contrast	SE	T	p
	0.30	0.10	3.04	<0.01
MTC & IMS – TC & IMS	0.06	0.10	0.61	0.54
Contrasting systems of controls				
{(MTC & IMS) – (TC & IMS)} < {(MTC & NMS) – (TC & NMS)}	–1.43	0.34	–4.23	<0.01
Panel C: H3 - Effects of integrity mission statement relative to financial mission statement on dishonesty under different budgetary controls (N = 79)				
Source	SS	df	F	P > F
Model	2.08	4	4.83	0.00
MTC	0.66	1	6.08	0.01
IMSVFMS	0.98	1	9.11	0.00
MTC * IMSvFMS	0.28	1	2.64	0.10
Mean Actual Cost Draw	0.58	1	5.32	0.03
Error	8.00	74		
Total	10.01	78		
Simple Effects – IMS vs FMS				
MTC & FMS – TC & FMS	Contrast	SE	t	p
	0.30	0.10	2.90	<0.01
MTC & IMS – TC & IMS	0.06	0.11	0.59	0.55
Contrasting systems of controls				
{(MTC & IMS) – (TC & IMS)} < {(MTC & FMS) – (TC & FMS)}	–1.50	0.35	–4.24	<0.01
Panel D: Hypotheses tests using <i>MaxDishonesty</i> as DV				
	Contrast	SE	t	p
H1: (N = 123)				
MTC & NMS - TC & NMS	0.44	0.11	3.85	<0.01
MTC & MS - TC & MS	0.18	0.09	2.08	0.04
Contrasting systems of controls				
{(MTC & MS) – (TC & MS)} < {(MTC & NMS) – (TC & NMS)}	–1.63	0.37	–4.44	<0.01
H2: (N = 83)				
MTC & NMS - TC & NMS	Contrast	SE	t	p
	0.44	0.10	4.31	<0.01
MTC & IMS - TC & IMS	0.01	0.11	0.01	0.99
Contrasting systems of controls				
{(MTC & IMS) – (TC & IMS)} < {(MTC & NMS) – (TC & NMS)}	–1.89	0.35	–5.38	<0.01
H3: (N = 79)				
MTC & FMS - TC & FMS	Contrast	SE	t	p
	0.35	0.10	3.40	<0.01
MTC & IMS - TC & IMS	–0.01	0.10	–0.03	0.98
Contrasting systems of controls				
{(MTC & IMS) – (TC & IMS)} < {(MTC & FMS) – (TC & FMS)}	–1.77	0.35	–5.08	<0.01

Notes: Panels A-C of Table 3 present hypotheses tests using ANOVAs and planned contrasts at the participant level. The dependent variable is *Dishonesty*. The following contrast codes are used for the predicted ordinal interactions in the respective hypothesis.

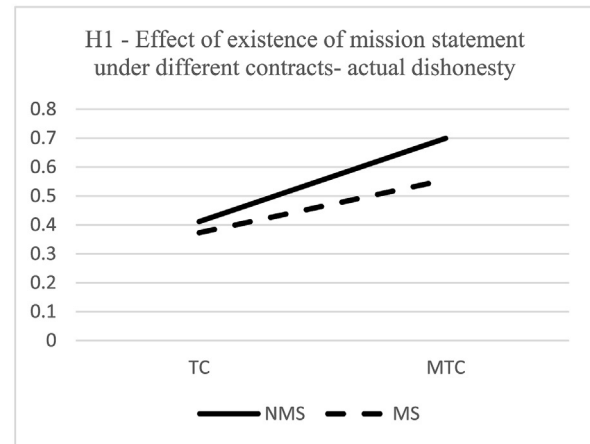
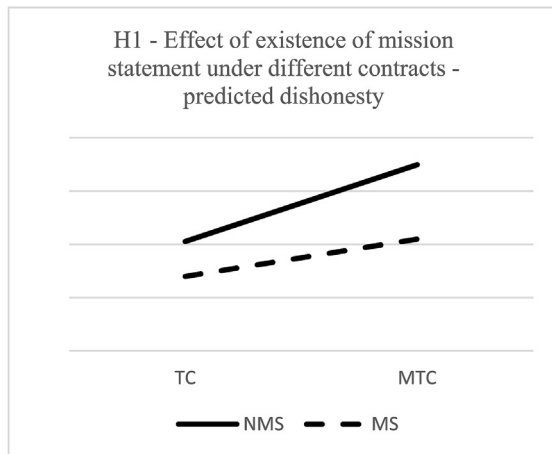
H1: {MTC&MS TC&MS MTC&NMS TC&NMS} = {–1 –2 4 –1}.

H2: {MTC&IMS TC&IMS MTC&NMS TC&NMS} = {–1 –2 4 –1}.

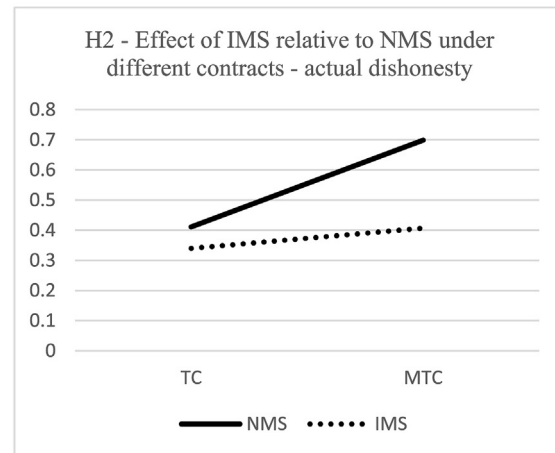
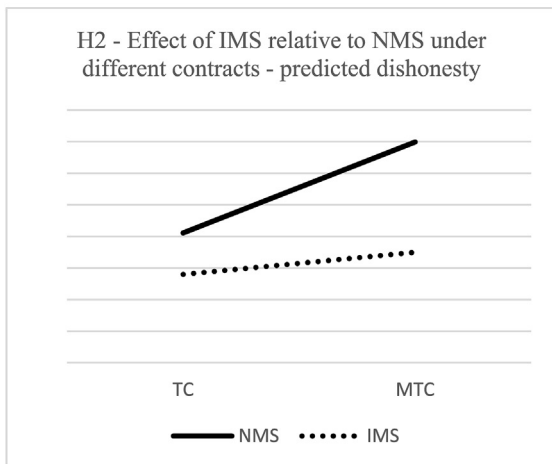
H3: {MTC&IMS TC&IMS MTC&FMS TC&FMS} = {–1 –2 4 –1}.

Panel D of Table 3 presents hypotheses tests using a different specification of dishonesty, namely *MaxDishonesty*. *MaxDishonesty* is a binary variable and takes the value 1 if the participant extracted maximum available dishonesty in all periods and 0 otherwise. ANOVAs and planned contrasts are conducted as in Panels A-C above. For brevity, only simple effect and contrast tests are presented.

Panel A



Panel B



Panel C

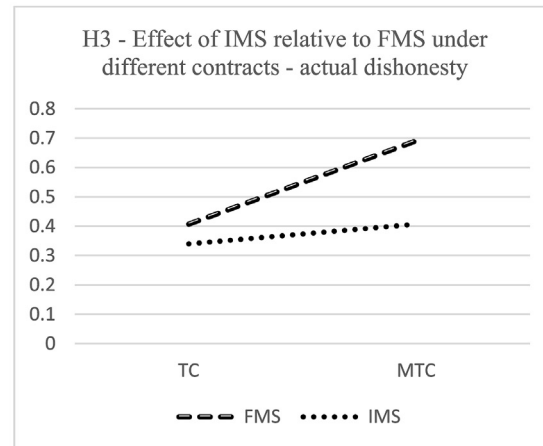
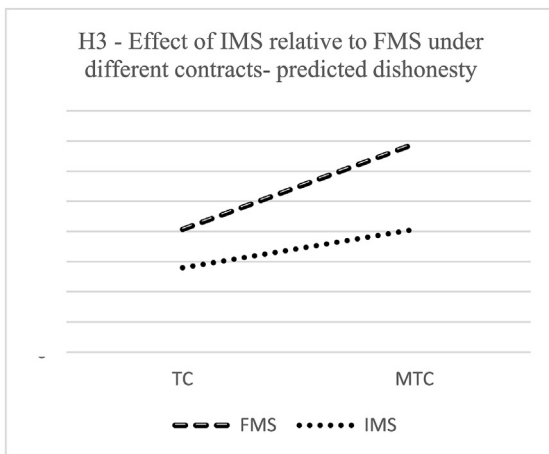


Fig. 3. Tests of hypotheses.

p -value = 0.21) and that only 12.3 percent of the between-cells variance is unexplained by our model ($q^2 = 12.3\%$). These results suggest that our hypothesized contrast fits the data well. Taken together, our results support our apriori expectation that budget

rationing increases dishonesty relative to non-rationing, and the predictions of Hypothesis 1 that budget rationing increases dishonesty less when combined with a mission statement than in the absence of a mission statement.

Hypothesis 2 predicts that budget rationing increases dishonesty less when combined with an integrity mission statement than in the absence of a mission statement. We begin with an ANOVA, followed by an estimation of planned contrasts. The results are reported in Table 3, Panel B. Since in this analysis, we are only interested in comparing participants assigned to the *IMS* and *NMS* conditions, we exclude participants who belong to the *FMS* condition from our sample, which leaves us with 83 participants. We create an indicator variable called *IMSVNMS*, which takes the value of one if the participant was assigned an integrity mission statement and zero if the participant was assigned no mission statement. Results of the ANOVA indicate that the interaction between *MTC* and *IMSVNMS* is significant at $p = 0.10$ (two-tailed). Tests of simple effects show that while *MTC* increases dishonesty relative to the *TC* in the absence of a mission statement (contrast = 0.30, two-tailed p -value < 0.01), this increase is substantially smaller in the presence of an integrity mission statement (contrast = 0.06, two-tailed p -value = 0.54).¹⁷ This provides initial support for **Hypothesis 2**, as the reduction in dishonesty by combining budgeting with an integrity mission statement is larger when the budgetary control involves rationing.

We again follow the Guggenmos et al. (2018) three-part methods described earlier and assign contrast weights of $\{-1, -2, 4, -1\}$, which correspond to the conditions *MTC&IMS*, *TC&IMS*, *MTC&NMS*, *TC&NMS*, respectively. The weightings reflect the predictions formalized in **Hypothesis 2**. A visual evaluation of fit shows a reasonable overlap between the predicted pattern (see Fig. 3, Panel B, left side) and the observed pattern (see Fig. 3, Panel B, right side) of dishonesty.¹⁸ Tests of significance reported in Panel B of Table 3 support our planned contrast, which is significant ($t = -4.23$, two-tailed p -value < 0.01). Quantitative evaluation of the residual between-cells variance (untabulated) reveals it to be insignificant ($F_{2,79} = 0.01$, two-tailed p -value = 0.99) and that only a small percentage of the between-cells variance is unexplained by our model ($q^2 < 5\%$). These results confirm that our hypothesized contrast fits the data well. Taken together, our results continue to support our apriori expectation that budget rationing increases dishonesty relative to non-rationing and are consistent with **Hypothesis 2**, which predicts that budget rationing increases dishonesty less when combined with an integrity mission statement than in the absence of a mission statement.

Hypothesis 3 predicts budget rationing increases dishonesty less when combined with an integrity mission statement than when combined with a financial mission statement. Consistent with our approach to testing previous hypotheses, we use ANOVA with planned contrasts, as shown in Panel C of Table 3. Since, for this analysis, we are only interested in comparing participants in the *IMS* and *FMS* conditions, we exclude participants who were assigned to the *NMS* condition. Thus, our sample comprises 79 participants. We create an indicator variable *IMSVFMS*, which takes the value of one if the participant was assigned an integrity mission statement and zero if the participant was assigned a financial mission statement. Results of the ANOVA indicate an interaction effect between *MTC* and *IMSVFMS* significant at $p = 0.10$ (two-tailed). Tests of simple effects show that relative to *TC*, while the

MTC increases dishonesty under *FMS* (contrast = 0.30, two-tailed p -value < 0.01), this increase is greatly reduced when the *MTC* is combined with the *IMS* (contrast = 0.06, two-tailed p -value = 0.55).¹⁹

The Guggenmos et al. (2018) method described earlier continues to support our planned contrast weighting. We assign weights of $\{-1, -2, 4, -1\}$ to the conditions *MTC&IMS*, *TC&IMS*, *MTC&FMS*, *TC&FMS*, respectively. The weightings reflect the predictions of **Hypothesis 3**. A visual evaluation of fit shows a reasonable overlap between the predicted pattern (see Fig. 3, Panel C, left side) and the observed pattern (see Fig. 3, Panel C, right side) of dishonesty.²⁰ Tests of significance shown in Panel C of Table 3 support our planned contrast, which is significant ($t = -4.24$, two-tailed p -value < 0.01). Quantitative evaluation of the residual between-cells variance (untabulated) reveals it to be insignificant ($F_{2,75} = 0.01$, two-tailed p -value = 0.99) and reveals that only a small percentage of the between-cells variance is unexplained by our model ($q^2 < 5\%$). These results indicate our hypothesized contrast fits the data well. Taken together, our results support **Hypothesis 3** and indicate that budget rationing increases dishonesty less when combined with an integrity mission statement than when combined with a financial mission statement.

Our main analyses use dishonesty (at the participant level) as a continuous variable between 0 and 1 (or 0% and 100%). To further validate our results, we adopt an alternate specification of the dependent variable. We construct an indicator variable called *MaxDishonesty* that takes the value 1 if a participant misreported to the maximum possible extent in all periods, i.e., (*Dishonesty* = 1). Norms of mistrust signaled by the *MTC* can lead to individuals 'punishing' the organization by consistently acting dishonestly to the maximum extent possible. If mission statements attenuate such norms, the likelihood of extracting maximum slack reduces, and such reduction must be greater in the *MTC*. We re-estimate all hypothesis tests using *MaxDishonesty* as the dependent variable. Results presented in Panel D of Table 3 support all three hypotheses.

We also re-estimate all tests at the participant-period level using mixed models with clustering to control for serial correlation in error terms. Results (untabulated) continue to support all three hypotheses.

6. Supplemental analyses

6.1. Mediation analyses

We conduct an exploratory analysis of the path through which mission statements, specifically the integrity mission statement, influence dishonesty within the *MTC*. Our analysis attempts to uncover potential drivers that lead to lower increases in dishonesty when an integrity mission statement is combined with the *MTC* relative to when no mission statement (*H2*) or a financial mission statement (*H3*) is combined with the *MTC*. First, we examine whether an individual's willingness to misreport for self-interest is a potential mediator. Prior research justifies this conjecture by finding that individuals operate selfishly unless control

¹⁷ Additional analysis of simple effects indicates no significant differences in dishonesty between the *TC&IMS* and *TC&NMS* conditions (contrast = 0.10, two-tailed p -value = 0.32). However, dishonesty is significantly lower in the *MTC&IMS* condition relative to the *MTC&NMS* condition (contrast = 0.33, two-tailed p -value < 0.01).

¹⁸ The only difference is that while we predict a reduction in dishonesty when using *IMS* (relative to *NMS*) with a *TC*, we find that this is not the case. That is, an *IMS* (relative to *NMS*) has no effect under the *TC*, which is indicative of *IMS* being a redundant control under the *TC*.

¹⁹ Tests of simple effects show that dishonesty is significantly lower in the *MTC&IMS* condition relative to the *MTC&MS* condition (contrast = 0.36, two-tailed p -value < 0.01). No significant differences in dishonesty are present between the *TC&IMS* and *TC&FMS* conditions (contrast = 0.12, two-tailed p -value = 0.28), consistent with the idea that a mission statement may constitute a redundant control instrument when combined with trust-based budgetary controls.

²⁰ The only difference is that while we expected a reduction in dishonesty when using an *IMS* (relative to *NMS*) with a *TC*, we find that this is not the case. That is, an *IMS* (relative to *NMS*) has no effect under the *TC*.

instruments prompt them toward socially-oriented values and norms (Taylor & Bloomfield, 2011).

We measure this variable using the post-experimental questionnaire (PEQ) question “I wanted to maximize my pay.” Participants evaluated a series of motives for their budget requests and allocated points (out of 100) to each motive.²¹ We consider the point allocation to the motive “wanting to maximize self-pay.” We scale the points allocated to this item by 100 and label this variable as *Willingness to Misreport*. Panel A of Table 4 shows the means of *Willingness to Misreport* under different control systems. Note that *Willingness to Misreport* is lower in the *IMS* (relative to the *NMS* or *FMS*) when combined with the *MTC* ($t > 2.00$, two-tailed p -values < 0.05). There is no difference in *Willingness to Misreport* when the *IMS* (relative to *FMS* or *NMS*) is combined with the *TC* ($t < 0.85$, two-tailed p -values > 0.40).

We perform formal mediation analyses using Sobel-Goodman tests. Results in Panel B of Table 4 indicate the following. First, when we compare a system comprising the *MTC* and *IMS* and a system comprising the *MTC* with *NMS*, we find that *Willingness to Misreport* partially mediates the relation between the control system configuration and dishonesty (Z statistic = -1.76 , two-tailed p -value = 0.08). Second, when we compare a system comprising the *MTC* and *IMS* and a system comprising the *MTC* and *FMS*, we find that *Willingness to Misreport* partially mediates the relation between the control system configuration and dishonesty (Z statistic = -1.76 , two-tailed p -value = 0.08). Thus, combining the *MTC* with an integrity mission statement leads to lower *Willingness to Misreport* relative to combining the *MTC* with a financial mission statement or no mission statement. Lower *Willingness to Misreport*, in turn, leads to lower dishonesty. This supports our argument that the *IMS* activates socially-oriented norms and values of honesty and influences individual dishonesty choices.

Next, we examine another potential mediator, namely, the salience of a mission statement, particularly the integrity mission statement. Recall that introducing a mission statement to reduce dishonesty effectively must activate a contrast in the individual's mind, whereby the mission statement challenges the norm of opportunism. As we showed earlier, when the mission statement and the budgetary control communicate redundant norms and values, there is no difference in the system's effectiveness compared to using budgetary controls alone. Psychology research indicates that inconsistent messages require greater attention (Brewer & Treyns, 1981; Küppers & Bayen, 2014) and cognitive processing (Bargh & Thein, 1985; Hastie, 1984; Maheswaran & Chaiken, 1991) than consistent messages. Thus, we posit that inconsistent messages will be more salient to the employees in their decision-making process when formulating budget requests.

Two questions in the PEQ capture this construct: (1) “How much attention did you pay to your firm's mission statement?” and (2) “To what extent did your firm's mission statement influence your budget requests?” Participants were asked to rate these questions on a 7-point Likert scale. We construct the variable *Salience* as the average of the points given to the above two questions (Cronbach's alpha 0.88). We then evaluate its mediating role. Note that these questions only apply to participants assigned to conditions involving a mission statement. Therefore, we conduct these mediation analyses only to test the path through which *IMS* (relative to *FMS*) influences dishonesty choices under the *MTC*. Panel C of Table 4 shows the means of *Salience* for different control system

configurations. Consistent with psychology findings, the attention given to and the influence of the *IMS* (relative to the *FMS*) is greater in the *MTC* ($t = 2.93$, two-tailed p -value < 0.01), and there is no difference in the salience of the *IMS* (relative to *FMS*) in the *TC* ($t = 0.42$, two-tailed p -value < 0.67). This supports our claim that the inconsistency between social norms cued by individual control instruments in a system leads to greater attention.

We perform formal mediation analyses using Sobel-Goodman tests. Results in Panel D of Table 4 indicate that *Salience* partially mediates the relationship between *IMS* (relative to *FMS*) and dishonesty under the *MTC* (Z statistic = -1.90 , two-tailed p -value = 0.06). Overall, results indicate that under the *MTC*, the *IMS* (relative to *FMS*) is more salient for the individual's dishonesty choices. The salience of the mission statement's message, in turn, leads to lower dishonesty under budget rationing. This supports our argument that combining an *IMS*, which communicates socially-oriented norms that contrast with the individualistic norms cued by the *MTC*, leads to greater salience of the mission statement and, in turn, reduces dishonesty.

6.2. Firm profits

We examine the effect of configurations of management control systems on firm profits. Table 5 summarizes mean *actual firm profits* under different systems, assuming a fixed selling price of 6.00 Lira per unit. Firm profits are first calculated at the participant-period level. Under the *MTC*, there would be no production—and hence no profit—when reported costs are over 5.00 Lira. To compare profits for *MTC* and *TC* under a consistent cost distribution, we restrict the *TC* sample to observations with reported costs less than or equal to 5.00 Lira. Participant-period unit profits are calculated as [(Selling price – Allocated budget) – 0.25].²² Participant-level firm profits are calculated by averaging across participant-period level profits. We re-estimate the models previously reported in Panels A, B, and C of Table 3, with firm profits as the dependent variable. Results (Table 5) indicate the following relative to systems with *TC*: (1) firm profits in the *MTC* decrease less in the presence of a mission statement relative to no mission statement; (2) firm profits in the *MTC* decrease less in the presence of an integrity mission statement relative to no mission statement; (3) firm profits decrease less when an integrity mission statement is combined with *MTC*, relative to a financial mission statement (all *planned contrast p*-values < 0.01).²³

Fig. 4 plots the *expected firm profit* function for each system of control. The X-axis reflects the percentage of honesty, while the Y-axis reflects the expected firm profit. If none of the workers are honest, the expected profit in a management control system with non-rationing budgetary controls is -250 (i.e., a loss), and the expected profit in a management control system with budget

²² 0.25 salary is obtained by dividing total salary of 250 Lira by the 1,000 units of production.

²³ Table 5 shows that profits in systems with a *TC* are higher than profits in systems with an *MTC* (two-tailed p -values < 0.10). Evans et al. (2001) provide evidence that *MTC* can yield greater theoretical profits than the *TC*. However, when less than one-third of the budget requests are dishonest, profits start increasing in the *TC*, relative to the *MTC* (see Fig. 2 in Evans et al., 2001). In our sample, systems with the *TC* have average dishonesty of 0.38, while systems with the *MTC* have average dishonesty of 0.61. Systems with the *MTC* and *NMS* and *MTC* and *FMS* have dishonesty greater than 0.67. Therefore, systems with a *TC* have statistically greater profits than systems with an *MTC*. To explore this issue further, we conducted a simulation where we replaced each cost report in the *TC* with the mean cost report that was obtained using dishonesty behavior in the *MTC* for the same cost draw. Untabulated results using the simulated data provides support for all hypotheses. Further, profits under each system with the *MTC* are significantly greater than the profits under each system with the *TC* (like Evans et al., 2001).

²¹ The exact wording of the question is as follows: “Allocate 100 points to the factors below that influenced your budget requests. Allocate more points to factors that had more influence on your requests and assign fewer points to factors that had less influence on your requests.”

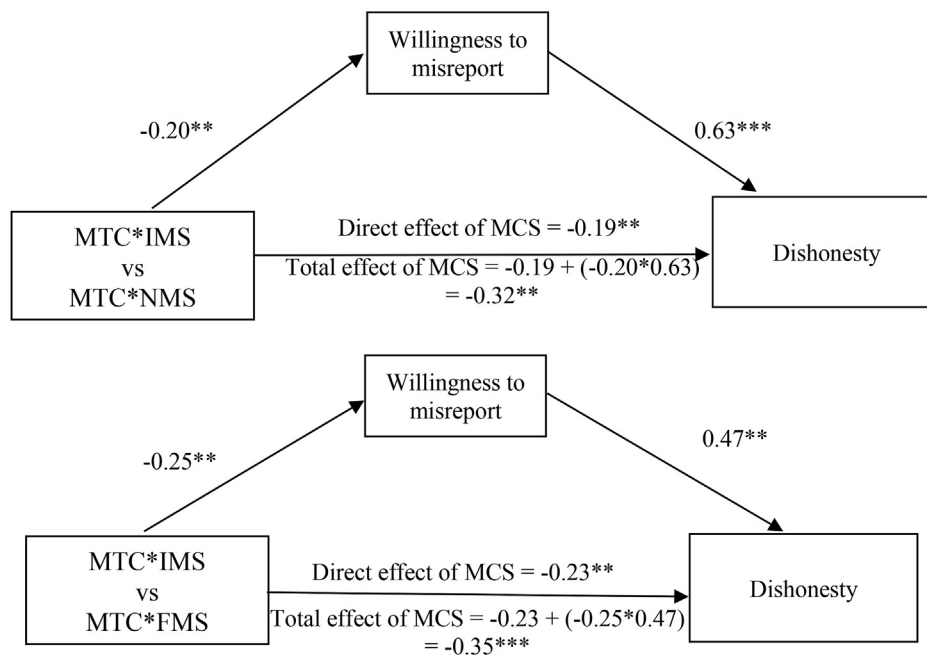
Table 4
Mediation analyses.

Panel A: Means of Willingness to Misreport by condition

Mission Statement Type	Contract Type		
	TC	MTC	Full Sample
NMS	0.19 (0.29) N = 23	0.36 (0.37) N = 21	0.27 (0.34) N = 44
FMS	0.19 (0.26) N = 19	0.42 (0.35) N = 21	0.32 (0.33) N = 40
IMS	0.12 (0.24) N = 20	0.15 (0.21) N = 19	0.14 (0.22) N = 39
Full Sample	0.17 (0.26) N = 62	0.32 (0.33) N = 61	0.50 (0.36) N = 123

Panel B: Mediation results showing the indirect effect of Willingness to Misreport

	Coeff	Z	P-value
<i>MTC*IMS vs MTC*NMS</i>			
Total effect of <i>IMS</i> vs <i>NMS</i> on Dishonesty	-0.32	-2.68	0.01
Indirect effect of Willingness to Misreport on Dishonesty	-0.13	-1.76	0.08
Direct effect of <i>IMS</i> vs <i>NMS</i> on Dishonesty	-0.19	-1.80	0.07
<i>MTC*IMS vs MTC*FMS</i>			
Total effect of <i>IMS</i> vs <i>FMS</i> on Dishonesty	-0.35	-2.88	<0.01
Indirect effect of Willingness to Misreport on Dishonesty	-0.11	-1.76	0.08
Direct effect of <i>IMS</i> vs <i>FMS</i> on Dishonesty	-0.23	-1.93	0.05

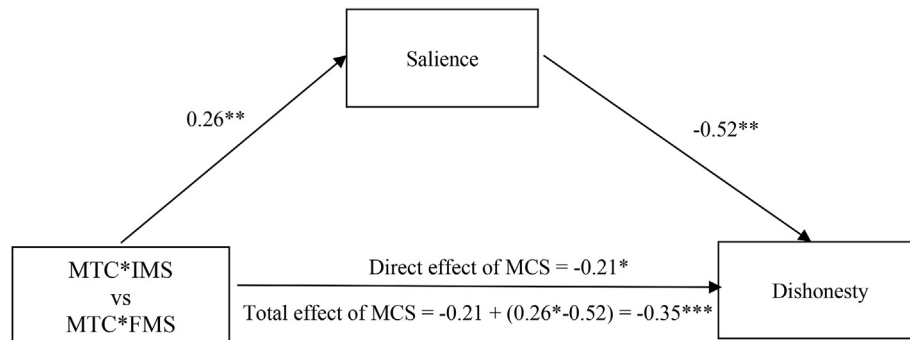


Panel C: Means of Salience by condition

Mission Statement Type	Contract Type		
	TC	MTC	Full Sample
FMS	8.74 (3.25) N = 19	6.14 (3.92) N = 21	7.38 (3.80) N = 40
IMS	8.26 (3.63) N = 19	9.68 (3.71) N = 19	8.97 (3.69) N = 38
Full Sample	8.50 (3.41) N = 38	7.83 (4.17) N = 40	0.496 (0.364) N = 78

Panel D: Mediation results showing indirect effect of Salience

	Coeff ^a	Z	P-value
<i>MTC*IMS vs MTC*FMS</i>			
Total effect of <i>IMS</i> vs <i>FMS</i> on <i>Dishonesty</i>	-0.35	-2.88	<0.01
Indirect effect of <i>Salience</i> on <i>Dishonesty</i>	-0.13	-1.90	0.06
Direct effect of <i>IMS</i> vs <i>FMS</i> on <i>Dishonesty</i>	-0.21	-1.77	0.08



Notes: Mediations are tested using Sobel-Goodman tests and estimate the effect of the independent variable on the mediator, the direct effect of the independent and the mediator variables on the dependent variable, and the indirect effect of each mediator. The total effect of the management control system is the sum of direct and indirect effects.

rationing is 250. On the other hand, if all workers are honest, the expected profit in a management control system with non-rationing budgetary controls is 750, and the expected profit in a management control system with budget rationing is 500.²⁴ The profit amounts marked with stars in Fig. 4 correspond to the expected profits for the average actual percentage of honesty generated

in each management control system.²⁵ The figure reveals important theory-consistent relations that support our arguments. Expected profit increases greatly when budget rationing is combined with an integrity mission statement (relative to a financial mission statement or no mission statement). Such large increases are not seen in systems with non-rationing budgets.

7. Conclusions

We examine systems of controls that contain budgetary controls and mission statements. Our interest is in comparing the mitigation effect that mission statements, which communicate different organizational priorities, can have on employee dishonesty when combined with different budgeting instruments. We build on prior research, which indicates that budgetary controls with capital rationing increase dishonesty relative to budgetary controls without capital rationing (Cardinaels & Yin, 2015). Using a randomized controlled experiment, we find that both the presence and content of a mission statement interact with the type of budgetary control to influence dishonesty. Specifically, we find that combining any mission statement with a budgetary control involving capital

²⁴ When we restrict the distribution to observations with cost less than or equal to 5 Lira, expected profit under systems containing the TC or the MTC is 1,250 computed as $[1000 \cdot (6 - 4.50) - 250]$.

²⁵ Mean dishonesty in the MTC*NMS condition is 0.699. Therefore, expected profits for this condition are $250 \cdot (1 - 0.699) + 250 = 325.25$. Mean dishonesty in the MTC*FMS condition is 0.691. Therefore, expected profits for this condition are $250 \cdot (1 - 0.691) + 250 = 327.25$. Mean dishonesty in the MTC*IMS condition is 0.407. Therefore, expected profits in this condition are $250 \cdot (1 - 0.407) + 250 = 398.25$. Mean dishonesty in the TC*NMS condition is 0.411. Therefore, expected profits in this condition are $1,000 \cdot (1 - 0.411) - 250 = 339$. Mean dishonesty in the TC*FMS condition is 0.407. Therefore, expected profits in this condition are $1,000 \cdot (1 - 0.407) - 250 = 343$. Mean dishonesty in the TC*IMS condition is 0.340. Therefore, expected profits in this condition are $1,000 \cdot (1 - 0.340) - 250 = 410$. The above numbers are the starred points in Fig. 4. There is greater movement along the MTC profit line (relative to the TC profit line) when the system comprises of the IMS relative to the NMS and FMS.

Table 5
Actual firm profits at the participant level under different control systems.

Panel A: Means (standard deviations)			
Mission Statement Type	Contract Type		
	<i>TC</i>	<i>MTC</i>	<i>Full Sample</i>
NMS	1.050 (0.187) N = 17	0.845 (0.159) N = 21	0.937 (0.199) N = 38
FMS	1.088 (0.223) N = 14	0.873 (0.155) N = 21	0.959 (0.211) N = 35
IMS	1.064 (0.203) N = 16	0.972 (0.221) N = 19	1.014 (0.215) N = 35
Full Sample	1.065 (0.200) N = 47	0.894 (0.184) N = 61	0.968 (0.209) N = 108

Panel B: Planned contrasts			
Hypothesis	<i>df</i>	<i>F</i>	<i>P > F</i>
H1: {Firm profit (MTC & MS) – Firm profit (TC & MS)} < {Firm profit (MTC & NMS) – Firm profit (TC & NMS)}	1	13.06	<0.001
H2: {Firm profit (MTC & IMS) – Firm profit (TC & IMS)} < {Firm profit (MTC & NMS) – Firm profit (TC & NMS)}	1	15.77	<0.001
H3: {Firm profit (MTC & IMS) – Firm profit (TC & IMS)} < {Firm profit (MTC & FMS) – Firm profit (TC & FMS)}	1	9.69	<0.01

Notes: Panel A reports means and standard deviations of actual firm profits at the participant level. Firm profits are first calculated at the participant-period. It is calculated as the sales price of 6.00 Lira minus the approved unit (i.e., the reported cost) minus the unit fixed salary of 0.25 Lira (salary of 250 Lira divided by 1,000 units production). The sample is limited to those observations for which the reported cost was less than or equal to 5.00 Lira in both the TC and the MTC conditions. This restriction was applied to increase comparability across cells with respect to the cost distribution. Participant level firm profits are calculated by averaging participant-period level profits. The number of participants differs from our main analyses since certain participants had reported costs of over 5.00 Lira for each of the ten periods and hence had no average profits to be reported.

Panel B: Shows the results of planned contrasts for observations shown in Panel A.

H1: {MTC&MS TC&MS MTC&NMS TC&NMS} = {1 2–4 1}.

H2: {MTC&IMS TC&IMS MTC&NMS TC&NMS} = {1 2–4 1}.

H3: {MTC&IMS TC&IMS MTC&FMS TC&FMS} = {1 2–4 1}.

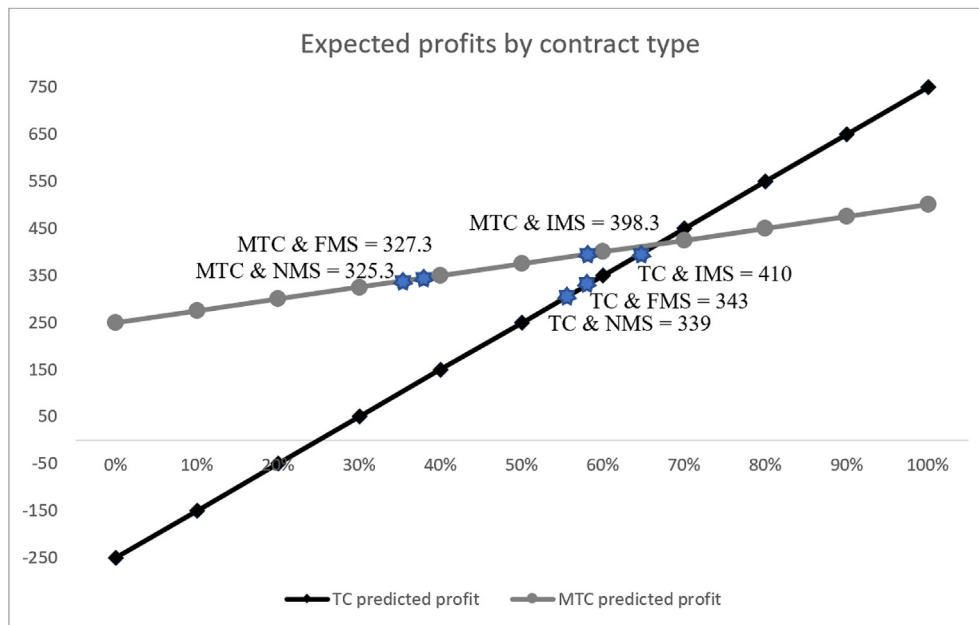


Fig. 4. Expected firm profit for each combination of budgetary and mission statement control instruments for levels of honesty.

Notes: The solid black line represents expected profits in the TC, while the gray line represents expected profits in the MTC. Starred points indicate expected profits calculated using actual mean dishonesty in each mission statement conditions within each contract at the participant level. Mean dishonesty in the MTC*NMS condition is 0.699. Therefore, expected profits for this condition are $250 \times (1 - 0.699) + 250 = 325.3$. Mean dishonesty in the MTC*FMS condition is 0.691. Therefore, expected profits for this condition are $250 \times (1 - 0.691) + 250 = 327.3$. Mean dishonesty in the MTC*IMS condition is 0.407. Therefore, expected profits in this condition are $250 \times (1 - 0.407) + 250 = 398.3$. Mean dishonesty in the TC*NMS condition is 0.411. Therefore, expected profits in this condition are $1,000 \times (1 - 0.411) - 250 = 339$. Mean dishonesty in the TC*FMS condition is 0.407. Therefore, expected profits in this condition are $1,000 \times (1 - 0.407) - 250 = 343$. Mean dishonesty in the TC*IMS condition is 0.330. Therefore, expected profits in this condition are $1,000 \times (1 - 0.340) - 250 = 410$. The above numbers are the starred points in the Figure.

rationing increases dishonesty less than combining a mission statement with a non-rationed budgetary control. Additionally, we find that combining budget rationing with mission statements conveying integrity as an organizational priority increases dishonesty less than combining them with mission statements that convey financial priorities. Our results are consistent with the conclusion that mission statements that focus on integrity values activate socially-oriented norms that contrast with the opportunism norm conveyed by budget rationing. In contrast, mission statements can be redundant when combined with control instruments such as non-rationed budgets that already convey socially-oriented norms within a system of management controls (Bedford, 2020; Bedford et al., 2016).

Taken together, our findings provide important insights for the design of management control systems. Our results show that there is no “one-size-fits-all” approach regarding the combination of mission statements and budgeting. We contribute to the literature on systems of management controls (Abernethy & Brownell, 1997; Grabner & Moers, 2013; Malmi & Brown, 2008) by providing empirical evidence of the effects of different combinations of commonly observed management control instruments on dishonesty. Specifically, we extend theory by showing that the effectiveness of management control systems depends not only on what instruments are included in the system but also on how each instrument is configured to communicate specific social norms. Our study also contributes to the academic debate about the role and usefulness of mission statements as control instruments in executing organizational strategy. Managers must craft their mission statements carefully to convey clear messages that promote social norms of alignment with the firm's overall goals and consider the effects of the interaction between components of their system of controls when choosing individual control practices for their organizations.

Our study has several limitations. First, for tractability purposes, we configured our systems by combining only two types of control instruments (i.e., budgeting and mission statements). In practice, management control systems tend to include more than two

instruments. Second, we considered only two single-attribute types of mission statements (i.e., an integrity mission statement and a financial one). Thus, our study opens interesting avenues for future research on systems of controls that contain, for example, multi-attribute mission statements and/or other combinations of control instruments. Third, although we posit that mission statements can activate socially-oriented norms and show empirical evidence supporting such an explanation from our post-experimental data, we do not directly manipulate norms in the experiment. Rather, we posit that the rationing feature gives rise to perceptions about normative appropriate behavior, consistent with the notion of injunctive norms (Cialdini, Reno, & Kallgren, 1990, 1991). The design of controls can also give rise to descriptive norms, which refer to perceptions based on prevalent, common, or observable behavior. Future research can study descriptive norms that arise through observation of coworkers reporting choices (Fischer & Huddart, 2008) or from data about the frequency with which a certain type of behavior (such as misreporting) occurs (Eriksson, Strimling, & Coultas, 2015). Finally, we do not examine whether the norms produced by control systems in our study interact with other types of norms, such as personal norms (Tayler & Bloomfield, 2011). We also do not study how leakage of norms from each type of control system can occur (Cardinaels & Yin, 2015). Future research can examine these topics.

Mittendorf (2006) advocates for additional exploration of hybrid budgetary controls that consider drivers of employee preferences to build dishonesty. Future research can examine other types of budgetary control designs within the MTC that can fine-tune the sensitivity of budgetary transfers to use employees' budgeting choices in the presence of other interacting control instruments such as mission statements.

APPENDIX A. Mission Statements in Practice

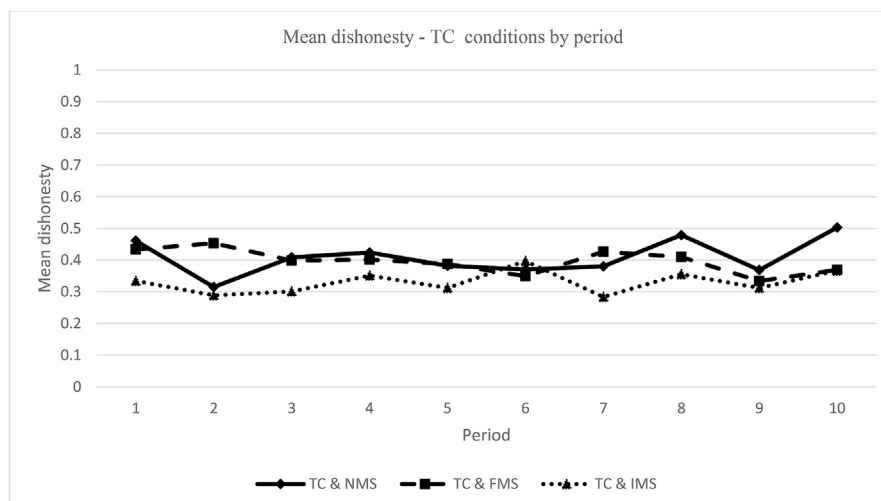
Description	Firm Examples (if any)
Total firms studied	500
Firms with no mission statement	328
Firms with a mission statement	172
Firms with an integrity mission statement	12 <i>NEC, Japan</i> : NEC creates the social values of safety, security, fairness and efficiency to promote a more sustainable world where everyone has the chance to reach their full potential. <i>China Life Insurance, China</i> : Prudent Operation, Trustworthy Service, People-Oriented Principle, Harmonious Development, Active Progression, Innovative Approach.
Firms with a financial mission statement	17 <i>P&G, US</i> : We will provide branded products and services of superior quality and value that improve the lives of the world's consumers, now and for generations to come. As a result, consumers will reward us with leadership sales, profit, and value creation, allowing our people, our shareholders and the communities in which we live and work to prosper <i>Rajesh Exports, India</i> : To firmly establish ourselves as a global leader in the value chain of Gold. We are currently the largest constituent of global gold business. We would put all our efforts to ensure that we have a substantial global share in the entire value chain of gold by moving up the value chain by making available globally to the retail consumers, Gold jewelry and investment Gold of the finest quality and designs at the best prices.
Firms with both integrity and financial values referenced in the mission statement	10 <i>Petrobras, Brazil</i> : Provide energy that ensures prosperity in an ethical, safe, and competitive way. <i>KDDI, Japan</i> : Values and cares about the material and emotional well-being of all its employees, and delivers a thrilling customer experience by always going further than expected with the ultimate goal of achieving a truly connected society
Firms with other types of mission statements	133 <i>BP, UK</i> : Our mission is reimagining energy for people and our planet. We want to help the world reach net zero and improve people's lives <i>Sony, Japan</i> : To fill the world with emotion, through the power of creativity and technology.

APPENDIX B. Variables Definitions

Variable Name	Variable Definition
<i>Dishonesty</i>	<i>Dishonesty</i> for each participant-period is the percentage of the budget appropriated by the employee through dishonesty. Calculated as $Dishonesty_Period = (Reported\ cost - Actual\ cost) / (Maximum\ reportable\ available - Actual\ cost)$. <i>Dishonesty</i> at the participant level is calculated by dividing <i>Dishonesty_Period</i> as calculated above by the number of periods for which valid reported costs existed.
<i>MTC</i>	Indicator variable coded as 1 if budget contract type includes capital rationing and 0 otherwise.
<i>MS</i>	Indicator variable capturing the existence of a mission statement. Coded as 1 for financial mission statement or integrity mission statement and 0 otherwise.
<i>IMSvNMS</i>	Indicator variable coded as 1 for the integrity mission statement and 0 for no mission statement. Not defined for conditions in which there is a financial mission statement.
<i>IMSvFMS</i>	Indicator variable coded as 1 for the integrity mission statement and 0 for the financial mission statement. Not defined for conditions in which there is no mission statement.
<i>Mean Actual Cost Draw</i>	Average actual cost draws across participant-periods.
<i>Willingness to Misreport</i>	Points allocated to item "I wanted to maximize my pay." We scale by the total points allocatable to this question.
<i>Salience</i>	Average points allocated to the item "How much attention did you pay to your firm's mission statement?" and "To what extent did your firm's mission statement influence your budget requests?" at the participant level. We add the points assigned to each question and divide the sum by 14, which is the total possible points allocatable to the two questions combined.
<i>Firm profit</i>	Firm profit at the participant level is calculated by averaging participant-period firm profit across participant periods. Firm profit calculated for participant-period is calculated as $[(Selling\ price - Reported\ cost) - 0.25]$. Selling price is 6 Lira under all conditions. Total salary of 250 Lira divided by 1,000 units of production equals 0.25 salary per unit.

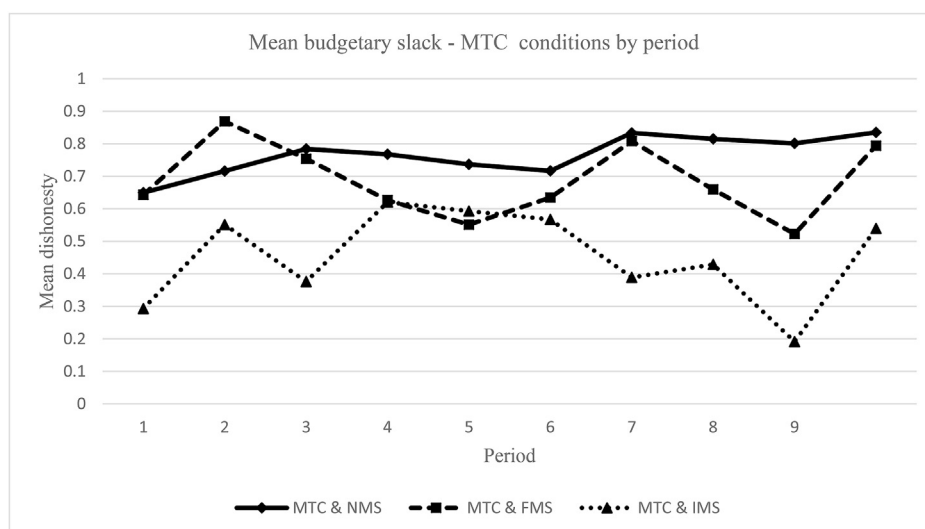
APPENDIX C. Means (Standard Deviations) of Dishonesty by Experimental Condition and Period

Panel A: Trust Contract Conditions					
Mission Statement Type	Period				
	1	2	3	4	5
<i>NMS</i>	0.461 (0.430)	0.329 (0.344)	0.428 (0.401)	0.424 (0.371)	0.382 (0.312)
<i>FMS</i>	0.439 (0.379)	0.453 (0.408)	0.398 (0.406)	0.401 (0.381)	0.387 (0.382)
<i>IMS</i>	0.334 (0.327)	0.304 (0.313)	0.334 (0.332)	0.369 (0.381)	0.328 (0.380)
Total	0.412 (0.382)	0.361 (0.357)	0.389 (0.378)	0.399 (0.372)	0.366 (0.352)
Mission Statement Type	Period				
	6	7	8	9	10
<i>NMS</i>	0.370 (0.348)	0.380 (0.356)	0.501 (0.382)	0.386 (0.360)	0.503 (0.396)
<i>FMS</i>	0.349 (0.379)	0.449 (0.418)	0.409 (0.395)	0.373 (0.400)	0.369 (0.382)
<i>IMS</i>	0.417 (0.398)	0.298 (0.367)	0.355 (0.412)	0.312 (0.424)	0.386 (0.392)
Total	0.378 (0.373)	0.375 (0.377)	0.423 (0.393)	0.356 (0.357)	0.423 (0.389)



Mean dishonesty for the TC conditions. *Notes:* This figure shows the mean dishonesty in each period for the three TC conditions. The solid line indicates the NMS condition; the dashed line indicates the FMS condition; the dotted line indicates the IMS condition.

Panel B: Modified Trust Contract Conditions					
Mission Statement Type	Period				
	1	2	3	4	5
NMS	0.531 (0.482)	0.651 (0.440)	0.616 (0.476)	0.558 (0.508)	0.614 (0.487)
FMS	0.643 (0.403)	0.796 (0.393)	0.700 (0.380)	0.626 (0.464)	0.551 (0.472)
IMS	0.293 (0.446)	0.441 (0.487)	0.322 (0.476)	0.365 (0.509)	0.444 (0.487)
Total	0.513 (0.451)	0.642 (0.449)	0.546 (0.454)	0.499 (0.487)	0.536 (0.459)
Mission Statement Type	Period				
	6	7	8	9	10
NMS	0.661 (0.471)	0.714 (0.468)	0.652 (0.459)	0.677 (0.434)	0.656 (0.468)
FMS	0.634 (0.467)	0.750 (0.390)	0.549 (0.462)	0.523 (0.467)	0.695 (0.440)
IMS	0.412 (0.469)	0.259 (0.358)	0.250 (0.452)	0.191 (0.277)	0.423 (0.506)
Total	0.583 (0.469)	0.617 (0.453)	0.496 (0.478)	0.512 (0.445)	0.596 (0.473)



Mean dishonesty for the MTC conditions.

Notes: This figure shows mean dishonesty in each period for the three MTC conditions. The solid line indicates the NMS condition; the dashed line indicates the FMS condition; the dotted line indicates the IMS condition.

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