GAINSHARING AND HONESTY IN BUDGET REPORTING

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Abstract

This study uses two experiments to investigate the honesty of managers’ budget reports under a gainsharing incentive scheme (i.e., budgetary slack is shared by the manager and another non-reporting employee). Based on social psychological theory, we predict that such a common interest in budgetary slack would make misreporting more self-justifiable and, therefore, lead to lower honesty. The results of our first experiment show that managers report less honestly when the slack is shared than when it is not shared, regardless of whether others are aware of the misreporting. Further, we predict that managers’ honesty will be improved when others (i.e., the beneficiary of the slack) have a known, higher-order preference for truthful reporting. Consistent with our expectation, the results of our second experiment show that managers report more honestly when other employees have a known preference for honesty than when other employees have a known preference for wealth-maximization or when other employees’ preference is unknown. The implications of our findings for management accounting research and practice are discussed.
I. INTRODUCTION

Firms have increasingly used gainsharing incentive plans that link the employee’s payoff to the operating outcome of his or her work unit (Gerhart and Bretz 1994; McAdams and Hawk 1994; Welbourne et al. 1995; Zenger and Hesterly 1997). Under such plans, employees have a share in the unit-level profit increases or cost savings (Kim 1996, 1999; Mitchell et al. 1990; Strauss 1990). Prior research finds that unit-level gainsharing plans increase employee morale (Welbourne and Cable 1995; Welbourne and Gomez-Mejia 1995) and productivity (Coff 1997; Ichniowski and Shaw 1999). In particular, Zenger and Marshall (2000) find that unit-level gainsharing plans have a stronger motivating effect on employee effort than firm-level gainsharing plans.

This paper investigates a potential perverse effect of gainsharing plans. Specifically, we investigate whether honesty in managerial reporting is affected when the financial gain from misreporting (i.e., the slack) is shared by the manager who makes the report and other non-reporting employees. Prior accounting studies have examined honesty in non-gainsharing settings (i.e., the manager alone reaps all of the slack). We use two laboratory experiments to examine the manager’s reporting behavior when the slack is shared. Research in psychology (Aronson 1992, 1999) and accounting (Simons 2000) suggests that an important precondition for managers to engage in opportunistic behavior is to self-justify the behavior so as to make it compatible with their generally-positive self-concept. Therefore, we expect that, compared to non-gainsharing settings, a shared financial interest (i.e., the fact that misreporting also benefits another) would provide more “legitimate” justification for misreporting and, as a result, lead to less honest reports. We also examine whether other employees’ awareness of the misreporting influences the manager’s behavior. We expect that such awareness would not impact the manager’s behavior when misreporting can be self-justified by shared interest, but would likely
increase honesty when the slack is not shared, in which case the manager might have concerns about others’ impression.

In our experiments, a division manager makes a budget report to request funding to finance the division’s production costs. The manager has an economic incentive to inflate the budget and, depending on the experimental treatment, the inflated budget either does or does not benefit another employee. Experiment one has a $2 \times 2$ design, in which we manipulate (1) whether budgetary slack is shared (yes versus no) and (2) whether the other employee knows about the misreporting (yes versus no). Consistent with our expectation, managers reported significantly less honestly when the slack was shared than when it was not shared. Supplemental data suggest that this exacerbating effect of shared interest was not driven by managers’ equity concerns. Also as expected, the other employee’s awareness of misreporting did not influence the manager’s behavior when the slack was shared. However, contrary to our expectation, such awareness did not influence the manager’s behavior when the slack was not shared.

In light of the results of Experiment one, we design a second experiment to investigate how firms can alleviate the unwanted consequences of shared interest on honesty. Drawing on the elastic justification theory (Hsee 1995, 1996), we expect that managers would be less able to rely on shared interest to self-justify misreporting if the other employee has a higher-order preference for truthful reporting. Experiment two has a $1 \times 3$ design, in which we manipulate the other employee’s non-binding preference communicated to the manager (i.e., reporting honestly versus inflating budget to maximize wealth) and also include a baseline condition with no preference communicated. Consistent with our expectation, managers who knew that the other employee preferred truthful reporting reported significantly more honestly than managers who
knew that the other employee preferred wealth-maximizing or managers who did not know the other employee’s preference.

Our findings have several implications for management accounting research and practice. Gainsharing incentive schemes are extensively used in organizations (Kim 2005) and are found to have a positive effect on organizational outcome (e.g., Arthur and Jelf 1999; Band et al. 1994; Guthrie 2001; O’Bannon and Pearce 1999). Our study documents an important side effect of gainsharing on honesty in managerial reporting. Specifically, conventional economic theory predicts that, in our setting, the gainsharing scheme should have no impact on the manager’s reporting behavior. Prior experimental studies focus on honesty in non-gainsharing settings and, therefore, do not examine behavior under gainsharing schemes. Our study extends existing experimental research by showing that, to the extent that gainsharing allows managers to readily self-justify misreporting, honesty in managerial reporting is likely to be undermined, which, in turn, would have negative effects on the firm’s decision quality and operating efficiency. Therefore, firms should take into account a broader range of benefits and costs than assumed by conventional economic theory or standard human resource management theory when considering whether to adopt gainsharing plans in incentive contracting practice.

Our study also provides insights into how firms can play an active role in preventing or mitigating this side effect of gainsharing. If the firm is able to construct a pro-social organizational environment in which employees generally act on moral values as opposed to materialism, it would eliminate the potential moral buffer that the manager may exploit to self-justify opportunistic behavior. Such an environment is consistent with calls for an increased emphasis on tone at the top (e.g., Schwartz et al. 2005; Watkins 2002). In turn, honesty in managerial reporting may be improved.
The remainder of the paper is organized as follows. The next section presents the theoretical framework, hypotheses, method, results, and supplemental analysis for Experiment one. The third section does the same for Experiment two. The fourth section discusses the findings and concludes the paper.

II. EXPERIMENT ONE

Framework and hypotheses development

Background

Accounting studies have experimentally examined managers’ honesty in budget reporting. In the basic setup, the manager, who has private information on local production costs, submits a budget report to corporate headquarters, requesting resources. The manager’s budget request is approved with certainty, and the manager keeps the slack (i.e., the difference between the budgeted and actual costs). Evans et al. (2001) find that managers often do not inflate their report to the maximum possible level, as predicted by standard economic theory. Studies examining budget reporting under slack-inducing pay schemes (Chow et al. 1991; Waller 1988) also find that managers’ behavior deviates significantly from strict self-interest. Stevens (2002) and Rankin et al. (2008) provide evidence that managers’ ethical concerns reduce budgetary slack. Other studies suggest that social pressure affects reporting behavior because agents want to appear honest (Hannan et al. 2006; Young 1985). Altogether, prior experimental findings indicate that managers have preferences for wealth as well as honesty.

Shared financial interest

Prior honesty studies focus on settings in which the manager, who makes the budget report, pockets the entire amount of slack. However, as firms increasingly adopt gainsharing
incentive plans that tie employees’ payoff to their divisional operating outcome, employees often have a share in the division’s increased benefits (Kim 1996, 1999; Mitchell et al. 1990; Strauss 1990). Our study examines the manager’s honesty in gainsharing settings in which budgetary slack is shared by the manager and other employees. As elaborated below, we expect that this shared interest will have a negative effect on the manager’s honesty.

In social psychology, cognitive dissonance theory suggests that individuals experience psychological discomfort when they simultaneously hold two conflicting ideas, perceptions, or views (Festinger 1957). Drawing on cognitive dissonance theory, Aronson’s (1992, 1999) self-consistency model proposes that individuals generally wish to maintain a positive self-concept and that behaving inconsistently with self-concept can create a psychological cost. However, behavior that violates self-concept may nonetheless occur because individuals often are able to reduce the potential psychological cost by rationalizing their behavior in an ego-defensive manner (Aronson 1995; Bandura 1999; Kunda 1990). Such reaction helps explain, for example, the somewhat puzzling observation that in our society most individuals perceive themselves as decent and moral (Steele 1988), yet unethical behavior (e.g., tax evasion, stealing at work) is commonplace (Bersoff 1999).

Along these lines, Gellerman (1986) and Simons (2000) point out that employees will engage in unethical actions only if they can self-justify these actions in one way or another. Relatedly, in explaining why dysfunctional behavior is prevalent in organizations, Robinson and Kraatz (1998) note that an important reason is that employees often neutralize such behavior to reconcile it with generally accepted moral principles (see also Grover 1993, 2005). One of the neutralization techniques that employees use is to regard their behavior as serving a broader, collective interest rather than a narrow self-interest (Ashforth and Anand 2003). For example,
Diekmann (1997) finds that managers who make resource allocation decisions believe that allocating an advantageously inequitable share to their group is fairer than allocating an advantageously inequitable share to self. Anand et al. (2005) suggest that employees often justify corruption by arguing that it adds value to the group or subunit they belong to.

In our setting, if budgetary slack only benefits the manager, misreporting will have one single effect – serving self-interest, which is morally negative and not particularly justifiable. By contrast, if other employees share the slack, misreporting will have an additional effect – serving others’ interest. Because helping others is typically regarded as positive and socially desirable (Brief and Motowidlo 1986), it potentially mitigates or offsets the negative effect associated with pursuing self-interest. Thus, the decision to misreport may now be reframed as one that serves the common good, which appears less unethical or even altruistic, and can be made without feelings of guilt (Tenbrunsel and Messick 2004).

The above discussion leads to the following hypothesis.

**H1:** Managers are more likely to misreport when slack is shared with other employees than when slack is not shared.

**Other employees’ awareness of misreporting**

Prior research suggests that individuals care about others’ impressions of them and alter their behavior to manage such impressions (e.g., Leary 1995; Schlenker 1980). Without question, individuals prefer that others view them favorably. In an organizational setting, managers may be concerned that misreporting (if known to subordinates) casts them in a negative light. We suggest that such concerns are affected by who benefits from misreporting.

In the absence of gainsharing, the manager may be concerned that others view misreporting as selfish and opportunistic. Such behavior violates a societal norm of honesty and, in turn, can engender a negative impression from subordinates (Alexander and Knight 1971).
Because the manager is concerned about what others think, behavior may be very different if subordinates are aware of the manager’s reporting choice (i.e., whether the manager misreports). The manager’s desire to maximize self-interest may be tempered by a need to put forth a positive image. Accordingly, the manager may report more honestly when others have knowledge of the manager’s reporting choice.

With gainsharing, on the other hand, others’ awareness of the manager’s reporting choice may have little effect on behavior. In this case, the manager likely believes that other employees condone, and even endorse, misreporting. Such behavior not only benefits the manager, but subordinates as well. The manager may reason that adding slack to the budget enhances the collective interest of the subunit and, thus, is acceptable to subordinates. Even if subordinates do not approve of such behavior, the manager probably believes that they do. Research in social psychology suggests that individuals overestimate the extent to which others share their attitudes and beliefs (e.g., Marks and Miller 1977; Ross et al. 1987). Therefore, others’ awareness of misreporting is unlikely to affect honesty in budgetary reporting with gainsharing.

The preceding discussion leads to the following hypotheses.

**H2a:** If slack is not shared with other employees, the manager is less likely to misreport when others are aware of the manager’s behavior than when others are not aware of the behavior.

**H2b:** If slack is shared with other employees, the manager is no more likely to misreport when others are aware of the manager’s behavior than when others are not aware of the behavior.

**Method**

**Experimental setting and design**

Our experiment uses a corporate budget reporting setting. One half of the participants assume the role of a division manager in a corporation, and the other half an assistant to the
division manager. The experiment consists of six independent periods. Each period, a manager is randomly paired with an assistant. The manager submits a budget report to corporate headquarters, requesting funds to finance the division’s production cost. The manager knows for certain what the actual production cost will be. The headquarters only know the distribution of the production cost and will approve the budget as long as it falls within the possible range. Any difference between funds granted by the headquarters and the actual cost (i.e., slack) is kept at the division.

We manipulated two factors, resulting in a $2 \times 2$ experimental design. The first factor manipulated is whether the slack is shared between the manager and assistant: in one condition, the entire slack is received by the manager only (hereafter, No-sharing condition), whereas in the other condition, the manager and assistant each receive one half of the slack (hereafter, Sharing condition). The second factor manipulated is whether the actual cost and the manager’s budget report are known to the assistant: in one condition, the assistant is told the actual cost as well as the manager’s budget report each period (hereafter, Known condition), whereas in the other condition, the assistant never learns the actual cost or the budget report for any period in the experiment (hereafter, Unknown condition).

**Participants and experimental procedures**

One hundred and seventy-four undergraduate students (i.e., 87 pairs) enrolled in various majors were recruited to participate in our experiment. The experiment was conducted in a behavioral research laboratory. All participants reported to the same room. At the outset, experimental instructions, which described the experimental setting and task, were distributed and read aloud. After the instructions were read, participants completed a quiz to ensure that they fully understood the experiment. Then, participants were divided into two equal-size groups: one
group acted as the division manager and the other group the assistant. The role assignment was determined by a random draw, and participants remained in the same role throughout the experiment. The two groups (i.e., managers and assistants) were seated on two different sides of the room, and a solid screen was set up in the middle so that the two groups could not see each other, but could see the experimenter in the front of the room. Each participant was given a unique identifying letter, which was used to track the participant’s decisions in all periods and to pay the participant at the end of the experiment. Each participant was also given a different participant number each period, which was used to pair the manager and assistant. Because periods are independent, participants are assigned a different number each period to avoid reputational concerns.

Each period, the manager and assistant were paid a base salary. The actual production cost followed a uniform distribution of \{4,000, 4,001, ..., 6,000\}. After the period started, the manager was given a cost sheet. The top section of the sheet indicated the actual production cost for the period. The bottom section of the sheet was for the manager to enter his or her participant number for the period and budget report for the period. After the manager wrote down the budget report, the next step differed between the Known and Unknown conditions. In the Known condition, the sheets were collected and randomly distributed to assistants. The assistant reviewed the actual cost and budget report and entered his or her participant number for the period at the bottom of the sheet for pairing purposes. After that, the sheets were again collected. Then, a new period began, and the same procedures were repeated. In the Unknown condition,

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1 In the experiment, all monetary values were expressed in an experimental currency, Lira. At the end of the experiment, participants’ earnings in Lira (i.e., base salary plus a share of the slack, if any) were converted to dollars at a predetermined rate. The two roles’ base salaries in Lira and the Lira-to-dollar conversion rate were systematically varied between the No-sharing and Sharing conditions to ensure that the economic incentive for misreporting was constant across all experimental conditions. Specifically, in the No-sharing condition, the manager’s (assistant’s) base salary was 1,000 Lira (800 Lira), and the conversion rate was 120 Lira = $1. In the Sharing condition, the manager’s (assistant’s) base salary was 500 Lira (400 Lira), and the conversion rate was 60 Lira = $1.
after the manager wrote down the budget report, the experimenter collected the sheets and randomly paired a manager with an assistant by entering an assistant’s participant number on each manager’s sheet (i.e., assistants never saw the sheet). After that, a new period began, and the same procedures were repeated.

Experimental procedures for the No-sharing and Sharing conditions were identical, except that the slack was allocated differently, as specified in the experimental instructions. In the No-sharing condition, all participants were told that the division manager would keep any difference between the funds provided by corporate headquarters and the actual cost. In the Sharing condition, all participants were told that the difference would be equally divided between the manager and assistant.

In all conditions, participants were told that the experiment would repeat for six independent periods. After the six periods were finished, one period was randomly selected, by tossing a six-sided die, as the payment period. The cost sheets (including the actual cost and budget report for the selected period) were sent to another room, where a helper used the sheets to determine each participant’s pay and put cash in envelopes, with the participant’s identifying letter printed on the face of the envelope. While awaiting payment, participants completed a post-experiment questionnaire. Finally, the envelopes that contained cash were distributed to participants before they left the laboratory.

Results

Measurement of honesty and descriptive statistics

To ensure comparability across managers, we used the same set of randomly generated actual costs for the six periods (i.e., all managers received the same actual cost each period). We compute two measures to assess the honesty of managers’ budget reports. The first measure,
referred to as “Slack,” is computed as budgeted cost – actual cost. The second measure, adopted from Evans et al. (2001) and referred to as “Honesty,” is computed as 1 – [(budgeted cost – actual cost) / (6,000 – actual cost)]. This measure takes a value from zero to one and represents the extent to which managers behave in an honest versus self-interested manner. If a manager behaves honestly by reporting the actual cost, the value is one. If a manager maximizes self-interest by reporting the maximum possible amount of 6,000, the value is zero. Values between zero and one represent managers who report an amount above the actual cost but less than the maximum possible amount. Table 1 presents managers’ mean Slack and Honesty partitioned by experimental cell.

[Insert Table 1 about here]

**Tests of H1**

To test our hypotheses, we conduct two, two-way ANOVAs. The dependent variables are the manager-participant’s Slack and Honesty, respectively, averaged across the six periods. Table 2 presents the ANOVA results.

[Insert Table 2 about here]

Our first hypothesis predicts that managers would report less honestly when the slack is shared than when it is not shared. As reported in Table 2, there is a significant main effect of sharing on honesty. We find that manager-participants created significantly (F1,83 = 3.02, p = 0.04) more slack when the slack was shared between the manager and assistant (1,093) than when the slack was not shared (975), which is consistent with H1. Likewise, manager-participants’ Honesty was significantly (F1,83 = 3.08, p = 0.04) lower when the slack was shared

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2 We also repeat our hypothesis tests using two repeated-measure ANOVAs, with participants’ Slack and Honesty in each period, respectively, as the dependent variable and period as the repeated measure. Statistical inferences are the same as those reported in the paper. Because most of our predictions (H1 and H2a) are directional, reported p-values are one-tailed unless otherwise specified.
that shared interest had a significantly negative effect (p values < 0.01) on Slack and Honesty, irrespective of whether misreporting was known to the assistant.

Participants’ responses to the post-experiment questionnaire provide further support for our arguments underlying H1 – that managers use shared interest to self-justify misreporting. In the post-experiment questionnaire, we asked manager-participants to choose the “most acceptable” reason, from a range of possible reasons, for submitting a budget higher than the actual cost. When the slack was not shared, the most frequently chosen reason was, “It improves my earnings” (48 percent in the Unknown conditions and 45 percent in the Known conditions). By comparison, when the slack was shared, this reason was chosen less often (25 percent and 10 percent, respectively). A chi-square test indicates that manager-participants responses were not independent of how budgetary slack was shared ($\chi^2(3) = 9.14, p = 0.03$, two-tailed). Further inspection of the data indicates that when the slack was shared, the most frequently chosen reason was, “It improves my earnings and my assistant’s earnings” (54 percent in Unknown and 60 percent in Known). This result suggests that manager-participants perceived serving common interest as a more justifiable reason for misreporting than serving self-interest.

We also asked manager-participants (1) whether they thought the assistant preferred a budget higher than the actual cost, preferred a budget equal to the actual cost, or was indifferent between the two, and (2) to what extent they considered the assistant’s preference in deciding the budgeted production cost (using an 11-point Likert scale with endpoints 1 = not at all and 11 = very much). Table 3 summarizes the responses to these two questions. When the slack was not shared, most manager-participants (95 percent in Unknown conditions and 91 percent in Known conditions) indicated that the assistant would prefer a budget equal to the actual cost or be
indifferent, whereas when the slack was shared, the response was dramatically different ($\chi^2(3) = 72.04, p < 0.01$, two-tailed): virtually all manager-participants (96 percent and 100 percent, respectively) indicated that the assistant would prefer a budget higher than the actual cost. Moreover, a two-way ANOVA of manager-participants’ rating of the extent to which the assistant’s preference was considered across the four experimental conditions shows that, in deciding the budget, manager-participants gave significantly more weight ($F_{1,83} = 13.65, p < 0.01$) to the assistant’s preference when the slack was shared (5.83 in Unknown and 6.15 in Known) than when the slack was not shared (2.67 and 3.91, respectively). Overall, the post-experiment responses provide support for our reasoning that shared interest is used by managers to self-justify misreporting.

Tests of H2a and H2b

Our second set of hypotheses predicts that the assistant’s awareness of misreporting would influence the manager’s honesty when the slack is not shared (H2a), but not when the slack is shared (H2b). As shown in Table 2, in the two ANOVA tests, neither the main effect of assistants’ knowledge of actual cost and budget, nor the interaction effect, are statistically significant, suggesting that the assistant’s awareness of misreporting had no effect on the manager’s honesty. This finding is not consistent with H2a (others’ awareness affects honesty in the No-Sharing conditions), but it is in line with H2b (others awareness does not affect honesty in the Sharing conditions).

In the post-experiment questionnaire, we asked manager-participants to indicate the extent to which they cared about the assistant’s overall impression as to how the budget was made, on an 11-point Likert scale with endpoints 1 = not at all and 11 = very much. A two-way ANOVA
shows that the rating does not differ significantly across the four experimental conditions. Put together, these results suggest that the assistant’s knowledge of misreporting did not influence the manager’s reporting behavior, even when the slack did not benefit the assistant.

One possible reason that others’ awareness of misreporting did not affect the manager’s behavior is that the assistant’s identity was suppressed. For experimental control purposes, the assistant was an anonymous other, creating social distance and potentially weakening impression management concerns. Yet, anonymity is unlikely to entirely suppress impression management motives. The assistant still knew that someone (the manager) made a budgetary reporting choice and that the choice affected payoffs. While the experimental protocol afforded anonymity, it did not provide for invisibility (see, e.g., Dana et al. 2006, 201).³

Another possible reason for the finding (or lack thereof) is that the manager did not believe that misreporting would create a negative impression from others. Recall that the manager and assistant have common knowledge of how payoffs are determined: that is, the assistant knows that the manager benefits from misreporting. With common information, the manager’s assessment of what constitutes acceptable behavior is likely egocentrically biased (e.g., Loewenstein 1996; Ross and Ward 1996). Moreover, common information about how payoffs are determined may provide the manager with moral license to behave in a self-interested manner (Cain et al. 2005). The manager reasons that the assistant would act similarly if roles were reversed. We leave further, in-depth exploration of these possible reasons to future research.

**Supplementary analyses**

³ Furthermore, a concern for appearances is fitness enhancing from an evolutionary perspective (Bowles and Gintis 2004; Fehr and Gachter 2002). As a result, such concern can manifest itself, even in situations with an anonymous other.
The results of Experimental one show that managers created more slack when the slack was shared with the assistant than when the slack was not shared. These results are consistent with H1, but are also consistent with an alternative explanation: that is, concerns about equity between the manager’s and assistant’s payoffs. In the No-sharing conditions of our experiment, the manager received a base salary plus slack, while the assistant only received a base salary. Consequently, the greater the slack, the more unequal the two parties’ payoffs. By contrast, in the Sharing conditions, the manager and assistant each received a base salary plus one half of the slack, and the gap between their payoffs (i.e., the difference between their base salaries) would be constant and would not increase with the slack. Therefore, to the extent that managers care about equity (Rankin et al. 2008), it is possible that they create less slack in the No-sharing conditions because slack increases payoff disparity.4

To address this alternative explanation, we conducted a supplemental condition. The experimental setting and procedures for this condition were the same as those for the Sharing/Unknown condition, except that the manager now could decide how to split the slack. Specifically, the manager chose whether to keep 80 percent or 50 percent of the slack for self, giving the remainder to the assistant. If equity concerns influenced managers’ reporting decisions, we would expect the majority of them to choose the 50-50 split because it yielded more equitable payoffs than the 80-20 split.

Forty-six undergraduate students (i.e., 23 pairs) enrolled in various majors participated in the supplemental condition. Results show that Slack (1065) and Honesty (0.11) were not

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4 The same reasoning would hold if equity were measured as the ratio of the manager’s payoff relative to the assistant’s payoff (i.e., the higher the ratio, the more inequitable). In the No-sharing conditions, this ratio is (the manager’s base salary + slack) / (the assistant’s base salary), which increases with the slack. In the Sharing conditions, the ratio becomes (the manager’s base salary + one half of the slack) / (the assistant’s base salary + one half of the slack), which decreases with the slack. That is, creating more slack makes relative payoffs more inequitable in the No-sharing conditions but more equitable in the Sharing conditions.
significantly different (ps > 0.46, two-tailed) from those in the Sharing/Unknown condition (1106 and 0.09, respectively). Most importantly, of the 136 choices of slack allocation (i.e., 23 managers × 6 periods – 2 cases in which there was no slack), the overwhelming majority (106 or 78 percent) were the 80-20 split. A binomial test reveals that manager-participants were more likely (p < 0.01, two-tailed) to choose the 80-20 split than the 50-50 split. Therefore, we do not find any evidence that equity concerns play a significant role in managers’ reporting decisions. This supplemental result provides further support to our theory that managers use common interest as an excuse for misreporting.

III. EXPERIMENT TWO

Framework and hypotheses development

The results of Experiment one suggest that managers are more likely to misreport when doing so benefits other employees, because they rely on serving other employees’ financial interest to self-justify misreporting. The purpose of Experiment two is to investigate whether other employees’ preferences regarding how the budget should be made will influence the manager’s reporting behavior. We manipulate the assistant’s preference and communicate it to the manager. We examine whether honesty can be improved when the assistant has a higher-order preference for truthful reporting rather than wealth-maximization. Understanding the manager’s behavior in these settings is important because it provides insights for firms to counteract the adverse effect of gainsharing documented in Experiment one, thereby improving the quality of information communicated.

As discussed in Experiment one, when tempted by opportunities to advance self-interest, managers usually would not rush into actions that blatantly violate self-concept, but rather would
first look for ways to self-justify the action (Simons 1995; Tenbrunsel and Messick 2004). The elastic justification theory (Hsee 1995, 1996) suggests that the degree to which individuals engage in opportunistic behavior depends on the “elasticity” of such behavior – that is, justifiability, or more precisely, the room to self-servingly reinterpret behavior. For example, in Hsee’s (1996) experiment, a real estate appraiser was hired by a seller to provide an appraisal of a house, which would be used to determine the selling price. In the experiment, the buyer was the appraiser’s fiancé, unbeknownst to the seller. Hsee (1996) found that the appraiser was more likely to deflate the appraisal when the features of the house were “elastic” (i.e., better on some features and worse on others in comparison to a similar house) than if the features were “inelastic” (i.e., identical on all features to a similar house).

In Experiment one, the assistant’s preference regarding how the budget should be made was not transparent. In this case, the reporting decision is highly elastic because the manager can interpret an inflated budget as serving the assistant’s financial interest and assume that the assistant would prefer receiving a higher payoff via inflating the budget. As reported earlier, our post-experiment questionnaire data provide support for this line of argument, showing that almost all managers (self-servingly) presumed that the assistant would prefer an inflated budget. Therefore, if the assistant indeed has a preference for inflating the budget to maximize wealth, we expect that the manager’s reporting behavior would not be different than if the assistant’s preference is unknown.

In contrast, if the assistant has a known preference for honest reporting, the elasticity of the manager’s reporting decision is reduced. In this case, managers would be hard-pressed to reason that inflating the budget serves the assistant’s interest, because the assistant now has a higher-order interest that surpasses a narrow financial interest. Based on the elastic justification theory,
we expect that managers will be less likely to misreport (or misreport to a less degree) when the assistant prefers truthful reporting than when the assistant’s preference is unknown or when the preference is to inflate the budget.

The above discussion leads to the following two hypotheses.

**H3:** Managers who know that the assistant prefers an honest budget will report more honestly than managers who know that the assistant prefers wealth-maximization or managers who do not know the assistant’s preference.

**H4:** The level of honesty will not differ between managers who know that the assistant prefers wealth-maximization and managers who do not know the assistant’s preference.

**Method**

*Experimental setting and design*

Experiment two uses the same basic setting as the Sharing conditions of Experiment one. That is, participants act as a division manager or an assistant, the manager submits a budget report to the headquarters, the budget is approved for certain, and any slack is shared equally by the manager and assistant. However, we make three changes to the experimental procedures. First, we control the assistant’s preference (explained below) and, depending on the experimental treatment, communicate it to the manager. The experimental instructions make it clear that the assistant’s preference is not binding and that the manager reports with free will.

Second, managers and assistants are separated into different sessions as a matter of necessity. To provide for a clean test of our hypotheses, we needed to manipulate the assistant’s preference at two unambiguously distinct levels: a preference to report the actual cost versus a preference to inflate the budget to maximize wealth. To achieve this purpose without experimental deception, we decided to elicit the assistants’ preferences first, and then, in line with the experimental treatment, selectively present them to the managers. We carried out the experiment in two phases. The first phase was conducted with assistants only, in which assistants
indicated their preference as to how the budget should be made. The second phase, which is the
main focus of Experiment two, was conducted with managers only. In this phase, we vary the
assistant’s preference communicated to the manager as either a preference for reporting the
actual cost (hereafter referred to as “Honest Preference”) or a preference for inflating the budget
to maximize wealth (hereafter referred to as “Selfish Preference”). We also include a baseline
condition with no preference communicated (hereafter referred to as “No Preference”). Hence,
Experiment two has a $1 \times 3$ design.

Finally, we only administered one period. For the actual cost, we chose one of the six
periods from Experiment one. We chose the actual cost that was nearest the midpoint of the
possible range: an actual cost of 4743. We only included one period because, otherwise, we are
unable to cleanly examine the effect of the assistant’s preference on the manager’s preference. In
Experiment one, we re-paired managers and assistants each period, which alleviated reputational
concerns. But re-pairings can create problems when the assistant’s preference is communicated
to the manager. With multiple periods, managers would learn the preference of several assistants
and such preferences might not be consistent, undermining the manipulation. Hence, we decided
that Experiment two would only last one period.

**Participants and procedures**

Ninety undergraduate students (i.e., 45 pairs) enrolled in various programs of study
participated in Experiment two. In the first phase of the experiment (i.e., assistants only), 45
participants assumed the role of the assistant. Experimental instructions, which described the
experimental setting and task, were distributed and read aloud. Assistant-participants were told
that the managers’ session would be conducted several days later, and they would be paired with
a manager and receive a payoff based on that manager’s report.
Then, on a separate sheet, assistant-participants were asked to indicate whether and to what extent they thought the budget should be inflated from the actual cost, using an 11-point Likert scale. The endpoints of the scale were labeled as 1 = “The budget should not be inflated (i.e., the manager should report the actual cost)” and 11 = “The budget should be inflated to the full extent (i.e., the manager should report the maximum possible amount of 6,000).” Assistant-participants were not told that their responses might be used in the managers’ session. Our aim was to elicit preferences as to how the budget should be made. After assistant-participants indicated their preferences, the sheets were collected. We found that 17 participants circled the lowest end “1” on the Likert scale (i.e., a preference for honest reporting). Looking at those whose responses were at the higher end of the scale, no one circled “11” (i.e., a preference for fully inflating the budget) and the highest point circled was “10.”

The second phase of Experiment two (i.e., managers only) was conducted several days later. Forty-five participants assumed the role of the division manager. We randomly assigned 16 manager-participants to the Honest Preference condition and paired them with 16 of the assistants who gave a “1” rating on the preference Likert scale described above. We randomly assigned 14 manager-assistants to the Selfish Preference condition and paired them with 14 assistants who gave the highest 14 ratings on the preference Likert scale. We randomly assigned 15 manager-assistants to the No Preference condition and paired them with the remaining 15 assistants (i.e., these 15 assistants’ preferences were not shown to the manager).

At the outset of all three conditions, experimental instructions were distributed and read aloud. Then, manager-participants were told that the assistants’ sessions were conducted several days earlier; assistants had the same information about the experiment as them; they would each be paired with an assistant; and their budget report would determine their own payoff as well as
the paired assistant’s payoff. In the Honest Preference and Selfish Preference conditions, manager-participants were also told that assistants indicated their preferences as to how the budget should be made, and they would be shown the preference of the assistant with whom they were paired. The experimental instructions explicitly stated that the assistant’s preference was not a requirement and the manager would freely decide what budget to submit. In the No Preference condition, there was no mention of the assistant’s preference.

In the Honest Preference condition, all manager-participants were given an assistant’s sheet with “1” circled on the 11-point scale described earlier. In the Selfish Preference condition, two participants were given an assistant’s sheet with “10” circled on the scale, two “9,” six “8,” and four “7.” While manager-participants in the Selfish Preference condition did not all receive exactly the same rating, to the extent that these ratings were lower than the highest possible rating of 11, it would work against our hypotheses and, thus, provide a stronger test for the hypotheses.

Finally, manager-participants submitted their budgets and completed a post-experiment questionnaire. They also were paid in cash accordingly. A few days later we paid assistant-participants in cash based on the paired manager’s budget.

Results

Descriptive statistics

Panel A of Table 4 reports the mean Slack and Honesty in the three conditions of Experiment two. As described earlier, Slack is computed as budgeted cost – actual cost, and Honesty is computed as $1 - \left(\frac{\text{budgeted cost} - \text{actual cost}}{6,000 - \text{actual cost}}\right)$. For Honesty, a value of one indicates truthful reporting and a value of zero indicates wealth-maximization.

[Insert Table 4 about here]
**Test of hypotheses**

H3 predicts that managers who know that the assistant prefers an honest budget will report more honestly than managers who know that the assistant prefers wealth-maximization or managers who do not know the assistant’s preference. H4 predicts that the honesty level will not differ between managers who know that the assistant prefers wealth-maximization and managers who do not know the assistant’s preference. To test H3 and H4, we conducted two one-way ANOVAs, with Slack and Honesty, respectively, as the dependent variable. The independent variable is the assistant’s preference: Honest Preference, Selfish Preference, or No Preference. The results are reported in Panel B of Table 4.5

Overall, manager-participants’ honesty is significantly different ($F_{2,44} = 6.91$, $p < 0.01$) across the three conditions. Post-hoc LSD multiple comparison tests reveal that manager-participants reported significantly more honestly ($p$ values < 0.01) in the Honest Preference condition (Slack = 473, Honesty = 0.62) than in the Selfish Preference (Slack = 970, Honesty = 0.23) or No Preference (Slack = 939, Honesty = 0.25) conditions. By comparison, the honesty level does not differ significantly ($p = 0.85$, two-tailed) between the Selfish Preference and No Preference conditions. Therefore, H3 and H4 are supported. Consistent with our expectation, these results suggest that, if the assistant has a clear-cut preference for honest reporting, the manager’s reporting decision will be inelastic because now common interest provides less justification for inflating the budget. As a result, the manager is less inclined to inflate the budget. By comparison, if the assistant’s preference is unknown or if it is one that embraces maximizing wealth, the manager will be more inclined to report so as to maximize wealth.

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5 Because all manager-participants made budget reports for one single period based on the same actual cost, mathematically the measure Honesty is a linear function of the measure Slack and, thus, any statistical tests using Honesty as the dependent variable would yield the same results as those using Slack as the dependent variable. Therefore, only one set of results is reported in Panel B of Table 4.
We also asked manager-participants in the Honest Preference and Selfish Preference conditions to indicate the extent to which they considered the assistant’s preference in deciding the budget using an 11-point Likert scale with endpoints 1 = not at all and 11 = very much. The rating does not significantly differ (t-test: $t_{38} = 0.372$, $p = 0.72$, two-tailed) between the Honest Preference (6.57) and Selfish Preference (7.06) conditions, suggesting that, irrespective of its content, the assistant’s preference had the same level of influence on the manager’s reporting decision.

IV. DISCUSSION AND CONCLUSION

We conducted two experiments to investigate the effect of gainsharing on honesty in managerial reporting. Under gainsharing, the manager and subordinates share in subunit profit increases or cost savings. Proponents praise gainsharing as a means to improve employee morale and boost productivity. Yet, gainsharing potentially may have a perverse effect. In particular, honesty in managerial reporting may suffer with gainsharing. We argue that when the benefits of misreporting are shared, the manager can readily self-justify such behavior. The manager can rationalize that misreporting is necessary in order to advance the collective interest of the subunit. We design our first experiment to assess whether gainsharing promotes misreporting. We find that the manager reports less honestly when the benefits of misreporting are shared with another employee than when the benefits accrue solely to the manager. The result holds irrespective of whether the other employee observes the manager’s report (i.e., whether the other employee has direct knowledge of misreporting). Subsequent analyses are consistent with the manager using shared interest to justify misreporting.
We design a second experiment to investigate whether the other employee’s preference (for honest or dishonest reporting) affects the manager’s behavior when the benefits of misreporting are shared (i.e., in the presence of gainsharing). We contend that when the other employee has a known preference for honest reporting, the manager cannot so easily self-justify misreporting. In our second experiment, we manipulate the other employee’s preference: known preference for honest reporting, known preference for wealth-maximization (dishonest reporting), or unknown preference. We find that manager reports more honestly when the other employee has a known preference for honesty. By comparison, we do not find any difference in honesty when the other employee has a known preference for wealth-maximization or an unknown preference. Hence, the manager’s default assumption appears to be that the other employee prefers wealth-maximization, at least to a greater extent than honesty.

Our findings have implications for firms to induce managers to truthfully communicate private information. If the firm can build up an ethical organizational environment in which most employees live up to generally accepted moral principles, it would be difficult for managers to justify away potential opportunistic behavior and, thereby, would likely prevent such behavior from pervading the firm. This type of preemptive control approach may be more effective than the traditional, compliance approach that \textit{ex post} disciplines misbehavior (Booth and Schultz 2004; Murphy 1993; Paine 1994). Otherwise, to the extent that employees’ moral values are generally low or ambivalent, the quality of information transmitted within the firm may be undermined.
References


**Table 1: The mean of Slack and Honesty in Experiment one**

<table>
<thead>
<tr>
<th></th>
<th>Unknown</th>
<th>Known</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-sharing</td>
<td>Slack = 981</td>
<td>Slack = 969</td>
</tr>
<tr>
<td></td>
<td>Honesty = 0.19</td>
<td>Honesty = 0.20</td>
</tr>
<tr>
<td></td>
<td>(N = 21)</td>
<td>(N = 22)</td>
</tr>
<tr>
<td>Sharing</td>
<td>Slack = 1106</td>
<td>Slack = 1077</td>
</tr>
<tr>
<td></td>
<td>Honesty = 0.09</td>
<td>Honesty = 0.11</td>
</tr>
<tr>
<td></td>
<td>(N = 24)</td>
<td>(N = 20)</td>
</tr>
</tbody>
</table>

Notes:
Slack = the manager’s report – the actual cost.
Honesty = 1 – (the manager’s report – the actual cost)/(6000 – the actual cost).
No-sharing = the conditions in which the budgetary slack is received by the manager only.
Sharing = the conditions in which the budgetary slack is equally shared by the manager and assistant.
Unknown = the conditions in which the manager’s report and the actual cost are unknown to the assistant.
Known = the conditions in which the manager’s report and the actual cost are known to the assistant.
Table 2: ANOVA results for Experiment one

Panel A: Dependent variable = the mean Slack across six periods

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>9219.82</td>
<td>1</td>
<td>9219.82</td>
<td>0.09</td>
<td>0.76</td>
</tr>
<tr>
<td>Shared interest</td>
<td>293120.63</td>
<td>1</td>
<td>293120.63</td>
<td>3.02</td>
<td>0.04</td>
</tr>
<tr>
<td>Knowledge × Shared interest</td>
<td>1703.59</td>
<td>1</td>
<td>1703.59</td>
<td>0.02</td>
<td>0.90</td>
</tr>
<tr>
<td>Residual</td>
<td>8063415.05</td>
<td>83</td>
<td>97149.58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Panel B: Dependent variable = the mean Honesty across six periods

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>0.005</td>
<td>1</td>
<td>0.005</td>
<td>0.08</td>
<td>0.78</td>
</tr>
<tr>
<td>Shared interest</td>
<td>0.198</td>
<td>1</td>
<td>0.198</td>
<td>3.08</td>
<td>0.04</td>
</tr>
<tr>
<td>Knowledge × Shared interest</td>
<td>0.001</td>
<td>1</td>
<td>0.001</td>
<td>0.01</td>
<td>0.92</td>
</tr>
<tr>
<td>Residual</td>
<td>5.342</td>
<td>83</td>
<td>0.064</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
Knowledge = whether the manager’s report and actual cost are known to the assistant.
Shared interest = whether budgetary slack is shared by the manager and assistant.
See notes to Table 1 for the definitions of other variables. P-values in bold are one-sided.
Table 3: Manager-participants’ responses to post-experiment questionnaire in Experiment one

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Unknown/No-sharing (N=21)</th>
<th>Known/No-sharing (N=22)</th>
<th>Unknown/Sharing (N=24)</th>
<th>Known/Sharing (N=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1: Which of the following did you think the assistant preferred happening?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The number of participants who chose each of the three given answers:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- the budget being more than the actual cost.</td>
<td>1</td>
<td>2</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>- the budget being equal to the actual cost.</td>
<td>10</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>- the assistant was indifferent whether the budget was more than or equal to the actual cost.</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Question 2: In deciding the budget, to what extent did you consider the assistant’s preference?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The mean rating given on an 11-point Likert scale with endpoints 1 = not at all and 11 = very much</td>
<td>2.67</td>
<td>3.91</td>
<td>5.83</td>
<td>6.15</td>
</tr>
</tbody>
</table>

Notes:
See notes to Table 1 for the definitions of variables.
Table 4: Descriptive statistics and ANOVA results for Experiment two

Panel A: The mean of Slack and Honesty

<table>
<thead>
<tr>
<th></th>
<th>No Preference</th>
<th>Honest Preference</th>
<th>Selfish Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Slack = 939</td>
<td>Slack = 473</td>
<td>Slack = 970</td>
</tr>
<tr>
<td></td>
<td>Honesty = 0.25</td>
<td>Honesty = 0.62</td>
<td>Honesty = 0.23</td>
</tr>
<tr>
<td></td>
<td>(N = 15)</td>
<td>(N = 16)</td>
<td>(N = 14)</td>
</tr>
</tbody>
</table>

Panel B: ANOVA results

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>Df</th>
<th>MS</th>
<th>F-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant's Preference</td>
<td>2405752.47</td>
<td>2</td>
<td>1202876.23</td>
<td>6.91</td>
<td>0.003</td>
</tr>
<tr>
<td>Residual</td>
<td>7313502.51</td>
<td>42</td>
<td>174131.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9719254.98</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- No preference = the condition in which the manager is not shown the assistant’s preference.
- Honest Preference = the condition in which the manager is shown an assistant’s preference for truthful reporting.
- Selfish Preference = the condition in which the manager is shown an assistant’s preference for wealth maximizing.
- The ANOVA results are based on two ANOVA tests using Slack and Honesty, respectively, as the dependent variable. Because all manager-participants made budget reports for one single period based on the same actual cost, mathematically the measure Honesty is a linear function of the measure Slack. Therefore, the two ANOVA tests yield the same results.
- See notes to Table 1 for the definitions of other variables.