Influence of Aspects of Extraversion on Information Sharing Within Budget Negotiation

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Managers in decentralized firms often face a fundamental information asymmetry condition which allows for budget gaming by unit managers. Unit managers (agents) often possess private information important to broader firm planning and budgeting; however, these same managers benefit through easier performance targets by keeping the information private. Firm-level managers involve lower-level managers in the budgeting process to induce the sharing of this information. The extent to which such control structures are successful may depend on the personality of the individual manager. The authors predict and find the personality aspect enthusiasm, part of the broader personality dimension extraversion, correlates with a significantly lower likelihood to share information in budget negotiation.

Keywords: budgeting, budget negotiations, budget slack, information asymmetry, performance evaluation, agency theory, prisoner's dilemma, personality, extraversion, behavioral economics, enthusiasm, Amazon's mTurk marketplace

INTRODUCTION

Traditionally, organizational budgeting functions as a central component of a firm control systems (Libby and Lindsay, 2007, 2010, 2019). However, traditional budgeting approaches have faced substantial criticism for incentivizing gaming behaviors (Becker, 2014; Hope and Fraser, 2003a; Jensen, 2001, 2003; van der Stede, 2000; Weigel and Hiebl, 2018). This study utilizes an experiment with participants recruited through Amazon's mTurk marketplace to test the correlation between personality aspect enthusiasm, a component of the five-factor model personality dimension extraversion (DeYoung et al., 2007), and intention to utilize gaming behaviors in a budget negotiation.

The creation of budget slack through strategic utilization of private information is a primary gaming behavior cited in criticisms of traditional budgeting (Hope & Fraser 2003; Jensen 2001; van der Stede 2000). Research exploring the issue of information asymmetry has found managers engage in gaming behaviors, but less than predicted by agency theory (Brown et al., 2009). Brown, Evans, and Moser (2009) called for an exploration of identified "anomalies" where deviations from agency theory predictions have been identified and alternative behavioral explanations can be offered.

Behavioral economics suggests uncertainty can lead individuals to approach decisions from a non-consequentialist, or joint, decision-making framework, as opposed to consequentialist, individual wealth-

maximizing frame which agency theory assumes. While decision makers tend to favor maximizing individual payoff when uncertainty is removed, under conditions of uncertain payoffs decision makers approach decisions in a more collaborative manner (Marinich, 2019; Shafir and Tversky, 1992; Tversky and Shafir, 1992). Given the uncertainty inherent in organizational budgeting, this line of research may offer an explanation for the observed deviation from agency theory's predictions regarding the use of private information in budget slack creation.

While the stream of literature emanating from Shafir and Tversky (1992) provides important insights about judgment and decision-making under uncertainty, budget negotiation possesses significant components not captured in those studies. Most prominently while Shafir and Tversky's (1992) experiments focused on a one-shot game with a defined payoff structure, budget negotiations typically revolve around budget targets which serve as thresholds for bonus compensation (Arnold and Gillenkirch, 2015a; Baiman, 1982, 1990; Fisher et al., 2015; Fisher, Maines, et al., 2002; Young, 1985). Thus, cooperation through sharing private information with senior management (the principals) likely results in more difficult performance targets and a lower probability of earning the maximum possible benefit. Given this, individuals who exhibit greater sensitivity to reward would be expected to exhibit a greater propensity to participate in gaming behaviors, increasing their probability of earning maximum reward. Psychology research suggests the enthusiasm aspect of the personality dimension extraversion is characterized by sensitivity to rewarding stimuli and a strong motivation to obtain desired rewards (DeYoung et al., 2007; Hu et al., 2019; Quilty et al., 2014; Smillie et al., 2019; Wilmot et al., 2019).

This study draws from psychology and behavioral economics to predict a generally more collaborative approach to the utilization of private information in budget negotiation than agency theory predicts. However, individuals indicating greater levels of enthusiasm are expected to be less collaborative. Borrowing from behavioral economics the decision is presented as a prisoner's dilemma to reflect the uncertain circumstances inherent in a budget negotiation. Although, to the knowledge of the authors, the prisoner's dilemma structure has not been used in budgeting research before, it is a common structure in judgment and decision-making research to explore the impact of uncertainty (Marinich, 2019; Rogowski and Lange, 2020; Shafir and Tversky, 1992).

To test hypotheses an experiment was conducted presenting participants with a budget negotiation scenario. Participants were recruited from Amazon's mTurk marketplace for "Human Intelligence Tasks," or HITs. Participants were presented with a budgeting scenario where they took on the role of a unit manager in a firm (an agent), possessed private information not knowable to the division manager to whom they answered (the principal), and were asked to decide whether they would reveal their information in the forthcoming budget negotiation. The decision made affected their expected budget targets and bonus income. Participants completed the experiment by responding to a personality assessment derived from DeYoung et al (2007) and answering questions about demographic information.

Experimental results support the proffered hypotheses. The extraversion aspect enthusiasm correlates with significantly lower proportion of respondents revealing private information. This result suggests the reward sensitivity characteristic of this aspect focuses behavior on achievement of reward over more collaborative concerns, even under uncertainty. A supplemental analysis addresses the call from Brown, Evans and Moser (2009) and finds significantly greater proportion of respondents revealing information than agency theory would predict.

This study makes several contributions to the academy and to practice. First, it introduces a significant line of behavioral economics research to the budgeting literature. To date, uncertainty is an underdeveloped consideration in budgeting research. Additionally, the study adds to the call to build the budgeting literature from a solid theoretical framework of agency theory and offers two significant considerations in the discussion of gaming behaviors: uncertainty and personality. Lastly, personality, specifically the extraversion aspect enthusiasm, is identified as significant factor potentially motivating gaming behavior as a response to reward incentive.

LITERATURE REVIEW AND HYPOTHESES

In this section, we review relevant literature and develop hypotheses which the reported-experiment tests. First, the factors incentivizing budget gaming, strategic information sharing in the budget negotiation process are developed within the context of agency theory predictions. Then, we propose Enthusiasm, a facet of the broader personality dimension Extraversion (DeYoung et al., 2007), as a variable which, under uncertainty, could affect the framing of budget negotiation related decisions about gaming the budget setting process.

ORGANIZATIONAL BUDGETING

Organizational budgets have long been viewed as central components of most firms' internal control framework (Covaleski et al., 2003; Libby and Lindsay, 2019; Shields and Shields, 1998; Shields, 2015); however, the last two decades have seen substantial criticism of the budgeting process (Hansen et al., 2003; Hope and Fraser, 2003b, 2003a; Libby and Lindsay, 2010; Matějka et al., 2021; Østergren and Stensaker, 2011; van der Stede, 2000). Nonetheless, research in this period suggests firms continue to report finding substantial value in the organizational budgeting system. These same firms also identify gaming behaviors as significantly detracting from the value their organization's budgeting system provides (Libby and Lindsay, 2007, 2010, 2019). This conflict creates an important opportunity for management accounting research to articulate a robust and theoretically grounded framework for understanding circumstances where traditional budgeting processes work well and those circumstances which prompt gaming behaviors detracting from its organizational value.

AGENCY THEORY AND BUDGETING

Brown, Evans, and Moser (2009) identify agency theory as the appropriate foundation for exploring judgment and decision making within the budgeting process. Agency theory's principal-agent framework is a broadly accepted and applied theory of behavior and holds a prime place in management accounting (Baiman, 1982, 1990; Heinle et al., 2014; Lambert, 2006; Modell, 2020). By articulating behaviors which advance the economic well-being of both the agent and principal in a contracting situation, such as the budgeting process, agency theory provides a broad framework from which to explore alternative incentive schemes and circumstances which might affect behavior within the process (Baiman, 1982, 1990; Douthit and Majerczyk, 2019). Brown, Evans, and Moser (2009) call for budgeting research to advance management accounting theory by identifying circumstances where anomalies which run against clear agency theory predictions have been identified and alternative behavioral theories can be articulated. More recently researchers in this area have focused on building a common theoretical framework across economic and sociological approaches to management accounting (Modell, 2020).

Agency theory makes clear and strong predictions regarding the strategic utilization of asymmetric information to create budget slack (more easily attainable budget targets against which the agent's performance will be evaluated), the most common form of budget gaming behavior (Brown et al., 2009; Englund and Gerdin, 2011; Kenno et al., 2018; Kilfoyle and Richardson, 2011; Young, 1985). Agency theory predicts agents will create as much slack as possible to maximize their economic well-being across all circumstances. Budgeting research has produced confounding results with regards to this agency theory prediction (Brown et al., 2009; Kenno et al., 2018). Most notably, agents create substantially less slack than agency theory would predict (Chow et al., 1988; Douthit and Stevens, 2015a; Fisher, Frederickson, et al., 2002; Hannan et al., 2006; Heinle et al., 2014; Rankin et al., 2008; Young, 1985). However, this stream of research does also show agents consistently producing budgetary slack, and significantly greater slack when agents possess relevant information unknowable to the principal (an information asymmetry condition) (Brown et al., 2009; Hannan et al., 2006; Heinle et al., 2014; Stevens, 2002).

The issue of gaming behaviors creating budget slack, as agency theory predicts, is a central criticism of traditional organizational budgeting (Demski and Feltham, 1978; Fisher, Frederickson, et al., 2002;

Fisher et al., 2000; Hansen et al., 2003; Hope and Fraser, 2003a; Jensen, 2001, 2003; Matějka et al., 2021; van der Stede, 2000). Critics of traditional organizational budgeting practices argue that inviting unit-level managers (agents) into a budget negotiation, the most common form of participative budgeting, to set budget targets against which the agent's performance will be assessed incentivizes the agent to utilize gaming behaviors to obtain an easier to achieve budget target (Fisher, Frederickson, et al., 2002; Fisher et al., 2000, 2006). Such behaviors are reported to include strategically utilizing private/asymmetric information to under-estimate revenue projection and over-estimate costs, manipulating work activity to maximize personal benefit (use-it-or-lose it end-or-year spending and delaying sales to the next period after targets have been met), and even out-right lying in the budgeting process (Arnold et al., 2008; Hansen et al., 2003; Hope and Fraser, 2003a; Jensen, 2001, 2003; van der Stede, 2000).

BUDGET GAMING AND INFORMATION ASYMMETRY

A foundational component of agency theory is an information asymmetry between the principal and the agent. Specifically, the agent is assumed to have private information unavailable to the principal without significant cost. The principal and agent are assumed to make complete, comprehensive, and enforceable contracts for all knowable relevant factors. However, the information asymmetry regarding the local economic environment, local operating capabilities, the agent's level of risk aversion, and the agent's level of work-aversion make finding the optimal cooperative solution difficult (Baiman, 1982, 1990; Brown et al., 2009; Covaleski et al., 2003; Douthit and Majerczyk, 2019; Dunk, 1990).

Management accounting-based control systems, such as implementing participative budgeting, are instituted to address this information asymmetry. In practice, budgeting for complex firm value-chains involves coordinating many interdependent units. Effective coordination requires the private local information possessed by the agent. This fundamental challenge is an antecedent reason for inviting agents into the budgeting process (Balakrishnan, 1992; Chen, 2003; Chow et al., 1988; Shields and Shields, 1998). By inviting lower-level managers into a budget negotiation, firm-level managers desire to induce the lower-level managers to share private information which will assist in coordinating firm interdependencies and in setting better performance targets to prompt greater motivation and effort from lower-level managers (Arnold and Gillenkirch, 2015b; Brownell and McInnes, 1986; Chow et al., 1988; Douthit and Stevens, 2015a; Parker and Kyj, 2006; Shields and Shields, 1998).

Fulfilling these antecedent purposes requires agents to openly share information not available to the principals (Dunk, 1990; Shields and Shields, 1998). However, sharing such information carries a substantial cost to the agent in the form of more challenging performance targets. Since agents will be evaluated against the targets, they may try to obtain easier targets to protect themselves from unforeseen contingencies, avoid upper-management interventions due to perceived poor performance, and reduce difficulty of earning performance dependent rewards (Arnold et al., 2008; Arnold and Gillenkirch, 2015b; Blanchard et al., 1986; Dunk, 1990; Fisher et al., 2000; Fisher, Maines, et al., 2002; Libby and Lindsay, 2019; Merchant, 1985; Merchant and Manzoni, 1989; Van der Stede, 2000). Such gaming is perceived as benefitting the lower-level manager in the short-term but having detrimental long-term impacts on the overall firm (Libby and Lindsay, 2010, 2019).

Agency theory strictly predicts agents will create the maximum slack possible to economically benefit their wealth; nonetheless, gaming in budget research is consistently less robust than expected (Arnold and Gillenkirch, 2015b; Brown et al., 2009; Chow et al., 1988; Fisher et al., 2000; Rankin et al., 2003; Young, 1985). This paradox suggests other factors around the budgeting structure incentivize, or disincentivize budget gaming (Arnold and Gillenkirch, 2015b; Douthit and Stevens, 2015b; Dunk, 1990; Evans Iii et al., 2001; Hannan et al., 2006; Kenno et al., 2018; Stevens, 2002). Identifying such factors and explicating how they provide an alternative explanation for this anomalous behavior is an important advancement of managerial accounting theory (Brown et al., 2009). Since gaming significantly adversely affects the value of the budget process to the organization (Dunk, 1990; Libby and Lindsay, 2019), identifying and understanding the factors incentivizing or disincentivizing gaming behavior is of significant consequence to practitioners.

BEHAVIORAL IMPACTS IN BUDGETING

Budgeting and Uncertainty

Agency theory makes the foundational assumption of uncertainty where the principal cannot know the agent's private information without substantial cost. However, managerial accounting focused research based within the agency theory framework, to the knowledge of the authors, has not considered the impact of uncertainty form the agent's perspective. Lower-level managers (agents) know senior management desires the information they possess be shared; however, the lower-level manager can personally benefit by keeping the information private. If the information is not shared, budget targets will be set without its input and would be, presumably, easier to reach, increasing the likelihood of the manager receiving a bonus for reaching such targets (a common compensation form to incentivize greater effort) (Baiman, 1982, 1990; Young, 1985). So, the manager must decide if he/she will cooperate, benefiting the entire firm through a more accurate and effective budget, or seek a higher individual payoff through strategic utilization of private information at the expense of the broader organization. Complicating the cooperation decision is the information asymmetry of the principal not readily accessing the agent's private information and the information asymmetry of the agent not knowing the ultimate decision of the principal with regards to the budget (Arnold and Gillenkirch, 2015b; Douthit and Majerczyk, 2019; Douthit and Stevens, 2015a; Fisher, Frederickson, et al., 2002; Fisher et al., 2000).

The agent's payoff, both directly in terms of salary and bonus potential as well as the ability for pecuniary consumption from budget slack, is directly affected by the ultimate budget the principal authorizes. The agent cannot know the principal's intentions without incurring substantial cost, if at all. Moreover, myriad inputs, both external to the firm and relating to factors within the firm, will affect the principal's final decision, further complicating any derivation of the principal's intentions by the agent (Douthit and Stevens, 2015b; Rankin et al., 2008). Therefore, the agent must make the decision to cooperate with the principal and share their private information or compete with the principal and keep their private information secret under a condition of uncertainty regarding the kind of budget the principal will ultimately authorize.

Judgment and decision-making research suggest uncertainty around such decisions can affect the frame with which an individual will approach such decisions (Marinich, 2019; Shafir and Tversky, 1992). Traditionally, economics-based approaches, such as agency theory, have approached decision making with an assumption of consequentialist reasoning, that the individual making a decision is a rational wealth-maximizer and will seek to maximize personal benefit across conditions (Baiman, 1982, 1990; Brown et al., 2009; Marinich, 2019).

Shafir and Tversky (1992) demonstrate that in conditions of uncertainty individuals will tend to utilize a joint-decision frame, preferring to maximize joint outcomes even when their individual outcome is maximized by competing rather than cooperating. In these experiments participants faced with a prisoner's dilemma type game preferred non-cooperation when they knew the other player's actions (regardless of the other player's choice), maximizing the participant's payoff. However, when the other player's choice was uncertain, participants preferred to cooperate. The dominant choice for the participant in the prisoner's dilemma game was to compete. Regardless of the counter-party's choice, which the participant could not control, the participant's payoff was maximized by competing. This action suggests that participants in this circumstance frame the choice as a joint decision where the outcome relies on both participants and trust the other player will cooperate as that will maximize both players' payoffs (Croson, 1999; Shafir and Tversky, 1992; Tversky and Shafir, 1992).

The non-consequentialist framing of choices made under uncertainty offers a possible explanation for why participative budgeting experiments have consistently shown participants claiming less slack than they could (Brown et al., 2009) and the more positive perception of budgeting than might be expected (Libby and Lindsay, 2019). This alternative to agency theory predictions suggests the uncertainty inherent in the budgeting negotiation process leads agents to frame the budget negotiation as a joint decision-making process, where cooperation is the preferred strategy (Shafir and Tversky, 1992). Under this behavioral

theoretical framework agents participating in budget negotiations would be unlikely to engage in gaming behaviors as it would reduce the overall expected joint outcome. Thus, our first hypothesis:

H1: *Under conditions of uncertainty a greater proportion of managers will choose to share private information than predicted by agency theory.*

EXTRAVERSION AND ITS FACET ENTHUSIASM

While uncertainty may act to mitigate gaming behaviors, participative budgeting research has shown participants do engage in gaming behaviors, and more so in circumstances with information asymmetry (Brown et al., 2009; Dunk, 1990; Fisher, Frederickson, et al., 2002; Fisher et al., 2000, 2006; Young, 1985). Most research addressing this question behaviorally identify organizational behavior factors which might mitigate gaming, such as social pressure, fairness, and individual integrity (Douthit and Stevens, 2015b; Lau and Tan, 2006; Rankin et al., 2008). Little attention appears to have been paid to factors which might overcome uncertainty and prompt gaming behaviors.

The individual significance of reward may be such a behavioral factor. Relatively few studies focus on characteristics of participants within budget gaming research. Some budgeting research, primarily focused on motivation, suggests individual differences (personality) can affect how individuals approach budget setting interactions (Brownell, 1981, 1982; Stearns, 2016, 2019). Psychology research focused on personality and work behaviors has indicated aspects of the personality dimension Extraversion as being sensitive to reward and compensation (Barrick and Mount, 1991; Penney et al., 2011; Smillie, 2013; Smillie et al., 2019).

Psychology has largely coalesced around a five-factor model of personality (FFM), or the "Big Five" (DeYoung et al., 2007; Goldberg, 1990). This classification of personality identifies 5 broad dimensions which predominantly capture the variation of individual differences. While subtle variations exist between assessments, the domains are largely consistent and commonly described as: Extraversion, Conscientiousness, Neuroticism, Agreeableness, and Openness to Experience (Barrick et al., 2001; Barrick and Mount, 1991; Goldberg, 1990).

The dimension Extraversion is of particular interest in regard to budget negotiation. Extraversion has been significantly associated with extrinsic motivators. Highly extraverted individuals exhibit tendencies toward achieving rewards, attention, and accomplishment (Barrick et al., 2003, 2013; Barrick and Mount, 1991, 2005). Additionally, extraversion has been identified as correlating with a significant positive and pervasive advantage in career advancement (Wilmot et al., 2019). The connections developed through highly extraverted individuals appears to help career advancement, as does the assertiveness and action-oriented nature associated with this personality dimension. Thus, many unit-level managers acting as agents and participating in budget negotiations may well be extraverted personalities (Barrick et al., 2013; Barrick and Mount, 1991, 2005; Penney et al., 2011; Tett et al., 1991; Tett and Burnett, 2003; Wilmot et al., 2019).

While much research has focused on broader personality dimensions, more recent approaches to work relevant behaviors and personality have found greater criterion-related validity with a facet focused approach (Hu et al., 2019; Judge et al., 2013). These facets are the more specific individual traits which define the domains. DeYoung et al (2007) identified two facets within each of the five FFM dimensions (described as aspects in the paper). The NEO-P-I-R identifies six facets per FFM dimension (Costa Jr and McCrae, 2008). Subsequent research has considered the more specific NEO-P-I-R (Costa Jr and McCrae, 2008) facets as traits which consolidate into the DeYoung et al (2007) facets (Judge et al., 2013). Additionally, the facets identified by DeYoung et al (2007) have been identified as potentially reflecting biological differences in the expression of individual personality (DeYoung et al., 2009; Judge et al., 2013).

In this study, the component aspects of Extraversion make understanding its impact in a budget negotiation setting somewhat more complicated than might initially be assumed. Intuitively, the gregariousness and talkativeness associated with Extraversion might lead one to assume highly extraverted individuals would readily share information during negotiation. However, such assumptions do not capture the underlying drivers of extraverts' behavior. In fact, the other-orientation aspect of sociability from which

such intuitive assumptions are likely drawn is more directly related to the FFM dimension agreeableness. Extraversion's pro-social orientation tends to be goal driven rather than simply building connections or reflecting a true other focused orientation (DeYoung et al., 2007; Quilty et al., 2014).

Moreover, Extraversion's two facets, Assertiveness and Enthusiasm, tend to associate with drives toward distinct types of goals. The Assertiveness facet is associated with a preference for activity, being in the forefront and taking decisive action. In contrast, the Enthusiasm facet is associated with a drive to seek positive emotion and excitement (DeYoung et al., 2007; Judge et al., 2013; Quilty et al., 2014).

More specifically, the Enthusiasm facet is associated with a distinct sensitivity to reward (Quilty et al., 2014). Individuals driven by this aspect tend to engage in social interaction to obtain the psychological benefit which comes from seeking and earning reward (Quilty et al., 2014). Even though sociability is strongly associated with this aspect, the gregariousness and pro-social orientation is largely driven by the psychological benefits associated with seeking and earning reward (Depue and Collins, 1999; DeYoung et al., 2007; Quilty et al., 2014). This reward seeking has been associated with a strong sensitivity to economic incentives (Smillie, 2013; Smillie et al., 2019; Zhao and Smillie, 2015). Such a drive to seek reward and sensitivity to economic incentives would likely correlate with a greater propensity to utilize private information strategically to earn greater rewards for oneself. Thus, our second hypothesis:

H2: *Individuals possessing greater degrees of Extraversion's aspect Enthusiasm will be significantly less likely to reveal private information in a budget negotiation.*

METHODOLOGY

Participants

Participants were recruited through Amazon's mTurk marketplace. In recent years behavioral researchers have increasingly utilized the mTurk marketplace to recruit participants. Within the mTurk marketplace requesters can request participants to complete "Human Intelligence Tasks" (HITs), such as completing an experimental instrument. Research into the quality of mTurk participants have rated them at least as good a proxy for managers as university students, which are regularly utilized in accounting behavioral research (Buchheit et al., 2018). While mTurk does allow requesters to define some parameters for participants, since the population of interest in this experiment is all unit-level mangers involved in budget negotiations, minimal criteria were set (must read English, could not be a minor). Participants were compensated $2 for fully completing the experimental instrument.

In total 211 participants completed the experimental instrument. Two participants failed the experimental manipulation checks and were subsequently excluded from analysis. Ultimately 209 participants completed the instrument and were included in analysis.

Prisoner's Dilemma

Within social science research cooperation decisions with uncertainty are typically structured as prisoner's dilemma games (Croson, 1999; Khadjavi & Lange, 2013; Kollock, 1993; Kuhn, 2014; Marinich, 2019; Shafir and Tversky, 1992). One of the principal assumptions of economic (social science) theory is that individual agents are rational, utility maximizing individuals (Luetge et al., 2016). Carrying that assumption over into this framework, it would seem appropriate that both the agent and principle behave as utility maximizers in the budgeting process. To more formally see the difference that the possibility of future dealings makes in determining present behavior, we consider the game theoretic construct of the prisoner's dilemma. In such games the dominant individual strategy is non-cooperation (the Nash equilibrium strategy). Regardless of the other player's choice, the individual receives a higher payoff through competition. However, the highest joint payoff, the Pareto optimal strategy, is obtained through cooperation (Kagel, 2018; Khadjavi and Lange, 2013). For example, a typical prisoner's dilemma payoff matrix presented by Shafir and Tversky (1992):

TABLE 1
TYPICAL PRISONER'S DILEMMA PAYOFF FROM SHAFIR AND TVERSKY (1992)

	Cooperates	Competes
Cooperate	You: 75 Other: 75	You: 25 Other: 85
Compete	You: 85 Other: 25	You: 30 Other: 30

The decision makers choices are distributed across the rows, while the counter-party's choices are distributed across the columns. While the joint outcome is maximized by both parties cooperating, the decision maker has no control over whether the counterparty cooperates or competes. Moreover, within each choice of the counterparty, the decision maker's outcome is maximized by competing. If the counterparty does cooperate, the decision maker receives a higher payoff (85 vs 75) by competing. Likewise, if the counterparty competes, the highest payoff is obtained by competing (30 vs 25).

EXPERIMENTAL DESIGN

A Qualtrics survey was utilized to administer the experiment. Participants clicked a hyperlink in the mTurk task request which took them to the survey. Two variables of interest were the focal point of this experiment: the choice to reveal private information in a budget negotiation and the strength of each of the extraversion aspect enthusiasm within each participant's personality. The choice to reveal, or keep private, information was based on a prisoner's dilemma payoff matrix adapted from Marinich (2019). Personality assessment was captured utilizing the instrument developed in Deyoung et al (2007), which delineates two aspects for each of the five broad domains in the Five Factor Model of personality.

After reviewing the informed consent verbiage and clicking to continue to the experiment, participants were first presented with the budget negotiation scenario [Appendix A] where the participant assumed the role of a unit-level manager preparing for a budget negotiation meeting with their superior, a division-level manager of their decentralized firm. The participant possessed private information about positive economic developments within their unit's area, which was not knowable by the division manager unless revealed by the unit level manager. If the unit level manager revealed the information, their performance targets would certainly be raised to reflect the more positive operating environment. Keeping the information private would leave the performance targets at an easier to reach level. The division manager is expected to assign either a "loose" or "tight" budget for the unit. A "loose" budget would provide more ample resources, making reaching targets and earning bonuses easier. A "tight" budget would be more restrictive, making reaching targets and earning bonuses more challenging. The scenario narrative indicated the division manager's choice between a loose or tight budget would be based on myriad inputs and was not knowable beforehand by the unit manager. The outcomes in terms of payoff to the divisional manager (additional division profit) and the unit level manager (unit manager bonus) were summarized as:

TABLE 2
PRISONER'S DILEMMA PAYOFF TABLE FOR CURRENT EXPERIMENT

	Loose Budget	Tight Budget
Reveal Information	6% additional division profit 6% unit manager bonus	10% additional division profit 0% unit manager bonus
Keep Private Information	0% additional division profit 10% unit manager bonus	3% additional division profit 3% unit manager bonus

After reviewing the scenario information and payoff matrix, the participant indicated their choice to reveal information or keep it private. Then the participant indicated the importance of different factors in their choice (not utilized in this study) and answered attention and manipulation check questions.

The last instrument completed for this study was a personality assessment instrument assessing the five personality dimensions and ten component facets (two per dimension) of the FFM (DeYoung et al., 2007). The scale consists of 100 statements. Each dimension is assessed by 20 statements. For each dimension the 20 statements subdivide to 10 statements for each of the dimensions two aspects. The instrument asked each participant to assess the degree to which a statement was descriptive of the participant. Participants responded on a 5-point Likert scale anchored with "Not at All Descriptive" and "Very Descriptive." Data for all dimensions and aspects were collected, but only the data related to the extraversion facet enthusiasm is utilized in the present study. The statements related to this aspect are listed in Appendix B.

After completing the personality assessment, participants were asked to provide basic demographic and work-history information. At the end of the survey, participants were given a unique code which they input in the mTurk system to receive payment. Once the PI matched the code input in mTurk with the codes listed in Qualtrics, compensation was paid to the participant.

RESULTS

Variables

This study tests two hypotheses. The dependent variable for both hypotheses tests in this study is the choice of keeping information private or revealing it to the division manager. In the test of H1, the proportion of participants revealing private information to their manager in a budget negotiation is tested against agency theory's predicted level of 0. The independent variable Enthusiasm, a facet of the personality dimension Extraversion, is hypothesized [H2] to affect the proportion of participants choosing to reveal private information. The dependent variable is captured by a choice selection in the experimental instrument. The personality variable is captured utilizing the instrument published in DeYoung et al (2007).

Test of Hypothesis 1

Hypothesis one tests whether participant responses align with the self-interested behavior predicted by agency theory or with the more collaborative approach predicted by behavioral economic theory. Shafir and Tversky (1992) suggests that under uncertainty individuals tend to approach decisions collaboratively. In contrast, agency theory predicts every agent would act to maximize their own benefit and keep secret their private information (Brown et al., 2009). Within this experiment, the expected observations would be: Reveal Information (0) and Keep Private (209). A Z-test for the proportion in terms of the number of events of interest can be used to assess if the observed number of participants willing to reveal private information in a budget negotiation (172/209) is significantly different than what agency theory would predict (0/209). Since an expected proportion of 0% produces a denominator of 0 in the Z-statistic calculation, a slight adjustment to 1% was made and produced a Z-statistic of 118.1213. This Z-statistic is significant at less than a .01 level. More conservatively, setting the null proportion to 50% (chance) results in a Z-statistic of 9.3381. This result is also significant at an .01 level of significance.

Thus, Hypothesis 1 is supported. The observed proportion of participants willing to reveal private information supports the framework put forth in Shafir and Tversky (1992). This study suggests under uncertainty budget negotiation participants will behave more collaboratively than agency theory predicts.

Test of Hypothesis 2

For hypothesis testing, a 2X2 contingency table of responses was tabulated and a Chi-square statistic calculated. The rows reflected participant choices (reveal information, keep information private). Columns represented a median split of the observations, transforming each personality variable into a categorical variable (High Enthusiasm/Low Enthusiasm).

The decision to utilize a median split and transform the interval personality instrument responses offers several benefits for data analysis in this study but must be made with some caution. Since the goal in this

study is to assess if a significant correlation exists between personality aspects and willingness to reveal private information in a budget negotiation, a Chi-square test is an appropriate statistic with intuitive output for communicating results, but the Chi-square statistic requires categorical variables. Alternative tests, like logistic regression would utilize the interval data but produce less intuitively interpretable output (an odds ratio). A simpler test with more interpretable output was preferrable so long as the cost in power was not onerous.

The core criticism of a median split has been the loss of power inherent in the transformation. However, assessment of this issue suggests, absent multicollinearity concerns, the loss is not onerous. Moreover, power concerns can be addressed through obtaining larger sample sizes in studies (Iacobucci et al., 2015a, 2015b). Therefore, a median split was performed for the personality variables in this study.

Chi-square tests simply require independent observations and the inclusion of non-responses (Howell, 2012). For this study, not revealing private information would be a non-response and such responses are included in the analysis. Since participants did not interact with one another and each participant completed only a single iteration, the observations meet the independence criteria.

The Chi-square test of the relationship between the Extraversion aspect Enthusiasm and the choice of revealing private information in a budget negotiation produced a statistically significant (p-value .043) test value of 4.1028. Table 2 presents the contingency table and proportions. The proportion of High Enthusiasm participants choosing to reveal was more than 10% lower than the Low Enthusiasm participants. Therefore, Hypothesis 2 is supported.

TABLE 3
RESPONSES TO PRISONER'S DILEMMA

	Low Enthusiasm	High Enthusiasm	Total
Reveal Information	92	80	172
Keep Private	13	24	37
Total	105	104	209
Reveal Proportion	87.62%	76.92%	

CONCLUSION

Incentives to game budget negotiations pervade in decentralized organizations. Agency theory, the economic theory of predominance in management accounting, suggests the principal-agent nature of relationships in decentralized firms will result in substantial gaming behavior. Accounting research has criticized traditional budgeting practices for incentivizing gaming behavior within the budgeting process, particularly using information strategically to obtain easier performance targets (Hansen et al., 2003; Hope and Fraser, 2003a; Jensen, 2001, 2003). While firms largely continue to utilize traditional budgeting practices and report relatively high perceived value from their firm's budgeting system, budget gaming is identified as a significant detriment to budget value (Libby and Lindsay, 2007, 2010, 2019). This study seeks to extend the understanding of gaming behaviors within budget negotiations and answer the call of Brown, Evans and Moser (2009) to identify instances where managerial accounting practice deviates from agency theory predications and alternative behavioral economic theory can be asserted.

Results of this study suggest the uncertainty inherent in budget negotiation may prompt the joint decision-making frame theorized by Shafir and Tversky (1992). While this result is a replication of an identified agency theory anomaly (Brown et al., 2009), the result offers multiple contributions to this line of research. To the knowledge of the authors, no research has yet suggested uncertainty as a contributor to the identified anomaly of participants not maximizing potential budgetary slack. Introducing uncertainty and a prisoner's dilemma suggests a significant variable to why agents create less slack than possible and a mechanism to explore this variable. By bringing this line of behavioral economic thought into accounting budgeting literature, this study answers Brown et al.'s (2009) call for alternative explanations to agency theory anomalies and introduces a new theoretical foundation on which accounting researchers can build.

The study also identifies the personality aspect enthusiasm, a component of the broader dimension extraversion, as significantly contributing to budgetary gaming. Results provide evidence that extraverted individuals with higher enthusiasm were less inclined to share private information in a budget negotiation. This result suggests a particular sensitivity to the cost the agent bears by sharing private information. Identifying enthusiasm as contributing to increased gaming provides valuable insight regarding gaming in budget negotiation and possible avenues for future budget focused research. The results suggest individual differences (personality) can influence response to incentive and control systems. Given the significance of budget targets in organizational planning and coordination, identifying those characteristics is a valuable contribution to the academy and to practice. Future research should explore how other personality facets affect response to factors inherent to budget negotiations and corresponding performance evaluation systems.

The identification of the personality aspect enthusiasm as contributing to likelihood to utilize gaming behaviors during budget negotiations provides important insights to practitioners which can aid in the development of better planning and performance evaluation systems. This insight enables principals to tailor budget negotiation strategies to combat gaming when agents are more likely to engage in gaming behaviors and avoid unnecessary conflict when agents are less likely to engage in gaming behaviors. Moreover, this provides insight which can be useful in tailoring compensation and performance evaluation structures to avoid incentivizing gaming behaviors.

As with all experiments, this study possesses several limitations to generalizing its results. First, participants were recruited from Amazon's mTurk marketplace. For results to generalize to managers in budget negotiations these participants must approach budget negotiation decisions in similar fashion. Second, to maintain internal validity the experimental task is necessarily general and abstract. No such task will fully capture the richness of an actual budget negotiation. Third, to create a stronger experimental manipulation the choice to keep private, or reveal information was presented as an absolute. In reality managers could choose from a range of strategic options between these two extremes.

REFERENCES

Arnold, M.C., & Gillenkirch, R.M. (2015a). Using negotiated budgets for planning and performance evaluation: An experimental study. *Accounting, Organizations and Society*, *43*, 1–16.

Arnold, M.C., & Gillenkirch, R.M. (2015b). Using negotiated budgets for planning and performance evaluation: An experimental study. *Accounting, Organizations & Society*, *43*, 1–16.

Arnold, M.C., Ponick, E., & Schenk-Mathes, H.Y. (2008). Groves mechanism vs. profit sharing for corporate budgeting–An experimental analysis with pre-play communication. *European Accounting Review*, *17*(1), 37–63.

Baiman, S. (1982). Agecy Research in Managerial Accounting: A Survey. *Journal of Accounting Literature*, *1*(1), 56.

Baiman, S. (1990). Agency research in managerial accounting: A second look. *Accounting, Organizations & Society*, *15*(4), 341–371.

Balakrishnan, R. (1992). The value of communication in resource allocation decisions. *Contemporary Accounting Research*, *8*(2), 353–373.

Barrick, M.R., & Mount, M.K. (1991). The Big Five Personality Dimensions and Job Performance: A Meta-Analysis. *Personnel Psychology*, *44*(1), 1–26.

Barrick, M.R., & Mount, M.K. (2005). Yes, Personality Matters: Moving on to More Important Matters. *Human Performance*, *18*(4), 359–372.

Barrick, M.R., Mount, M.K., & Gupta, R. (2003). Meta-Analysis of the Relationship Between the Five-Factor Model of Personality and Holland's Occupational Types. *Personnel Psychology*, *56*(1), 45–74.

Barrick, M.R., Mount, M.K., & Judge, T.A. (2001). The FFM personality dimensions and job performance: Meta-analysis of meta-analyses. *International Journal of Selection and Assessment*, *9*(1/2), 9–30.

Barrick, M.R., Mount, M.K., & Li, N. (2013). The theory of purposeful work behavior: The role of personality, higher-order goals, and job characteristics. *Academy of Management Review*, *38*(1), 132–153.
Becker, S.D. (2014). When organizations deinstitutionalize control practices: A multiple-case study of budget abandonment. *European Accounting Review*, *23*(4), 593–623.
Blanchard, G.A., Chow, C.W., & Noreen, E. (1986). Information Asymmetry, Incentive Schemes, and Information Biasing: The Case of Hospital Budgeting under Rate Regulation. *The Accounting Review*, *61*(1), 1–15.
Brown, J.L., Evans Iii, J.H., & Moser, D.v. (2009). Agency Theory and Participative Budgeting Experiments. *Journal of Management Accounting Research*, *21*, 317–345.
Brownell, P. (1981). Participation in Budgeting, Locus of Control and Organizational Effectiveness. *Accounting Review*, *56*(4), 844.
Brownell, P. (1982). Participation in the budgeting process: When it works and when it doesn't. *Journal of Accounting Literature*, *1*, 124–150.
Brownell, P., & McInnes, M. (1986). Budgetary participation, motivation, and managerial performance. *Accounting Review*, pp. 587–600.
Buchheit, S., Doxey, M.M., Pollard, T., & Stinson, S.R. (2018). A Technical Guide to Using Amazon's Mechanical Turk in Behavioral Accounting Research. *Behavioral Research in Accounting*, *30*(1), 111–122.
Chen, Q. (2003). Cooperation in the budgeting process. *Journal of Accounting Research*, *41*(5), 775–796.
Chow, C.W., Cooper, J.C., & Waller, W.S. (1988). Participative budgeting: Effects of a truth-inducing pay scheme and information asymmetry on slack and performance. *Accounting Review*, pp. 111–122.
Costa, P.T., Jr., & McCrae, R.R. (2008). *The Revised Neo Personality Inventory (Neo-Pi-r)*. Sage Publications, Inc.
Covaleski, M.A., Evans Iii, J.H., Luft, J.L., & Shields, M.D. (2003). Budgeting Research: Three Theoretical Perspectives and Criteria for Selective Integration. *Journal of Management Accounting Research*, *15*, 3–49.
Croson, R.T.A. (1999). The disjunction effect and reason-based choice in games. *Organizational Behavior and Human Decision Processes*, *80*(2), 118–133.
Demski, J.S., & Feltham, G.A. (1978). Economic incentives in budgetary control systems. *Accounting Review*, *53*(2), 336–359.
Depue, R.A., & Collins, P.F. (1999). Neurobiology of the structure of personality: Dopamine, facilitation of incentive motivation, and extraversion. *Behavioral and Brain Sciences*, *22*(3), 491–517.
DeYoung, C.G., Quilty, L.C., & Peterson, J.B. (2007). Between facets and domains: 10 aspects of the Big Five. *Journal of Personality and Social Psychology*, *93*(5), 880.
DeYoung, C.G., Shamosh, N.A., Green, A.E., Braver, T.S., & Gray, J.R. (2009). Intellect as distinct from openness: Differences revealed by fMRI of working memory. *Journal of Personality and Social Psychology*, *97*(5), 883–892.
Douthit, J., & Majerczyk, M. (2019). Subordinate perceptions of the superior and agency costs: Theory and evidence. *Accounting, Organizations and Society*, *78*, 101057. Pergamon.
Douthit, J.D., & Stevens, D.E. (2015a). The robustness of honesty effects on budget proposals when the superior has rejection authority. *Accounting Review*, *90*(2), 467–493.
Douthit, J.D., & Stevens, D.E. (2015b). The Robustness of Honesty Effects on Budget Proposals when the Superior has Rejection Authority. *Accounting Review*, *90*(2), 467–493.
Dunk, A.S. (1990). Budgetary participation, agreement on evaluation criteria and managerial performance: A research note. *Accounting, Organizations & Society*, *15*(3), 171–178.
Englund, H., & Gerdin, J. (2011). Agency and structure in management accounting research: Reflections and extensions of Kilfoyle and Richardson. *Critical Perspectives on Accounting*, *22*(6), 581–592.
Evans, J.H., III, Hannan, R.L., Krishnan, R., & Moser, D.v. (2001). Honesty in Managerial Reporting. *Accounting Review*, *76*(4), 537.

Fisher, J., Frederickson, J.R., & Peffer, S.A. (2002). The effect of information asymmetry on negotiated budgets: an empirical investigation. *Accounting, Organizations & Society*, *27*(1/2), 27–43.
Fisher, J.G., Frederickson, J.R., & Peffer, S.A. (2000). Budgeting: An experimental investigation of the effects of negotiation. *The Accounting Review*, *75*(1), 93–114.
Fisher, J.G., Frederickson, J.R., & Peffer, S.A. (2006). Budget negotiations in multi-period settings. *Accounting, Organizations & Society*, *31*(6), 511–528.
Fisher, J.G., Maines, L.A., Peffer, S.A., & Sprinkle, G.B. (2002). Using Budgets for Performance Evaluation: Effects of Resource Allocation and Horizontal Information Asymmetry on Budget Proposals, Budget Slack, and Performance. *Accounting Review*, *77*(4), 847–865.
Fisher, J.G., Peffer, S.A., Sprinkle, G.B., & Williamson, M.G. (2015). Performance Target Levels and Effort: Reciprocity across Single-and Repeated-Interaction Settings. *Journal of Management Accounting Research*, *27*(2), 145–164.
Goldberg, L.R. (1990). An alternative 'description of personality': The Big-Five factor structure. *Journal of Personality and Social Psychology*, *59*(6), 1216–1229.
Hannan, R.L., Rankin, F.W., & Towry, K.L. (2006). The Effect of Information Systems on Honesty in Managerial Reporting: A Behavioral Perspective. *Contemporary Accounting Research*, *23*(4), 885–918.
Hansen, S.C., Otley, D.T., & van der Stede, W.A. (2003). Practice developments in budgeting: An overview and research perspective. *Journal of Management Accounting Research*, *15*(1), 95–116.
Heinle, M.S., Ross, N., & Saouma, R.E. (2014). A theory of participative budgeting. *The Accounting Review*, *89*(3), 1025–1050.
Hope, J., & Fraser, R. (2003a). *Beyond Budgeting: How Managers Can Break Free from the Annual Performance Trap*.
Hope, J., & Fraser, R. (2003b). New Ways of Setting Rewards: The beyond budgeting model. *California Management Review*, *45*(4), 104–119.
Howell, D.C. (2012). *Statistical Methods for Psychology*. Cengage Learning.
Hu, J., Zhang, Z., Jiang, K., & Chen, W. (2019). Getting ahead, getting along, and getting prosocial: Examining extraversion facets, peer reactions, and leadership emergence. *Journal of Applied Psychology*, *104*(11), 1369–1386.
Iacobucci, D., Posavac, S.S., Kardes, F.R., Schneider, M.J., & Popovich, D.L. (2015a). Toward a more nuanced understanding of the statistical properties of a median split. *Journal of Consumer Psychology*, *25*(4), 652–665.
Iacobucci, D., Posavac, S.S., Kardes, F.R., Schneider, M.J., & Popovich, D.L. (2015b). The median split: Robust, refined, and revived. *Journal of Consumer Psychology*, *25*(4), 690–704.
Jensen, M.C. (2001). Corporate budgeting is broken, let's fix it. *Harvard Business Review*, pp. 94–101.
Jensen, M.C. (2003). Paying people to lie: The truth about the budgeting process. *European Financial Management*, *9*(3), 379–406.
Judge, T.A., Rodell, J.B., Klinger, R.L., Simon, L.S., & Crawford, E.R. (2013). Hierarchical representations of the five-factor model of personality in predicting job performance: Integrating three organizing frameworks with two theoretical perspectives. *Journal of Applied Psychology*, *98*(6), 875.
Kagel, J.H. (2018). Cooperation through communication: Teams and individuals in finitely repeated Prisoners' dilemma games. *Journal of Economic Behavior & Organization*, *146*, 55–64.
Kenno, S.A., Lau, M.C., & Sainty, B.J. (2018). In search of a theory of budgeting: a literature review. *Accounting Perspectives*, *17*(4), 507–553.
Khadjavi, M., & Lange, A. (2013). Prisoners and their dilemma. *Journal of Economic Behavior & Organization*, *92*, 163–175.
Kilfoyle, E., & Richardson, A.J. (2011). Agency and structure in budgeting: thesis, antithesis and synthesis. *Critical Perspectives on Accounting*, Elsevier, *22*(2), 183–199.
Kollock, P. (1993). An eye for an eye, leaves everyone blind': Cooperation and accounting systems. *American Sociological Review*, pp. 768–786.

Kuhn, S. (2014). Prisoner's Dilemma. In E.N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy*.
Lambert, R.A. (2006). Agency Theory and Management Accounting. In Christopher S. Chapman, A.G.H. & Michael, D.S. (Eds.), *Handbooks of Management Accounting Research* (Volume 1, pp. 247–268). Elsevier.
Lau, C.M., & Tan, S.L.C. (2006). The effects of procedural fairness and interpersonal trust on job tension in budgeting. *Management Accounting Research*, *17*(2), 171–186.
Libby, T., & Lindsay, R.M. (2007). Beyond budgeting or better budgeting? *Strategic Finance*, *89*(2), 46–51.
Libby, T., & Lindsay, R.M. (2010). Beyond budgeting or budgeting reconsidered? A survey of North-American budgeting practice. *Management Accounting Research*, *21*(1), 56–75.
Libby, T., & Lindsay, R.M. (2019). The Effects of Superior Trust and Budget-Based Controls on Budgetary Gaming and Budget Value. *Journal of Management Accounting Research*, *31*(3), 153–184.
Luetge, C., Armbrüster, T., & Müller, J. (2016). Order ethics: Bridging the gap between contractarianism and business ethics. *Journal of Business Ethics*, *136*(4), 687–697.
Marinich, E. (2019). Accounting Information Aggregation and Managerial Cooperation. *Journal of Management Accounting Research*, *32*(3), 193–210.
Matějka, M., Merchant, K.A., & O'Grady, W. (2021). An empirical investigation of beyond budgeting practices. *Journal of Management Accounting Research*, *33*(2), 167–189.
Merchant, K.A. (1985). Budgeting and the propensity to create budgetary slack. *Accounting, Organizations & Society*, *10*(2), 201–210.
Merchant, K.A., & Manzoni, J.-F. (1989). The achievability of budget targets in profit centers: A field study. *Readings in Accounting for Management Control*, pp. 496–520.
Modell, S. (2020). Across the great divide: Bridging the gap between economics-and sociology-based research on management accounting. *Journal of Management Accounting Research*, *32*(2), 1–15.
Østergren, K., & Stensaker, I. (2011). Management Control without Budgets: A Field Study of 'Beyond Budgeting' in Practice. *European Accounting Review*, *20*(1), 149–181.
Parker, R.J., & Kyj, L. (2006). Vertical information sharing in the budgeting process. *Accounting, Organizations & Society*, *31*(1), 27–45.
Penney, L.M., David, E., & Witt, L.A. (2011). A review of personality and performance: Identifying boundaries, contingencies, and future research directions. *Human Resource Management Review*, *21*(4), 297–310.
Quilty, L.C., DeYoung, C.G., Oakman, J.M., & Bagby, R.M. (2014). Extraversion and behavioral activation: Integrating the components of approach. *Journal of Personality Assessment*, *96*(1), 87–94.
Rankin, F.W., Schwartz, S.T., & Young, R.A. (2003). Management Control Using Nonbinding Budgetary Announcements. *Journal of Management Accounting Research*, *15*, 75–93.
Rankin, F.W., Schwartz, S.T., & Young, R.A. (2008). The Effect of Honesty and Superior Authority on Budget Proposals. *Accounting Review*, *83*(4), 1083–1099.
Rogowski, W., & Lange, O. (2020). The Prisoner's Dilemma: An Adequate Concept for Ethical Analysis in Healthcare? A Systematic Search and Critical Review. *Journal of Business Ethics*, pp. 1–15.
Shafir, E., & Tversky, A. (1992). Thinking through uncertainty: Nonconsequential reasoning and choice. *Cognitive Psychology*, *24*(4), 449–474.
Shields, J.F., & Shields, M.D. (1998). Antecedents of participative budgeting. *Accounting, Organizations and Society*, *23*(1), 49–76.
Shields, M.D. (2015). Established Management Accounting Knowledge. *Journal of Management Accounting Research*, *27*(1), 123–132.
Smillie, L.D. (2013). Extraversion and Reward Processing. *Current Directions in Psychological Science* *22*(3), 167–172.

Smillie, L.D., Jack, H.K., Hughes, D.M., Wacker, J., Cooper, A.J., & Pickering, A.D. (2019). Extraversion and reward-processing: Consolidating evidence from an electroencephalographic index of reward-prediction-error. *Biological Psychology*, *146*, 107735.
Stearns, J. (2016). The Moderating Effects of Personality on the Relationship Between Budget Participation and Motivation to Rach the Budget Goal. *International Journal of Business, Accounting, and Finance*, *10*(1), 144–164.
Stearns, J. (2019). Intervening Effects of the Personality Dimension Agreeableness on Negotiation Strategy Selection in Budget Negotiations. *The North American Accounting Studies*, *2*(1). Retrieved from https://neiudc.neiu.edu/naas/vol2/iss1/2/
van der Stede, W.A. (2000). The relationship between two consequences of budgetary controls: Budgetary slack creation and managerial short-term orientation. *Accounting, Organizations and Society*, *25*(6), 609–622.
Stevens, D.E. (2002). The effects of reputation and ethics on budgetary slack. *Journal of Management Accounting Research*, *14*(1), 153–171.
Tett, R.P., & Burnett, D.D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology*, *88*(3), 500–517.
Tett, R.P., Jackson, D.N., & Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology*, *44*(4), 703–742.
Tversky, A., & Shafir, E. (1992). The disjunction effect in choice under uncertainty. *Psychological Science* (Vol. 3 No. 5, pp. 305–310).
Weigel, C., & Hiebl, M.R.W. (2018). Beyond budgeting: review and research agenda. *Journal of Accounting & Organizational Change*.
Wilmot, M.P., Wanberg, C.R., Kammeyer-Mueller, J.D., & Ones, D.S. (2019). Extraversion advantages at work: A quantitative review and synthesis of the meta-analytic evidence. *Journal of Applied Psychology*, *104*(12), 1447.
Young, S.M. (1985). Participative Budgeting: The Effects of Risk Aversion and Asymmetric Information on Budgetary Slack. *Journal of Accounting Research*, *23*(2), 829–842.
Zhao, K., & Smillie, L.D. (2015). The role of interpersonal traits in social decision making: Exploring sources of behavioral heterogeneity in economic games. *Personality and Social Psychology Review* (Vol. 19, No. 3, pp. 277–302). Sage Publications Sage CA: Los Angeles, CA.

APPENDIX A

Placing yourself in the role a business unit manager within a larger firm. The supervisor directly above you is the division manager. Senior corporate leadership is directly above the division level. Final decisions regarding budget allocations to units are made at the division level. While the division manager makes the final decision on budget allocations to the units under their supervision, division managers request budget proposals from unit managers (of which you are one) and meet with unit managers to discuss their unit's budget for the coming year. You are preparing to submit your proposal and subsequently meet with your division manager.

As a unit manager your compensation is highly dependent on your unit's sales level (revenue). Specifically, you receive a bonus for exceeding a target sales level. The bonus amount ranges from 0% (failing to meet target) to 10% (bonus cap for greatly exceeding target) of your base salary. Budget meetings with the division manager often include substantial discussion about sales targets, as these significantly impact how achievable unit manager bonuses are and affect the division's performance evaluation (division profit targets are 12%; exceeding this threshold is key to the division manager's performance evaluation).

The ultimate allocation or resources each unit receives in its budget significantly impacts the unit managers ability to reach performance targets. Many factors ultimately affect whether a division manager assigns a tighter budget (more limited resources relative to the sales performance targets set), or a looser budget (greater resources relative to the sales performance targets set). While a unit manager's budget submission and negotiation will be considered, the final budget allocation and performance targets will

reflect numerous factors beyond the unit manager's influence: broader economic conditions, budget submissions of other units, overall firm strategic and tactical concerns, and many more. A unit manager cannot be certain of the budget allocation until the final budget is received.

As you prepare your budget submission for the coming year, you must determine whether to reveal new information about economic developments in your region which will positively impact your sales performance. While significant to your unit's region, the division manager would not find out about the economic developments unless you reveal the information. Fully realizing the sales potential will require significant resource allocation from the division, which is not at all certain even if you reveal the information. However, if you reveal the information expectations will be raised and your division manager will certainly raise your performance targets, making achieving your sales targets more difficult and making it highly unlikely you would earn the full bonus percentage. With effort on your part and resource commitment from division, the division's profit will be positively impacted. If your division manager agreed to a loose budget while you kept the economic information private, you could maximize your bonus, since performance targets would be lower, but would not have the full investment from the division necessary to generate additional division profit. A tight budget from the division manager while you kept the information private would most likely generate additional division profits as you worked with the lesser resources to generate as much benefit as possible from the positive economic developments. Reviewing your notes, you sketch out a matrix of possibilities: Loose Budget/Tight Budget and Reveal Information/Keep Private Information. Within this matrix you plot additional division profit margin from the information and your expected bonus percentage:

APPENDIX B

Enthusiasm

Make friends easily.
Am hard to get to know. [R]
Keep others at a distance. [R]
Reveal little about myself. [R]
Warm up quickly to others.
Rarely get caught up in the excitement. [R]
Am not a very enthusiastic person. [R]
Show my feelings when I'm happy.
Have a lot of fun.
Laugh a lot.