

Budgetary slack under budget-based incentive schemes—the behavioral impact of social preferences, organizational justice, and moral disengagement

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Abstract This article examines factors influencing the creation of budgetary slack under budget-based incentive schemes. Classical agency theory serves as the starting point, with the dual role of budgeting as a planning and a motivational instrument. Under the assumption of fully rational utility maximizers, people should incorporate the maximum amount of budgetary slack possible given budget-related compensation. However, this behavior cannot be observed in reality or in experimental settings. Therefore, two important questions remain partially unanswered with regard to explaining the phenomenon of budgetary slack: First, why do individuals not maximize their own utility through budgetary slack? And, second, why is budgetary slack not eliminated completely due to reasons leading to the first question? Behavioral accounting research in this area has gained significant importance in the last years. In this domain, we focus on studies employing the psychological theories of social preferences, organizational justice, and moral disengagement and present primarily experimental as well as survey-based field research findings. The analysis leads to suggestions for further research in this area.

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1 Introduction

Budgeting is considered one of the most important tools according to both German conceptualizations of “controlling” (Günther 2013; Berens et al. 2013) and Anglo-American management control frameworks (Günther 2013; Simons 1995, 2000; Malmi and Brown 2008; Ferreira and Otley 2009). Thus, budgeting and budget-related incentive schemes are widely discussed in the literature. On the one hand, budgets serve coordination purposes, especially via planning (Ewert and Wagenhofer 2014; Greiner 2004; Hansen and van der Stede 2004). On the other hand, they comprise a motivational function (Merchant and van der Stede 2012). Therefore, one common research focus is to evaluate how budgets can be used to incentivize employee behavior which is in line with company goals (Merchant and van der Stede 2012). Performance-based payments have been common in Anglo-American countries for decades and the significance of contingent salary contracts in Germany has also risen sharply (Frey and Osterloh 2000). Hence, the budget system has gained importance as a performance evaluation tool to align individual and corporate interests (Fisher et al. 2007).

We define budget-based incentive schemes as pay schemes under which an employee receives some kind of bonus payment if the employee exceeds a budget target that has been set in a participative budgeting process. One intensively discussed issue that companies face when using budgets for incentive schemes is budgetary slack. The existence of budgetary slack has been shown (Merchant 1985) and discussed extensively in prior literature (Arnold 2007; Brown et al. 2009; Covaleski et al. 2003; Derfuß 2009; Dunk and Nouri 1998; Jensen 2003).

Dunk and Nouri (1998) conclude that subordinates’ participation in the budgeting process can be seen as a necessary condition for the creation of budgetary slack: While superiors strive for ambitious goals (stretch-level targets), they lack necessary information (Merchant and van der Stede 2012). Subordinates, in turn, will provide this necessary information about performance potential but have a strong monetary incentive to underestimate revenues or overestimate costs to increase their personal income by lowering target levels (Cyert and March 1963; Schiff and Lewin 1970). Given that most companies rely on budgeting with some participative component and budget-based incentives (Merchant and van der Stede 2012; Zyder 2007; Schäffer and Zyder 2007), this line of research appears highly relevant.

Two main theoretical streams explain the observed levels of budgetary slack. Since classical agency theory assumes people to be completely rational utility maximizers,¹ behavioral science allows other concepts, mainly from research in psychology

¹ We acknowledge the difficulty of specifying *one* classical agency model given numerous different specifications discussed especially in the analytical accounting literature. Lambert (2007) gives a good overview of agency theory in management accounting contexts. As our baseline model we assume what he

(Luft and Shields 2009). Previous research shows that agency theory indeed plays an important role in explaining the creation of budgetary slack (Wömpener 2008) but cannot explain all parts of this phenomenon (Hannan et al. 2006). Therefore, this article focuses on the behavioral aspects of budgetary slack that have been investigated using psychological theories and primarily experimental methodology as well as adjacent survey-based field studies.² The article considers the theories of social preferences, organizational justice and moral disengagement; because these theories have been investigated intensively in various settings and with different methodologies in the past as they appear to be the most promising behavioral foundation to approach the research questions.

This article tackles two research questions: First, why do individuals not incorporate the maximum amount of slack possible in their budgets (as assumed by classical agency theory)? And second, why can existing behavioral mechanisms not prevent the creation of budgetary slack completely, leading to an amount of slack within the borders of the continuum between zero slack and the maximum slack possible? Therefore, this article contributes to the literature by presenting the status quo of research regarding the influence of the aforementioned behavioral theories on behavior under budget-based incentive schemes.³ In addition, it provides possible future research avenues, which can lead to a deeper understanding of interaction effects within these theories.

To select appropriate primary studies, we chose a three-step approach: First, studies from earlier survey articles were searched for the behavioral concepts considered. Second, following Luft and Shields (2007) the six accounting journals *Accounting, Organizations and Society*, *Contemporary Accounting Research*, *Journal of Accounting and Economics*, *Journal of Accounting Research*, *Journal of Management Accounting Research* and *The Accounting Review* were screened in a keyword search with the additional reading of abstracts if necessary for identification. Due to the behavioral focus, we also included the findings published in the journal *Behavioral Research in Accounting*. Third, literature cited in the sources identified in steps one and two was considered accordingly. Based on a general overview of these research findings, further research directions are derived and presented which directly build upon the discussed theoretical concepts or combinations thereof.

Footnote 1 continued

calls “the ‘plain vanilla’ principal agent model” (p. 248) with one principal and one agent, if not indicated differently: The risk-neutral principal (having the property rights to the joint outcome) chooses the form and the incorporated variables of a compensation function to maximize his or her own utility subject to the risk-averse agent’s incentive compatibility and individual rationality constraints in a single-period model. The agent’s type (e.g., in terms of capability and motivation) is unknown to the principal, as is the (unobservable) effort exerted by the agent given a certain contract. The agent’s utility function (unknown to the principal) is additively separable into compensation and costs of effort. However, the outcome (a function of the agent’s effort and noise) is observable and can be contracted on (second-best solution). Extensions of this model explicitly broaden the narrow view of utility, thus trying to draw a more holistic picture of human behavior. As this paper focuses on human behavior itself, we refrain from discussing its formal representation.

² We consider the psychological concepts as the focus of the paper. Thus we do not discuss the methodology of each study surveyed.

³ Please note that this paper does not attempt to give advice on configuration issues, such as the selection of the assessment base, target difficulty level etc. In particular, the design of truth-inducing budgeting or reporting schemes is not part of this study (e.g., Lohmann and Lombardo 2014).

The remainder of this paper proceeds as follows: Chapter 2 briefly describes the influence of classical agency theory reasoning as the baseline and argues why it cannot capture the whole phenomenon of budgetary slack. Chapter 3 introduces psychological models that explain influences on its appearance. Chapter 4 surveys the research that deals with the influence of these models on budgetary slack. Chapter 5 discusses avenues for further behavioral research in budget-based incentive schemes.

2 Agency theory as a starting point

Agency theory models try to explain how information asymmetry influences the effectiveness of budgeting and incentive schemes (Covaleski et al. 2003). In the budgeting context, the superior thus takes over the role of the principal, while the subordinate, who is finally controlled by budget targets, is the agent. According to the concept of agency theory (Jensen and Meckling 1976), both try to maximize their utility and are motivated solely by self-interest, meaning they have preferences for increasing personal wealth and reducing effort (Bonner and Sprinkle 2002). Since the subordinate's reward for effort depends on the budget, the subordinate likely attempts to set the target low to gain the reward (increase personal wealth) with a minimum of invested effort (Fisher et al. 2002). This scenario leads to a conflict of objectives, since the superior's goal is to maximize budget targets to benefit from the subordinate's higher efforts without paying the incentive (Fisher et al. 2002; Sprinkle et al. 2008).

The combination of conflicting goals and information asymmetry allows the subordinate to introduce slack into the budget. Thus, by setting budget targets low, the subordinate incorporates slack into the budget and acts opportunistically to maximize his or her own utility at the expense of the organization (Sprinkle and Williamson 2007). While, in theory, budgetary slack has some positive aspects, the empirical literature mostly regards budgetary slack as dysfunctional (Davila and Wouters 2005). The latter point of view results, beside others, from a potentially suboptimal resource allocation that may hamper the coordination function due to misreporting and higher payments for incentives.

Regarding the kind of information asymmetry, either hidden information or hidden action can prevail. Prior to the budget setting, the subordinate can use private (hidden) information in a participative budgeting process to incorporate budgetary slack, since the superior cannot determine if the subordinate's budget proposal includes slack (Sprinkle and Williamson 2007). That is why the incorporation of slack is considered an adverse selection problem in agency theory. After the approval of a budget including slack, the superior cannot assess either the degree of effort the subordinate is investing or the slack included in the budget (Antle and Eppen 1985). This situation describes a hidden action problem, which leads to moral hazard from an agency point of view.

The empirical research regarding the correlation of information asymmetry and slack shows inconsistent results: Sprinkle and Williamson (2007) summarize that a higher level of information asymmetry accompanies increased slack. However, this direct connection is challenged by several studies. Young (1985) mentions that the degree of information asymmetry influences slack only indirectly, through social pressure, which emerges when a subordinate's potential can be properly estimated by

the superior. The author argues that high information asymmetry leads to low social pressure, which again promotes a high level of budgetary slack. [Chow et al. \(1988\)](#) support this point of view, even though they conclude that other factors (e.g., personal integrity and conscience) might also influence this dependency. [Jaworski and Young \(1992\)](#) attempt to show an indirect influence through goal congruence and job tension. However, they cannot deliver new evidence. In addition, the results of [Fisher et al. \(2002\)](#) point out the dependency between information asymmetry and slack, but at the same time allude to an indirect and unclear connection. An alternative explanation is given by [Stevens \(2002\)](#), who attributes the dependency to subordinates' concerns about their reputation, which is defined as the wish to be seen as honest and fair by their superiors. According to Stevens, high levels of information asymmetry lead to low levels of reputational concern, which again leads to high levels of slack creation. Thus, the concept seems to be closely related to the social pressure construct mentioned earlier. These studies show that information asymmetry influences the creation of slack, even though the complete setting of dependencies is not fully captured yet and is likely influenced by motives besides maximizing wealth and minimizing effort.

An important finding leading to a shift in research direction is that individuals rarely create slack to the maximum extent, which should be the case according to classical agency theory ([Chow et al. 1988](#); [Stevens 2002](#)). At the same time, primarily agency-based studies also point out potential behavioral effects. Thus, contrary to the assumptions of classical agency theory, people do not always act as totally rational utility maximizers under budget-based incentive schemes ([Brown et al. 2009](#)). Therefore, classical agency theory appears as a suitable starting point for structuring the problem but cannot completely explain the whole phenomenon due to restrictive assumptions, especially regarding the utility function of individuals which only considers wealth and leisure and neglects other preferences. On account of this, the importance of psychological concepts to explain levels of budgetary slack has increased.⁴

3 Relevant behavioral concepts

The focus of behavioral approaches in explaining budgetary slack is based on two key aspects. First, why do individuals not maximize their personal utility through budgetary slack in environments with information asymmetry? Second, if factors beyond self-interest (frequently defined as individuals focusing solely on wealth and leisure) exist, why do they fail in preventing the creation of budgetary slack completely? This article considers three theories applied in extant literature to answer these questions ([Fig. 1](#)): While social preferences and organizational justice are used to explain the first aspect, moral disengagement explains the limitation of behavioral influences. Social preferences can be divided further into an intrinsic and an extrinsic perspective (for example, a social preference for fairness can mean either “being fair” or “looking

⁴ As mentioned before, we acknowledge the fact that more sophisticated agency frameworks have been developed to explain budgetary slack which offer additional agency explanations (e.g., [Webb 2002](#); [Indjekian and Matějka 2006](#); [Mittendorf 2006](#); [Heinle et al. 2014](#)). However, in this survey we decided to focus on three heavily discussed psychological theories.

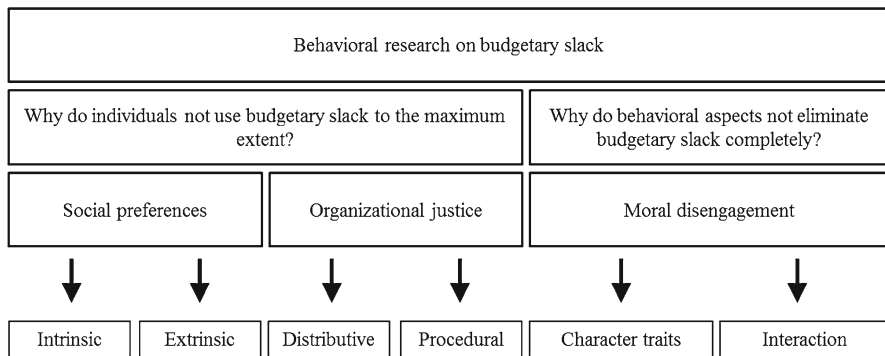


Fig. 1 Selected behavioral research on budgetary slack

fair”, [Greenberg 1988](#)), organizational justice into distributive and procedural justice ([Greenberg 1990](#)), and moral disengagement depends on character traits or interaction with other individuals.

Social preferences are described as the behavior of individuals who care not only about personal well-being (mainly their possession of material goods), but also about the well-being of others ([Fehr and Fischbacher 2002](#)). In this context, social preferences relate to the attributes of honesty, fairness, trust, accountability, as well as integrity and conscience ([Luft 1997](#)). As mentioned, the concept can be divided into two categories, referring to cognition and the role of social preferences. First, individuals are said to act in line with social preferences because they believe that these preferences imply correct behavior ([Hannan et al. 2006](#)). This intrinsic motivation supplements the concept of extrinsic motivation, which is the desire to be seen by others as an individual who acts according to social preferences ([Hannan et al. 2006](#)). Extrinsic motivation therefore does not arise from the desire to “do the right thing” (therefore relying on one’s own social preferences) but from the wish to meet the expectations of third persons (and, therefore, also their social preferences). This theory is supported by [Greenberg \(1988\)](#), who finds individuals in his survey considering looking fair more important than being fair. This set of behaviors is referred to as impression management in the literature ([Diekmann 1997](#)) and consists of all of an individual’s activities aiming to be seen in the favored manner ([Bozeman and Kacmar 1997](#)).

Organizational justice theory is based on equity theory, which explains the perception of fairness and justice of individuals in organizations ([Birnberg et al. 2007](#)). This theory divides people’s sense of justice into distributive and procedural justice. Under the concept of distributive justice, individuals compare the ratio of their own outcome and input to those of third parties (e.g., colleagues) and evaluate their position ([Greenberg 1990](#)). If the own value of the ratio differs from the value of others, individuals become either angry (in case of an own lower ratio) or feel guilty about their superior situation (in case of an own higher ratio), which creates cognitive dissonance ([Greenberg 1990](#); [Adams and Rosenbaum 1962](#); [Thibaut and Walker 1978](#)). Such dissonance arises when the individual experiences different conflicting cognitions that lead to discomfort and stress ([Festinger 1957](#)). Procedural justice refers to people’s perceived

transparency and fairness in the process of performance assessment (Walker et al. 1979). Therefore, the perception of procedural justice depends strongly on whether subordinates are able to express their opinions in the performance evaluation process (Folger 1987). In addition, according to Birnberg et al. (2007), procedural justice affects distributional justice in such a way that (perceived) high levels of procedural justice lead to high levels of (perceived) distribution justice.

Earlier, we explained the dependence of behavior on individual and third persons' social preferences. In a broader sense, some social preferences are shared by society as a set of generally accepted ethical standards (social norms). Through education and the reactions of others to their own actions, individuals get to know this set of shared social preferences, adjust their behavior according to these rules, and feel satisfaction when following them (Bandura et al. 1996). Not following these rules, again, leads to cognitive dissonance (Festinger 1957). Nevertheless, disengagement of moral standards can occur when either the individual has certain character traits or interaction with other individuals enables the individual to overcome cognitive dissonance (Bandura et al. 1996). Typically, the individual would try to balance the situation through self-regulation actions (Bandura 2002). Bandura (2002) provides an overview of different mechanisms used for moral disengagement. The most effective ones are moral justification (harmful behavior is made acceptable because the overall purpose is valuable to society), euphemistic labeling (shaping the language to give activities another, more positive meaning), and advantageous comparison (improving the view on the situation by comparing it to an even worse scenario). Additionally, moral disengagement develops over a longer period of time, becoming progressively stronger (Bandura 2002).

4 Behavioral aspects in budget-based incentive schemes

4.1 Why individuals do not maximize their own utility through budgetary slack

Behavioral research in budgeting regarding the question why individuals do not maximize their own utility through budgetary slack mainly relies on theories of social preference and organizational justice. The corresponding studies are discussed in the following. The basis for the evaluation of social preferences is research by Evans et al. (2001), Stevens (2002), Hannan et al. (2006), Rankin et al. (2008), Nikias et al. (2010), and Hobson et al. (2011). Organizational justice has been examined by Libby (1999), Libby (2003), Lindquist (1995), Renn (1998), Little et al. (2002), Wentzel (2004), Zhang (2008), Matuszewski (2010), Abdullah (2013), as well as Douthit and Stevens (2015).

As a starting point in the literature on social preferences in budgeting, Evans et al. (2001) show that individuals have a preference for honesty, even if their pay schemes do not promote honest reporting. Therefore, individuals seem to give up compensation to be honest. The honesty in this study is motivated intrinsically (Evans et al. 2001). Rankin et al. (2008) show that subordinates create less slack when a factual assertion is required. In the case of a factual assertion subordinates have to explicitly state a lie and thus the preference for honesty becomes more salient. In a similar vein, Nikias

et al. (2010) compare the amount of slack in budgets when subordinates submit one aggregated budget or several budgets. The authors find that subordinates build up less slack when they have to submit several budgets. With several budgets subordinates have to lie more than once to reach the same amount of slack they can create with one aggregated budget. These results indicate that individuals are averse to lying. Hannan et al. (2006) show that managers do not only want to be honest but also perceive a benefit in appearing honest.

Stevens (2002) tests the influence of social preferences on the existence of budgetary slack, using reputation (extrinsic) and ethical concerns (intrinsic). The author shows that slack is seen as unethical. Unlike reputation, ethical concerns regarding implementing budgetary slack exist independently from information asymmetry. This means that ethical concerns are independent of the degree of information asymmetry, while worries about reputation lower budgetary slack only in an environment with low information asymmetry. Stevens concludes that ethical concerns (and therefore intrinsic motivation) stop individuals from incorporating budgetary slack to the maximum extent.

Hobson et al. (2011) investigate in which cases individuals judge budgetary slack as unethical. They find that individuals who have strong preferences for traditional values and empathy are more likely to see slack creation as unethical. However, the authors cannot show that a preference for responsibility influences the judgment of budgetary slack.

The research presented shows that individuals' social preference for honesty contributes to explaining the behavior of individuals, which differs from the behavior expected by classical agency theory. This preference is based on intrinsic and extrinsic factors, whereas only intrinsically motivated social preference is independent of the degree of information asymmetry and is therefore the more robust factor.

The other line of reasoning, besides social preferences, is based on organizational justice theory, which states that participation in a decision making process leads to perceived fairness (Alexander and Ruderman 1987). Lindquist (1995) shows that subordinates perceive the budgeting process as fairer when they have the opportunity to influence it. This result is confirmed by Libby (1999) and Renn (1998). More precisely, subordinates' participation in the budgeting process leads to the perception of procedural justice; while distributive justice stems from subordinates perceiving their budgetary targets feasible (Lindquist 1995). Only a few studies investigate a direct link between organizational justice and budgetary slack creation. Little et al. (2002), Libby (2003), and Wentzel (2004) show that procedural justice has a negative impact on budgetary slack. With regard to distributional justice Matuszewski (2010) and Abdullah (2013) study horizontal equity which refers to equal salaries among peers. Matuszewski (2010) identifies a strong relationship between a change in horizontal equity and a change in honesty. However, the study remains silent on the direction of changes in honesty. Abdullah (2013), on the other hand, finds no relationship between horizontal equity and the creation of budgetary slack. Douthit and Stevens (2015) focus on the pay distribution between the superior and the subordinate. In their experimental study honest reporting of the subordinate leads to an unfair distribution of surpluses. The authors find that the disclosure of the superior's pay scheme makes fairness aspects more salient to the subordinate and reduces the impact of a preference

for honesty. However, if the subordinate does not know the superior's pay scheme, the preference for honesty has a strong influence on the creation of budgetary slack. Zhang (2008) examines fair superior behavior with regard to the choice of pay schemes for the subordinates. The author finds that subordinates collude more and report less honestly when they perceive the superior to have chosen an unfair pay scheme. These results show that a fair distribution between the superior and the subordinate has a positive influence on honesty. In contrast, the findings regarding horizontal equity are mixed. Thus, further research in this area is needed.

Research on social preferences and organizational justice theory shows that individuals are not only interested in maximizing personal wealth and minimizing effort. Preferences for honesty and fairness hinder the creation of budgetary slack to the maximum extent. However, these mechanisms seem unable to prevent budgetary slack completely. Therefore, another important question is why budgetary slack occurs despite social preferences for honesty and justice.

4.2 Why psychological mechanisms fail to prevent the creation of budgetary slack completely

This section focuses on why budgetary slack exists, even though it is considered unethical (Stevens 2002) and should therefore lead to cognitive dissonance. Since individuals tend to avoid cognitive dissonance, there must be mechanisms to rationalize the implementation of slack. Moral disengagement theory shows how individuals can stop moral self-regulation in order to act contrarily to their moral standards without inner conflict (Bandura et al. 1996).

Moral disengagement of subordinates in budget-based incentive schemes can occur because two aspects are influencing the subordinate: On the one hand, individuals want to act ethically to maintain a positive self-concept (Aronson 1992). On the other hand, individuals have a personal benefit from reaching the budget target in getting the incentive. If the subordinate believes that he or she cannot meet the budget target while acting ethically, a conflict and thus a cognitive dissonance arises (Festinger 1957). Mechanisms of moral disengagement enable individuals to reduce cognitive dissonances (Barsky 2011). Research shows that two important aspects influence the appearance of moral disengagement: character traits and interaction with others. Both lines of research are presented below.

As stated earlier, certain characteristics predispose an individual to disengage morally. Even though this field of research is still at an early stage (Detert et al. 2008), several personal characteristics influencing the implementation of budgetary slack have been identified. Detert et al. (2008) identify empathy and moral identity as being negatively related to moral disengagement, meaning individuals who are likely to empathize with others or have a moral identity are less likely to morally disengage. Empathy describes the extent of an individual noticing and being concerned about the needs and concerns of others (Detert et al. 2008). Moral identity illustrates how important concerns about morality and commitments are to an individual's self-concept. Conversely, cynicism turns out to be positively related to moral disengagement, meaning individuals who distrust other individuals, institutions, or social norms in general are more likely to morally disengage (Detert et al. 2008).

Table 1 Character traits influencing moral disengagement

Character trait	Correlation	Authors
Empathy	Negative	Detert et al. (2008)
Moral identity	Negative	Detert et al. (2008)
Cynicism	Positive	Hartmann and Maas (2010)
Machiavellianism	Positive	Hartmann and Maas (2010)
Risk aversion	Positive	Young (1985)

These findings are confirmed by [Hartmann and Maas \(2010\)](#), who use Machiavellian behavior as an independent concept. Machiavellian individuals are described as being less emotional and more cynical, with a stronger tendency to act opportunistically to maximize their own benefit ([Hartmann and Maas 2010](#)). In contrast, individuals with weak Machiavellian character traits are seen as holding on to social considerations and empathy. [Hartmann and Maas \(2010\)](#) show that Machiavellian individuals tend to increase budgetary slack. As an additional character trait, risk aversion is considered an alternative explanatory variable. [Cyert and March \(1963\)](#) suggest that slack might be created to buffer for uncertain events. Consequently, [Young \(1985\)](#) finds risk aversion to be positively related to the implementation of budgetary slack in a laboratory experiment. Table 1 summarizes the character traits with their relation to moral disengagement.

The second main trigger for moral disengagement is interaction with others or in groups. Moral disengagement in this context can occur either because of tournaments with colleagues or justification through peers who act similarly or who have shared interests.

[Jaworski and Young \(1992\)](#) show that individuals' perceptions of peer dysfunctional behavior significantly influence their own dysfunctional behavior. The authors suggest that individuals fear failing their performance evaluations and therefore also engage in dysfunctional behavior. In other words, individuals believe they have to adopt dysfunctional behavior in order to obtain the same conditions as their colleagues. In budgeting systems, managers who do not implement slack in their budget (in order to act ethically) have a disadvantage compared to their slack-implementing colleagues. However, this causal link has not been fully explored yet.

In a similar context, [Paz et al. \(2013\)](#) examine a contagion effect that occurs when individuals use the dishonest behavior of peers to justify engaging in dishonest behavior themselves ([Paz et al. 2013](#)). After observing the dishonest behavior of others, individuals update their beliefs about the prevailing social norm in this group and no longer experience cognitive dissonance when reporting dishonestly. Thus, the authors expect and find that honesty decreases over time when peer behavior is disclosed.

Moreover, moral disengagement is caused not only by competition or comparison with others, but also by shared interests. [Church et al. \(2012\)](#) show that a manager's decision to report honestly is significantly influenced by the preference of the manager's assistant; that is, managers report more honestly when the assistant prefers honest reporting. The authors argue that common interest does not give managers any

justification for implementing slack in this case. If the assistant has a selfish preference or the manager does not know the preference, the manager is more likely to implement slack. Therefore, managers seem to report less honestly when others benefit from this decision. The same result is also shown by [Diekmann \(1997\)](#), who finds that individuals take more of a resource if they have to allocate it to a group of people they are part of, compared to obtaining the resource only for themselves.

In addition, [Davis et al. \(2006\)](#) show that pressure from a superior to create budgetary slack leads to more slack creation. Individuals who give in to the pressure found themselves less responsible for their decision. By this displacement of responsibility ([Bandura et al. 1996](#)) they are able to morally disengage from their behavior.

These results demonstrate that individuals can use different mechanisms to maintain a positive self-concept while creating budgetary slack and thus behaving unethically.

5 Further research opportunities

In this article we focused on three important psychological theories in the context of budget-based incentive schemes and gave an overview of the behavioral research regarding this topic. Nevertheless, there are still gaps in the literature, as well as results that remain to be confirmed. Hence, the following section provides an overview of possible future research avenues.

With regard to social preferences, research has not yet provided clear evidence of the factors that mediate the influence of information asymmetry on budgetary slack. A starting point for further research could be the combined examinations of the different variables used in the studies presented earlier. In this context, the usage of social pressure ([Young 1985](#)) and reputation ([Stevens 2002](#)) as different influencing factors could be reexamined, since both relate to the idea of being seen as honest and fair (extrinsic).

Regarding organizational justice theory, a clarification of the connection between horizontal distributive justice and the creation of budgetary slack is needed. While [Matuszewski \(2010\)](#) and [Abdullah \(2013\)](#) examine the effect of horizontal equity, no consistent results can be found. In this context, the disclosure of budget-based peer salary could be further analyzed.

Regarding the phenomenon of moral disengagement, three directions of research are proposed. First, additional character traits should be tested for their relation to moral disengagement, since this research is still at an early stage. Second, differences in organizational settings also seem to be a good starting point for further research; for example, does it matter if the agent is aware of harming a superior directly in contrast to harming a rather anonymous organization? If so, what organizational measures could be taken to limit the consequences of such behavior? Third, the influence of peer behavior and organizational culture should be further investigated. One such issue is the resolution of cognitive dissonance via a perceived group norm in contrast to an individual's preference for honesty. This dissonance-resolving effect might be especially powerful when budgets are not submitted anonymously but with subordinates being held responsible for their budgetary slack in a non-anonymous environment.

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