Reciprocity, ethical climate, and role duality: another look at budgetary participation

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Abstract

Despite many studies on the topic, the impact of managerial participation on the creation of budgetary slack remains unclear. Typically, predictions about this relationship build from agency theory in a setting in which supervisors use the budget to evaluate their managers. Those managers act as self-interested agents and decide to create slack to increase their wealth with minimum effort. However, prior studies find less slack than would be expected based on this reasoning. Some even find a negative relation between participation and slack. To better understand the motivations of managers underlying slack creation, we contextualize this decision, looking at both the functional and the social context to incorporate both self-interested and social considerations. Social motivations stem from the norm of reciprocity and are influenced by the ethical climate of the business unit. The functional context is determined by the responsibilities managers have as both agents and principals. Using survey data, we find a negative effect of participation on slack, which corroborates our expectation of reciprocal behavior on the part of the managers. We also find that this effect is countered by a self-focused ethical climate. We argue that in such a climate, people feel it is more acceptable to take self-centered decisions. Finally, we show that their role as a principal motivates managers to create less slack giving them stricter control over their business unit employees.
1. Introduction

Budgets are an integral part of everyday organizational life. Despite concerns about their potential dysfunctional effects, organizations continue to look for ways to deal with budgets rather than abandon them (Libby and Lindsay 2010). One major concern is the creation of budgetary slack and how this is affected by managers’ involvement in setting the budget (see Derfuss 2009, 2015 for two meta-studies). Drawing on agency theory, researchers traditionally predict that participation will lead to slack creation (cf. Brown, Evans III and Moser 2009); when managers are allowed budgetary participation they will create slack since it enables them to reach their targets with minimal effort while maximizing their wealth (Lambert 2001). Yet, experimentalists consistently find less slack creation than would be expected based on agency reasoning (Covaleski, Evans III, Luft and Shields 2007; Brown et al. 2009) and researchers have proposed that social motivations such as honesty and fairness influence decision making as well (e.g. Evans III, Hannan, Krishnan and Moser 2001; Church, Hannan and Kuang 2012). These social motivations bound the temptation to create slack. Moreover, numerous survey studies (e.g. Onsi 1973; Dunk 1993; Lau and Eggleton 2003) find that slack creation is not only bounded, but seems to be lowered by budget participation.

To better understand managers’ motivations to create slack in case of budgetary participation, we contextualize their decisions on slack incorporating both the social and the functional setting in which these decisions are taken. Managers act under the influence of their direct social environment (i.e. the supervisor and the business unit employees) and according to the diverse responsibilities they have. Contextual factors are important activators of social norms, which could potentially curb opportunistic behavior (Bicchieri 2006; Douthit and Stevens 2015). Examining both their social and their functional context, therefore,
reveals how managers deal with both their self-interested and social motivations when taking decisions on slack.

We propose that reciprocal behavior explains why participation might lower slack creation by the manager. Reciprocity means that people return benefits to those they receive benefits from and, vice versa, treat those who do not treat them well badly (Gouldner 1960). Managers view the right to participate as a benefit that they receive from their supervisor. Therefore, participative budgeting triggers reciprocal behavior and leads to lower levels of slack. However, reciprocal behavior is influenced by the social context in which it occurs (Bicchieri 2006). People tend to conform to the social norms of the group (Kohlberg 1969), which for business unit managers are derived from their business unit employees. To capture this social context, we examine the self-focused ethical climate of the business unit. In a self-focused ethical climate, slack creation does not likely violate the social group norm and egoistic decision making will occur more often. Hence, we expect such a climate to counter reciprocal behavior on the manager’s part.

Reciprocity might also be countered when competing economic incentives are at play, which is where the functional context of the manager becomes important. Business unit managers are positioned such that they are responsible for their unit’s achievements and the budget outcomes, whereas simultaneously, they are responsible for business planning and evaluation of the unit’s employees. Thus, business unit managers have a dual role and act as both agents and principals (Lambert 2001). Since the same budget is simultaneously used for planning and performance evaluation purposes (Indjejikian and Matějka 2006; Arnold and Killenkirch 2015), this puts managers in a position with opposing objectives that influence their preferences for slack. As principals they may want to forego slack to gain more effective control over their employees, but as agents, they may value slack as an easy way to secure target achievement. Moreover, in their role as agents they face competing incentives when
given the right to participate, since the latter triggers reciprocal behavior. They have to trade-off reciprocity with giving up rents (Rabin 1993). We expect crowding out of reciprocity to occur in this setting (cf. Sobel 2005) countering the negative effect of participation on slack. On the other hand, their incentives as principals are consistent with the reciprocity considerations since the social and the functional context both motivate less slack creation. Therefore, we expect the manager’s role of a principal to reinforce reciprocal behavior and lower slack even more given participatory rights.

Our study contributes to the literature in several ways. First, we contribute to the literature on budgetary participation and slack by contextualizing the decision to create slack. There is little evidence on the impact of context on the manager’s decision making in this setting. Webb (2002) provides an example by examining reputation concerns and variance investigations as aspects of the organizational context to explain the effect of budget emphasis on slack creation. He concludes from his experiment that these aspects of the organizational context counter slack creation. We take the issue outside the laboratory to examine how both social and economic motivations impact on slack decisions in case of participation in the actual business context. Moreover, we build from the emerging literature that examines the role of reciprocity in accounting settings (Zhang 2008; Douthit and Stevens 2015; Fisher, Peffer, Sprinkle and Williamson 2015) and explain how granting the right to participate by itself triggers reciprocal behavior. Corroborating our reasoning, we empirically find a negative relationship between participation and slack, which is consistent with prior survey work (e.g. Onsi 1973; Dunk 1993; Lau and Eggleton 2003).

Second, we study the impact of the ethical climate and find that a self-oriented ethical climate negatively impacts on the manager’s decision making leading to crowding out of reciprocal behavior. The importance of the ethical climate on organizational members’ decision making has long been established (see for instance, Martin and Cullen 2006) and
Douglas and Wier (2000) explicitly mention that a supportive ethical climate may be the most effective counterforce to budgetary slack creation. Some authors have studied the role of ethics and ethical codes in a corporate governance setting (e.g. Davidson and Stevens 2013). Yet little evidence on the role of the ethical climate exists in the field of accounting, an exception being the recent study by Burney, Radtke and Widener (2016). We contribute to the literature by showing that a self-oriented ethical climate increases egoistic decision making in the participation-slack relationship.

Finally, little is known about the manager’s role duality in using the budget, since researchers primarily focused on the manager’s role as an agent. One exception is Indjejikian and Matějka (2006), who study the role duality from the perspective of the controller who is contemplating how much slack to allow in budgets. We contribute to their work by taking the perspective of business unit managers who face similar trade-offs in their dual role and are able to decide on slack creation because of participation. We find that their role as a principal leads managers to work with tighter budgets, giving them more control over their business units. Moreover, the benefits of gaining control seem to outweigh the potential benefits of being evaluated on easier targets by their supervisors.

Overall our contribution lies in the contextualization of the business unit managers’ decision to create slack. Our study is the first to combine motivations from both the social and the functional context to explain decision making by managers in light of budgetary participation and slack given their dual roles. The next section contains our theory development. Section three holds a description of our method and measurement. We discuss our statistical models and results in section four, and end with a conclusion and discussion.
2. Theory development

In this section we discuss the social and functional context business unit managers find themselves in and discuss the related self-interested and social motivations underlying slack creation. Figure 1 gives an overview of the research model. The social context comprises the managers’ relationships with their supervisors as well as with their co-workers within the business unit. We hypothesize that budgetary participation is negatively associated with slack, and that the decisions on slack are conditioned by the collective social norms of the business unit, i.e. the ethical climate. The functional context is determined by the manager’s dual role acting as both a principal and an agent. To distinguish between these functional roles, we examine the effects of three main budgetary uses, i.e. performance evaluation by the manager’s supervisor, performance evaluation of unit employees by the manager, and the use of the budget by the manager for planning. The first use represents the position of managers as agents, while the latter two budget uses are relevant for managers in their role as a principal.

[insert figure 1 about here]

2.1 Social context

Studies on managers’ decisions to create slack generally build from the agency assumptions of self-interested behavior, bounded rationality, and risk aversion (cf. Brown et al. 2009; Eisenhardt 1989). Hence in case of budgetary participation managers are expected to act in their self-best interest and create slack. This line of reasoning builds from a narrow definition of pure self-interest (cf. Bosse and Philips 2014) and overlooks the potential impact of reciprocity as a fundamental norm of human behavior. People return received benefits such as favors and gifts, while also acting according to the belief ‘an eye for an eye’. These manifestations of positive and negative reciprocal behavior stabilize the social system in everyday life situations (Gouldner 1960) as well as at the workplace (e.g. Fehr and Gächter,
Besides, reciprocity is one of the social norms that may be activated in case of budgetary participation (Douthit and Stevens 2015).

We propose that reciprocal behavior on the part of the business unit managers is triggered when they are allowed to participate in the budgetary process since managers view the right to participate as a benefit received from their supervisor. Managers hold positive perceptions regarding participative budgeting, as is evident, for instance, from empirical studies that consistently find positive relationships between participation and job satisfaction (Derfuss 2009). People rely on the norms of reciprocity and anticipate future benefits from it, or as Gouldner (1960, p.173) puts it: “there is an altruism in egoism, made possible through reciprocity.” Hence, abiding by the reciprocity norm is in the best interest of the individual (for instance, Dunfee 2006). We therefore expect that managers will reciprocate their supervisors for being allowed to participate by creating less slack. The managers do not only take a longer term perspective into account towards the relationship with their supervisor, they expect future benefits of reciprocal behavior between them. This social motivation will drive their decision making in case of budgetary participation since reciprocal behavior is in the best self-interest of the manager.\(^1\) Therefore we predict that an increase in budgetary participation is negatively associated with the creation of slack:

Hypothesis 1 (H1): budgetary participation is negatively associated with slack.

Reciprocal behavior is part of the social system and, therefore, directly influenced by the behavior of others. Contingency factors will determine whether reciprocal behavior will occur or not (Gouldner 1960; Falk and Fischbacher 2006). The ethical climate of the business

\(^1\) Note that in this base case there is no explicit economic incentive that could potentially act as a countervailing force to reciprocal behavior.
unit is a contingency factor that potentially moderates reciprocal behavior on the part of the manager. People tend to conform to the social norms of the group (Kohlberg 1969), which for business unit managers is developed by the workers within the business unit. The ethical climate represents the shared employee beliefs that “arise when members believe that certain forms of ethical reasoning or behavior are expected standards or norms for decision-making within the firm” (Martin and Cullen 2006, p.177).

The ethical climate can be focused outward on others or inward on satisfying self-interests. A collective focus on self is also known as egoistic reasoning; employees perceive that the unit’s environment emphasizes self-interest which influences their decision-making (Arnould and Schmincke 2012). In an egoistic climate, the collective focus is on making self-interested choices and decisions without considering how the consequences will affect others (Kish-Gephart, Harrison and Trevino 2010). A meta-analysis by Kish-Gephart et al. (2010) shows that unethical intentions increase in ethical climates focused on self. Burney, Radtke, and Widener (2016, p.25) conclude that a collectively self-focused ethical work climate “heightens the potential for agency problems, as the group members share a perception that the norm is to focus on themselves.” They show that when employees are provided freedom to act and take decisions in a self-focused work climate they engage in more counterproductive work behaviors.

An ethical climate focused on self will influence managers’ behavior and interfere with their intentions to act reciprocally. Fehr and Gächter (2000) find that choices of reciprocally motivated individuals can be influenced by the number of selfishly motivated individuals. The latter can induce selfish choices from individuals that are motivated to act in a reciprocal way. Given the findings of Fehr and Gächter (2000), and the known impact of ethical climate on decision making, we expect a self-oriented ethical climate within the business unit to counter the manager’s reciprocal behavior. When social norms are self-
centered, on average, there will be more self-centered decision making. Therefore, we expect business unit managers to reciprocate their supervisor for granting them the right of participative budgeting, but this negative effect on slack will be (at least partially) countered by a self-oriented ethical climate. In such a climate people are tempted to act more often in a self-centered way lessening the reciprocal motivation. Hence our expectation as stipulated in hypothesis 2 is that an ethical climate focused more on self will offset the negative effect of participation on slack:

**Hypothesis 2 (H2): As the ethical climate becomes more self-focused, the negative effect of budgetary participation on slack will be more positive.**

2.2 Functional context

We now turn to the functional context by considering the specific position of business unit managers within the hierarchy. Even though business unit managers are typically portrayed as agents who react to pressure from the evaluation and reward systems placed upon them (see for instance the overview by Brown et al. 2009), they also act as the principals of their business unit (Lambert 2001). The main concerns of principals are to incentivize and monitor their agents, to supply resources, and to bear risk (Lambert 2001). Business unit managers in their dual role have divergent goals and use the same budget for multiple purposes (Indjejikian and Matějka 2006; Kilfoyle and Richards 2011). Perceived benefits of slack creation, therefore, will vary with the specific purpose for which the budget is being used. Thus the role of the budget codetermines what decisions on slack the manager will take when given the right to participate in the budget setting process.

As agents, managers will be evaluated by their supervisors based on budget attainment. Since agents are effort and risk averse (see Lambert 2001), a budget containing slack benefits them because it is easier to attain (e.g. Dunk 1993). When being held accountable for meeting the budget, slack serves the self-interested needs of the manager, and
the importance of budget attainment is indeed viewed as an incentive to create slack (Dunk 1993; Fisher, Maines, Peffer and Sprinkle 2002; Webb 2002). Agency models support this view and show slack is highest with high budget emphasis (cf. Webb 2002). However, studies also show that use of the budget for performance evaluation does not necessarily lead to more slack building (Derfuss 2009) and indicate that other features of the budgeting process might limit slack creation (Webb 2002).

When the budget is used for performance evaluation of the managers and those managers can participate in the budget setting process, there are now opposing motivations. Managers will be more inclined to create slack if the budget is used to evaluate them as they will be economically better-off. Slack makes it easier to attain the budget or even show an over-performance and gives the impression managers do a good job. This likely increases their future chances of getting a raise or being promoted. This economic incentive competes with the norm of reciprocity. Rabin (1993) claims that the reciprocal motivations change when the stakes go up; the more there is to gain (or to give up) the less impact reciprocal motivations have. He refers to this as a trade-off between giving up rents and being kind (see Rabin 1993). Acting in a self-interested way, managers will weigh the potential economic incentive against their need to engage in reciprocal behavior and determine which one makes them better off. Given that economic incentives outweigh reciprocity (Rabin 1993), we expect that crowding out of reciprocal behavior will occur (cf. Sobel 2005) when the budget is used to evaluate the manager’s performance. Hence, the use of the budget to evaluate the manager will (at least partially) offset the negative effect of participation on slack. 

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2 Researchers typically do not distinguish between performance evaluation and a budget based bonus in these studies. We separate those and focus here on use of the budget for performance evaluation of the manager while controlling for the use of a budget based bonus.

3 The interaction effect of budget emphasis and participation on slack has been studied before with different underlying theories and expectations. Empirical findings of these studies consistently show a positive interaction effect, which is in line with our expectations. See for instance Dunk (1993), Kren (2003), and Lau and Eggleton (2003).
stated, we hypothesize the following:

**Hypothesis 3 (H3):** As supervisors use the budget more for evaluation of the manager’s performance, the negative effect of budgetary participation on slack will be more positive.

Given that managers are not only agents, but also principals, they use their budgets themselves to evaluate their employees. In their role of principals, business unit managers incentivize and monitor their employees (Lambert 2001). Given those concerns, using a budget containing slack has disadvantages since it motivates lower effort in business unit employees and provides biased evaluations of their performance (e.g. Dunk and Nouri 1998; Indjejikian and Matějka 2006). Consequently, business unit managers likely prefer accurate budgets for employee evaluation. Another of the principal’s concerns is to supply resources (Lambert 2001). From the perspective of the business unit manager this translates into using the budget for the planning of capacity and personnel. When used for planning, a realistic budget with accurate estimates is preferred since slack allows for inefficient allocation of resources (Indjejikian and Matějka 2006). Hansen and Van der Stede (2004), for instance, find that the budget performs better in its role of operational planning when rolling budgets are used. This is due to improved accuracy of operational forecasts during the budgeting period (Hansen and Van der Stede 2004). Fisher et al. (2002) find that subordinates had no slack in their budgets when their supervisors used the budget for allocation of scarce resources. Hence, for both uses of planning and control within the business unit, the best self-interested choice for a manager is to have as little slack as possible in the budget. In their role of a principal, managers, thus, benefit from and prefer less slack.

When managers use their budgets to evaluate their employees or for planning purposes, there are no competing forces at play in the trade-off between being kind and the giving up of rents. To the contrary, managers are inclined to reduce slack with participation because of reciprocity concerns, and will have an additional incentive to reduce slack given
their needs to control their business unit. The negative effect of participation on slack because of reciprocity will be reinforced by these additional benefits. Hence, we expect a negative interaction effect of the planning and employee performance evaluation budgetary roles with budgetary participation on slack. Our expectations are formally stated in hypothesis 4 and 5:

**Hypothesis 4 (H4):** As managers use the budget more to evaluate employees, the negative effect of budgetary participation on slack will be more negative.

**Hypothesis 5 (H5):** As managers use the budget more for planning, the negative effect of budgetary participation on slack will be more negative.

### 3. Research design and measurement

#### 3.1 Data collection and sample

The analysis is based on survey data from 95 business units located in the Netherlands. In designing the questionnaire, we primarily used measurement scales that have been validated in prior studies. The only newly developed instrument is a series of questions delving into the various roles of the budget. Respondents are managers of business units, which we define for the purposes of this study as a manager in charge of a profit or investment center that is part of a larger (for-profit) firm and that employs at least 20 people. Managers of support centers and units from the public and not-for-profit sector are explicitly excluded from our study. We believe the business unit to be an appropriate level of analysis for our project. Especially in larger organizations, budgeting practices may differ widely across different parts of the organization. These practices (and the context in which they occur) are much more homogenous at the business unit level, allowing a clearer focus on the contextualized effects of control structure choices on managers’ behavior. However, an implication of this choice is that random sampling is not possible. Instead, we use a convenience sample created through personal networks of our Master’s students in a Research in Management Accounting & Control class. This procedure solves respondent
identification problems, and because our students come from different organizations across a variety of different industries, it helps us construct a diverse sample likely to contain the required variation in the variables of interest.\(^4\)

Respondents have been with their organization for 10.5 years on average (median 7.5 years) and have an average of six years of experience in their current function (median five years). All of them have a history of at least one year in their job and in their organization. These figures indicate that respondents should be knowledgeable of the management control instruments and processes in their business units. Table 1 gives descriptive information on the characteristics of the business units (and the larger firms to which they belong) in the sample.

[insert table 1 about here]

3.2 Measurement of variables

All composite variables in our analysis are measured reflectively (Jarvis, MacKenzie and Podsakoff 2003) with multiple items on a fully anchored 5-point semantic differential scale. As an initial step in the examination of the dimensionality in the data, we use exploratory factor analysis (EFA) with oblique rotation. To substantiate the EFA results, we apply confirmatory factor analysis (CFA) in AMOS. We examine average variance extracted (AVE) to assess convergent validity, the square root of AVE in relation with bivariate correlations to evaluate discriminant validity, and Cronbach’s alpha to evaluate scale reliability. All AVE scores are above the 0.5 threshold (Fornell and Larcker 1981; Henseler, Ringle and Sinkovics 2009), the square root of AVE is consistently higher than the bivariate correlations between the constructs (Fornell and Larcker 1981), and Cronbach’s alpha for each construct exceeds the conventional rule of thumb of 0.7 (Hair, Anderson, Tatham and

\(^4\) The sample is appropriate given the research question and has the typical qualities of a business unit manager from the broader population that manages either a profit or investment center. The latter restriction narrows the setting to ‘control’ for other influences such as profit motives and the desire to serve society. The sample is, thus, relevant for use in a test of theory with the purpose of falsification and a random sample is not necessary (Speklé and Widener 2016; see also Landers and Behrend 2015).
Black 1998), with only one exception. We calculate the constructs by taking the mean of the underlying item scores. The appendix reproduces the relevant parts of the survey and provides information on the outcomes of the factor analyses and item selection decisions. Descriptive statistics for the composite variables are in table 2, including Cronbach’s alphas and AVE.

Because we use data from self-report questionnaires to measure both the dependent and the independent variables, common method bias (CMB) may be a concern. However, we validate the dependent variable with financial information from another, independent source (see our discussion below). Furthermore, our models include interaction effects and a relatively broad set of independent variables. The resulting complexity makes it unlikely that the relationships in our models are part of respondents’ cognitive maps (Chang, Van Witteloostuijn and Eden 2010). This mitigates some of the most powerful causes of CMB, i.e. implicit theories, consistency motif, and social desirability (Podsakoff, MacKenzie, Lee and Podsakoff 2003). In addition, our interest is predominantly in the interaction terms included in our model. Interaction terms cannot be caused by CMB (Siemsen, Roth, and Oliveira 2010). In fact, Siemsen et al. (2010) demonstrate that if anything, CMB deflates interaction effects, making them more difficult to detect. Any remaining bias, thus, is against finding results. To assess the extent of potentially remaining CMB risks, we run a Harman’s one-factor test using confirmatory factor analysis (CFA). Craighead, Ketchen, Dunn and Hult (2011) argue that this approach is more robust than the traditional Harman’s test based on EFA, because in a CFA, differences between a one-factor model and the multifactor model can actually be tested by comparing the fit statistics. We include all questionnaire items that

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5 The reliability of ‘communication of goals’ as one of the roles of the budget is relatively low (0.599), but this construct is only a control variable.
6 We took several procedural steps to mitigate bias ranging from putting our survey through an academic review to spatially separating dependent and independent variables.
we use to measure perceptual constructs in this analysis. We expect and find that the multifactor model fits considerably better than the one-factor model; see table 3 for details.\(^7\) Overall, these results support the absence of material single-source bias.

**Budget slack**

We measure budget slack with Dunk’s (1993) instrument. Individual items in this instrument address the effects of budget standards on productivity, monitoring intensity, and efficiency improvements, and we reverse the scores so that high scores indicate high levels of slack. Factor analysis indicates that the three items load on a single factor.

To validate the measurement of budget slack, we use private financial information from the business units. In addition to the surveys completed by the business unit managers, we also collected information from the business unit controllers, asking them to provide us with data on (A) the difference between budgeted net income for the current fiscal year and that of last year, as a percentage of budgeted total revenue of last year, and (B) last year’s difference between realized and budgeted net income as a percentage of budgeted total revenue for that year. By subtracting B from A, we obtain a measure that expresses the difference between budgeted net income in the current year and last year’s realized net income, deflated by last year’s total revenue.\(^8\) This difference is an (admittedly somewhat noisy) indicator of budget tightness. The resulting measure has some extreme values at both tails of the distribution. To control for this, we apply a 98% winsorization (which in our sample comes down to adjusting the single highest and the single lowest score). We expect this measure to correlate negatively with perceived budget slack, although the correlation is

\(^7\) In the selection of fit statistics, we follow Sharma, Mukherjee, Kumar, and Dillon (2005). To evaluate fit, we apply common cutoff values, i.e. \(\leq 2\) for CMIN/DF; \(\geq 0.90\) for TLI and NNCP; \(\leq 0.08\) for RMSEA.

\(^8\) Expressed in a formula:

\[
(A) - (B) = \frac{(Budgeted Net Income_1 - Realized Net Income_{t-1})}{Budgeted Revenue_{t-1}}
\]
not necessarily strong.\textsuperscript{9} In support of the survey-based perceptual measure of budget slack, we do in fact find that the correlation coefficient is -0.232 (p = 0.028, two-tailed).

\textit{Budget Participation}

The questionnaire items to measure budget participation come from Milani (1975), with some minor adjustments in the wording because of respondent differences (business unit managers as opposed to foremen in the Milani study). EFA reveals two underlying components, one related to the business unit manager being involved in budget setting and exerting influence on that process, the other relating to the business unit manager’s superior communicating information about the budget. Because the first component is more closely related to the idea of participation as it figures in our theory and hypotheses, we drop the items that load on the second component and proceed with the first factor only.

\textit{The roles of the budget}

To measure the various roles of the budget, we started from the four potential reasons for budgeting identified by Hansen and Van der Stede (2004), i.e. operational planning, performance evaluation, communication of goals, and strategy formation. Hansen and Van der Stede, however, used single item measures to capture the various roles. To strengthen the measurement instrument, we generated a list of potential specific manifestations of the four basic uses, and added some items to allow us to differentiate between two variants of the evaluative role of the budget, i.e. its use by senior management to evaluate the business unit managers and their units on the one hand, and its use by the business unit managers themselves to evaluate the performance of their own business unit and employees (see hypotheses 3 and 4). We subjected the resulting list to academic scrutiny by asking three colleagues to check our draft list for clarity and completeness. The final list contains 19 items, and is reproduced in the appendix. In addition, we surveyed the literature for existing

\textsuperscript{9} A higher budget target may still be easier to meet if for instance environmental conditions have developed favorably.
measurement instruments for the individual roles, and found two: the budget emphasis scale of Van der Stede (2001) as a relevant operationalization of the use of the budget by senior management for performance evaluation purposes, and the three-item instrument used by Libby and Lindsay (2010) to examine the link between the budget and strategy implementation, which is a relevant indicator of the use of budgets in strategy formation.

As a first indicative step in the analysis, we use EFA to examine the data structure in the responses to the 19-item list -even though the number of observations (95) is quite small given the number of questionnaire items included in the analysis. The analysis returns five factors, of which the first four represent the four budgeting purposes of Hansen and Van der Stede (2004). This analysis does not separate the two variants of the evaluation role, but the relevant items load on a single factor. The fifth factor is a rather nondescript amalgam of remaining items, almost all of which have high cross-loadings with at least one of the other factors. We drop this fifth factor (and the underlying items) from further analysis, and continue with the four interpretable factors only. To further examine the initial results, we verify whether the evaluation factor and the strategy formation factor from the initial EFA converge with the existing scales of Van der Stede (2001) and Libby and Lindsay (2010), and conclude that they do. In the next step, we run a CFA to substantiate the EFA results and to provide a statistical basis to choose between the existing scales and the newly developed instrument. In this CFA, we split the evaluation role in the two separate purposes we distinguish theoretically (i.e. its use by senior management and its use by the business unit managers themselves). The CFA identifies a few items that better be dropped from the analysis, and also suggests a preference for the Van der Stede scale to measure the evaluative use by senior management (rather than the applicable items from the newly developed list). We do, however, find the newly developed items relating to the role of the budget in strategy
formation to be more appropriate than the scale from prior literature. Despite our two evaluative roles of the budget, the model’s discriminant validity is adequate, and the square root of AVE of each factor is higher than any of the correlations between the factors (Fornell and Larcker 1981; see table 4). In total we identify five different budgetary roles, three of which we use for hypotheses testing and two (use of the budget for communication of goals and strategy formation) we add as control variables to our model to prevent correlated omitted variable risk.

Ethical climate: focus on self

The instrument to measure ethical climate is based on Arnaud and Schminke (2012), using the items first developed by Victor and Cullen (1988). This instrument captures two separate ethical dimensions; a self-focused and an other-focused ethical climate. For the purposes of this study, we are only interested in the first factor, and we select only the three items that pertain to this factor. These items address the extent of people’s preoccupation with their personal benefit and the degree of self-centeredness in decision making. As expected, these items load on a single factor.

Control variables

We control for potential effects of the compensation structure by including a variable that captures the degree to which one’s bonus depends on meeting the budget (1 = no bonus or bonus not linked to budget; 5 = major part of bonus depends on budget achievement). We also control for the size of the business unit by taking the natural log of the number of employees of that unit.

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10 The convergent validity of the Libby and Lindsay scale is too low in our study, with AVE = 0.41
4. Results

The correlation matrix is presented in table 4. The correlations between the exogenous variables do not point to multicollinearity issues. This table also reports the square roots of AVE. These are without exception higher than the bivariate correlations between the constructs in the analysis, which indicates discriminant validity (Fornell & Larcker 1981). The correlations between budget slack and each individual budget roles are negative and significant, suggesting that slack decreases when the budget becomes more important, irrespective of the specific purpose for which the budget is being used. However, because several budgeting roles are (positively) correlated themselves, the relationships between the roles of the budget and budget slack we observe in the bivariate examination may easily change in a multivariate analysis. A similar remark applies to budget participation: there is a negative correlation with slack, but positive correlations with each of the various budgeting roles, so its ultimate effect in a multivariate analysis is difficult to predict. Interestingly, we observe a negative association between a self-focused ethical work climate and budget slack, in addition to a higher use of the budget for performance evaluation purposes, both by senior management and by the business unit managers themselves. This observation seems to imply that managers (both in business units as in senior positions) respond to a less cooperative and more self-focused atmosphere by intensifying performance contracting and tightening control.

[insert table 4 about here]

We test our hypotheses by estimating a multivariate OLS model, using White-Huber robust standard errors. The model includes four product terms to capture the hypothesized moderator effects of the planning role of the budget, its two evaluative uses, and a self-centered ethical climate on the relationship between participation and budget slack. Before forming the multiplicative terms, we mean-center the variables (Aiken and West 1991;
Jaccard, Turrisi and Wan 1990). To ensure that the results for the interaction effects are not in fact due to lower order effects, we include all main effects of the variables implicated in the interactions, even if they are not hypothesized (Echambadi, Campbell and Agarwal 2006; Hartmann and Moers 1999). Furthermore, we include two budgeting roles (i.e. communication of goals and strategy formation) on which we have no specific theoretical expectations regarding their influence on budget slack. We do so because the various uses of the budget are correlated\(^\text{11}\), so exclusion would expose the analysis to omitted variable risks. Finally, we control for the degree to which one’s bonus depends on budget-related performance to examine potential effects that arise from the compensation structure, and business unit size to control for size effects, if any.\(^\text{12}\)

The results of the OLS regression are presented in table 5. Because of missing values, we lose eight observations, and the final analysis is based on 87 responses. The model explains 49% of the variance in budget slack. Multicollinearity is not problematic; all variance inflation factors are lower than 2 and thus remain well below the threshold of 6 recommended by Cohen, Cohen, Aiken and West (2003).

[insert table 5 about here]

Table 5 shows that the participation—slack association is significantly negative (coef. = -0.173, p < .10), which supports our first hypothesis and corroborates the idea of reciprocal behavior by the managers being triggered by participative budgeting. H2 predicted that when managers are allowed to participate in the budgeting process, their reciprocal behavior is countered as the work climate focuses more on self. Our results provide support for this

\(^{11}\) See table 4; all five budgeting roles we identify in this study appear to be significantly and positively correlated, except for the two evaluative uses on the one hand, and strategy formation on the other.

\(^{12}\) As a robustness check we have included information asymmetry between the manager and the supervisor in the model. This variable is insignificant and does not alter our findings. We leave it out to preserve power.
hypothesis (coef. = 0.182, p < .10). This result supports the premise that managers act more in their own self-interest when they perceive that the unit’s collective ethical focus is more on satisfying the self, which leads to crowding out of reciprocal behavior. H4 predicted that when managers are allowed to participate in the budgeting process, slack would decrease when they are acting as principals and use the budget to evaluate their subordinates. The results shown in Table 5 provide support for this hypothesis (coef. = -0.214, p < 0.05). This result supports the premise that managers reduce slack when they act as principals. They need the budget to be accurate so as to better evaluate and control their employees. Since this motivation is in line with the intension to reciprocate, the negative effect of participation on slack is reinforced. We find no support for hypotheses 3 and 5: neither the use of the budget by senior management for performance evaluation purposes, nor its use by managers for operational planning appears to affect the negative relationship between participation and slack. Apparently the potential economic motivation coming from performance evaluation by the supervisor, is not strong enough to interfere with the social motivation.

In the regression analysis, we control for the extent to which the budget is linked to compensation. Consistent with traditional agency theory, we find that slack increases as the degree to which the bonus of the business unit manager depends on budget achievement (coef. = 0.117, p < 0.10). The regression model also takes into consideration the main effects of all variables included in the interaction terms. The results show that less slack is created, the more the manager uses the budget for planning purposes and the more the budget is used for evaluation by managers or their superiors. Interestingly, less slack is also created the more the unit’s ethical climate is focused on self. This may be due to tighter control being exercised by superiors in this type of climate.
5. Conclusion

Will managers engage in slack creation when given the right to participate in the budgeting process? The literature does not have a clear answer to this question and empirical findings are inconsistent. To shed light on the issue we contextualize the managers’ decisions to create slack and find that both their social context and their functional context matter.

We present the norm of reciprocity as an explanation for why participation would lower the creation of slack (as found in several empirical studies including ours, e.g. Onsi 1973; Dunk 1993; Lau and Eggleton 2003). Managers value their right to participate in the budget setting process and attribute that benefit to their supervisors. In turn, managers reciprocate by creating less slack. Reciprocal behavior of the managers towards their supervisors is self-interested behavior driven by the social context. The social context is also shaped by the business unit workers and we find that an egoistic climate within the business unit counters the managers’ reciprocal behavior. Our study provides an example of the importance of the ethical climate for decision making within organizations. Moreover, the impact of social motivations implies that focusing only on economic motivations will leave us with an incomplete understanding of what drives managers in their decisions making.

We also show that the functional context matters. Especially, in their role as a principal, managers need accurate budgets to evaluate their employees. Making managers responsible for the evaluation of their employees, therefore, aligns their economic and social motivations to lower slack. In contrast, economic motivations related to the manager’s role as an agent might oppose the social ones. For instance, an economic incentive that seems to increase slack creation is the use of a budget-related bonus. Using this as a control instrument, might do away with the potential and inherent benefits of budgetary participation. In trying to understand the managers’ motivations to create slack it is therefore important to study the managers’ dual role as both a principal and an agent.
Our findings should be interpreted with the following limitations in mind. Survey data can be subject to bias and potentially contain noise. To minimize measurement error we thoroughly tested our measures on their statistical properties and found no evidence of bias. Another aspect of using self-report surveys is possible common method bias. However, the complexity of our model (Chang et al., 2010) helps to mitigate the risk, and a Harman’s test based on confirmatory factor analysis (Craighead et al., 2011) does not indicate a common method problem. Moreover we validate our dependent variable with financial information from an independent source. These analyses support the absence of material single-source bias.

Future studies can dive deeper into the role of a manager as a principal. We find that this role impacts on the decision to create slack, and this role likely also impacts on other decisions business unit managers take, for instance, decisions on investments or on the business unit strategy. Moreover, a lot remains to be learned about the role duality. Both roles of principal and agent could be examined simultaneously to better understand the impact of control choices on manager’s behavior. We find that the motivations stemming from each role might be quite different and depending on which role dominates could lead to opposite predictions about the manager’s behavior. Another avenue to explore is how economic motivations stemming from performance evaluation differ from performance compensation in influencing behavior. We find no evidence for a negative effect of performance evaluation by itself, whereas a budget-related bonus seems to increase slack creation.

Overall, our study shows that participative budgeting does not necessarily lead to the creation of slack. To capitalize on the benefits of participation, however, an ethical climate focused on self is detrimental, and the role of managers as principals needs to be stressed rather than their role as an agent.
References


Figure 1: Research model

- **H1:** Slack
- **H2:** Self-oriented ethical climate of the BU
- **H3:** Participation of BU managers
- **H4:** Evaluation by BU managers
- **H5:** Control variables

Evaluation of BU managers by senior management
Planning Use by BU managers
**Table 1: Sample characteristics**

**Panel A: Distribution over industries**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>25 (26%)</td>
</tr>
<tr>
<td>Construction</td>
<td>14 (15%)</td>
</tr>
<tr>
<td>Wholesale and retail trade</td>
<td>8 (8%)</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>6 (6%)</td>
</tr>
<tr>
<td>Information and communication</td>
<td>7 (7%)</td>
</tr>
<tr>
<td>Financial institutions</td>
<td>7 (7%)</td>
</tr>
<tr>
<td>Other Services</td>
<td>18 (19%)</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>10 (11%)</td>
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</tbody>
</table>

**Panel B: Size (in number of employees)**

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<tr>
<th></th>
<th>Range</th>
<th>Mean</th>
<th>Standard deviation</th>
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</thead>
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<td>5,584</td>
<td>22,732</td>
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<tr>
<td>Size business unit</td>
<td>20-1,000</td>
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<td>179</td>
</tr>
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<td></td>
<td>Range</td>
<td>Mean</td>
<td>Standard deviation</td>
</tr>
<tr>
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<td>----------</td>
<td>--------</td>
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<td><strong>Budget slack</strong></td>
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<tr>
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<td><strong>Roles of Budget</strong></td>
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<td>Planning</td>
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<td>Performance evaluation by</td>
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<td>senior management</td>
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<td>3.446</td>
<td>.825</td>
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<td>Performance evaluation by</td>
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<td></td>
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<tr>
<td>business unit manager</td>
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<td>Communication of goals</td>
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<td>.667</td>
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<td>Strategy formation</td>
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<td>.730</td>
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<td>.723</td>
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<tr>
<td><strong>Size business unit (In)</strong></td>
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<td>4.508</td>
<td>.912</td>
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<tr>
<td><strong>Budget-related bonus</strong></td>
<td>1.00-5.00</td>
<td>3.244</td>
<td>1.471</td>
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Table 3: Harman’s test

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<th>One-factor model</th>
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<td>CMIN/DF</td>
<td>1.207</td>
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<td>TLI</td>
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<td>NNCP</td>
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<td>RMSEA</td>
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### Table 4: Bivariate correlations

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<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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</thead>
<tbody>
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<td>1: Budget Slack</td>
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<td></td>
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<td>3: Planning</td>
<td>-.465***</td>
<td>.186*</td>
<td>.797</td>
<td></td>
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<tr>
<td>4: PE by senior management</td>
<td>-.472***</td>
<td>.243**</td>
<td>.195*</td>
<td>.753</td>
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<td>5: PE by BU manager</td>
<td>-.444***</td>
<td>.216**</td>
<td>.212**</td>
<td>.499***</td>
<td>.896</td>
<td></td>
<td></td>
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<td>6: Communication of goals</td>
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<td>.219**</td>
<td>.179*</td>
<td>.180*</td>
<td>.210**</td>
<td>.735</td>
<td></td>
<td></td>
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<td>7: Strategy formation</td>
<td>-.291***</td>
<td>.190*</td>
<td>.321***</td>
<td>.129</td>
<td>.159</td>
<td>.459***</td>
<td>.722</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8: Self-focused climate</td>
<td>-.260**</td>
<td>-.059</td>
<td>.042</td>
<td>.229**</td>
<td>.251**</td>
<td>.109</td>
<td>.155</td>
<td>.761</td>
<td></td>
<td></td>
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<td>9: Budget-related bonus</td>
<td>-.086</td>
<td>.251**</td>
<td>.046</td>
<td>.523***</td>
<td>.257**</td>
<td>.142</td>
<td>.076</td>
<td>.011</td>
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<tr>
<td>10: Size business unit</td>
<td>-.124</td>
<td>-.071</td>
<td>.056</td>
<td>.168</td>
<td>.025</td>
<td>.213**</td>
<td>.088</td>
<td>-.020</td>
<td>.082</td>
<td>NA</td>
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</table>

Off-diagonal elements are Pearson correlations, diagonal numbers (underlined) are square roots of AVE.

*p < 0.10, **p < 0.05, ***p < 0.01; two-tailed.
Table 5: Regression analysis

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>Predicted sign</th>
<th>Coefficient</th>
<th>SE</th>
<th>t</th>
<th>p</th>
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<tr>
<td>Budget slack</td>
<td>NP</td>
<td>6.640</td>
<td>.637</td>
<td>10.42</td>
<td>.00</td>
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<td></td>
<td>H1: -</td>
<td>-.173</td>
<td>.112</td>
<td>-1.54</td>
<td>.07</td>
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<tr>
<td>Planning</td>
<td>NP</td>
<td>-.264</td>
<td>.075</td>
<td>-3.53</td>
<td>.00</td>
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<tr>
<td>PE by senior management</td>
<td>NP</td>
<td>-.354</td>
<td>.127</td>
<td>-2.78</td>
<td>.01</td>
</tr>
<tr>
<td>PE by BU manager</td>
<td>NP</td>
<td>-.162</td>
<td>.086</td>
<td>-1.88</td>
<td>.06</td>
</tr>
<tr>
<td>Planning*participation</td>
<td>H5: -</td>
<td>.046</td>
<td>.080</td>
<td>0.57</td>
<td>.28</td>
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<td>.031</td>
<td>.112</td>
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<td>.39</td>
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<td>PE BU manager*participation</td>
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<td>.118</td>
<td>-1.82</td>
<td>.04</td>
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<td>.108</td>
<td>-1.86</td>
<td>.07</td>
</tr>
<tr>
<td>Self-focused climate*participation</td>
<td>H2: +</td>
<td>.182</td>
<td>.136</td>
<td>1.33</td>
<td>.09</td>
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<td>Budget-related bonus</td>
<td>NP</td>
<td>.117</td>
<td>.066</td>
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<td>Strategy formation</td>
<td>NP</td>
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<td>.101</td>
<td>-0.87</td>
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<td>Communication of goals</td>
<td>NP</td>
<td>-.010</td>
<td>.130</td>
<td>-0.08</td>
<td>.94</td>
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<td>Size business unit (ln)</td>
<td>NP</td>
<td>-.094</td>
<td>.079</td>
<td>-1.19</td>
<td>.24</td>
</tr>
</tbody>
</table>

F = 7.63; p = 0.000
R² = 0.49

Reported p-values are one-tailed if they relate to a directional hypothesis, two-tailed otherwise.
Appendix: Measurement instrument

Budget slack
Please indicate the extent to which you agree with the following statements regarding your unit’s budget (1= strongly disagree, 5= strongly agree):

a. Standards set in the budget induce high productivity in your unit (reversed)
b. You have to carefully monitor costs in your unit because of budgetary constraints (reversed)
c. Budgetary targets have caused you to be particularly concerned with improving efficiency in your unit (reversed)

Budget participation
Please indicate the extent to which you agree with the following statements regarding your role in the preparation of your unit’s budget (1= strongly disagree, 5= strongly agree):

a. You are involved in setting all of your budget
b. Your superior clearly explains budget revisions (dropped)
c. You have frequent budget-related discussions with your superior (dropped)
d. You have a great deal of influence on your final budget
e. Your contribution to the budget is very important
f. Your superior initiates frequent budget discussions when the budget is being prepared (dropped)

Budget Roles
How large is the role of the budget within your unit in the following processes (1= very small, 5= very large):

a. Production planning (dropped)
b. Capacity planning (Planning)
c. Planning of personnel deployment (Planning)
d. Operational coordination with other units within the organization (dropped)
e. Monitoring production and/or service processes (dropped)
f. Evaluation of your unit’s performance by upper management (Performance evaluation by senior management; dropped in favour of Van der Stede, 2001)
g. Evaluation of your performance by upper management (Performance evaluation by senior management; dropped in favour of Van der Stede, 2001)
h. Evaluation of departments within your unit by you (*Performance evaluation by BU manager*)

i. Evaluation of managers within your unit by you (*Performance evaluation by BU manager*)

j. Communication of upper management’s expectations about your unit’s performance (dropped)

k. Communication of the way in which your unit can contribute to the performance of the organization (dropped)

l. Providing direction to the efforts of your unit (*Communication of goals*)

m. Setting priorities regarding the development of your unit (*Communication of goals*)

n. Creating a focus on the common objectives of the organization (dropped)

o. Strategic planning (*Strategy formation*)

p. Discussions about the long term development of your unit (*Strategy formation*)

q. Discussions about the impact of market developments on the performance of your unit (*Strategy formation*)

r. Revision or adjustment of your unit’s strategy (*Strategy formation*)

s. Formulation of plans to improve your unit (*Strategy formation*)

*Performance evaluation by senior management* (Van der Stede, 2001)

Please indicate the extent to which you agree with the following statements (1= strongly disagree, 5= strongly agree):

a. Upper management constantly reminds you of the need to meet budget targets

b. Upper management controls the unit chiefly by monitoring how well performance meets budget targets

c. Your promotion prospects depend heavily on your ability to meet budget targets

d. In the eyes of upper management, achieving budget targets is an accurate reflection of whether you are succeeding

*Strategy formation* (Libby and Lindsay, 2010; dropped in favour of items reported above)

Please indicate the extent to which you agree with the following statements (1= strongly disagree, 5= strongly agree):

a. Setting the budget causes us to talk about and reflect upon our strategy

b. We sometimes change our strategy/tactics based on the feedback derived from going through the budgeting process
c. Within the budget process, managers are expected to identify tactical initiatives to close the gap between current performance and the desired level of performance

Self-focused ethical climate

Please indicate the extent to which you agree with the following statements about the people in your unit (1= strongly disagree, 5= strongly agree):

a. People around here are mostly out for themselves
b. People in your unit think of their own welfare first when faced with a difficult decision
c. In your unit, people’s primary concern is with their own personal benefit