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# How Do Characteristics of Organizational Budgetary Systems Affect Employee Attitudes and Behaviors?

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**How Do Characteristics of Organizational Budgetary Systems  
Affect Employee Attitudes and Behaviors?**

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Senior Thesis

Submitted to the Honors Program of  
Western Kentucky University

Spring 2008

Approved by

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## **Abstract**

This paper is a review of the literature that examines relationships between budgetary system characteristics and employee attitudes and behaviors. Articles were selected on the basis of several criteria: (a) they present studies that empirically examine the effect of one or more budgetary system characteristics on one or more attitudes and behaviors, (b) they were published in accounting and organizational behavior journals that are common outlets for empirical budgeting research, and (c) they were published in 1995 or later. Results of this review indicated that budgetary participation and budgetary justice are particularly important budgetary system characteristics that affect a variety of employee attitudes and behaviors, particularly performance, budgetary slack, and job satisfaction. Budgetary participation and budgetary justice work through a variety of intervening variables such as organizational commitment, budget goal commitment, budget-based compensation, job-relevant information, role ambiguity, information asymmetry, trust in superior, and budget satisfaction. The effects of budgetary participation and budgetary justice on employee attitudes and behaviors are moderated by variables such as role ambiguity, information asymmetry, budget emphasis, procedural justice, and role conflict. This literature review provides insight that will help practicing accountants design and implement more effective budgetary systems. The findings will also help provide a resource for researchers who study relationships between budgetary system characteristics and employees' attitudes and behaviors.

## **Introduction**

Budgeting is one of the most vital processes in organizations and plays a number of important roles. The term budget refers to “the quantitative expression of a proposed plan of action by management” (Horngren, Datar, & Foster, 2006, p. 7). The two main areas in which budgeting aids organizations are planning and controlling. Planning “comprises selecting organization goals, predicting results under various alternative ways of achieving those goals, deciding how to attain the desired goals, and communicating the goals and how to attain them to the entire organization” (Horngren et al., 2006, p. 7). Controlling is the process of “taking actions that implement the planning decisions, deciding how to evaluate performance, and providing feedback that will help future decision making” (Horngren et al., 2006, p. 7).

Budget formulation promotes planning in the organization. Planning aspects of budget formulation include identifying specific actions to achieve the organization’s goals and determining how to distribute the organization’s resources. In identifying specific actions to achieve the organization’s goals, the organization must construct a budget that takes into account various operating issues such as how much product to make, how much material to buy, what equipment is needed, and how much cash is needed. The determination of how to distribute the organization’s resources involves allocating scarce resources between various activities in a way that best achieves the organization’s goals. Budgeting also motivates organizations to set clear operating objectives for employees that are consistent with organizational goals. The development of these objectives is an aspect of planning.

Control aspects of budgeting include the ways that budgets are used to direct and evaluate employee behaviors. Budgets serve as targets towards which employees should direct their work efforts and as benchmarks for evaluating employee work performance. Budget targets help

communicate the organization's objectives to employees so that all are clear on the resources they are expected to use as well as the level of production activity the organization desires. By clearly outlining these targets in a budget for which employees have responsibility, confusion is minimized and employees' activities are channeled towards the organization's goals and objectives. In setting a budget benchmark for employees, supervisors can assess whether employees' performance is consistent with the organization's goals. "Knowledge of the budgeted goals and information about the extent to which those goals have been achieved provide managers a basis for measuring efficiency, identifying problems, and controlling costs" (Kenis, 1978, p. 707). Budgets also act as a tool for motivating employees. Because they are evaluated, and likely rewarded, on how well they achieve their budget, employees will strive to meet the budget targets in order to receive a favorable evaluation and maximize their material rewards (such as pay, bonuses, and advancement) and psychological rewards (such as self-esteem and satisfaction) (Kenis, 1978).

Characteristics of budgetary systems can affect employees' attitudes and behavior. Employees care about and react to budgeting for a variety of different reasons. One reason is that employees are evaluated and rewarded on their ability to achieve their budget targets. Because the budget is formally linked to material rewards, employees are concerned that their budget and the process used to develop that budget enable them to realize adequate rewards (Magner, Johnson, Little, Staley, & Welker, 2006). A related reason that employees care about budgeting is that their ability to do their job is affected by the size of the budgetary resource allocation they have received. For example, when the organization imposes an unrealistic budget consisting of too few resources, employees may have difficulty performing their job to the best of their ability and their performance may suffer. Another reason that employees care about



budgeting is that the budget and the way it is developed provide signals as to whether the organization values the employees, which might affect psychological rewards like the employees' self-esteem (Magner et al., 2006).

The purpose of this paper is to provide a review of the literature on the subject of budgetary system characteristics that affect employees' attitudes and behaviors. The paper will examine the issues of which specific characteristics of budgetary systems are particularly important to employees and how employees react to these characteristics in terms of specific attitudes and behaviors. Findings from the paper will provide insight that will help practicing accountants design and implement more effective budgetary systems. The findings will also provide a resource for researchers who study relationships between budgetary system characteristics and employees' attitudes and behaviors.

The next section of the paper will outline the method used in selecting articles for the literature review. Subsequent sections will present the results of the literature review and a discussion of the results, including limitations and suggestions for future research.

### **Method**

Articles were selected for review on the basis of several criteria. The articles present studies that empirically examine the effect of one or more budgetary system characteristics on one or more employee attitudes and behaviors. The articles include both laboratory experiments and field studies. Laboratory experiments are carried out in a controlled environment in order to allow the researchers to manipulate independent variables. Field studies are carried out by observing the subjects functioning in their own environment. Field studies generally do not allow researchers to manipulate independent variables. The independent variables in the articles

under review are characteristics of an organizational budgetary system that can be influenced by people who design and implement the budgetary system. The dependent variables represent attitudinal and behavioral reactions of an individual employee. The articles come from accounting and organizational behavior journals that are common outlets for empirical budgetary research. These journals include, but are not limited to, *Accounting, Organizations and Society*, *Behavioral Research in Accounting*, *The Journal of Management Accounting Research*, *Advances in Accounting Behavioral Research*, and *Advances in Management Accounting*. Articles are limited to those published in 1995 or later. Articles from this recent time period reflect researchers' current judgment of the most important characteristics of organizational budgetary systems and the most compelling theory for why these characteristics are linked to employee attitudes and behavior. These recent trends are of the most value to budgetary researchers and budgeting systems designers, who comprise the target audience for the paper. A focus on recent articles does not exclude empirical findings and theory from earlier studies as recent research generally builds upon this prior literature. The Appendix contains an annotated bibliography of the articles included in this paper.

## **Results**

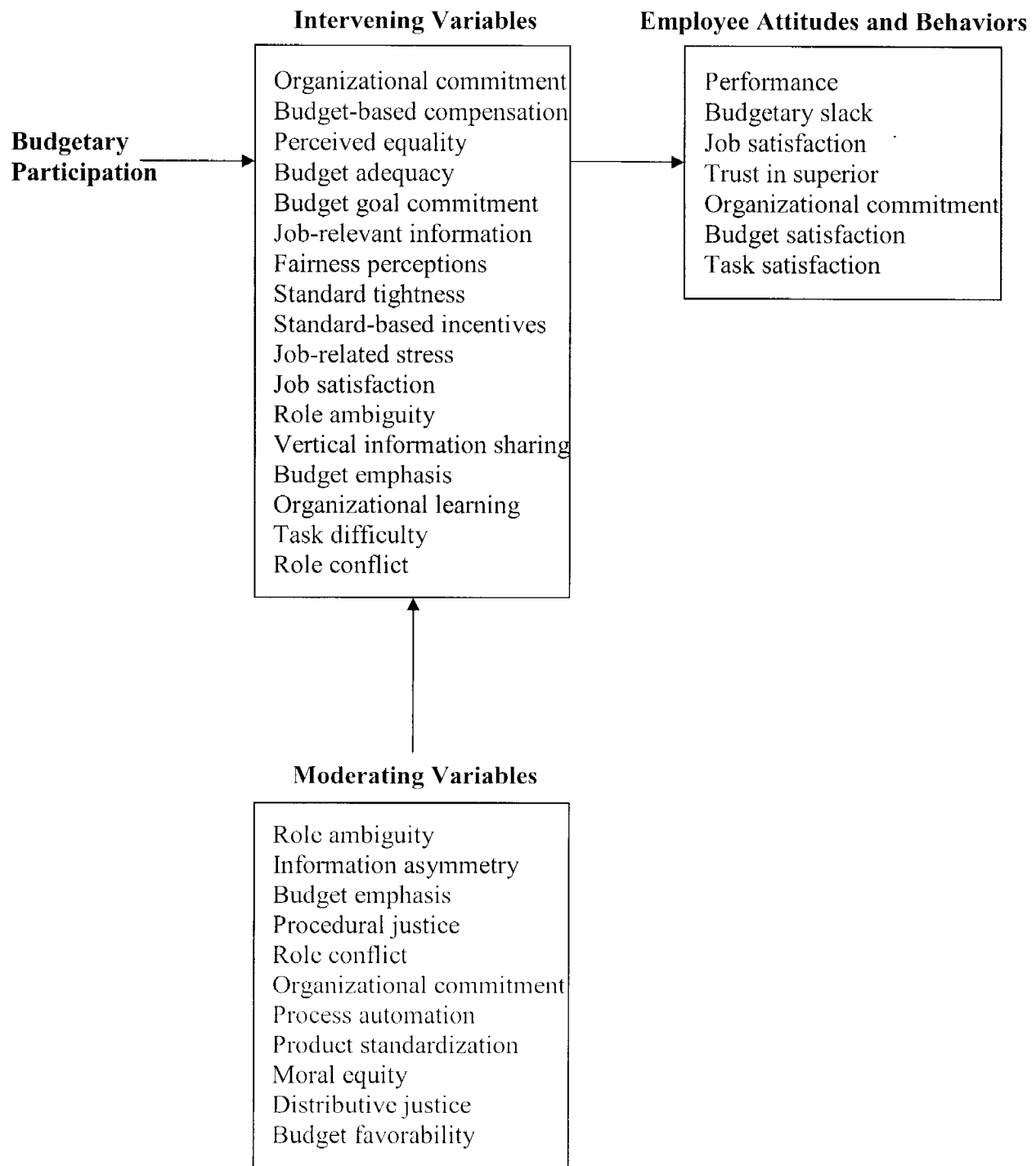
For purposes of analysis, articles are classified by their independent variables, which represent characteristics of budgetary systems. Two categories of independent variables, budgetary participation and budgetary justice, have received substantially more attention in the literature under review than any other variables. Therefore, the analysis focuses on these two budgetary system characteristics. Within each category of independent variable, the analysis groups articles by dependent variables, which represent employee attitudes and behaviors. The

analysis also identifies intervening and moderating variables. Intervening variables are both directly affected by budgetary system characteristics and directly affect employee attitudes and behaviors (Murray, 1990, p. 105). Moderating variables influence the sign or level of the association between budgetary system characteristics and employee attitudes and behaviors (Murray, 1990, p. 105).

### ***Budgetary Participation***

The most frequently studied characteristic of budgetary systems is budgetary participation. Budgetary participation was defined by Brownell (1982, p. 124) as “a process in which individuals, whose performance will be evaluated, and possibly rewarded, on the basis of their achievement of budgeted targets, are involved in, and have influence on, the setting of these targets.” Versions of this definition, which emphasizes the concepts of both budgetary involvement and budgetary influence, have generally been used in subsequent studies on budgetary participation (e.g., Maiga, 2005a,b; Quirin, Donnelly, & O’Bryan, 2000; Radtke & Stinson, 1999). Figure 1, which is on the next page, summarizes the findings regarding budgetary participation.

***Performance.*** Many studies, consisting of both laboratory experiments and field studies, have addressed the link between budgetary participation and individual employee performance. Although some studies have demonstrated a negative relationship between these variables, participation has generally been found to have a positive effect on performance. Participation’s effects on performance are often indirect via intervening variables. Also, the relationship between participation and performance is sometimes influenced by moderating variables.



*Figure 1. Summary of Findings Regarding Budgetary Participation's Effects on Employee Attitudes and Behaviors*

Organizational commitment is a common intervening variable linking participation and performance. Organizational commitment is “the employee’s acceptance of organizational goals and his/her willingness to exert effort on behalf of the organization” (Quirin et al., 2000, p. 128). Quirin and colleagues (Quirin et al., 2000; Quirin, O’Bryan, & Donnelly, 2004) found that organizational commitment as well as budget-based compensation intervened between budgetary participation and performance. Budget-based compensation is a reward, usually monetary, given to employees in exchange for meeting the budget. Quirin et al. (2000) reported that budgetary participation led to greater use of budget-based compensation, which led to increased levels of organizational commitment, which ultimately led to higher performance. Quirin et al. (2004) was similar to the above study, but added perceived equality as another intervening variable. Perceived equality is the employees’ belief that they are being treated fairly within the budget process. The study found that budgetary participation was directly associated with the increased use of budget-based compensation, higher levels of perceived equality, and greater organizational commitment. Budget-based compensation and perceived equality were also directly associated with greater organizational commitment. Increased levels of commitment led, in turn, to higher performance. When employees participate in the budgetary process, they feel that they have more input into and control over the goals that are set for them, as well as more control over the effort that is necessary to attain those goals. This condition results in a sense of equality, as well as increased commitment to the organization, which encourages the employees to perform better.

Nouri and Parker (1998) theorized that budgetary participation affects performance through organizational commitment and budget adequacy. Budget adequacy is employees’ perception of how well their allocated resources will allow them to successfully do their job.

Budgetary participation was proposed to lead to higher budget adequacy, which would increase job performance both directly as well as indirectly via greater organizational commitment. The results supported the proposed model. They showed that employees who were allowed to participate in the budgetary process had higher budget adequacy, which increased job performance indirectly through greater organizational commitment. Higher budget adequacy also increased job performance directly.

In addition to the studies in which organizational commitment was an intervening variable between budgetary participation and performance, three studies examined a related intervening variable, budget goal commitment. Budget goal commitment is the resolve to meet a budget goal and to persevere toward that goal. Chong and Chong (2002) found linkages between budgetary participation and budget goal commitment, between budget goal commitment and job-relevant information, and between job-relevant information and job performance. The more employees were allowed to participate in the budgetary process, the more committed they became to the organization's budget goals, and the more likely they were to obtain information that was relevant to performing their job. The receipt of job-relevant information led to better overall job performance. Maiga (2005a) theorized that two separate dimensions of budgetary participation, budget communication and budget influence, affected managerial performance through the intervening variable of budget goal commitment. Results supported this theory, showing that budget communication and budget influence were each positively related to budget goal commitment, which was positively related to managerial performance. Wentzel (2002) examined the relationship between budgetary participation and performance via the intervening variables of goal commitment and fairness perceptions. Fairness perceptions are employees' beliefs that they are being treated equitably and reasonably. The study found that participation

was positively related to budgetary fairness perceptions, which indirectly translated into improved performance via greater goal commitment.

Shields, Deng, and Kato (2000) found that budgetary participation affects performance through standard tightness, standard-based incentives, and job-related stress. Standard tightness is to the extent to which performance standards are difficult to achieve. Standard-based incentives are “a bonus received for each unit of measured performance in excess of the performance standard” (Shields, Deng, & Kato, p. 185). Results indicated that budgetary participation decreased the tightness of the standard that was set and increased the incentives that employees received for performance relative to the standard. In turn, standard tightness increased job-related stress, while standard-based incentives decreased job-related stress. The more job-related stress an employee experienced, the worse he or she performed.

Chong, Eggleton, and Leong (2005) examined the intervening effects of job-relevant information and job satisfaction on the relationship between budgetary participation and job performance. Job satisfaction is a positive emotional state resulting from the appraisal of one’s job or job experiences (Locke, 1976). The results supported the authors’ theory that there are positive causal links between budgetary participation and job-relevant information, between budgetary participation and job satisfaction, between job-relevant information and job satisfaction, between job-relevant information and job performance, and between job satisfaction and job performance. An employee’s participation in the budgetary process enhances the acquisition of job-relevant information, while the availability and use of this information enhances job satisfaction and job performance. The results are consistent with the cognitive model of participation’s effects, which suggests that subordinates’ participation in the budget setting process enhances the flow of information in the organization. The results are also

consistent with the value attainment model of budgetary participation's effects, which suggests that participation provides employees with job values such as respect and self-esteem.

Parker and Kyj (2006) addressed the relationship between budgetary participation and job performance using organizational commitment, vertical information sharing, and role ambiguity as intervening variables. Vertical information sharing is the communication of private information between subordinates and their superiors. Role ambiguity is "the degree to which clear information is lacking regarding the expectations associated with a role, methods for fulfilling known role expectations, and/or the consequences of role performance" (Chong & Bateman, 2000, p. 93). Parker and Kyj found that budgetary participation affected job performance indirectly via information sharing, role ambiguity, and organizational commitment. Participation increased information sharing, which, in turn, led to higher performance. Participation reduced role ambiguity, which, in turn, led to higher performance. Organizational commitment was affected by budgetary participation via role ambiguity. When budgetary participation increased, role ambiguity decreased, leading to an increase in organizational commitment. Increased organizational commitment, in turn, caused more information sharing and higher job performance. Chong (2002) also investigated whether role ambiguity links budgetary participation to performance. He re-examined the study by Chenhall and Brownell (1988), who found that role ambiguity acts as an intervening variable between budgetary participation and performance. The results supported Chenhall and Brownell by showing that budgetary participation reduced role ambiguity, which led to higher performance.

The preceding articles in this section of the paper have focused on the relationship between budgetary participation and performance conducted through intervening variables. This relationship can also be affected by moderating variables. For example, Radtke and Stinson



(1999) examined the moderating effects that information asymmetry and budget emphasis have on the relationship between budgetary participation and performance. Information asymmetry occurs when an employee has better information than a supervisor about a specific job. Budget emphasis occurs when a supervisor stresses achievement of the budget goal when evaluating the performance of an employee. The results showed that performance was highest under the condition of high participation combined with low budget emphasis and low information asymmetry.

Lau and Lim (2002) studied the link between budgetary participation and managerial performance with procedural justice and budget emphasis as moderating variables. Procedural justice occurs when the process used to determine a budgetary outcome is perceived as fair. They found that budget emphasis influences the interaction between budgetary participation and procedural justice that affects managerial performance. In situations where the budget was highly emphasized, there was a significant interaction between budgetary participation and procedural justice affecting managerial performance. The pattern of the interaction indicated that budgetary participation was more effective in increasing managerial performance in low procedural justice situations than in high procedural justice situations. In situations where there was low budget emphasis, budgetary participation and procedural justice did not interact to affect managerial performance.

One study under review examined the effects of both an intervening variable and a moderating variable on the relationship between budgetary participation and performance. Chalos and Poon (2001) found that organizational learning was an intervening variable between budgetary participation and performance. Organizational learning addresses the extent to which the budgetary process is high on the characteristics of budget information sharing, learning

during the budgetary process, planning for environmental uncertainty, and budgetary feedback. Budgetary participation led to higher learning, which led to higher performance. Chalos and Poon also found that budget emphasis moderated the relationship between budgetary participation and performance. As budget emphasis increased, the effects of budgetary participation on performance grew stronger.

Chong and Bateman (2000) investigated role ambiguity and role conflict as moderating the relationship between budgetary participation and performance. Role conflict occurs when the expectations of employees and management regarding employees' role in the organization are dissimilar. The results showed that budgetary participation interacted with both role ambiguity and role conflict to affect managerial performance. As role ambiguity and role conflict increased, the positive relationship between budgetary participation and performance became stronger.

Lau and Buckland (2000) examined the relationship between budgetary participation and performance within the Nordic culture. The authors hypothesized that there is a three-way interaction between budgetary participation, budget emphasis, and task difficulty that affects the performance of Norwegian managers. The study supported the hypothesis, finding that when task difficulty was low, high budgetary participation and high budget emphasis led to high performance levels. When task difficulty was high, moderate budgetary participation and low budget emphasis led to moderate performance levels. Moderate budgetary participation was studied instead of low budgetary participation because of an aspect of Norwegian culture. In more frequently studied cultures, such as those found in Anglo-American and Asian nations, budgetary participation can range from low to high. In Norway, however, budgetary

participation is almost always at least moderate, reducing the relevant range for study to moderate to high budgetary participation.

***Budgetary slack.*** Three studies under review examined the relationship between budgetary participation and either budgetary slack or the propensity to create budgetary slack. Budgetary slack is “the intentional underestimation of revenues and productive capabilities and/or overestimation of costs and resources required to complete a budgeted task” (Dunk & Nouri, 1998, p. 73). These articles have focused on variables that moderate the relationship between budgetary participation and budgetary slack.

Nouri and Parker (1996) showed that organizational commitment moderates the relationship between budgetary participation and budgetary slack. For individuals with strong organizational commitment, budgetary participation and slack were inversely related, while for individuals with weak organizational commitment, budgetary participation and slack were positively related. Dunk and Lal (1999) examined the relationship between budgetary participation and the propensity to create budgetary slack, with process automation and product standardization as moderating variables. Process automation occurs when manual production processes are supplemented with an automatic mechanical version in order to lower costs and increase consistency. Product standardization occurs when all units of the same type of product are uniform and interchangeable. The results indicated that when process automation and product standardization were either both high or both low, budgetary participation reduced the propensity to create budgetary slack. However, when automation and standardization were at inverse levels, budgetary participation did not influence the propensity to create budgetary slack. Maiga (2005b) investigated whether moral equity moderates the relationship between budgetary participation and budgetary slack. Moral equity is “the major evaluative criterion for ethical

judgment...based on the overall concept of fairness, justice, and right” (Maiga, p. 141). He found that for managers with high moral equity, increased budget participation led to decreased budgetary slack. In contrast, for managers with low moral equity, increased budgetary participation led to increased budgetary slack.

***Job satisfaction.*** Four studies under review dealt with the relationship between budgetary participation and job satisfaction. Two related studies examined role ambiguity as an intervening variable between budgetary participation and job satisfaction. The first of these, Chong and Bateman (2000), also included role conflict as an intervening variable. Chong and Bateman reported that budgetary participation reduced both role ambiguity and role conflict, which, in turn, enhanced job satisfaction. Thus, when employees are allowed to participate in the budgetary process, they better understand what role is expected of them as well as obtain information that will allow them to successfully fulfill that role. Chong (2002) re-examined an earlier study by Chenhall and Brownell (1988), which reported that budgetary participation reduced role ambiguity, which led to greater job satisfaction. He found support for these relationships.

Lau and Chong (2002) examined the relationship between budgetary participation and job satisfaction, with budget emphasis and organizational commitment as moderating variables. Results indicated a significant three-way interaction between budget emphasis, budgetary participation, and organizational commitment affecting job satisfaction. Job satisfaction was highest when organizational commitment was high and budget emphasis and budgetary participation were matched, either both high or both low.

Lau and Tan (2003) supported a proposed indirect relationship between budgetary participation and job satisfaction with job-relevant information as an intervening variable. They

found that higher levels of budgetary participation allowed for increased sharing of job relevant information, which led to increased job satisfaction.

*Other employee attitudes.* While the literature has emphasized the dependent variables performance, budgetary slack, and job satisfaction, budgetary participation has also been shown to affect other types of attitudinal reactions. Magner, Welker, and Campbell (1995) examined how budgetary participation is related to trust in superior and organizational commitment, with budget favorability as a moderating variable. Budget favorability occurs when an employee receives a budget that he or she feels positively about in the respects that it is fair and will allow the employee to do his or her job adequately. The study found that budgetary participation had a stronger positive relationship with trust in superior and organizational commitment when budget favorability was low than when it was high.

Lindquist (1995) examined the effects of budgetary participation on budget satisfaction and task satisfaction with distributive budgetary justice and procedural budgetary justice as moderating variables. Budget satisfaction is a positive emotion resulting from an appraisal of one's budget, and task satisfaction is a positive emotion resulting from an appraisal of one's task. Procedural budgetary justice is the perceived fairness of the process used to determine a budgetary outcome. Distributive budgetary justice is the perceived fairness of a budgetary outcome. Lindquist found that when budgetary participation was high, budget satisfaction and task satisfaction were higher in situations where procedural budgetary justice and distributive budgetary justice were also high than in situations when procedural budgetary justice and distributive budgetary justice were low. When budgetary participation was low, budget satisfaction and task satisfaction were lower overall than when budgetary participation was high. However, even in the low budgetary participation condition, budget satisfaction and task

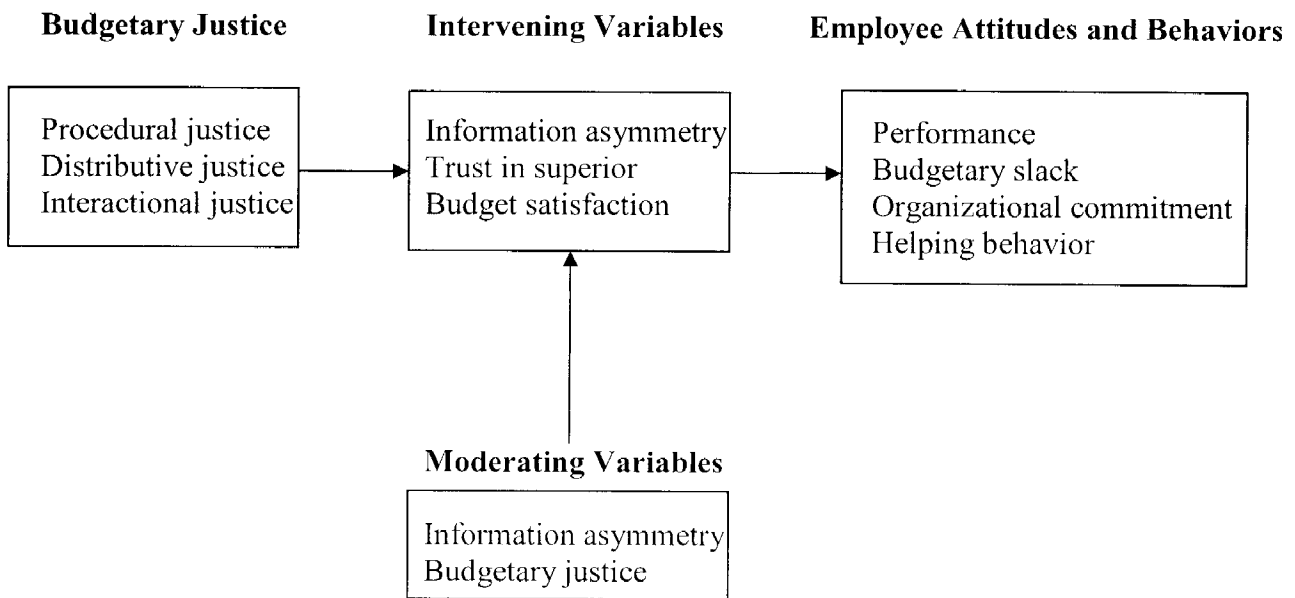
satisfaction were still higher in situations where procedural budgetary justice and distributive budgetary justice were high than in situations when procedural budgetary justice and distributive budgetary justice were low.

### ***Budgetary Justice***

The concept of justice encompasses an increasingly large category of budgetary system characteristics being examined by researchers. In the budgeting literature, the term justice is often used interchangeably with the term fairness. For the purposes of this review, the term justice will be used exclusively. Forms of budgetary justice include procedural budgetary justice, distributive budgetary justice, and interactional budgetary justice. Procedural budgetary justice is the perceived fairness of the process used to determine a budgetary outcome. Distributive budgetary justice is the perceived fairness of a budgetary outcome. Interactional budgetary justice is the extent to which employees involved in the budget process perceive they are treated fairly by budgetary decision makers. Forms of budgetary justice affect dependent variables that include budgetary performance, budgetary slack, and other attitudes and behaviors. Figure 2, which is on the next page, summarizes the findings regarding budgetary justice.

***Performance.*** Several of the studies under review focused on relationships between budgetary justice and individual job performance. In these studies, performance was affected by some or all of the budgetary justice variables. Higher budgetary justice generally led to higher performance.

Maiga (2006) studied the relationships between the three budgetary justice variables and budget performance, with budget satisfaction as an intervening variable. The results indicated that as procedural budgetary justice, distributive budgetary justice, and interactional budgetary justice increased, budget satisfaction increased, which led to an increase in budget performance.



*Figure 2. Summary of Findings Regarding Budgetary Justice's Effects on Employee Attitudes and Behaviors*

Little, Magner, and Welker (2002) examined whether procedural budgetary justice and interactional budgetary justice interact to affect job performance. They reported that when interactional budgetary justice was high, procedural budgetary justice had a positive relationship with job performance. When interactional budgetary justice was low, procedural budgetary justice was not related to job performance.

Libby (1999) studied the link between the use of a fair budgetary process and subordinate performance. A fair budgetary process consisted of two elements: voice and explanation. Voice is subordinates' ability to participate in the budgetary process by sharing their views with their superiors. Explanation occurs when a supervisor gives subordinates a cause or justification as to why the outcome of a budgetary decision-making process was not affected by subordinates' views. Results indicated that performance was highest when both explanation and voice were present.

***Budgetary slack.*** The most frequent dependent variable in studies focusing on budgetary justice is budgetary slack. Budgetary justice variables have generally been found to reduce budgetary slack and propensity to create budgetary slack.

Wentzel (2004) examined the relationship between distributive budgetary justice, procedural budgetary justice, information asymmetry, and budgetary slack under conditions where managers participate in setting their budget. She found that higher distributive budgetary justice was associated with lower budgetary slack. Furthermore, procedural budgetary justice and information asymmetry favoring the manager interacted to affect budgetary slack such that the negative relationship between procedural justice and budgetary slack was greater when informational asymmetry was high.



Staley and Magner (2007) proposed that procedural budgetary justice and interactional budgetary justice both affect managers' propensity to create budgetary slack via the intervening variable trust in superior. The results indicated that procedural budgetary justice and interactional budgetary justice each increase trust in supervisor, which decreases the propensity to create budgetary slack.

Little, Magner, and Welker (2002) found that procedural budgetary justice and interactional budgetary justice interacted to affect propensity to create budgetary slack. When interactional budgetary justice was high, procedural budgetary justice had a negative relationship with propensity to create budgetary slack. When interactional budgetary justice was low, procedural budgetary justice was not related to propensity to create budgetary slack.

Libby (2003) examined the relationship between fair contracting processes and budgetary slack. Fair contracting processes exist when the performance or compensation contract under which an employee is obligated creates a "pleasant atmosphere of cooperation and compromise even when the values, desires, and concerns of the decision-maker and affected parties may not always agree" (Hunton, 1996, p. 650). Contracting processes were considered either fair or unfair based on the fairness of the procedures used to determine them. When contracting processes were fair, budgetary slack was low. Alternatively, when contracting processes were unfair, budgetary slack was high.

***Other attitudes and behaviors.*** In addition to performance and budgetary slack, budgetary justice affects several other types of employee attitudes and behaviors. Staley, Dastoor, Magner, and Stolp (2003) studied how distributive budgetary justice, procedural budgetary justice, and interactional budgetary justice are related to organizational commitment. They found that as procedural budgetary justice and interactional budgetary justice increased,

organizational commitment also increased. No relationship emerged between distributive budgetary justice and organizational commitment.

Little, Magner, and Welker (2002) examined the interactive effect of procedural budgetary justice and interactional budgetary justice on helping behavior. Helping behavior is assisting coworkers with their work in a way that does not result in a formal reward. They reported that when interactional budgetary justice was high, procedural budgetary justice had a positive relationship with helping behavior. When interactional budgetary justice was low, procedural budgetary justice was not related to helping behavior.

### **Discussion**

The literature reviewed here suggests that budgetary participation and budgetary justice are two particularly important budgetary system characteristics. Budgetary participation, which has received the most attention, influences a variety of employee attitudes and behaviors, with strong empirical support for participation's effects on performance, job satisfaction, and budgetary slack. Budgetary participation also affects attitudes such as trust in superior and organizational commitment. Generally, higher levels of budgetary participation lead to more favorable behaviors and attitudes.

Budgetary participation's effects are rarely direct, but instead often work through intervening variables. Variables found to intervene on the casual path between participation and employee attitudes and behaviors include organizational commitment, budget goal commitment, budget-based compensation, job-relevant information, and role ambiguity. Furthermore, budgetary participation's effects are sometimes conditioned by moderating variables. Variables found to moderate the strength or direction of participation's effects on employee attitudes and

behaviors include role ambiguity, information asymmetry, budget emphasis, procedural justice, and role conflict.

Budgetary justice has strong support as an antecedent of performance and budgetary slack, and has also been found to influence other reactions such as organizational commitment and helping behavior. Generally, higher levels of budgetary justice lead to more favorable behaviors and attitudes.

Compared to budgetary participation research, a relatively smaller proportion of budgetary justice studies have examined intervening or moderating variables. Variables found to intervene on the casual path between budgetary justice and employee attitudes and behaviors include information asymmetry, trust in superior, and budget satisfaction. Information asymmetry has also been found to moderate the effects of budgetary justice. Evidence also suggests that budgetary justice variables may moderate one another.

### ***Limitations***

The budgeting studies discussed in this paper are subject to several limitations that may harm the internal validity or external validity of their results. Internal validity is the extent to which a cause-and-effect relationship between independent and dependent variables can be inferred from the results of a study. External validity is the extent to which the results can be generalized to people other than those in the study.

Variables that are relevant in real life may be excluded from the theoretical models in budgeting studies in order to make the method less complicated or the results easier to interpret. If these variables had not been omitted, the results may have been substantially different. For example, a study may hypothesize and find results supporting a direct relationship between

budgetary participation and budgetary slack. However, the study may have excluded variables that exist outside this direct relationship, but which have an important influence on it.

Many of the articles reviewed were cross-sectional field studies. Cross-sectional research, where data on all variables are gathered at a single point in time, cannot prove causality. While a relationship between variables can be detected, the causal direction of this relationship cannot be determined with certainty. For example, a cross-sectional study may hypothesize and find support for a positive effect of budgetary justice on job satisfaction. However, it is possible that causality occurs in the opposite direction: employees who have high job satisfaction may be more likely to see the budget-setting process as fair. Also, scales used to measure budgetary system characteristics or employee attitudes and behaviors may have measurement error. For example, in self-rated performance measures, subjects may rate their performance higher than would an independent observer. Measurement error can either inflate or reduce the magnitude of the relationship between variables.

Studies that fail to find hypothesized relationships between variables often do not get published. Therefore, the literature may suggest that a relationship is more robust than it would if these studies had been published. For instance, people may conclude that high budgetary participation generally leads to high performance because of the many published studies that support this relationship. However, an even greater number of studies that refute this relationship may be unpublished.

Care must be taken in generalizing results based on one group of subjects to other employee groups. Factors specific to the subjects such as their employment sector, organizational level, experience, gender, or age may influence the results and therefore the extent to which they apply beyond the study. In some studies, the sample size is relatively small, which

creates the potential for unstable results that do not hold for other samples. Many laboratory experiments use students as subjects, which increases the risk that the results will not apply to actual workplace settings. Also, subjects in laboratory experiments often think more consciously about their actions than they would in real life. This situation can result in the subjects behaving in ways that are substantially different than they would have behaved if they were not under obvious observation.

Studies can be biased by researchers, a situation that may undermine the validity of the results. Because the researcher chooses the method of the study and the specific research questions to be answered, ample opportunity exists for the researcher to inadvertently or intentionally model these aspects to suit his or her own needs. Also, variables are not always measured or manipulated consistently across studies or are defined in different ways. This condition reduces the comparability of results across studies. For example, some studies define the variable of budgetary participation to include both voice and influence over budgetary decisions, while other studies define participation to include only influence.

### ***Suggestions for Future Research***

Current budgeting literature focuses heavily on the budgetary system characteristics of participation and justice. Due to the emphasis on these characteristics, relatively little is known about how other budgetary system characteristics affect employee attitudes and behaviors. Future research should examine other types of budgetary system characteristics as independent variables. Some of these could be drawn from the wide range of intervening and moderating variables identified in this review. For example, supervisor budget emphasis and budget-based compensation could be given more central roles as independent variables. This practice would allow for more empirical evidence to be gathered as these budgetary system characteristics are

examined from a new perspective. Also, new types of attitudinal and behavioral reactions to budgetary system characteristics could also be examined. For example, job involvement and organizational citizenship behaviors could be used as dependent variables. In addition, more attention could be devoted to clarifying the causal processes by which budgetary justice works and identifying variables that moderate the effects of budgetary justice. Future research could also test relationships between budgetary system characteristics and employee reactions with both laboratory experiments and field studies to address relative the weaknesses of each approach. For example, evidence of a relationship between budgetary participation and budgetary slack is stronger if the relationship is found both in laboratory experiments, which emphasize internal validity, and field studies, which emphasize external validity.

## References

- Brownell, P. (1982). Participation in the budgeting process: When it works and when it doesn't. *Journal of Accounting Literature*, 1, 124-153.
- Chalos, P., & Poon, M. (2001). Participative budgeting and performance: A state of the art review and re-analysis. *Advances in Management Accounting*, 10, 171-201.
- Chenhall, R. H., & Brownell, P. (1988). The effect of participative budgeting on job satisfaction and performance: Role ambiguity as an intervening variable. *Accounting, Organizations and Society*, 13, 225-233.
- Chong, V. K. (2002). A note on testing a model of cognitive budgetary participation processes using a structural equation modeling approach. *Advances in Accounting*, 19, 27-51.
- Chong, V. K., & Bateman, D. (2000). The effect of role stress on budgetary participation and job satisfaction-performance linkages: A test of two different models. *Advances in Accounting Behavioral Research*, 3, 91-118.
- Chong, V. K., & Chong, K. M. (2002). Budget goal commitment and informational effects of budget participation on performance: A structural equation modeling approach. *Behavioral Research In Accounting*, 14, 65-86.
- Chong, V. K., Eggleton, I. R. C., & Leong, M. K. C. (2005). The effects of value attainment and cognitive roles of budgetary participation on job performance. *Advances in Accounting Behavioral Research*, 8, 213-233.
- Dunk, A. S., & Lal, M. (1999). Participative budgeting, process automation, product standardization, and managerial slack propensities. *Advances in Management Accounting*, 8, 139-157.

- Dunk, A. S., & Nouri, H. (1998). Antecedents of budgetary slack: A literature review and synthesis. *Journal of Accounting Literature*, 17, 72-96.
- Horngrén, C., Datar, S., & Foster, G. (2006). *Cost accounting: A managerial emphasis* (12<sup>th</sup> ed.). Upper Saddle River, N.J.: Prentice Hall.
- Hunton, J. (1996). Involving information system users in defining system requirements: The influence of procedural justice perceptions on user attitudes and performance. *Decision Sciences*, 27, 647-671.
- Kenis, I. (1979). Effects of budgetary goal characteristics on managerial attitudes and performance. *The Accounting Review*, 24, 707-721.
- Lau, C. M., & Buckland, C. (2000). Budget emphasis, participation, task difficulty and performance: The effect of diversity within culture. *Accounting and Business Research*, 31, 37-55.
- Lau, C. M., & Chong, J. (2002). The effects of budget emphasis, participation and organizational commitment on job satisfaction: Evidence from the financial services sector. *Advances in Accounting Behavioral Research*, 5, 183-211.
- Lau, C. M., & Lim E. W. (2002). The effects of procedural justice and evaluative styles on the relationship between budgetary participation and performance. *Advances in Accounting*, 19, 139-160.
- Lau, C. M., & Tan, S. L. C. (2003). The effects of participation and job-relevant information on the relationship between evaluative style and job satisfaction. *Review of Quantitative Finance and Accounting*, 21, 17-34.
- Libby, T. (1999). The influence of voice and explanation on performance in a participative budgeting setting. *Accounting, Organizations and Society*, 24, 125 - 137.



- Libby, T. (2003). The effect of fairness in contracting on the creation of budgetary slack. *Advances in Accounting Behavioral Research*, 6, 145-169.
- Lindquist, T. M. (1995). Fairness as an antecedent to participative budgeting: Examining the effects of distributive justice, procedural justice and referent cognitions on satisfaction and performance. *Journal of Management Accounting Research*, 7, 122-147.
- Little, H. T., Magner, N. R., & Welker, R. B. (2002). The fairness of formal budgetary procedures and their enactment. *Group & Organization Management*, 27, 209-225.
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297-1349). Chicago, IL: Rand McNally.
- Magner, N. R., Johnson, G. G., Little, H. T., Staley, A. B., & Welker, R. B. (2006). The case for fair budgetary procedures. *Managerial Auditing Journal*, 21, 408-419.
- Magner, N., Welker, R. B., & Campbell, T. L. (1995). The interactive effect of budgetary participation and budget favorability on attitudes toward budgetary decision makers: A research note. *Accounting, Organizations and Society*, 20, 611-618.
- Maiga, A. S. (2005a). Antecedents and consequences of budget participation. *Advances in Management Accounting*, 14, 211-231.
- Maiga, A. S. (2005b). The effect of manager's moral equity on the relationship between budget participation and propensity to create slack: A research note. *Advances in Accounting Behavioral Research*, 8, 139-165.
- Maiga, A. S. (2006). Fairness, budget satisfaction, and budget performance: A path analytic model of their relationships. *Advances in Accounting Behavioral Research*, 9, 87-111.

- Murray, D. (1990). The performance effects of participative budgeting: An integration of intervening and moderating variables. *Behavioral Research in Accounting*, 2, 104-123.
- Nouri, H., & Parker, R.J. (1996). The effect of organizational commitment on the relation between budgetary participation and budgetary slack. *Behavioral Research in Accounting*, 8, 74-90.
- Nouri, H., & Parker, R. J. (1998). The relationship between budgetary participation and job performance: The roles of budget adequacy and organizational commitment. *Accounting, Organizations and Society*, 23, 467-483.
- Parker, R. J., & Kyj, L. (2006). Vertical information sharing in the budget process. *Accounting, Organizations and Society*, 31, 27-45.
- Quirin, J. J., Donnelly, D. P., and O'Bryan, D. (2000). Consequences of participative budgeting: The roles of budget-based compensation, organizational commitment, and managerial performance. *Advances in Management Accounting*, 9, 127-143.
- Quirin, J., O'Bryan, D., & Donnelly, D. (2004). A nomological framework of budgetary participation and performance: A structural equation analysis approach. *Advances in Management Accounting*, 13, 143-165.
- Radtke, R. R., & Stinson, J. B. (1999). An experimental study of the impact of budgetary participation, budgetary emphasis, and information asymmetry on performance. *Advances in Management Accounting*, 7, 129-150.
- Shields, M. D., Deng, F. J., & Kato, Y. (2000). The design effects of control systems: Tests of direct- and indirect-effects models. *Accounting, Organizations and Society*, 25, 185-202.

- Staley, A. B., Dastoor, B., Magner, N. R., & Stolp, C. (2003). The contribution of organizational justice in budget decision-making to federal managers' organizational commitment. *Journal of Public Budgeting, Accounting, & Financial Management, 15*, 505-524.
- Staley, A. B., & Magner, N. R. (2007). Budgetary fairness, supervisory trust, and the propensity to create budgetary slack: Testing a social exchange model in a government budgeting context. *Advances in Accounting Behavioral Research, 10*, 159-182.
- Wentzel, K. (2002). The influence of fairness perception and goal commitment on managers' performance in a budget setting. *Behavioral Research in Accounting, 14*, 247-271.
- Wentzel, K. (2004). Do perceptions of fairness mitigate managers' use of budgetary slack during asymmetric information conditions? *Advances in Management Accounting, 13*, 223-244.

## Appendix

### Annotated Bibliography

**Chalos, P., & Poon, M. (2001). Participative budgeting and performance: A state of the art review and re-analysis. *Advances in Management Accounting, 10*, 171-201.**

Chalos and Poon hypothesized that an interaction between budgetary participation and budget emphasis affects performance. They also hypothesized that managerial learning is an intervening variable between budgetary participation and performance. Ninety-three marketing managers of publicly-traded firms who held budgetary responsibility were surveyed. The results indicated that organizational learning was an intervening variable between budgetary participation and performance. Budgetary participation led to higher learning, which led to higher performance. The study also found that budget emphasis moderated the relationship between budgetary participation and performance: As budget emphasis increased, the effect of budgetary participation on performance grew stronger.

**Chong, V. K. (2002). A note on testing a model of cognitive budgetary participation processes using a structural equation modeling approach. *Advances in Accounting, 19*, 27-51.**

This paper re-examined Chenhall and Brownell's (1988) study, which found that role ambiguity was an intervening variable that links budgetary participation with employee performance and job satisfaction. Questionnaire data were collected from 97 managers from 80 manufacturing firms located in Sydney, Australia. The results showed that budgetary participation was negatively associated with role ambiguity, and role ambiguity was negatively associated with performance and job satisfaction, thus supporting Chenhall and Brownell.

**Chong, V. K., & Bateman, D. (2000). The effect of role stress on budgetary participation and job satisfaction-performance linkages: A test of two different models.**

*Advances in Accounting Behavioral Research, 3, 91-118.*

The authors examined an intervening model in which budgetary participation reduces role ambiguity and role conflict, which, in turn, enhances managerial performance and job satisfaction. They also examined a contingency model in which the higher the levels of role ambiguity and role conflict, the more positive is the relationship between budgetary participation and managerial performance and between budgetary participation and job satisfaction. A questionnaire study was administered to 79 middle-level managers from large manufacturing firms in Perth, Western Australia. The results failed to support the intervening model. They supported the contingency model for managerial performance, but not for job satisfaction.

**Chong, V. K., & Chong, K. M. (2002). Budget goal commitment and informational effects of budget participation on performance: A structural equation modeling approach.**

*Behavioral Research in Accounting, 14, 65-86.*

The authors proposed that participation in the budgeting process increases job performance because (a) it induces budget goal commitment, and (b) it allows for the gathering, exchange, and dissemination of job-relevant information. Questionnaire data were gathered from 79 middle-level managers from a wide range of manufacturing industries. As hypothesized, the results showed positive relationships between budgetary participation and budget goal commitment, between budget goal commitment and job-relevant information, and between job-relevant information and job performance.

**Chong, V. K., Eggleton, I. R. C., & Leong, M. K. C. (2005). The effects of value attainment and cognitive roles of budgetary participation on job performance. *Advances in Accounting Behavioral Research, 8*, 213-233.**

This study examined both the cognitive role of budgetary participation, in which it enhances the gathering of job-relevant information, and the value attainment role of budgetary participation, in which it increases subordinates' levels of job satisfaction. The authors' administered a questionnaire to 70 senior-level managers with budget responsibility from firms in the Australian financial services sector. The results indicated that budgetary participation was positively associated with job-relevant information and job satisfaction, thus supporting both its cognitive role and its value attainment role. In addition, there were positive relationships between job-relevant information and job satisfaction, between job-relevant information and job performance, and between job satisfaction and job performance.

**Dunk, A. S., & Lal, M. (1999). Participative budgeting, process automation, product standardization, and managerial slack propensities. *Advances in Management Accounting, 8*, 139-157.**

Dunk and Lal hypothesized that budgetary participation is more effective in reducing managers' propensity to create budgetary slack when process automation is high (low) and product standardization is high (low) than when automation is low (high) and standardization is low (high). A questionnaire was administered to 83 manufacturing managers from New Zealand manufacturing companies. The results supported the hypothesis, showing that automation and standardization moderated the relationship between participation and the propensity to create slack. When automation and standardization were either high/high or low/low, participation

reduced slack propensities, but when automation and standardization were low/high or high/low, participation did not influence slack propensities.

**Lau, C. M., & Buckland, C. (2000). Budget emphasis, participation, task difficulty and performance: The effect of diversity within culture. *Accounting and Business Research, 31*, 37-55.**

The authors hypothesized a three-way interaction between budget emphasis, budgetary participation, and task difficulty affecting Norwegian managers' performance. A questionnaire was given to 150 functional heads from 50 Norwegian mining companies. The results supported the hypothesized interaction. In low task difficulty situations, a compatible combination of high budget emphasis and high participation was associated with higher managerial performance than an incompatible combination of low budget emphasis and high participation. In high task difficulty situations, moderate budgetary participation and low budget emphasis led to moderate performance levels. Moderate budgetary participation was studied instead of low budgetary participation because of an aspect of Norwegian culture.

**Lau, C. M., & Chong, J. (2002). The effects of budget emphasis, participation and organizational commitment on job satisfaction: Evidence from the financial services sector. *Advances in Accounting Behavioral Research, 5*, 183-211.**

This study examined a hypothesized three-way interaction between budget emphasis, budgetary participation, and organizational commitment affecting job satisfaction. A questionnaire study surveyed 112 managers from 61 financial services institutions who had budget responsibility. Results indicated that job satisfaction was highest when organizational commitment was high and budget emphasis and budgetary participation were either both high or both low. Thus, results supported the hypothesized three-way interaction.

**Lau, C. M., & Lim, E. W. (2002). The effects of procedural justice and evaluative styles on the relationship between budgetary participation and performance. *Advances in Accounting, 19*, 139-160.**

Lau and Lim hypothesized that in high budget emphasis situations, a two-way interaction between budgetary participation and procedural justice exists such that budgetary participation is more effective in enhancing managerial performance in low procedural justice situations than in high procedural justice situations. They also hypothesized that in low budget emphasis situations, budgetary participation and procedural justice do not interact to affect managerial performance. Questionnaire data were gathered from 83 functional heads of 70 manufacturing companies with more than 100 employees. The results supported the hypothesized relationships.

**Lau, C. M., & Tan, S. L. C. (2003). The effects of participation and job-relevant information on the relationship between evaluative style and job satisfaction. *Review of Quantitative Finance and Accounting, 21*, 17-34.**

This study hypothesized that job-related information and budgetary participation intervene in the relationship between budget emphasis and job satisfaction. A questionnaire was administered to 152 functional heads consisting of manufacturing managers, sales managers, marketing managers, and personnel managers. The study found that budget emphasis had an insignificant direct effect on job satisfaction, but a strong indirect effect on job satisfaction through job-relevant information and budgetary participation. Also, job-relevant information was an intervening variable between budgetary participation and job satisfaction. The results supported the hypothesized relationships.



**Libby, T. (1999). The influence of voice and explanation on performance in a participative budgeting setting. *Accounting, Organizations and Society*, 24, 125-137.**

The author hypothesized that when subordinates are given a voice in the budgeting process and this voice does not lead to influence over the final budgeting decision, employees who are given an explanation for their lack of influence in the final decision will have higher performance than those employees who do not receive an explanation. Libby conducted an experimental production task in which 171 subjects decoded symbols into alphabetic characters. The results supported the hypothesis, showing that while voice and explanation did not have significant main effects on performance, performance was significantly improved when both voice and explanation were present.

**Libby, T. (2003). The effect of fairness in contracting on the creation of budgetary slack. *Advances in Accounting Behavioral Research*, 6, 145-169.**

Libby conducted a laboratory experiment involving 181 undergraduate students who translated symbols into alphabetic characters. As hypothesized, she found that subjects compensated under a slack-inducing contract and exposed to an unfair contracting process created more budgetary slack than subjects compensated under a slack-inducing contract and exposed to a fair contracting process. The amount of budgetary slack created by subjects compensated under the truth-inducing incentive contract was not affected by the fairness or unfairness of the contracting process employed.

**Lindquist, T. M. (1995). Fairness as an antecedent to participative budgeting: Examining the effects of distributive justice, procedural justice and referent cognitions on satisfaction and performance. *Journal of Management Accounting Research*, 7, 122-147.**

A laboratory experiment was conducted in which 86 undergraduate students built toy castles from blocks to match a model castle. Results indicated that subjects allowed only a voice, or low process-control, in setting budgets experienced greater budget and task satisfaction than subjects allowed no input, even when unattainable budgets were received. Also, high process-control, in which subjects were allowed both a voice and a vote in setting budgets, was effective only when attainable budgets were received. When unattainable budgets were received, subjects with high process-control experienced less task and budget satisfaction than individuals with only low process-control.

**Little, H. T., Magner, N. R., & Welker, R. B. (2002). The fairness of formal budgetary procedures and their enactment. *Group & Organization Management*, 27, 209-225.**

A questionnaire study involved 149 managers across 96 predominately manufacturing firms. Respondents reported the highest job performance and helping behavior, and lowest propensity to create budgetary slack, when both budgetary procedures enactment justice and formal budgetary procedures justice were high, which supported the authors' hypothesis.

**Magner, N., Welker, R. B., & Campbell, T. L. (1995). The interactive effect of budgetary participation and budget favorability on attitudes toward budgetary decision makers: A research note. *Accounting, Organizations and Society*, 20, 611-618.**

The authors conducted a questionnaire study of 53 international managers attending an executive development program. As hypothesized, the results indicated an interaction between budgetary

participation and budget outcome favorability. Budgetary participation had the strongest positive relationship with trust in supervisor and organizational commitment when budget favorability was low.

**Maiga, A. S. (2005). Antecedents and consequences of budget participation. *Advances in Management Accounting*, 14, 211-231.**

Questionnaire data were gathered from 173 strategic business unit managers with budget responsibility from two Fortune 500 companies in the U.S. The results, which supported the author's hypothesis, indicated that environmental uncertainty increased both budget communication and budget influence, which, in turn, increased budget goal commitment. Budget goal commitment ultimately led to higher managerial performance.

**Maiga, A. S. (2005). The effect of manager's moral equity on the relationship between budget participation and propensity to create slack: A research note. *Advances in Accounting Behavioral Research*, 8, 139-165.**

Maiga hypothesized an interaction between moral equity and participative budgeting that affects budgetary slack: For managers with high moral equity, increasing budgetary participation will decrease budgetary slack, while for managers with low moral equity, increasing budgetary participation will increase budgetary slack. An analysis of questionnaire data from 251 managers from a variety of functional areas in U.S. manufacturing companies supported the hypotheses.

**Maiga, A. S. (2006). Fairness, budget satisfaction, and budget performance: A path analytic model of their relationships. *Advances in Accounting Behavioral Research*, 9, 87-111.**

A questionnaire was administered to 92 executive-level profit center managers who were employed by manufacturing companies and who had budget responsibility. The results supported Maiga's hypothesis, showing that budgetary fairness perceptions had a positive relationship with budget satisfaction, which, in turn, had a positive relationship with budget performance.

**Nouri, H., & Parker, R. J. (1996). The effect of organizational commitment on the relation between budgetary participation and budgetary slack. *Behavioral Research in Accounting*, 8, 74-90.**

The authors hypothesized that for individuals with strong organizational commitment, budgetary participation and budgetary slack are inversely related, while for individuals with weak organizational commitment, budgetary participation and slack are positively related.

Questionnaire data were gathered from 135 managers who had a role in the budgeting process in a large multi-national company based in the U.S. that is engaged primarily in chemical production. The results of the study supported the hypothesis.

**Nouri, H., & Parker, R. J. (1998). The relationship between budgetary participation and job performance: The roles of budget adequacy and organizational commitment. *Accounting, Organizations and Society*, 23, 467-483.**

Nouri and Parker hypothesized that budgetary participation leads to higher budget adequacy, and that budget adequacy directly increases job performance. They also proposed that budget accuracy increases job performance indirectly via organizational commitment. A questionnaire

was completed by 135 managers of a large American corporation who had budget responsibility. The results supported the hypothesized relationships.

**Parker, R. J., & Kyj, L. (2006). Vertical information sharing in the budget process.**

*Accounting, Organizations and Society, 31, 27-45.*

The authors proposed that budgetary participation and job performance are linked by the intervening variables organizational commitment, vertical information sharing, and role ambiguity. They administered a questionnaire to 70 managers from 13 different companies who had budget responsibility. The results indicated that budgetary participation affected job performance indirectly via information sharing, role ambiguity, and organizational commitment. Participation increased information sharing, which, in turn, led to higher performance.

Participation reduced role ambiguity, which, in turn, led to higher performance. Organizational commitment was affected by budgetary participation via role ambiguity. When budgetary participation increased, role ambiguity decreased, leading to an increase in organizational commitment. Increased organizational commitment, in turn, caused more information sharing and higher job performance.

**Quirin, J. J., Donnelly, D. P., and O'Bryan, D. (2000). Consequences of participative budgeting: The roles of budget-based compensation, organizational commitment, and managerial performance. *Advances in Management Accounting, 9, 127-143.***

The authors hypothesized positive relationships between budgetary participation and budget-based compensation, between budgetary participation and organizational commitment, between budget-based compensation and organizational commitment, and between organizational commitment and performance. Questionnaire data were collected from 107 managers from 15

large U.S. companies who were from a variety of functional areas. The results provided support for the hypothesized relationships.

**Quirin, J., O'Bryan, D., & Donnelly, D. (2004). A nomological framework of budgetary participation and performance: A structural equation analysis approach.**

*Advances in Management Accounting, 13, 143-165.*

A questionnaire was administered to 98 managers from 15 large U.S. companies. The results indicated that budgetary participation was associated with increased use of budget-based compensation, as well as greater perceived equity and organizational commitment. Also, budget-based compensation and perceived equity were associated with increased organizational commitment. Organizational commitment was related to higher performance. The results supported the authors' proposed model.

**Radtke, R. R., & Stinson, J. B. (1999). An experimental study of the impact of budgetary participation, budgetary emphasis, and information asymmetry on performance.**

*Advances in Management Accounting, 7, 129-150.*

Radtke and Stinson hypothesized that individual performance will be highest under conditions of high budgetary participation, high budget emphasis, and low information asymmetry.

Experimental subjects were 64 students from a junior-level managerial accounting class who participated in a computerized word search game. The results did not support the hypothesis, indicating that performance was highest under conditions of high budgetary participation combined with low budget emphasis and low information asymmetry. The authors speculated that low budget emphasis subjects were more motivated to achieve their budget than the high budget emphasis subjects, who were more readily satisfied in achieving their more easily attainable budget.

**Shields, M. D., Deng, F. J., & Kato, Y. (2000). The design effects of control systems: Tests of direct- and indirect-effects models. *Accounting, Organizations and Society*, 25, 185-202.**

This study examined two competing models of individual job performance. The direct model proposes that the components of a control system (participative standard-setting process, standard tightness, and standard-based incentives) directly affect performance. The indirect model proposes that the effects of the components of the control system on performance are indirect through the mediating influence of job-related stress. A questionnaire was administered to 358 automobile design engineers working in a global Japanese company's design facility in Japan. The results showed that the indirect model had a significantly better fit with the data than did the direct model. There was a negative relationship between participation and standard tightness, a positive relationship between participation and incentives, a negative relationship between participation and stress, a positive relationship between standard tightness and stress, a negative relationship between incentives and stress, and a negative relationship between stress and performance.

**Staley, A. B., Dastoor, B., Magner, N. R., & Stolp, C. (2003). The contribution of organizational justice in budget decision-making to federal managers' organizational commitment. *Journal of Public Budgeting, Accounting, & Financial Management*, 15, 505-524.**

The authors hypothesized that managers who perceive distributive justice, procedural justice, and interactional justice in organizational budgeting will have higher commitment to their organization. A questionnaire was distributed to 1,358 U.S. federal government executive managers who both supervise federal personnel and have budget responsibility. The results did

not fully support the authors' proposed relationships. While procedural justice and interactional justice were related to managers' organization commitment, distributive justice was not related to managers' organizational commitment.

**Staley, A. B., & Magner, N. R. (2007). Budgetary fairness, supervisory trust, and the propensity to create budgetary slack: Testing a social exchange model in a government budgeting context. *Advances in Accounting Behavioral Research, 10*, 159-182.**

This article tested a proposed model in which procedural and interactional budgetary fairness reduce managers' propensity to create budgetary slack by way of enhancing managers' trust in their immediate supervisor. Questionnaire data from 1,358 U.S. federal government executive managers indicated that managers' trust in supervisor fully mediates the effects that interactional and procedural budgetary fairness have on their propensity to create budgetary slack.

**Wentzel, K. (2002). The influence of fairness perceptions and goal commitment on managers' performance in a budget setting. *Behavioral Research in Accounting, 14*, 247-271.**

Wentzel gathered questionnaire data from 74 cost-center managers with budget responsibility whose budgets had decreased. Her results indicated that increased participation during budgeting fostered a sense of budgetary fairness, which, in turn, increased managers' commitment to budgetary goals. Increased budgetary goal commitment enhanced performance.



**Wentzel, K. (2004). Do perceptions of fairness mitigate managers' use of budgetary slack during asymmetric information conditions? *Advances in Management Accounting*, 13, 223-244.**

The author hypothesized that distributive and procedural budgetary justice moderate the relationship between information asymmetry and budgetary slack such that, if there are asymmetric conditions favoring managers, less slack is included in participative budgets when managers' perceptions of distributive and procedural justice are high. Data from 81 responsibility area managers with budget responsibility at a large urban hospital supported the hypothesis.