

**An Examination of Impact of Budgetary Participation, Budget Emphasis, and Information
Asymmetry on Budgetary Slack in the Hotel Industry**

Collin Ramdeen, Ph.D.
William F. Harrah College of Hotel Administration
University of Nevada, Las Vegas
4505 Maryland Parkway, Box 456023
Las Vegas, Nevada 89154-6017
Tel: (702) 895-4908
Fax: (702) 895-4109
ramdeen@ccmail.nevada.edu

Jocelina Santos, Ph.D.
Department of Hospitality Management
San José State University
One Washington Square
San José, CA 95192-0211
(408) 924-7192 Fax (408) 924-3199
jsantos@casa.sjsu.edu

Hyun Kyung Chatfield, Ph.D.
William F. Harrah College of Hotel Administration
University of Nevada, Las Vegas
4505 Maryland Parkway, Box 456017
Las Vegas, Nevada 89154-6017
Tel: (702) 895-3119
Fax: (702) 895-4109
Grace.chatfield@unlv.edu

ABSTRACT

This study focused on a sample of managers from the hotel industry in the U.S. The objective of the study was to examine the propensity to create slack through the interaction of budgetary participation, information asymmetry, and budgetary emphasis. The results of the study indicated there was a link between participation and budgetary slack dependent on information asymmetry and budget emphasis. The results suggest that budgetary slack was lowest when information asymmetry, participation, and budget emphasis were high, and that budgetary slack was highest when the predictors were low.

KEY WORDS: budgetary slack; budgetary participation; information asymmetry; budget emphasis; agency theory

INTRODUCTION

Merchant (1985a) and Horngren (2002) explained that budgetary slack was one of the primary unsolved issues in the budgetary control process. Williamson (1964) stated that managers try to control the budget process by introducing slack into their budgets. Schiff & Lewin (1968) examined sales budgets and discovered that a sales force can easily influence sales objectives. Also, Lowe & Shaw (1968) reported that sales forecasting was a means for the creation of budgetary slack.

According to Onsi (1973), 80 percent of managers indicated that they bargained for slack in their budgets. Onsi also stated that there was a possibility that operating budgets were likely to have slack in them. The amount of slack varies over time and between companies, but Schiff & Lewin (1970) explained that slack might account for as much as 20-25 percent of a division's budgeted operating expenses.

Merchant (1985a, p. 201) defined slack as "the excess of the amount budgeted in an area over that which was necessary." Lukka (1988, p. 282) stated that a budget with slack was one in which the "figure had been intentionally made easier to achieve in relation to the forecast." Therefore, slack is comprised of an underestimation of revenues and/or an overstatement of costs. This would indicate some anticipation on the part of subordinates on the level of these revenues or costs. This type of anticipation was suggested in the definition of slack utilized by Young (1985). Young indicated that slack was the amount by which subordinates understate their resource ability when given the possibility to determine work standards by which their performance could be examined. Waller (1988) described slack as the excess of resources over and above those needed to finish an assignment. Dunk (1993) referred to slack as the stated amount in the budget to make goals easier to accomplish.

Prior research on budgetary slack showed that managers had motives to operate in a slack environment. The research on budgetary slack considers the budget as a manifestation of its environment and, therefore, assumes that managers will use the budgeting process to bargain for slack budgets (Schiff & Lewin, 1970). According to Schiff & Lewin (1970), managers will create slack in budgets through a process of understating revenues and overstating costs. The objective of this study was to examine the relationship between budgetary slack, budgetary participation, budgetary emphasis, and information asymmetry in the hospitality industry.

LITERATURE REVIEW AND THEORETICAL DEVELOPMENT

Agency theory was used to explain the nature of budgetary slack in the hotel industry. Agency theory explains how best to organize relationships in which one party (the principal) determines the work that another party (the agent) undertakes (Eisenhardt, 1989). The theory states that under conditions of incomplete information and uncertainty, which characterize most business settings, two agency problems arose: adverse selection and moral hazard. Adverse selection is the condition under which the principal cannot ascertain if the agent accurately represents his or her ability to do the job for which he or she is paid. Moral hazard is the condition under which the principal cannot be sure if the agent has put forth maximum effort (Eisenhardt, 1989).

Agency theory had been used to explain slack behavior in the budgetary process. Agency theory focuses on how to design an incentive contract so that the total gains are maximized, relative to: information asymmetry between principal and agent, pursuit of self-interest by the agent, and environmental uncertainty affecting the outcome of the agent's decisions (Choudhury, 1985). Slack can occur when managers participate in an "excess consumption of perquisites" or in a "tendency to shrink." Slack was the possible "shrinking" behavior of an agent (Baiman, 1982).

Agency theory supports the four major variables used in this study. The dependent variable was budgetary slack. The interactions of the independent variables (budgetary participation, budgetary emphasis and information asymmetry) were evaluated for their impact on budgetary slack.

Budgetary Slack

Companies use budgets for planning and controlling their operations. Therefore, budgets are an important tool for management in forecasting the future of a business (Onsi, 1973). There are two main reasons for inaccuracy in a budget. One reason would be by error, the other by design (Young, 1985). This study was concerned with budgetary slack, which was one of the causes of budgetary inaccuracy due to design. Cyert & March (1964) defined organizational slack as the difference between the resources available to the firm and the resources necessary to maintain the organization. Onsi (1973) stated that budgetary slack represents either the amount of additional resources managers purposely construct in the budget, or the amount by which they wittingly understate productive capability. Schiff & Lewin (1970) indicated that, through the process of understating revenues and overstating costs, managers can create budgets with slack.

It was generally assumed that budgetary slack was detrimental to organizations, but it also had been beneficial in certain instances. Schiff & Lewin (1968) discovered that management can and does create slack to achieve attainable budgets and to secure resources for furthering their personal goals and desires. Schiff and Lewin also stated that slack creation was universal with managers in companies that were profitable or non-profitable, stable or growing. They implied that it served management's self-interest to have slack included in the budget.

Budgetary Participation

Agency theory had been used to explain budgetary participation. Magee (1980) explained that the anticipated payoff to principals (superiors) was increased with access to information held by agents (subordinates) before preparing the budget. By participating in the budget preparation

process, the agent gives the principals an opportunity to access information which allows agents to communicate or reveal some of their private information that may be incorporated into the standards or budgets, against which their performance would be evaluated (Magee, 1980; Baiman, 1982; Baiman & Evans, 1983). However, agents may not reveal all their private information, which could lead to budgets with slack incorporated (Christensen, 1982; Pope, 1984; Merchant, 1985b; Young, 1985). Therefore, the participation of agents in the budgetary process may give principals access to private information, and information asymmetry may give rise to an increase in slack due to participation in the budgetary process.

A major concern of researchers in this study was that the use of the participative budgetary could result in the creation of slack into budgets (Antle & Eppen, 1985). Budgetary participation was the means by which subordinate managers influence plans and share in the decision making process with their superiors on matters that affect their areas of responsibility (Milani, 1975; Brownell, 1982a, 1982b). The effects of participation have been the subject of considerable research with respect to job satisfaction, motivation, performance, job attitudes and many other criterion variables (Brownell, 1981; Brownell & McInnes, 1986; Chow, Cooper, & Waller, 1988; Leung & Dunk, 1992). While these studies on participation found positive individual and/or organizational results, the conclusion with respect to budgetary slack was not positive.

Brownell & McInnes (1986) explained that subordinate managers may attempt to negotiate a budget's slack if they have an expectation gained from earlier participation in the budget setting, and that formal rewards were linked to budget achievement. In participative budgetary settings, managers will aspire to control performance measures integrated in their budgets to achieve what they perceive as attainable budgets, the outcome of which were bargain budgets comprised of varying amounts of slack (Schiff & Lewin, 1968).

Lowe & Shaw (1968) stated that managers built slack into their budgets as a means of protecting their personal interests, and that it was rational economic behavior for them to do so. Schiff & Lewin (1970) proposed that if subordinates perceive their compensation as being dependent upon budget achievement, they might aim to have slack in their budgets. Schiff & Lewin (1968, 1970) argued that budgets were the primary performance assessment criterion employed in business organizations, and since subordinates often participate in their formation, the budget negotiation process may then act as a vehicle for manipulating slack.

Budget Emphasis

Since managers were pressured to achieve their budgeted goals, there is a likelihood that they would create budgetary slack (Merchant, 1985a). This pressure, applied from supervisors, was budget emphasis (Hofstede, 1968). When the achievements of budgeted goals were emphasized, the normal tendency was to incorporate slack into the firm's budgets (Lowe & Shaw, 1968).

The main reason for subordinate managers' efforts to build slack in their budgets was to increase their payoff chances. If subordinate managers perceived their rewards as dependent on budget attainment, they would tend to build slack into their budgets through the participation process (Lowe & Shaw, 1968; Schiff & Lewin, 1968, 1970; Waller, 1988). Therefore, budget emphasis in performance evaluation may encourage budgetary slack (Baiman & Lewis, 1989).

Information Asymmetry

Agency theory shows that information asymmetry may routinely change the extent to which participation leads to slack in budgets. Information asymmetry arises when subordinates (agents) possess information that affects the decision process between subordinates and superiors (principals) (Baiman & Evans, 1983; Penno, 1984; Coughlan & Schmidt, 1985). Magee (1980) mentioned that the budgetary process could be improved if principals were aware of local information held by subordinates before the budgets were made. Baiman (1982), Chow, et al. (1988), Blanchard & Chow (1983), and Waller (1988) stipulated that in some organizations, subordinates have had more access to accurate information on the factors influencing performance measurement than their superiors did. Baiman & Evans (1983) suggested that in firms in which subordinates had such information, participation based management control systems allowed subordinates to reveal or communicate private information, which was then incorporated into the standards or budgets against which their performance was evaluated.

Both Christensen (1982) and Baiman & Lewis (1989) suggested that subordinates were likely to negotiate slack in their budgets if budget emphasis and information asymmetry were high. However, Penno (1984) and Waller (1988) mentioned that if budget emphasis was high and information asymmetry was low, then subordinates would have the desire to develop slack, but would not be in a position to secure it in their budgets. For subordinates to have the incentive to build slack in their budgets, there must be high participation in the budget-setting process (Lukka, 1988). If participation is low, the chances for subordinate managers to build slack into their budgets significantly diminish, regardless of the level of information asymmetry and budget emphasis present. Therefore, prior research indicates that high (low) participation with high (low) information asymmetry and high (low) budget emphasis would likely produce high (low) budgetary slack. Based on the information presented, the following hypothesis was stated:

H₁: There is a positive interaction between budgetary participation, budget emphasis and information asymmetry that could influence budgetary slack.

RESEARCH METHOD

In this section, the framework for the study of the relationship among the variables is established. The measures for the variables used came from prior studies. To test the hypothesis stated above, the mathematical model presented below was used:

$$Y = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_1 X_2 + b_5 X_1 X_3 + b_6 X_2 X_3 + b_7 X_1 X_2 X_3 + \varepsilon$$

where:

Y = budgetary slack;

X₁ = budgetary participation;

X₂ = information asymmetry;

X₃ = budget emphasis;

X₁ X₂ = two way interaction of budgetary participation and information asymmetry;

X₁ X₃ = two way interaction of budgetary participation and budget emphasis;

X₂ X₃ = two way interaction of information asymmetry and budget emphasis;

X₁ X₂ X₃ = three way interaction of budgetary participation and information asymmetry and budget emphasis;

b₀ = the population's y-intercept;

b_1 through b_7 = are the slopes of the population regression line; and, ε = error term, or residual.

Measurement of Variables

The tendency to create slack variable was measure by using Onsi's (1973) 4-item 7-point Likert-scaled instrument, which concentrates on the subordinate's desires to create slack. This instrument was used by the majority of studies on budgetary slack utilizing questionnaires. For example, several researchers (i.e, Merchant, 1985a; Nouri, 1994; Nouri & Parker, 1996; Lai, Dunk, & Smith, 1996) reported satisfactory Cronbach alpha statistics (i.e, .7, .75, .75, and .74, respectively) when using it. Onsi (1973) did not report Cronbach alpha statistics.

Budgetary participation was assessed using Milani's (1975) 6-item, 7-point Likert-type scale instrument. The importance of budgetary participation was measure from (1) extremely unimportant to (7) extremely important. This instrument had been examined and used many times by management accounting researchers (Brownell, 1982, 1985; Brownell & Hirst, 1986; Chenhall & Brownell, 1988; Frucot & Shearon, 1991; Brownell & Dunk, 1991; Harrison, 1992; Dunk, 1993; Lau, et al., 1995; Nouri & Parker, 1996). These studies showed that this instrument had repeatedly produced high internal consistency as measured by the Cronbach alpha statistic. Support for using this type of instrument in measuring budgetary participation was also found in other studies (Hofstede,1968; Brownell, 1982; O'Connor, 1995).

Budget emphasis was measured using a modified version of Hopwood's (1972) instrument. Hopwood's instrument consists of 8-items, all measured on a 7-point Likert-scale. The instrument was used in this research because it was extensively used to measure managers' evaluative styles (Otley, 1978; Brownell, 1982, 1985; Brownell & Hirst, 1986, Brownell & Dunk, 1991; Harrison, 1992; Dunk, 1993, Lau & Buckland, 2000, 2001). For the purposes of this study, only the item "Meeting the budget" was used as a measure of budget emphasis (Hopwood, 1972, p.160). However, Harrison (1992) modified Hopwood's item "Meeting the budget" to "My ability to meet budgeted targets in the short run." The scale for this instrument was (1) not important to (7) very important. This study used Harrison's modifications to measure budget emphasis because it was deemed to be a more appropriate measure for hotels.

Information asymmetry was evaluated using Dunk's (1993) instrument. The instrument was constructed in a manner that supported the measurement of conditions in which the superiors have more information than their subordinates. For example, the scale of the first item was supported by (1) "My superior has much better information" and (7) "I have much better information." Therefore, an answer of (1) on this scale shows that the superior was more knowledgeable than the subordinate was, while an answer of (7) shows the subordinate was more knowledgeable than the superior was. Therefore, subordinates' desire to create slack was associated with the amount of knowledge that they possessed relative to that of their superiors.

Sample Selection

A sample of 100 hotels was selected randomly from the American Hotel and Lodging Association (AHLA) listing. Hotels selected from the sample had a minimum of 350 rooms. It was expected that hotels with 350 rooms and above would most likely have departmental managers for Accounting, Rooms, and Food & Beverage. For each of the 100 hotels selected, a

questionnaire with a cover letter and reply-paid self-addressed envelope was mailed to each of the three departmental managers.

RESULTS

Two follow-up letters with questionnaires were mailed out to promote a higher response rate. This follow-up also verified that the targeted managers had responded to the questionnaire themselves. The total number of responses received was 97. Nine responses were not used because they were incomplete. This resulted in 88 usable questionnaires, a 29 percent response rate. Responses to mail questionnaires are generally poor and a return of less than 40 percent common (Kerlinger, 1986). Therefore, the expected response rate ranged from 20 to 40 percent (Shields and Young, 1993). The respondents' mean age was 37 years, their average length of experience was 14 years, and they held their current positions on average for 3.8 years. Descriptive statistics for the measures are present in Table 1. The Cronbach alpha values obtained indicate high internal consistency (Allen & Yen, 1979). Consistent with Nunnally (1978), Cronbach alpha coefficients of 0.50 to 0.60 are acceptable for exploratory research.

Table 1
Descriptive Statistics: Dependent and Independent Variables

Variable	Mean	S.D.	Theoretical Range	Actual Range	Cronbach Alpha
Budgetary slack	13.812	4.786	4-28	4-26	0.7352
Budgetary participation	30.981	6.936	6-42	6-42	0.8761
Information asymmetry	31.762	5.703	24-42	24-42	0.7756
Budget emphasis	5.683	1.142	1-7	2-7	N/A

The regression model was used to analyze the data for the three-way interaction. The regression analysis used an alpha level of 0.05. This is consistent with conventional guidelines in accounting research (Kerlinger, 1986). Tests were conducted to ensure that the inherent assumptions of the selected regression models used were satisfied. The normal probability plots of the residuals of the regression models indicated that the normality assumption was satisfied. The plots of the residuals against the corresponding fitted (predicted) values indicated that the assumptions of the homogeneity of variance of residuals and the appropriateness of the linear models were not breached.

It was predicted that budgetary slack would be affected by the three-way interaction of the independent variables. The three-way interaction was represented by the term $b_7 X_1 X_2 X_3$. Table 2 shows the results of the interaction indicating that b_7 was significant (value = $-.033$; $p < .005$) and negatively related to the propensity to create slack. The overall model explains 31 percent (R^2) of the variation in budgetary slack ($p = 0.001$). There was no interpretation made pertaining to the results for significance tests of the main effects and the two-way interaction terms because the variables were not measured on ratio scales (Southwood, 1978).

Table 2
Regression of Slack on Participation, Information Asymmetry, and Budget Emphasis

Variable	Coefficient	Parameter Estimate	S.D.	t-statistics	p-values
Intercept	b ₀	190.610	87.521	2.271	0.010
Budgetary participation (X ₁)	b ₁	-5.293	2.673	-2.76	0.032
Information asymmetry (X ₂)	b ₂	-6.035	2.691	-2.36	0.006
Budget emphasis (X ₃)	b ₃	-29.210	15.110	-2.14	0.011
X ₁ x X ₂	b ₄	0.176	0.091	2.42	0.009
X ₁ x X ₃	b ₅	0.791	0.561	2.89	0.020
X ₂ x X ₃	b ₆	0.914	0.485	2.63	0.005
X ₁ x X ₂ x X ₃	b ₇	-0.033	0.016	-2.57	0.005

Note: R² = 0.31; n = 87; F = 5.12; p = 0.001.

Southwood (1978) illustrated that the coefficients of main effects and lower-order interaction terms together with their t-statistics were arbitrary if ratio scales were not utilized. Southwood explained that by transforming the origins of the measurement of the predictors, their partial regression coefficients can be adjusted so that they equal zero. Therefore, no decisive origin can be given to non ratio-scaled data.

In Table 2, b₇ was significant and negative, indicating that slack was low when participation, information asymmetry, and budget emphasis were high. The result was opposite of the expectation proposed in the literature review of a positive connection between budgetary slack, participation, budget emphasis, and information asymmetry. This finding was further examined through the use a three-way interaction of slack scores based on participation, information asymmetry, and budget emphasis. Table 3, which shows the mean, standard deviation, and sample size for budgetary slack in each category, indicates that slack was lowest when all the independent variables were high, and highest when all the predictors were low. The data shown in Table 3 was used to draw the three-way interactions shown in Figure 1. These two graphs suggest that slack was lowest when information asymmetry, participation, and budget emphasis were high, and that slack was highest when the predictors were low. The graphs also show that slack was higher when budget emphasis was low.

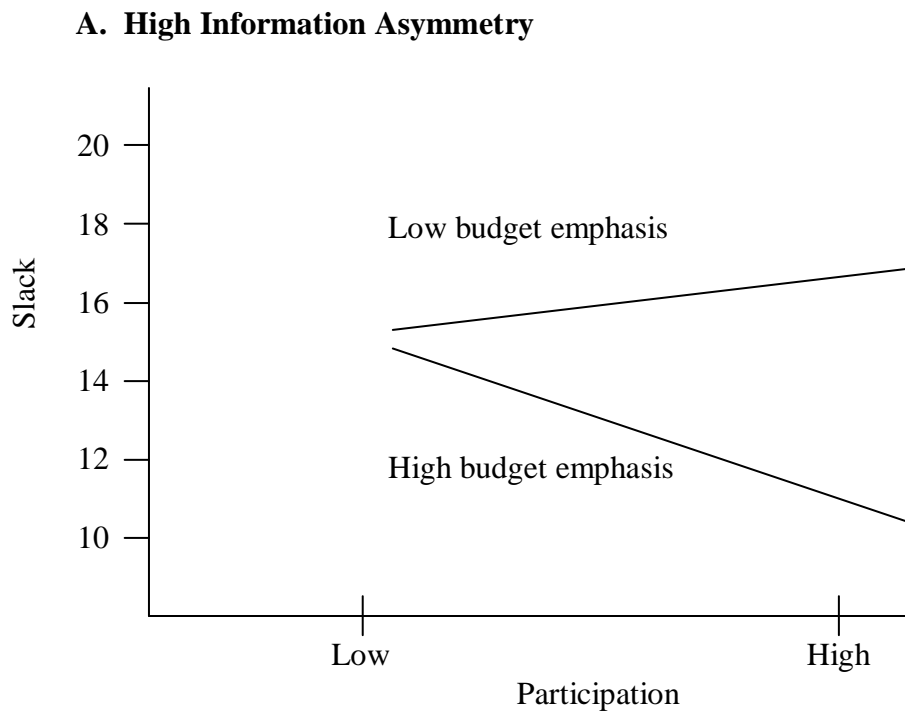
Table 3
Three-Way Interaction Showing Mean Scores for Budgetary Slack

	High Participation Mean (S.D.)	Low Participation Mean (S.D.)
High budget emphasis:		
Low information asymmetry	13.3 (4.101) (n = 13)	13.3 (3.522) (n = 13)

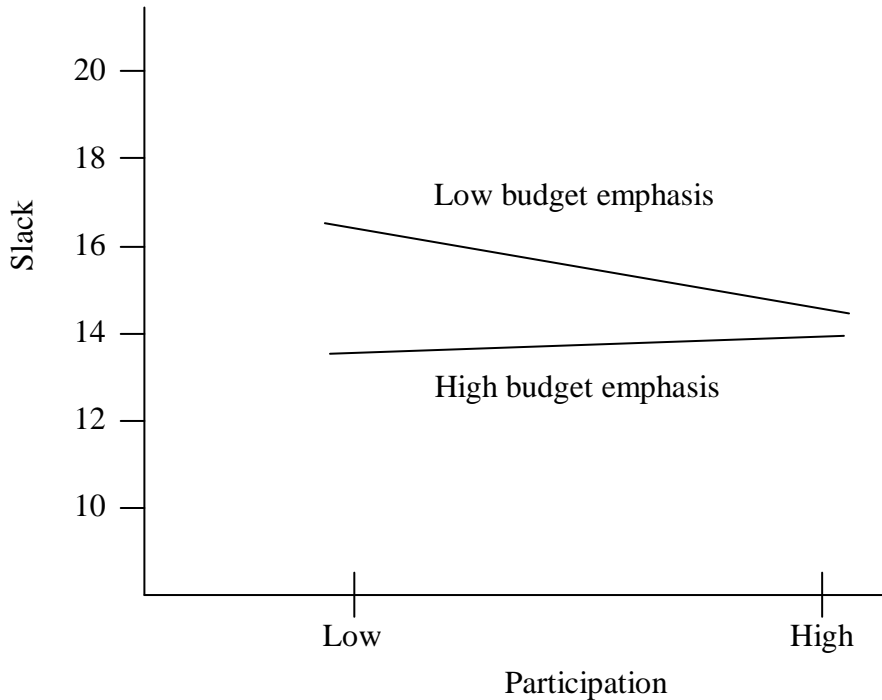
High information asymmetry	11.2 (4.536) (n = 18)	15.9 (5.437) (n = 11)
Low budget emphasis: Low information asymmetry	13.9 (4.823) (n = 9)	17.2 (6.567) (n = 8)
High information asymmetry	17.0 (2.641) (n = 6)	16.1 (5.110) (n = 9)

Note: S.D. = standard deviation

Figure 1
Three-way Interaction Between Budget Emphasis, Participation and Information Asymmetry Affecting Slack.



B. Low Information Asymmetry



CONCLUSION

Although the results of the study indicated there was a link between participation and budgetary slack dependent on information asymmetry and budget emphasis, it was opposite (negative) to the expectation suggested by the literature review. The results indicate that coefficient b_7 of the three-way interaction was significant (value = -0.033; $p < 0.005$) and negatively related to the propensity to create slack. Thus, it did not support the hypothesis stated. However, the lack of support for the hypothesis does not discredit the theory and model used in this study.

The results have important theoretical and practical implications. From a theoretical perspective, they provided a plausible explanation for budgetary slack. The theory indicates a link between participation and budgetary slack across two variables: superiors' budget emphasis in their assessment of subordinate performances, and the extent of information asymmetry between superiors and subordinates. Therefore, when participation, budget emphasis, and information asymmetry are high (low), slack will be high (low). Support was obtained for low (high) when the predictors were high (low).

From a practical aspect, the model and results obtained have important implications for the budget preparation process in the hotel industry. The results validate the usefulness of participative budgeting, and offer little support for the speculation that high participation could influence an increase in slack when the other two predictors are high. In spite of the fact that

participation could encourage subordinates to incorporate slack into their budgets, the results suggest that participation alone may not be sufficient. The findings indicate that slack reduction results from participation, except when the budget emphasis is low.

Any attempt to generalize the results to other dependent variables or functional areas and sectors beyond the hotel industry should be viewed with caution. As with most research studies, this study has a number of limitations. The sample for this study was based on departmental heads of functional areas in hotels. The generalizability of the findings of this study is restricted to similar levels of management and types of organization. Further research at lower levels of management (for instance, at a supervisory level), may yield different results.

Notwithstanding these limitations, this study tested a model and theory to explain the propensity to create slack by subordinates, an important and complex area of management accounting research. The integration of the research evidence on participation, information asymmetry and budgetary emphasis with the area of budgetary slack creation broadens the understanding of the conditions under which slack creation would likely be prevalent.

REFERENCES

- Allen, M., & Yen, W. (1979). *Introduction to measurement theory*. New York: Brooks Publishing Company.
- Antle, R., & Eppen, G. D. (1985). Capital rationing and organizational slack in capital budgeting. *Management Science*, 31 (2), 163-174.
- Baiman, S. (1982). Agency research in managerial accounting: A survey. *Journal of Accounting Literature*, 1, 154-213.
- Baiman, S., & Evans, J. H. (1983). Pre-decision information and participative management control systems. *Journal of Accounting Research*, 21 (2), 371-395.
- Baiman, S., & Lewis, B. L. (1989). An experiment testing the behavioral equivalence of strategically equivalent employment contracts. *Journal of Accounting Research*, 27 (1), 1-20.
- Baiman, S., & Sivaramakrishnan, K. (1991). The value of private pre-decision information in a principal-agent context. *The Accounting Review*, 6 (4), 747-766.
- Blanchard, G. A., & Chow, C. W. (1983). Allocating indirect costs for improved managerial performance. *Management Accounting*, 64 (9), 38-41.
- Brownell, P. (1981). Participation in budgeting, locus of control and organizational effectiveness. *The Accounting Review*, 56 (4) 844-860.
- Brownell, P. (1982a). Participation in the budgeting process: When it works and when it doesn't. *Journal of Accounting Literature*, 1, 124-153.

- Brownell, P. (1982b). A field study examination of budgetary participation and locus of control. *The Accounting Review*, 57 (4), 766-777.
- Brownell, P. (1982c). The role of accounting data in performance evaluation, budgetary participation, and organizational effectiveness. *Journal of Accounting Research*, 20 (1), 12-27.
- Brownell, P. (1985). Budgetary systems and the control of functionally differentiated organizational activities. *Journal of Accounting Research*, 23 (2), 502-512.
- Brownell, P., & Dunk, A. S. (1991). Task uncertainty and its interaction with budgetary participation and budget emphasis: Some methodological issues and empirical investigation. *Accounting, Organizations and Society*, 16 (8), 693-703.
- Brownell, P., & Hirst, M. K. (1986). Reliance on accounting information, budgetary participation, and task uncertainty: Tests of a three-way interaction. *Journal of Accounting Research*, 24 (2), 241-249.
- Brownell, P., & McInnis, M. (1986). Budgetary participation, motivation, and managerial performance. *The Accounting Review*, 61 (4), 587-600.
- 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 (4) 225-233.
- Choudhury, N. (1985). Incentives for the divisional manager. *Accounting and Business Research*, 16 (61), 11-21.
- Chow, C. W. (1983, September-October). Providing incentives to limit budgetary slack. *Cost and Management*, 371-431.
- Chow, C. W., Cooper, J. C., & Waller, W. S. (1988). Participative budgeting: Effects of a truth-inducing pay scheme and information asymmetry on slack and performance. *The Accounting Review*, 63 (1), 111-122.
- Christensen, J. (1982). The determination of performance standards and participation. *Journal of Accounting Research*, 20 (2), 589-603.
- Coughlan, A. X., & Schmidt, R. M. (1985). Executive compensation, management turnover, and firm performance: An empirical investigation. *Journal of Accounting and Economics* 7, 43-66.
- Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm*. Englewood Cliffs, NJ: Prentice-Hall.
- Dillman, D. A. (1978). *Mail and telephone surveys: The total design method*. New York: Marcel

Dekker, Inc.

- Dunk, A. S. (1993). The effect of budget emphasis and information asymmetry on the relation between budgetary participation and slack. *The Accounting Review*, 68 (2), 400-410.
- Eisenhardt, K. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14, 57-74.
- Frucot, V., & Shearon, W. T. (1991). Budgetary participation, locus of control, and Mexican managerial performance and job satisfaction. *The Accounting Review*, 66 (1), 80-99.
- Harrison, G. L. (1992). The cross-cultural generalizability of the relation between participation, budget emphasis and job-related attitudes. *Accounting, Organizations and Society*, 1-15.
- Hopwood, A. G. (1972, Supplement). An empirical study of the role of accounting data in performance evaluation. *Journal of Accounting Research*, 10 (3), 156-182.
- Horngren, C. T. (1982). *Cost accounting: A managerial emphasis*. Englewood Cliffs, NJ: Prentice Hall.
- Kerlinger, F. N. (1986). *Foundation of Behavioral Research*. New York: Holt Rinehart and Winston.
- Lai, M., Dunk, A., & Smith, G. (1996). The propensity of managers to create budgetary slack: A cross-national examination using random sampling. *The International Journal of Accounting*, 31 (4), 483-496.
- Lau, C. M., & Buckland, C. (2000). Budget emphasis, task difficulty and performance: The effect of diversity within culture. *Accounting and Business Research*, 31 (1), 37-55.
- Lau, C. M., & Buckland, C. (2001). Budgeting: The role of trust and participation: a research note. *Abacus*, 37, 369-388.
- Lau, C. M., Low, L. C., & Eggleton, L. R. (1995). The impact of reliance on accounting measures on job-related tension and managerial performance: additional evidence. *Accounting, Organizations and Society*, 359-381.
- Leung, M., & Dunk, A. S. (1992). The effects of managerial roles on the relation between budgetary participation and job satisfaction. *Accounting and Finance*, 32 (1), 1-14.
- Lowe E. A., & Shaw, R. W. (1968). An analysis of managerial biasing: Evidence from the company's budgeting process. *Journal of Management Studies*, 5, 304-315.
- Lukka, K. (1988). Budgetary biasing in organizations: Theoretical framework and empirical evidence. *Accounting, Organizations and Society*, 13 (3), 281-301.

- Magee, R. P. (1980). Equilibria in budget participation. *Journal of Accounting Research*, 18 (2), 551-573.
- Merchant, K. A. (1985a). Budgeting and the propensity to create budgetary slack. *Accounting, Organizations and Society*, 10 (2), 201-10.
- Merchant, K. A. (1985b). *Control in business organizations marshfield*. NY: Pitman.
- Milani, K. (1975). The relationship of participation in budge-setting to industrial supervisor performance and attitudes: A field study. *The Accounting Review*, 50 (2), 274-284.
- Nouri, H., & Parker, R. J. (1996). The effect of organizational commitment on the relation between budgetary participation and budgetary slack. *Behavioral Research in Accounting*, 74-90.
- Nouri, H. (1994). Using organizational commitment and job involvement to predict budgetary slack: a research note. *Accounting, Organizations and Society*, 289-295.
- Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.
- O'Connor, N. (1995). The influence of organizational culture on the usefulness of budget participation by Singaporean-Chinese managers. *Accounting, Organizations and Society*, 383-403.
- Onsi, M. (1973). Factor analysis of behavioral variables affecting budgetary slack. *The Accounting Review*, 48 (3), 535-548.
- Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement*. London: Printer Publishers.
- Otley, D. T. (1978). Budget use and managerial performance. *Journal of Accounting Research*, 16 (1), 122-149.
- Penno, M. (1984). Asymmetry of pre-decision information and managerial accounting. *Journal of Accounting Research*, 22 (1), 177-191.
- Pope, R. E. (1984, Spring). Information asymmetries in participative budgeting: A bargaining approach. *Journal of Business Finance and Accounting*, 41-59.
- Schiff, M., & Lewin, A.Y. (1968). Where traditional budgeting fails. *Financial Executive*, 35 (5), 50-62.
- Schiff, M., & Lewin A. Y. (1970). The impact of people on budgets. *The Accounting Review*, 70, 259-268.
- Shields, M. D., & Young, S. M. (1993). Antecedent and consequences of participative

budgeting: Evidence on the effects of asymmetrical information. *Journal of Management Accounting Research*, 5 (2), 265-277.

Southwood, K. E. (1978). Substantive theory and statistical interaction: Five models. *American Journal of Sociology*, 83, 1154-1203.

Waller, W. S. (1988). Slack in participative budgeting: The joint effect of a truth-inducing pay scheme and risk preferences. *Accounting, Organizations and Society* 13 (1), 87-98.

Williamson, O. E. (1964). *The economics of discretionary behavior: Managerial objectives in a theory of the firm*. Englewood Cliffs, NJ: Prentice Hall.

Young, S. M. (1985). Participative budgeting: The effects of risk aversion and asymmetric information on budgetary slack. *Journal of Accounting Research*, 23 (2), 829-842.

Submitted June 4th, 2006

First revision received August 17, 2006

2nd revision received October 18, 2006

3rd revision received March 3rd, 2007

Accepted for publication March 22, 2007