

Linkage of Budgetary Slack to Discretionary Accruals: The Empirical Evidence of Listed Companies in Thailand ความเชื่อมโยงของส่วนเผื่องบประมาณกับรายการคงค้างที่ขึ้นกับ ดุลพินิจของฝ่ายบริหาร: หลักฐานเชิงประจักษ์ของบริษัทจดทะเบียนในประเทศไทย

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บทคัดย่อ

งานวิจัยนี้ศึกษาความเชื่อมโยงของส่วนเผื่องบประมาณกับรายการคงค้างที่ขึ้นกับดุลพินิจของฝ่ายบริหารอันเป็นผลมาจากการบริหารกำไร โดยใช้ข้อมูลจากแบบสอบถาม และงบการเงินประจำปี พ.ศ. 2552 ของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยที่ไม่ใช่บริษัทในภาคการเงินและไม่ใช่บริษัทที่อยู่ระหว่างการฟื้นฟูกิจการ ผู้ตอบแบบสอบถามเป็นผู้บริหารระดับจัดการองค์กร จำนวนประชากรทั้งสิ้น 387 บริษัท และมีแบบสอบถามที่ได้รับการตอบกลับและใช้ได้จำนวน 38 ฉบับ คิดเป็นร้อยละ 10 ของจำนวนประชากรทั้งหมด ผลการศึกษาพบว่า กิจกรรมมีการบริหารกำไรผ่านรายการคงค้างที่ขึ้นกับดุลพินิจของฝ่ายบริหารและสร้างส่วนเผื่องบประมาณ

โดยที่ค่าเฉลี่ยของรายการคงค้างที่ขึ้นกับดุลพินิจของฝ่ายบริหารมีความแตกต่างกันอย่างมีนัยสำคัญในแต่ละกลุ่มของกิจการ แต่ไม่พบความแตกต่างทางสถิติของค่าเฉลี่ยของส่วนเผื่องบประมาณในแต่ละกลุ่มของกิจการ ส่วนเผื่องบประมาณมีความเชื่อมโยงกับรายการคงค้างที่ขึ้นกับดุลพินิจของฝ่ายบริหาร คือกลุ่มกิจการที่สร้างส่วนเผื่องบประมาณและสามารถบรรลุผลสำเร็จตามงบประมาณแล้ว มีแนวโน้มจะเลือกบริหารกำไรให้ลดลงเพื่อต้องการสำรองกำไรส่วนเกินไว้ และ/หรือไม่ต้องการบรรลุผลสำเร็จตามงบประมาณมากเกินไปซึ่งจะมีผลต่อการกำหนดงบประมาณในงวดถัดไป

คำสำคัญ: ส่วนเผื่องบประมาณ การบริหารกำไร การบรรลุผลสำเร็จตามงบประมาณ รายการคงค้างที่ขึ้นกับดุลพินิจของฝ่ายบริหาร

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Abstract

This study investigates the linkage of budgetary slack to discretionary accruals as a result of earnings management. The study uses data from survey questionnaires and data from the annual financial statements for the year ended 2009 of listed non-financial and non-rehabilitation companies in Thailand. The respondents are those who are at the corporate level. The population covers 387 firms and there are 38 returned and usable questionnaires which is 10% of total population. The results reveal that firms choose to manipulate earnings through discretionary

accruals and create slack into budgets. The means of discretionary accruals are significantly different among groups. However, there is no statistical evidence that the means of budgetary slack of each subsample group are different. There is a linkage of budgetary slack to discretionary accruals. Firms that incorporated slack into budgets and already achieved their annual earnings targets are more likely to manipulate earnings downward in order to reserve the excess earnings and/or not to exceed the targets by too much which will affect the budget setting in the next period.

Keywords: Budgetary Slack, Earnings Management, Budget Achievability, Discretionary Accruals.



I. Introduction

Both budgetary slack and earnings management are management's intentional interventions to produce some private gains at the expense of others. The former is biasing of performance targets and the latter is biasing the financial reporting. If budget achievability is management's goal, two possible interventions to achieve the budget are building slack into the budget (i.e., set earnings target less than the best estimate) and managing earnings through discretionary accruals. A large body of archival research presents substantial evidence that both budgetary slack and earnings management exist in most entities. This study intends to investigate whether and how budgetary slack associates with discretionary accruals.

This study employs both primary data from mailed survey questionnaires and secondary data from the annual financial statements in the analysis. The sample is companies listed¹ on the Stock Exchange of Thailand (SET) and the Market for Alternative Investment (MAI) as of the year ended 2009, all of which use budget for performance evaluation. This study excludes companies in financial industry and companies under rehabilitation for the reason that their financial reporting requirements and their characteristics of business operation are different. Survey data on budget figures of the

year ended 2009 and perceived budget achievability are gleaned from the management at the corporate level of the listed companies to match their companies' annual financial statements. The final set of samples in this study consists of 38 firms, representing 10% of total population (387 firms). The small sample size is due to the difficulty in obtaining the firm's internal and confidential data.

Similar to prior literature, this study relies on the respondents' perceptions of the achievability of their annual earnings targets to measure budgetary slack. For earnings management, the cross-sectional modified Jones' (1995) model (Dechow, Sloan and Sweeney, 1995) is employed to determine discretionary accruals. The sample in this study is partitioned into (1) firms that achieved their annual earnings targets and firms that did not (for robustness test, we also partition the sample into firms that achieved their annual earnings targets before managing earnings and the firms that did not), and (2) firms that chose income-increasing and income-decreasing earnings management, to separately examine the linkage of budgetary slack to discretionary accruals and to compare whether the results are dissimilar.

Generally, the results show some evidence that there is a linkage of budgetary slack to discretionary accruals. Specifically, the firms that already achieved their annual earnings targets as well as

¹ There are two types of exchanges for listed firms in Thailand: SET (Stock Exchange of Thailand) and MAI (Market for Alternative Investment). SET provides a market for large companies with more than THB 300 million in paid-up capital after IPO to raise long-term funds. MAI, on the other hand, is a source of funding for small- and medium-sized enterprises, having over THB 20 million in paid-up capital after IPO.

the firms that chose income-decreasing earnings management exhibit a significant positive association between budgetary slack and discretionary accruals, indicating that the firms that succeed in building slack into budget to increase the propensity to achieve their annual earnings targets are still more likely to manage the reported earnings, especially, income-decreasing earnings management. It is possible that those firms would like to reserve the excess earnings for the next period and/or do not want to exceed the targets by too much. On the other hand, there is no linkage of budgetary slack to discretionary accruals in the firms that did not achieve their annual earnings targets and the firms that chose income-increasing earnings management.

The implications of this study are that managers manipulate the level of budget achievability by both building slack into budget and managing earnings (through discretionary accruals). Hence, in performance evaluation, both budgetary slack and earnings management should be adjusted to get “pure performance measurement”. This study contributes to accounting literature, combining managerial and financial accounting research. The results in this study suggest new evidence of organizational level on the linkage of budgetary slack to discretionary accruals.

In the next section, we review the related theoretical concepts and prior literature, and then develop hypothesis. In section III we describe our sample and data, and the empirical measures. In section IV we present descriptive statistics, correlation matrix, and regression results. In the

last section we provide concluding remarks and highlight potential limitations of our study.

II. Literature Review and Hypothesis Development

Budgetary Slack

Budgetary slack has been defined in the literature under a variety of ways, e.g., it can be defined as the consumption of organizational resources by employees in excess of what is required (Cyert and March, 1963); the amount by which managers overstate their needs for resources to complete a task or understate their productive capability when given the opportunity to influence the standard against which their performance will be evaluated (Schiff and Lewin, 1968); the intentional biasing of performance targets below their expected levels (Chow, Cooper and Haddad, 1991); and the difference between the subjects' expected performance and chosen budget (Stevens, 2002).

Consistent with Chow et al. (1991), the definition of budgetary slack in this study is the subordinates' intentional biasing of performance targets below their expected levels.

Budgetary slack creation often takes place when tight results controls are in use. That is, when employees, mostly at management levels, are evaluated primarily on whether or not they achieve their budget targets (Van der Stede, 2000). Managers who miss their target face the prospect of interventions in their jobs, the loss of organizational resources, the loss of annual bonuses and pay raises, and sometimes even the loss of their job (Merchant

and Manzoni, 1989). So they may look for ways to protect themselves from the downside risks of missing budget targets and the stigma attached to underachievers (Lukka, 1988). Possible ways of protection can be obtained by negotiating for highly achievable targets (i.e., budgetary slack creation).

A large body of archival research presents substantial evidence that significant amounts of budgetary slack exist in most business organizations, as estimated by the magnitude of slack to be as high as 20%–25% of budgeted operating expenses (Schiff and Lewin, 1968), as well as by the prevalence of managers willing to admit that they engage in budgetary slack creation to be as high as 80% of the managers interviewed (Onsi, 1973). In Thailand, Sumpunsirichareon (2003) and Chankaew (2005) perform survey research and also report that, on average, Thai manufacturing companies have moderate level (level four of seven–point Likert scale) of budgetary slack.

Earnings Management

In accordance with General Accepted Accounting Principles (GAAP), financial accounting information is prepared based on the accrual basis. In the accrual basis, the effects of transactions and events are reported in the financial statements of the period to which they occur, rather than when cash or cash equivalent is received or paid. Accruals play an important role in financial reporting. There are two aspects of accruals' role. In the first aspect, accruals play a role in producing a reliable and more timely measure of firm performance, so earnings

are able to reflect firm performance better than cash flows and the discretionary component of accruals helps improve such ability. By contrast, in the second aspect, some studies find that earnings play a central role in measuring the enterprise's performance while accruals play an important role in obscuring true underlying firm performance via an introduction of discretionary accruals, which is commonly known as earnings management.

Earnings management can be defined as non-neutral financial reporting in which managers intervene intentionally in the financial reporting process to produce some private gains (Schipper, 1989). It occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports either to mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy and Wahlen, 1999). In other words, earnings management is a strategy used by company's management to deliberately manipulate the company's earnings so that the figures match a pre-determined target.

Existing literature demonstrates that executives engage in earnings manipulation both upward and downward management through accruals for a number of incentives, e.g., to maximize their compensation, to avoid debt–covenant violation, to meet and beat earnings benchmarks, and to reduce political visibility (e.g., Healy, 1985; DeFond and Jiambalvo, 1994; Burgstahler and Dichev, 1997; Key, 1997).

Agency theory, a traditional economic theory, postulates that firms can be viewed as a nexus of contracts between resource holders. Jensen and Meckling (1976) define that the separation of principals and agents causes the agency problems and information asymmetry. From the corporation's perspective, the agent is the manager and the principal is the shareholders. There is an agency problem caused by the divergence between manager's and shareholders' interests in any corporation. The manager may not act in the best interest of the principal by transferring wealth from the shareholders to himself. The implication is that the divergence arises from the conflicts of interest and the information asymmetry between outside shareholders and corporate managers which imply that there is an incentive and opportunity for managers to manage the reported earnings for their self-interest.

Positive accounting theory (Watt and Zimmerman, 1986) suggests that there is opportunistic behavior by managers choosing the optimal accounting procedures for a given purpose. With respect to the bonus plan hypothesis, self-interest managers are more likely to choose accounting procedures that increase current period reported income in an attempt to maximize their utility related to their compensation. Generally, management compensation is likely to be positively related to accounting earnings. Therefore, the managers are more likely to inflate reported income to increase their compensation.

If budget achievability is management's goal, there are two possible interventions to accomplish a desired level of budget achievability: (i) to build slack into budget (i.e., set budget less than the best estimate) for easily attainable target, and (ii) to manage earnings (through discretionary accruals) for manipulation of reported earnings, which managers can choose either or both methods. If managers decide to add slack into budget, they should do this when they prepare the budget during the planning process. However, for earnings management, the discretionary accruals can be managed throughout the year. In other words, budgetary slack and earnings management are the sequential decisions. No matter slack is added when managers set the budget, they can also manage earnings through discretionary accruals either in case the actual performance did not reach the target or to maximize earnings.

According to the agency theory, the positive accounting theory, and prior literature, there is a high probability that self-interest and wealth-maximization managers would opportunistically build slack into the budget and/or introduce earnings manipulation via discretionary accruals to manage a desired level of budget achievability. Although slack is introduced into annual earnings targets, if the actual performance before earnings manipulation is still underperformed, managers are more likely to manipulate the reported earnings, and they may choose to manage earnings upward via positive discretionary accruals as protection against their missing the target or, a contrary view,

they may possibly decide to manage earnings downward through negative discretionary accruals so as to take a big bath. On the other hand, if slack is added into the budget and resulted in the achievability of annual earnings targets, managers are less likely to manage the reported earnings, or there still has an incentive to manage earnings upward to increase the likelihood of budget achievability to maximize rewards (e.g., compensation, promotion) or, an opposite view, there may be an incentive to manage earnings downward in order to reserve the excess earnings for the next period or not to exceed the targets by too much which will affect the budget setting in the next period. In sum, it is expected that there is a linkage of budgetary slack to discretionary accruals but the direction of the association is inconclusive. Therefore, we do not predict the direction of the association. This leads to the hypothesis stated as follow:

H₁: *Budgetary slack is associated with discretionary accruals.*

III. Research Design

Sample and Data

The sample used in this study consists of the companies listed on the Stock Exchange of Thailand (SET) and the Market for Alternative Investment (MAI) as of the year ended 2009, and all of them use budget for performance evaluation. The companies in financial industry and companies under rehabilitation are excluded since their financial reporting requirements and their characteristics of

business operation are different. Also, this study chooses to employ the cross – sectional modified Jones' (1995) model (Dechow et al., 1995) that is not applicable to measure discretionary accruals of the companies in financial industry. Besides, the companies must have been listed on the SET or MAI for at least 1 year before the end of 2009 since it is presumed that the listed companies usually use budget more effectively in planning, control, and performance evaluation than the non – listed companies. The population covers 387 firms and there are 38 returned and usable questionnaires which is 10% of total population. Detail of population and final sample firm breakdown by industry is presented in Part I of Appendix A and detail of returned questionnaires is presented in Part II of Appendix A.

The survey questionnaires (Thai version) are administered and sent to the firms' management who held one of the following titles: Chief Financial Officer, Controller, Vice President, Managing Director, or Manager. These respondents have to work with the firms since or prior to 2009, involve extensively in budgeting process, and are accountable for the firms' performance. The annual financial statements are retrieved from the SET Market Analysis and Reporting Tool (“*SETSMART*”).

387 mailed survey questionnaires are distributed during May – June 2011 and designed to elicit information on budget figures of the year ended 2009 and respondents' perceptions of the achievability of their annual earnings targets.

From the initial sample set, the firms with no or invalid data on actual or budgeted earnings are excluded. The final sample set comprises 38 firms (equivalent to 10% of total population). The small sample size is due to the difficulty in obtaining the firms' internal and confidential data and yet the sample available for some analyses is smaller due to missing values for some variables. Demographic profile of respondents is presented in Appendix B.

Measures

Earnings Management

In this study, the cross-sectional modified Jones' (1995) model (Dechow et al., 1995) is employed to measure discretionary accruals. We begin by estimating a cross-sectional variant of the Jones' (1991) expected accruals model for all firms i in industry j (the industry classification based on that by the Stock Exchange of Thailand),

$$TA_{ij} = \alpha_j + \delta_j(\Delta Rev_i) + \gamma_j(PPE_i) + \varepsilon \quad (1)$$

Where

TA_{ij} is total accruals for firm i in industry j (Net Income minus Cash Flow from Operations).

ΔRev_i is the change in revenues between year t and year $t-1$ for firm i .

PPE_i is gross property, plant and equipment for firm i .

Next, for each firm ij in the sample, calculate the abnormal accruals, i.e., discretionary accruals (DA) which is defined as.

$$DA_{ij} = TA_{ij} - [\alpha_j + \delta_j(\Delta Rev_i) + \gamma_j(PPE_i)] \quad (2)$$

Where α_j , δ_j , and γ_j are the fitted coefficients from Eq.(1).

Secondly, Dechow et al. (1995) propose the modified Jones' (1995) model in which

$$DA_{ij} = TA_{ij} - [\alpha_j + \delta_j(\Delta Rev_i - \Delta Rec_i) + \gamma_j(PPE_i)] \quad (3)$$

The modification is that in the expected accruals model, revenue changes are adjusted for ΔRec_i , the change in receivables between year t and year $t-1$. Dechow et al. (1995) calculate α_j , δ_j , and γ_j from the original Jones' (1991) model, by modifying Eq.(1) to include the adjustment for receivables. All variables in Eq.(3) are scaled by total assets at the beginning of the year. The resulting value of the modified Jones' (1995) model quantifies discretionary accruals.

In this study, the absolute value of discretionary accruals is used to measure the combined effect of income-increasing and income-decreasing earnings management decisions (e.g., Warfield, Wild and Wild 1995; Becker et al., 1998; Reynolds and Francis, 2000).

Budgetary Slack

As budgetary slack is not directly observable, follow prior survey studies, this study employs two survey questions to measure budgetary slack. The questions are (1) "Annual budget targets induce high productivity in your business unit" and (2) "Budget targets require costs to be managed carefully in your business unit", both of which are

reverse coded. Each respondent is asked to specify the percentage of, rather than the five–or seven–point Likert scale, the level of their perceptions of the achievability of their annual earnings targets.

Control Variables

To control differences in earnings management incentives, certain factors are included in the regression model.

Budget–based performance measures (*BUD*), relative weight on budget–based performance measures – Earnings management incentive to achieve the performance evaluation and bonus incentive that based on the budget targets may be different.

Leverage (*LEV*), total debts to total assets ratio – The debt to equity hypothesis proposes that a higher debt covenant is an incentive for firm’s managers to manage earnings (Watts and Zimmerman, 1986; 1990).

Financial performance (*ROA*), return on assets – The modified Jones’s model has misspecification bias against financial performance which may lead to a misspecified test of earnings management for firms with extreme financial performances (Dechow et al., 1995).

Growth opportunity (*GROWTH*), percentage change in sales – High growth firms have incentives to manage earnings to avoid earnings disappointments and the literature also reports that high growth firms have higher discretionary accruals even after controlling for financial performance (McNichols, 2000).

Size (*Ln_size*), natural log of total assets at the beginning of the year – The political cost hypothesis advocates that larger firms are more likely to manage earnings (Watts and Zimmerman, 1986; 1990).

Auditor (*BIG4*), indicator variable for Big 4 audit firms – Big 4 auditors are less likely to allow earnings management than non–Big 4 auditors due to their high reputation cost (Becker et al., 1998).

Stock Exchange (*LISTED*), indicator variable for company listed on MAI – The potential effects on earnings management level may be different between the firms listed on the SET and MAI.

Financial statements (*CONSOL*), indicator variable for consolidated financial statements – The potential effects on earnings management level may be different between firms that evaluate performances based on consolidated–and company –level financial statements.

Model Specification

This study employs regression analytical technique for cross–sectional data analyses to substantiate whether and how budgetary slack associate with discretionary accruals. The final sample in this study is partitioned into (i) firms that achieved their annual earnings targets and firms that did not (for robustness test, this study also partitions the sample into firms that achieved their annual earnings targets before managing earnings and the firms that did not), and (ii) firms that chose income-increasing and income–decreasing earnings management, to separately examine the linkage of

budgetary slack to discretionary accruals and to compare whether the results are dissimilar. The following regression model specification is used for hypothesis testing:

$$DA_i = \alpha_0 + \alpha_1 SLACK_i + \alpha_2 BUD_i + \alpha_3 LEV_i + \alpha_4 ROA_i + \alpha_5 GROWTH_i + \alpha_6 Ln_size_i + \alpha_7 BIG4_i + \alpha_8 LISTED_i + \alpha_9 CONSOL_i + \varepsilon$$

Where

- DA* = Discretionary accruals
- SLACK* = Budgetary slack
- BUD* = Relative weight on budget-based performance measures
- LEV* = Total debts to total assets ratio
- ROA* = Return on assets
- GROWTH* = Percentage change in sales
- Ln_size* = Natural log of total assets at the beginning of the year
- BIG4* = Indicator variable for Big 4 audit firms
- LISTED* = Indicator variable for company listed on MAI
- CONSOL* = Indicator variable for consolidated financial statements

IV. RESULTS

Descriptive Statistics

Discretionary accruals

Table 1 presents descriptive statistics of the final sample entities. In comparison of each subsample group, Panel A to Panel E, the mean (median) of absolute value of discretionary accruals, *DA*, of the full sample in Panel A is 5.07 (0.72), while that of the firms that achieved their annual earnings targets in Panel B is 2.22 (0.66), that of the firms that did not achieve their annual earnings targets in Panel C is 8.24 (0.97), that of the firms that chose to manage earnings upward (income-increasing earnings management) in Panel D is 9.56 (1.41), and that of the firms that chose to manage earnings downward (income-decreasing earnings management) in Panel E is 2.15 (0.65). From the above information, the mean of absolute value of discretionary accruals of the full sample is moderate, that of the firms that chose to manage earnings upward is the highest, and that of the firms that chose to manage earnings downward is the lowest.



TABLE 1
Descriptive Statistics
Panel A: Full Sample (n=38)

Variables	n	Mean	Median	SD	Min	Max
<i>DA</i>	38	5.07	0.72	14.25	0.01	66.16
<i>SLACK</i>	38	25.64	20.00	15.72	0.00	80.00
<i>BUD</i>	38	66.45	70.00	27.15	0.00	100.00
<i>LEV</i>	38	0.41	0.45	0.21	0.03	0.81
<i>ROA</i>	38	0.06	0.06	0.12	-0.56	0.26
<i>GROWTH</i>	38	-0.07	-0.08	0.14	-0.42	0.22
<i>Ln_size</i>	38	15.08	14.83	1.58	13.12	19.37
<i>BIG4</i>	38	0.50	0.50	0.51	0	1
<i>LISTED</i>	38	0.08	0.00	0.27	0	1
<i>CONSOL</i>	38	0.29	0.00	0.46	0	1

Panel B: Achieved Target (n=20)

Variables	n	Mean	Median	SD	Min	Max
<i>DA</i>	20	2.22	0.66	5.17	0.01	23.26
<i>SLACK</i>	20	27.85	25.00	18.38	2.00	80.00
<i>BUD</i>	20	71.18	80.00	29.34	0.00	100.00
<i>LEV</i>	20	0.40	0.40	0.23	0.03	0.81
<i>ROA</i>	20	0.10	0.09	0.07	0.01	0.26
<i>GROWTH</i>	20	-0.06	-0.10	0.15	-0.42	0.16
<i>Ln_size</i>	20	15.43	15.08	1.68	13.12	19.37
<i>BIG4</i>	20	0.65	1.00	0.49	0	1
<i>LISTED</i>	20	0.05	0.00	0.22	0	1
<i>CONSOL</i>	20	0.30	0.00	0.47	0	1

TABLE 1 (Continued)
Panel C: Not Achieved Target (n=18)

Variables	n	Mean	Median	SD	Min	Max
<i>DA</i>	18	8.24	0.97	19.80	0.02	66.16
<i>SLACK</i>	18	23.19	20.00	12.18	0.00	50.00
<i>BUD</i>	18	60.71	60.00	24.01	0.00	100.00
<i>LEV</i>	18	0.43	0.45	0.16	0.08	0.79
<i>ROA</i>	18	0.02	0.05	0.15	-0.56	0.14
<i>GROWTH</i>	18	-0.07	-0.07	0.14	-0.26	0.22
<i>Ln_size</i>	18	14.70	14.34	1.40	13.15	17.86
<i>BIG4</i>	18	0.33	0.00	0.49	0	1
<i>LISTED</i>	18	0.11	0.00	0.32	0	1
<i>CONSOL</i>	18	0.28	0.00	0.46	0	1

Panel D: EM – Income Increasing (n=15)

Variables	n	Mean	Median	SD	Min	Max
<i>DA</i>	15	9.56	1.41	21.54	0.02	66.16
<i>SLACK</i>	15	22.20	20.00	13.19	0.00	50.00
<i>BUD</i>	15	57.27	60.00	26.87	0.00	100.00
<i>LEV</i>	15	0.46	0.52	0.22	0.08	0.81
<i>ROA</i>	15	0.07	0.06	0.06	-0.01	0.18
<i>GROWTH</i>	15	-0.09	-0.16	0.12	-0.24	0.15
<i>Ln_size</i>	15	15.26	14.73	1.76	13.20	19.37
<i>BIG4</i>	15	0.40	0.00	0.51	0	1
<i>LISTED</i>	15	0.07	0.00	0.26	0	1
<i>CONSOL</i>	15	0.20	0.00	0.41	0	1

TABLE 1 (Continued)
Panel E: EM – Income Decreasing (n=23)

Variables	n	Mean	Median	SD	Min	Max
<i>DA</i>	23	2.15	0.65	4.86	0.01	23.26
<i>SLACK</i>	23	27.91	25.00	17.10	2.00	80.00
<i>BUD</i>	23	71.50	75.00	26.61	0.00	100.00
<i>LEV</i>	23	0.38	0.38	0.20	0.03	0.79
<i>ROA</i>	23	0.06	0.06	0.15	-0.56	0.26
<i>GROWTH</i>	23	-0.06	-0.08	0.15	-0.42	0.22
<i>Ln_size</i>	23	14.96	14.85	1.48	13.12	18.06
<i>BIG4</i>	23	0.57	1.00	0.51	0	1
<i>LISTED</i>	23	0.09	0.00	0.29	0	1
<i>CONSOL</i>	23	0.35	0.00	0.49	0	1

DA – Absolute value of discretionary accruals estimated by using the modified-Jones’ (1995) model and scaled by net profit of the year.

SLACK – Managers’ perceptions of the achievability of their annual earnings targets (measured from two survey questions with Cronbach’s Alpha of 0.87).

BUD – Relative weight on budget-based performance measures.

LEV – Leverage measured by total debts to total assets ratio.

ROA – Return on assets measured by net profit to total assets at the beginning of the year.

GROWTH – Firm’s growth measured by percentage change in sales.

Ln_size – Natural log of total assets at the beginning of the year.

BIG4 – Indicator variable for Big 4 audit firms.

LISTED – Indicator variable for company listed on MAI.

CONSOL – Indicator variable for consolidated financial statements.



Table 2 presents t-statistics of the descriptive statistics. The empirical evidence shows that, on average, firms in every subsample group choose to manage earnings through discretionary accruals as the t-statistics in Panel A indicate that the means of *DA* of all groups are significantly greater than zero ($p < 0.05$). In addition, the t-statistics in Panel B indicate that the firms that did not achieve their annual earnings targets are more likely to manipulate earnings than the firms that already achieved their annual earnings targets as the mean of *DA* of the firms that did not achieve their annual earnings targets is significantly greater than that of the firms that already achieved their annual earnings targets ($p < 0.10$). Moreover, the results in Panel B also indicate that the firms that chose income-increasing earnings management tend to manage earnings more than the firms that chose income-decreasing earnings management as the mean of *DA* of the firms that chose income-increasing earnings management is significantly greater than that of the firms that chose income-decreasing earnings management ($p < 0.10$).

Budgetary slack

From Table 1, the mean (median) of budgetary slack, *SLACK*, of the full sample is 25.64% (20%), while that of the firms that achieved their annual earnings targets is 27.85% (25%), that of the firms that did not achieve their annual earnings targets is 23.19% (20%), that of the firms that chose

income-increasing earnings management is 22.20% (20%), and that of the firms that chose income-decreasing earnings management is 27.91% (25%).

From Table 2, the t-statistics in Panel C indicate that, on average, firms in every subsample group also choose to create slack into budget as the means of *SLACK* of all groups are significantly greater than zero ($p < 0.01$). However, there is no statistical evidence that the mean of *SLACK* of the firms that already achieved their annual earnings targets is different from those of the firms that did not achieve their annual earnings targets, also there is no statistical evidence that the mean of *SLACK* of the firms that chose income-increasing earnings management is different from those of the firms that chose income-decreasing earnings management as the t-statistics in Panel D are insignificant ($p > 0.10$).

In sum, the results in Table 2 indicate that, on average, firms in every subsample group choose to manipulate earnings through discretionary accruals and create slack into budget. The means of discretionary accruals are significantly different among groups; however, the means of budgetary slack of each subsample group are insignificantly different.

Cronbach's Alpha of budgetary slack is 0.87 (not tabulated) which exceeds the conventional value of 0.7 (Nunnally, 1978) so the reliability of budgetary slack measurement in this study is ensured.

TABLE 2
t-statistics of the Descriptive Statistics
Panel A: One-Sample Test for DA

Description	Test Value = 0	df	p-value	Mean Difference
	t-statistics			
<i>DA_Full Sample</i>	2.19**	37	0.02	5.07
<i>DA_Achieved Target</i>	1.92**	19	0.03	2.22
<i>DA_Not Achieved Target</i>	1.77**	17	0.05	8.24
<i>DA_Income-Increasing EM</i>	1.72**	14	0.05	9.56
<i>DA_Income-Decreasing EM</i>	2.12**	22	0.02	2.15

Panel B: t-test for Equality of Means of DA

Description	n	Mean	SD	SE
<i>DA_Achieved Target</i>	20	2.22	5.17	1.16
<i>DA_Not Achieved Target</i>	18	8.24	19.80	4.67
t-statistics = -1.31* (0.10)				
<i>DA_Income-Increasing EM</i>	15	9.56	21.54	5.56
<i>DA_Income-Decreasing EM</i>	23	2.15	4.86	1.01
t-statistics = 1.31* (0.10)				

Panel C: One-Sample Test for SLACK

Description	Test Value = 0	df	p-value	Mean Difference
	t-statistics			
<i>SLACK_Full Sample</i>	10.06***	37	0.00	25.64
<i>SLACK_Achieved Target</i>	6.78***	19	0.00	27.85
<i>SLACK_Not Achieved Target</i>	8.08***	17	0.00	23.19
<i>SLACK_Income-Increasing EM</i>	6.52***	14	0.00	22.20
<i>SLACK_Income-Decreasing EM</i>	7.83***	22	0.00	27.91

TABLE 2 (Continued)
Panel D: t-test for Equality of Means of SLACK

Description	n	Mean	SD	SE
<i>SLACK_Achieved Target</i>	20	27.85	18.38	4.11
<i>SLACK_Not Achieved Target</i>	18	23.19	12.18	2.87
t – statistics = 0.91 (0.18)				
<i>SLACK_Income – Increasing EM</i>	15	22.20	13.19	3.41
<i>SLACK_Income – Decreasing EM</i>	23	27.91	17.10	3.57
t – statistics = 1.10 (0.14)				

Corresponding two-tailed *p* – values are reported in parentheses.

***, **, * indicate significance at the 1%, 5% and 10% levels, respectively.

Control variables

From Table 1, with respect to the control variables, the means of relative weight on budget-based performance measures, *BUD*, fall between 57.27% – 71.50%, indicating that the performance measures of respondents are heavily weighted on budget. The means of the firms’ leverage, *LEV*, fall between 0.38 – 0.46, indicating that roughly 38% to 46% of the sampled firms’ assets are financed by debts and around 54% to 62% of the firms’ assets are financed by shareholders’ equities. The means of the firms’ performance, *ROA*, fall between 0.02 – 0.10, indicating that the sampled firms generate positive returns at approximately 2% to 10% on total assets. The means of the firms’ growth, *GROWTH*, fall between –0.06 and –0.09, indicating that sales of the sampled firms drop by 6% to 9% from prior year. The means of natural

log of total assets, *Ln_size*, at the beginning of the year of the full sample, firms that achieved their targets, firms that chose to manage earnings upward, firms that chose to manage earnings downward, and firms that did not achieve their targets are 15.08, 15.43, 15.26, 14.96 and 14.70, respectively, indicating that sizes of the firms that achieved their targets and the firms that chose to manage earnings upward are drastically larger than those of the firms that chose to manage earnings downward and the firms that did not achieve their targets. Indicator variables of big 4 auditor, *BIG4*, stock exchange of the firm listing, *LISTED*, consolidated financial statements, *CONSOL*, for the full sample present means of 0.50, 0.08, and 0.29, respectively, indicating that 50% of the sampled firms are audited by big 4 auditors, 8% of them are listed on MAI, 29% of them evaluate respondents’ performance based on the consolidated financial statements.

Correlation Results

Table 3 shows correlations among variables in this study. The Pearson's correlation coefficient between *DA* and *SLACK* is insignificantly correlated ($r=0.03$, $p=0.88$, so H_1 is not supported). For the control variables, there are significant positive correlations between *BUD* and *BIG4*, *LEV* and *Ln_size*, *ROA* and *GROWTH*, *ROA* and *BIG4*, *Ln_size* and *BIG4*, and *Ln_size* and *CONSOL*, while the correlations between *DA* and *GROWTH*, *DA* and *BIG4*, *LEV* and *ROA*, *Ln_size* and *LISTED*, and *BIG4* and *LISTED* are negative. Correlations; however, do not provide insightful results. Therefore, regression analysis is performed to further dissect the association.

Regression Results

Table 4 presents the regression results of discretionary accruals on budgetary slack. The F-statistics of the regression models, except the income-increasing earnings management, are significant at the conventional levels, indicating that these models are statistically valid. Since the F-statistics of regression model for the subsample group of firms that chose income – increasing earnings management is insignificant, this study makes no further analysis on this subsample group. The adjusted R^2 for the full sample, the firms that achieved their targets, the firms that did not achieve their targets and the firms that chose income – decreasing earnings management are 44%, 69%, 79% and 66%, respectively, which mean that

explanatory variables are more able to explain and predict the dependent variable when partitioning the firms regarding their targets achievability and earnings management pattern than the full sample is. The first two columns show the regression results of the full sample and the firms that achieved their targets. The main results are qualitatively similar and consistent with the results of the firms that chose income – decreasing earnings management shown in the last column. The coefficients of *SLACK* of the full sample and those two subsample groups, the firms that already achieved their targets and the firms that chose income – decreasing earnings management, are significantly positive at 1% level. So H_1 is partially supported. These results exhibit that there is a significantly positive association between budgetary slack and discretionary accruals, especially for the subsample groups of firms that already achieved their annual earnings targets and firms that chose income – decreasing earnings management. It is possible that those firms use discretionary accruals to adjust the previously built budgetary slack. The third column presents the regression results of the firms that did not achieve their earnings targets, the coefficient of *SLACK* is insignificant, so H_1 is not supported for this group. This is not consistent with the regression results of the full sample, the firms that achieved their targets and the firms that chose income – decreasing earnings management. With respect to the control variables, only the coefficients of firms' leverage (*LEV*) are significantly positive, indicating that the firms with high leverage are more likely to manage reported earnings.

TABLE 4
Summary Regressions of Discretionary Accruals on Budgetary Slack

Variables	Full Sample			Budget Achievability				Earnings Management			
	Achieved Target		Not Achieved Target	Income – Increasing		Income – Decreasing					
	Coefficient	p – value		Coefficient	p – value	Coefficient	p – value				
<i>Constant</i>	7.84	(0.46)	15.93	(0.38)	5.22	(0.17)	-95.83	(0.65)	16.02	(0.26)	
<i>SLACK</i>	0.18 ^{***}	(0.00)	0.26 ^{***}	(0.01)	0.00	(0.85)	0.51	(0.66)	0.26 ^{***}	(0.00)	
<i>BUD</i>	-0.03	(0.35)	-0.05	(0.23)	0.02	(0.18)	-0.10	(0.86)	-0.06	(0.13)	
<i>LEV</i>	9.17 ^{**}	(0.03)	12.67 ^{**}	(0.04)	3.54 [*]	(0.10)	71.50	(0.46)	16.18 ^{**}	(0.02)	
<i>ROA</i>	4.27	(0.47)	-4.31	(0.78)	3.47	(0.19)	205.25	(0.78)	7.65	(0.25)	
<i>GROWTH</i>	-5.28	(0.35)	-7.38	(0.29)	-6.28	(0.13)	-195.27	(0.52)	-3.18	(0.64)	
<i>Ln_size</i>	-0.85	(0.25)	-1.46	(0.20)	-0.51	(0.12)	3.80	(0.78)	-1.62	(0.17)	
<i>BIG4</i>	-0.29	(0.87)	0.38	(0.89)	-0.31	(0.53)	-48.24	(0.41)	2.92	(0.18)	
<i>LISTED</i>	0.17	(0.95)	-5.31	(0.22)	2.87 ^{**}	(0.04)	30.93	(0.79)	-2.55	(0.40)	
<i>CONSOL</i>	0.80	(0.69)	2.29	(0.44)	1.89 [*]	(0.10)	-33.61	(0.66)	0.20	(0.95)	
F – statistics	3.55 ^{***}		4.95 ^{**}		19.21 ^{**}		0.62		5.13 ^{***}		
p – value	(0.00)		(0.02)		(0.02)		(0.76)		(0.01)		
Adj R ²	44%		69%		79%		0%		66%		

Corresponding two-tailed p-values are reported. ***, **, * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 5 presents the regression results of *DA* on *SLACK* for the firms that already achieved their annual earnings targets and chose to manage earnings downward (income-decreasing earnings management). The results are consistent with the results in Table 4 that the coefficient of *SLACK* is significantly positive. The results show that the firms that incorporated slack into the budget and already achieved their annual earnings targets are more likely to manipulate earnings downward. It is possible that those firms use earnings management to adjust the previously built budgetary slack and prefer to manage earnings downward in order to reserve the excess earnings and/or not to exceed the targets by too much which will affect the

budget setting in the next period.

For robustness test, the cross-sectional Jones' (1991) model is also utilized in estimating discretionary accruals and this study also partitions the sample into firms that achieved their annual earnings targets before managing earnings and the firms that did not, the results (not tabulated) are qualitatively similar.

As the response rate is not high, non-response analysis is performed to ensure that respondents do not systematically differ from non-respondents. The data of on-time respondents is compared to late respondents and finds no significant difference which suggests no response bias.

TABLE 5
Regression of Discretionary Accruals on Budgetary Slack

Firms that Achieved Target and chose Income-Decreasing EM		
Variables	Coefficient	<i>p</i> – value
<i>Constant</i>	6.96	(0.63)
<i>SLACK</i>	0.17*	(0.09)
<i>BUD</i>	-0.14*	(0.07)
<i>LEV</i>	15.70*	(0.06)
<i>ROA</i>	8.27	(0.55)
<i>GROWTH</i>	-2.54	(0.72)
<i>Ln_size</i>	-0.23	(0.84)
<i>BIG4</i>	-0.48	(0.84)
<i>LISTED</i>	-2.63	(0.46)
<i>CONSOL</i>	-2.97	(0.44)
F – statistics	9.46**	
<i>p</i> – value	(0.02)	
Adj R²	85%	

Corresponding two-tailed *p* – values are reported. ***, **, * indicate significance at the 1%, 5% and 10% levels, respectively.

V. Discussion and Conclusions

This research study bridges opportunistic behaviors in budgeting and external financial reporting by empirically investigate the linkage of budgetary slack to discretionary accruals. Both budgetary slack creation and earnings management are management's intentional intervention behaviors to produce some private gains, e.g., managers may choose to add slack into budget and/or manage earnings, through discretionary accruals, in order to report the achievability of budget as they expected.

The empirical results in this study are generated from both primary and secondary data of 38 firms in Thailand. The data on the budget figures of the year ended 2009 and perceived budget achievability are garnered from corporate executives of the listed non-financial firms in Thailand to match their firms' annual financial statements. In assessing discretionary accruals, the cross-sectional modified Jones' (1995) model is employed, and for robustness test, the cross-sectional Jones' (1991) model is utilized.

Collectively, the results reveal that there is a linkage of budgetary slack to discretionary accruals. In particular, the firms that already achieved their annual earnings targets and chose to manage earnings downward exhibit significantly positive association between budgetary slack and the magnitude of discretionary accruals. The results imply that the firms that succeed in building slack into budget to increase the propensity of budget achievability use discretionary accruals to adjust the previously built slack prefer to manage earnings downward so as to reserve the excess earnings and /or not to exceed the targets by too much which

will affect the budget setting in the next period. On the contrary, there is no linkage of budgetary slack to discretionary accruals in the firms that did not achieve their annual earnings targets as well as the firms that chose to manage reported earnings upward.

Nevertheless, this empirical study is subject to a number of limitations. First, this study covers only the non-financial institutions listed in Thailand and the final set of samples is merely 38 firms due to the difficulty in obtaining the firms' internal and confidential data; hence, limiting generalizability of the results. Second, an implicit assumption in this study is that the cross-sectional Modified Jones' (1995) model accurately partitions accruals into its discretionary and nondiscretionary components. Third, measurement errors, model misspecifications and omitted variables may limit the reliability of results. Fourth, by the very nature of the survey data, this study relies primarily on self-reported responses to the survey questions in which the respondents are asked to recall their perceptions on budget achievability from the past to measure budgetary slack. Despite the limitations, we still believe that this study provides new important evidence on the linkage of budgetary slack to discretionary accruals. Future research should endeavor to increase the sample size to improve generalizability of the results. Rather than a subjective measurement of budgetary slack, an objective measurement should be employed for further investigation in future studies. For robustness test, other earnings management categories and approaches, i.e., real earnings management and other accruals models, should be employed in estimating discretionary accruals.

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APPENDIX A

Part I: Detail of population and final sample firms breakdown by industry

<u>Industry</u>	<u>Population</u>	<u>%</u>	<u>Final Sample</u>	<u>%</u>
SET				
Agribusiness and Food	37	10%	5	14%
Consumer Products	32	8%	3	9%
Industrials	66	17%	5	8%
Property and Construction	74	19%	8	11%
Resources	23	6%	3	13%
Services	80	21%	5	6%
Technology	33	9%	6	18%
MAI	<u>42</u>	<u>11%</u>	<u>3</u>	<u>7%</u>
Total	<u>387</u>	<u>100%</u>	<u>38</u>	<u>10%</u>

Part II: Detail of returned questionnaires

Number of initially returned questionnaires	84
<u>Less:</u> New joiners (Respondents who work in company after year 2009)	11
Respondents who do not participate in budgeting process	7
Respondents who do not provide budget figures of 2009	16
Companies that start to use budget less than 3 years	4
Budget figure of year ended 2009 is not the data in financial statement	<u>8</u>
Number of final questionnaires	<u>38</u>

APPENDIX B

Demographic profile of respondents

Description		n	%	Mean	Median	SD	Min	Max
Sex								
	Male	18	47%					
	Female	20	53%					
Age								
	Average (years)			46	46	7.85	27	61
Education level								
	Bachelor	8	21%					
	Master	29	76%					
	Doctor	1	3%					
Experience								
Current position	Average (years)			7	5	5.91	3	23
Current company	Average (years)			12	10	7.86	3	30
Number of years that the company uses budget								
	3-6 years	5	13%					
	7-10 years	6	16%					
	more than 10 years	27	71%					
The company uses budget for resource allocation								
	Yes	36	95%					
	No	2	5%					
The company links budget to reward systems								
	Yes	25	66%					
	No	13	34%					