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EARNINGS MANAGEMENT AND DEFERRED TAX

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This study investigates whether firms use deferred tax expense to meet earnings targets: (1) to avoid an earnings decline and (2) to avoid a loss. The current study replicates Phillips et al. (2003)'s study, where they found evidence that firms use deferred tax expense to manage earnings. The study examines the financial statements prepared for 2001 – 2003 of firms from consumer and industrial products listed on the first and second board of Bursa Malaysia. The final sample comprises of 493 firm-years base on the deferred tax expense reports for the three-year investigation periods, after filtering the outliers at 1st and 99th percentiles. Using Burgstahler and Dichev (1997) earnings distribution approach, Healy (1985) total accruals and Modified Jones model abnormal accruals (Dechow et al., 1995), the study finds evidence that firms use deferred tax expense to avoid a loss. This study also evidenced an increasing trend of deferred tax liabilities reported by firm from 1990 – 2004. The credit balance of deferred tax liabilities means firms report book income higher than taxable income, which indicates the firms' tax planning strategies by crystallizing their tax liabilities to the future years.

Keywords: *Earnings management, deferred tax expense, deferred tax liabilities, tax planning.*

Introduction

The study examines the usefulness of deferred tax expense in detecting earnings management in the Malaysian context. This study is a replication of a study done by Phillips et al. (2003), where the current study investigates the usefulness to financial statement users of deferred tax expense in identifying whether firms are seeking to: (1) to avoid reporting an earnings decline and (2) to avoid reporting a loss.

The tax expense reported in the income statement consists of two components, current tax expense (tax credit) and deferred tax expense (deferred tax credit). The current tax expense is the current year tax payable (refundable) by a firm, a

proxy for tax payable. Whereas, the deferred tax expense (deferred tax credit) is the provision for future tax payable (tax deductible) by firms and is expected to reverse in the future period(s). The Malaysian Accounting Standard Board 25 (MASB 25) requires that all temporary differences between income tax reporting on the financial statements and on the tax returns should be accounted for in the financial statements. Temporary differences arise between the periods in which transactions affect accounting income, and the periods in which they affect taxable income (for example, different rates use in providing depreciation and capital allowance). These temporary differences give rise to a tax difference between periods. Temporary differences originate in one period, and will reverse in one or more subsequent periods. Permanent differences arise because items that are reflected on the income statement are never permitted on the income tax return (for example, disallowable expenses and exempt income).

Earnings management is accomplished through managerial discretion over accounting choices and operating cash flow (Healy and Wahlen, 1999). The underlying assumption in preparing the financial statements is that managers exercise discretion to manage the book income upward without increasing the taxable income (Mills and Newberry, 2001). These activities will generate book-tax income differences. Higher deferred tax expense (DTE) means the magnitude of differences between book-tax incomes, which indicates the increasing probability of managing earnings to avoid reporting an earnings decline and a loss. Therefore, DTE is useful for detecting earnings management.

A study on the usefulness of DTE in detecting earnings management is new in earnings management research. Phillips et al. (2003) are the first to detect earnings management activities using DTE. Therefore, this study attempts to find evidence whether Malaysian firms use DTE to manage earnings in meeting the earnings targets: (1) to avoid an earnings decline and (2) to avoid a loss. The study examines financial statements of firms prepared for the years 2001 to 2003 from consumer and industrial products listed on Bursa Malaysia. The final sample comprises of 493 firm-years. The study adopts Burgstahler and Dichev (1997) earnings distribution approach to detect earnings management firms (and vice versa). The Modified Jones model (Dechow et al., 1995) is also used for detecting earnings management using accruals. This will enable the study to examine firms' earnings management behaviour using two accounting variables: (1) deferred tax expense and (2) discretionary accruals.

Objectives, Scope and Significance of the Study

The purpose of the study is to examine the extent to which provisions of deferred tax expense are used as a vehicle to manage earnings through taxes on continuing operations. This study also examines whether firms use discretionary accruals to manage earnings. In terms of scope, the study only examines deferred tax expense of firms from consumer and industrial products listed on the first and second board of Bursa Malaysia. The investigation periods include only financial statements prepared for the years 2001, 2002 and 2003. The use of accounting choices for the purpose of tax planning strategies is beyond the scope of this study.

It is noted that detecting earnings management is important in assessing the quality of earnings which is useful to financial analysts in the examination of financial reports. Therefore, this study makes methodological contributions to earnings management research by providing evidence on a specific accrual used to manage earnings. Furthermore, this issue has important policy implications on the reported income in light of the self-assessment tax system. The result of this study can provide an input to the tax authorities (for tax audit purposes) whether book income is managed in such a way that it does not affect taxable income (or vice-versa).

The remainder of the paper is structured as follows: Section Two discusses the previous studies on earnings management and deferred tax. Section Three describes the research framework, collection of data and research models used in this study. Section Four analyses the findings and the conclusion is presented in Section Five.

Previous Research

As cited in Beneish (2001, p. 4), Davidson, Stickney and Weil (1987) defined earnings management as the process of taking deliberate steps within the constraint of generally accepted accounting principles to bring about a desired level of reported earnings. Whereas, Healy and Wahlen (1999) defined earnings management as occurring when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers'. Earnings management practices can be designed either to assist managers in fulfilling their obligations to stakeholders or to deceive investors (Magrath and Weld, 2002). The Securities and Exchange Commission (SEC) and accounting profession acknowledge that some earnings management techniques are not fraudulent (Magrath and Weld, 2002). It is noted that firms have long used earnings management to smooth earnings.

Earnings management is accomplished through managerial discretion over accounting choices and operating cash flows (Healy and Wahlen, 1999). Discretion over accruals generally is less observable than management's choice of accounting methods and less costly to implement than altering operating cash flows. Thus, researchers have increasingly used accruals variables to detect earnings management. For example, Healy (1985) uses total accruals to proxy for discretionary (i.e. abnormal) accruals, while Jones (1991) estimates regressions of total accruals variables on factors reflecting changes in a firm's economic environment to detect earnings management, and uses the residuals to proxy for abnormal accruals. Dechow et al. (1995) modify the Jones model to allow for the possibility that managers use discretion to accrue revenues when it is questionable whether revenue recognition criteria have been met.

The financial analyst and tax professionals are beginning to scrutinize tax expense as a source of earnings management to increase firms' value (Dhaliwal et al., 2003). The tax expense is one of the last accounts closed before earnings are announced, thus it provides

a final opportunity for earnings management. Dhaliwal et al. (2003) used ETR model on a sample of 4,656 firm-years from 1986 to 1999. They found evidence that firms managed tax expense to achieve an earnings target.

Previous studies have examined the deferred tax assets valuation allowance and earnings management and have found mixed evidence of earnings management activities via valuation allowance (Visvanathan 1998, Bauman et al. 2001 and Chia et al. 2004). Phillips et al. (2003) are the first to examine earnings management using deferred tax expense. Deferred tax expense can be used to better measure managers' discretionary choices under generally accepted accounting principles (GAAP) because the tax law, in general, allows less discretion in accounting choices relative to the discretion that exist under GAAP (Mills and Newberry 2001, Manzon and Plesko 2002, Hanlon 2002, and Phillips et al. 2003). Hence, they expect that managers seek to manage earnings to achieve earnings targets, and do so by exploiting the greater discretion they have for financial reporting compared to tax reporting. Moreover, it is assumed that managers prefer to manage book income upward without increasing taxable income. Thus, the exercise of managerial discretion to manage income upward should generate temporary book-tax differences, and, hence, deferred tax expense will be useful in detecting earnings management.

Research Methodology

Research Framework

Figure 3.1 presents the research framework of this study. The study adopts Burgstahler and Dichev's (1997) earnings distribution approach to detect earnings management firms (and vice versa). The computation of total accruals is based on Healy's model (1985). The Modified Jones model (Dechow et al., 1995) is used for detecting earnings management using accruals. The study then examines the existence of earnings management in deferred tax expense and accruals between the sample firms (earnings management firms) and control firms (non-earnings management firms).

Hypotheses Development

As stated by Healy and Wahlen (1999), earnings management is accomplished through managerial discretion over the accounting choices and operating cash flow. Following Mills and Newberry (2001), the underlying assumption in preparing the financial statements is that managers exercise discretion to manage the book income upward without increasing the taxable income. These activities will generate book-tax income difference, which is reflected in deferred tax expense reported in the financial statements. Deferred tax expense is a likely tool for earnings management because changes in deferred tax expense affect income from continuing operations, and unlike other accruals, the deferred tax accounting considers future profitability of the firm as a whole, which involves a good deal of subjectivity (Visvanathan, 1998). Hence, deferred tax expense is a proxy for the book-tax income differences that reflect managerial discretion to detect earnings management.
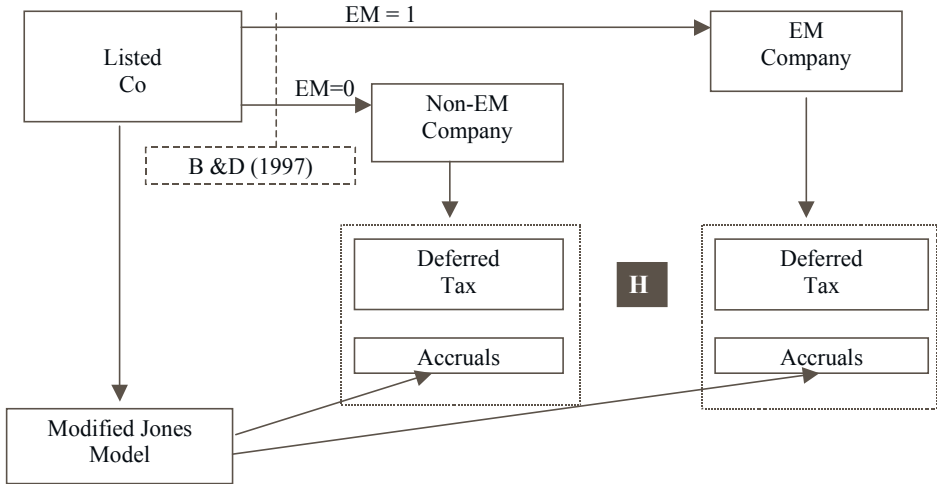
Figure 3.1: Research Framework

Higher deferred tax expense shows the magnitude of the differences between book-tax incomes, thus, indicating the increasing probability of managing earnings to avoid reporting an earnings decline or a loss.

Previous studies provided evidence that managers use accruals to meet earnings target (Beneish, 2001). According to Beneish (2001), three methods have been used by researchers to evaluate the existence of earnings management: (1) aggregate accruals and uses of regression models to calculate expected and unexpected accruals; (2) specific accruals such as provision of bad debts and provision of deferred taxation; and (3) discontinuities in the distribution of earnings (Beneish, 2001, p. 5). Amongst the established accruals models that have been used by the previous researchers in earnings management studies are the Jones (1991) model, Healy (1985) total accruals model and Modified Jones (Dechow et al., 1995) model. Thus, to be consistent with Phillips et al. (2003), this study also examines the existence of earnings management using discretionary accruals.

Therefore, the following hypotheses are tested:

H1a: Deferred tax expense detects earnings management concerned with avoiding an earnings decline.

H1b: Discretionary accrual detects earnings management concerned with avoiding an earnings decline.

H2a: Deferred tax expense detects earnings management concerned with avoiding a loss.

H2b: Discretionary accrual detects earnings management concerned with avoiding a loss.

Sample Selection

The first part of the study examines the trend of deferred tax balances (net of deferred tax assets and deferred tax liabilities) reported by firms from 1990 to 2004. This involves a sample from consumer and industrial products from first and second board of Bursa Malaysia. The purpose is to look at the trend and the magnitude of deferred tax balances reported by firms since the adoption of deferred tax accounting in Malaysia (Pang et al., 1994 reported deferred tax balances from 1983 to 1989).

The focus of the study is to examine the deferred tax expense reported by firms in the financial statements. All the financial accounting variables used in this study are obtained from Thomson data stream as reported in Table 3.1, except for deferred tax expense, for which the data are hand collected from the firms' financial statements' footnotes. To reduce the cost of collecting deferred tax expense footnote data, the study only examines firms from consumer and industrial products traded on the main and second board of Bursa Malaysia. The investigation periods include financial statements prepared for the years 2001, 2002 and 2003. As stated by Hribar and Collins (2002), the cross sectional estimation approach does not require a time-series for each company, thus, the benchmark for each company's accruals is the behaviour of other companies in the sample. Therefore, the three-years test periods to examine earnings management activities using cross-sectional approach is justifiable.

Table 3.1: Variables Extracted from Data Stream

Variables		Data Stream Code
Deferred tax credit balances	*DT*	3263
Net income	*NI*	154
Market value equity	*MVE*	MV
Total assets	*TA*	2999
Earnings before extraordinary item and interest	*EBIT*	154
Sales	*Sales*	104
Accounts receivable	*AR*	2051
Property, Plant and Equipment	*PPE*	2501
Cash flow from operations	*CFO*	1015

The study begins with a sample of firm-years in the Thomson data stream that have non-missing deferred tax expense for the three-year test periods 2001 – 2003 as presented in Table 3.2. To control for extreme observations, firm-years having deferred tax expense below the 1st percentile or above 99th percentile are deleted. This results in a final sample of 493 firm-year observations. Since the sample includes firms of varying size, all variables are scaled by the total assets, except for net income which is scaled at market value of equity (to be consistent with Phillips et al., 2003's study).

Table 3.2: Selection of Sample

Consumer products	126 firms
Industrial products	270 firms
Total	396 firms
No of firm-years (for 3 years)	1188 firm-years
Missing DTE data	290 firm-years
Outliers (1st and 99th percentiles)	405 firm-years
Final Observations	493 firm-years

Earnings Management and Accrual Models

The study adopts Burgstahler and Dichev's (1997) earnings distribution approach to detect earnings management, Healy (1985) for total accruals and Modified Jones model for abnormal accruals (Dechow et al., 1995).

Earnings Management Model

Burgstahler and Dichev's (1997) Earnings Distribution Approach (earnings after management) detects firms that managed earnings and control firms i.e. firms that do not manage earnings. The study considers two situations in which earnings management is likely to present: (1) firm-years with zero or slightly positive earnings changes i.e. earnings management to avoid an earnings decline; and (2) firm-years with zero or slightly positive earnings level i.e. earnings management to avoid a loss.

Following Burgstahler and Dichev (1997), the first setting for earnings management to avoid an earnings decline is: EM_1 equals 1 ($EM_1 = 1$ for earnings management firms) if a firm reports a scaled earnings change in year t greater than or equal to zero and less than 0.01 of its beginning-of-year $t-1$ market value of equity. Alternatively, EM_1 equals 0 ($EM_1 = 0$ for non-earnings management firms or control firms) if a firm reports a scaled earnings change in year t greater than or equal to -0.01 and less than 0 of its beginning-of-year $t-1$ market value of equity.

The second setting is earnings management to avoid a loss: EM_2 equals 1 ($EM_2 = 1$ for earnings management firms) if a firm reports a scaled earnings of at least 0 and less than 0.02 of its beginning-of-year $t-1$ market value of equity. Alternatively, EM_2 equals 0 ($EM_2 = 0$ for non-earnings management firms or control firms) if a firm reports a scaled earnings of at least -0.02 and less than 0 of its beginning-of-year $t-1$ market value of equity.

Total Accruals

The current study also examines whether firms use accruals to manage earnings in meeting earnings targets using Healy's (1985) total accruals. Total accruals are income before extraordinary items (*EBEI*) minus cash flows from operations (*CFO*) as stated in the equation (1) below. All variables are scaled by total assets at the end of year $t-1$.

$$TAcc = EBEI - CFO \qquad\qquad (1)$$

Abnormal Accruals Model

The discretionary accruals ($DAcc$) are computed using the Modified Jones model (Dechow et al., 1995). It is calculated as the difference between total accruals and normal accruals. Under the Modified Jones Model, normal accruals are estimated using control firm-years (EM = 0) as stated in the equation (2) below:

$$TAcc_{it} = \alpha + \beta_1 (\Delta Sales_{it}) + \beta_2 PPE_{it} \qquad\qquad (2)$$

where $\Delta Sales$ is the change in the firm's sales from $t-1$ to year t, and PPE is gross property, plant and equipment. All variables are scaled by total assets at the year end, $t-1$. For each earnings management firm (EM = 1), the study uses an estimated parameter derived from equation (2) above to compute its abnormal accruals using equation 3 below:

$$TAcc_{it} = \alpha + \beta_1 (\Delta Sales_{it} - \Delta REC_{it}) + \beta_2 PPE_{it} + \mathcal{E}+ \qquad\qquad (3)$$

Research Findings

Deferred Tax Credit Balances

An examination of the deferred tax credit balances (net of deferred tax liabilities and deferred tax assets) reported by firms from the industrial products and consumer products evidences an increasing trend from 1990 to 2004. When the standard, a MASB 25 was introduced in January 1983, only 44.8 percent of the public listed companies had adopted deferred tax accounting, and this percentage had increased to 77.8 percent in 1989 (Pang et al.,1994). Figure 4.1 depicts the mean of deferred tax credit balances which shows a slight increase in 1999 due to the tax waiver year announced by the government for income 1999. The study also evidences drastic increases in deferred tax credit balances for 2003 and 2004. This is due to the new standard, i.e., MASB 25 Income Taxes, which required firms to use the liability method of deferred tax accounting effective from July 2002. This scenario shows that firms are complying with the new standard of accounting for deferred taxation.

Earnings Management to Avoid an Earnings Decline

Figure 4.2 presents the identification of earnings management firms and non-earnings management firms using Burgstahler and Dichev's (1997) earnings distribution approach. EM_1 equals 1 ($EM_1 = 1$ for earnings management firms) if a firm reports a scaled earnings change in year t greater than or equal to zero and less than 0.01 of its beginning-of-year $t-1$ market value of equity. On the other hand, EM_1 equals 0 ($EM_1 = 0$ for non-earnings management firms) if a firm reports a scaled earnings change in year t greater than or equal to -0.01 and less than 0 of its beginning-of-year $t-1$ market value of equity. The unusually
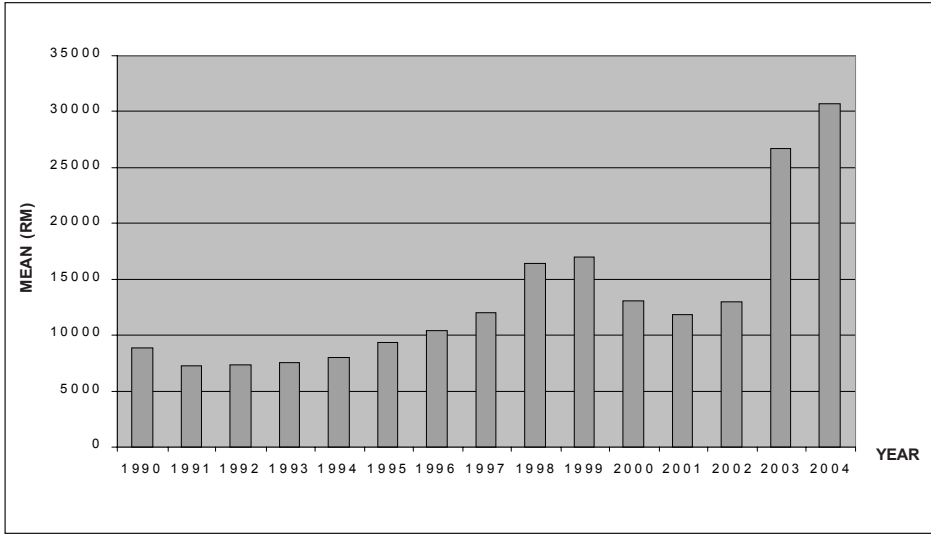
Figure 4.1: Deferred Tax Credit Balances

high number of observations in the zero and slightly positive earnings change interval (i.e. 68 firm-years or 13.8 percent out of 493 firm-years), and the slightly lower frequency of observations in the slightly negative earnings change interval (i.e. 65 firm-years or 13.2 percent out of 493 firm-years) are similar to the results found by Burgstahler and Dichev (1997) and Phillips et al. (2003).
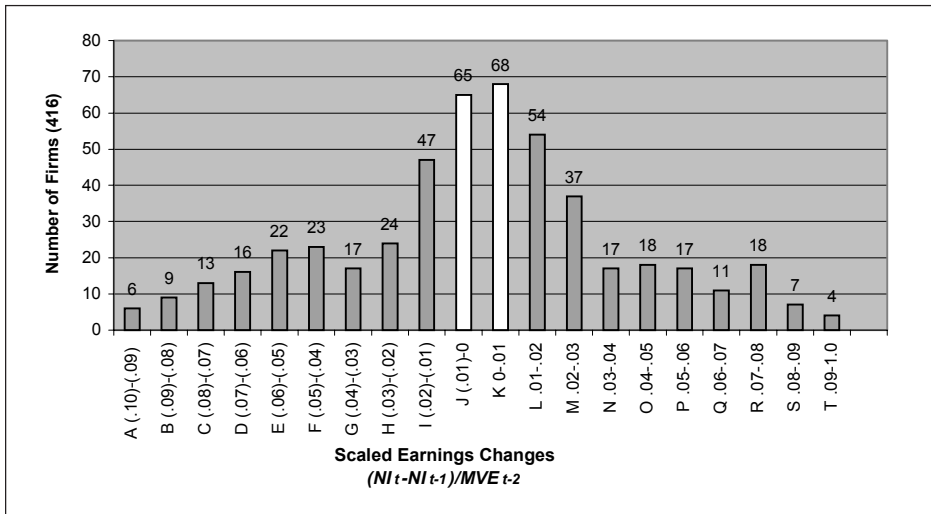

Figure 4.2: Frequency of Firms Across Intervals of Scaled Earnings Changes

Earnings Management to Avoid a Loss

In the second setting of earnings management to avoid a loss as presented in Figure 4.3, EM_2 equals 1 ($EM_2 = 1$ for earnings management firms) if a firm reports a scaled earnings of at least 0 and less than 0.02 of its beginning-of-year $t - 1$ market value of equity (71 firm-years or 15.8 percent out of 450 firm-years). Alternatively, EM_2 equals 0 ($EM_2 = 0$ for non-earnings management firms) if a firm reports a scaled earnings of at least -0.02 and less than 0 of its beginning-of-year $t - 1$ market value of equity (24 firm-years or 5.3 percent out of 450 firm-years).
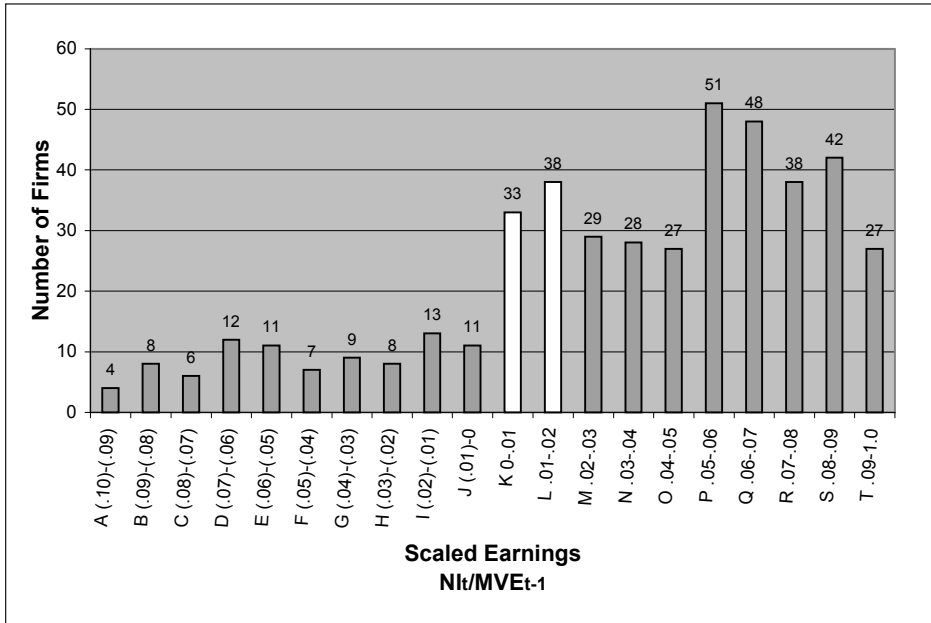

Figure 4.3: Frequency of Firms Across Intervals of Scaled Earnings

Deferred Tax Expense to Avoid an Earnings Decline

Figure 4.4 presents a histogram of deferred tax expense mean scaled by earnings change intervals that have a width of 0.01 of the market value and range from -0.10 to 0.10. The deferred tax expense mean for the -0.01 to less than 0 interval (the control sample $EM_1 = 0$) is 0.0010, whereas the mean deferred tax expense is 0.0014 in the zero and slightly positive earnings change intervals (the test sample $EM_1 = 1$). The result shows that deferred tax expense mean is higher for firm-years that just avoid earnings decline i.e. earnings management sample firms.

Deferred Tax Expense to Avoid a Loss

Figure 4.5 presents a histogram of the mean of deferred tax expense scaled by earnings level. The scaled earnings intervals have a width of 0.01 of market value and range from –
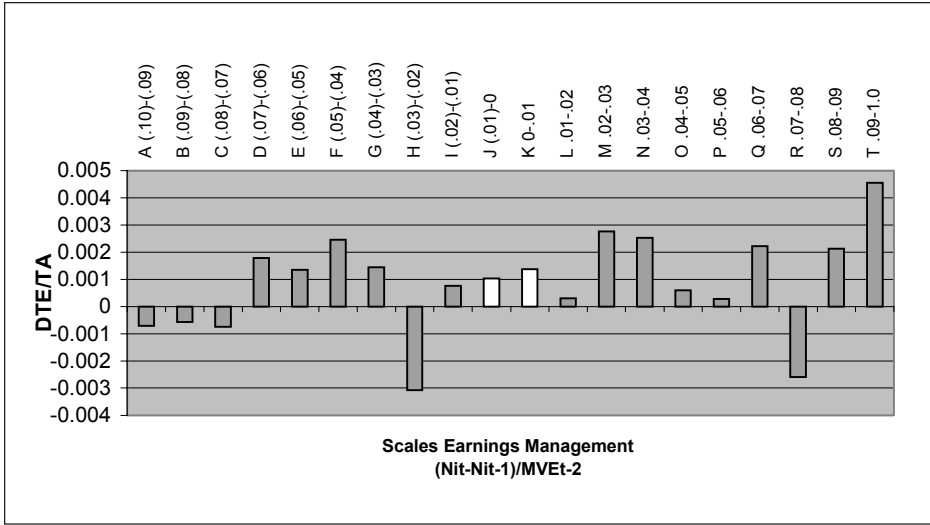
Figure 4.4: Distribution of Deferred Tax Expenses Across Intervals of Scaled Earnings Changes
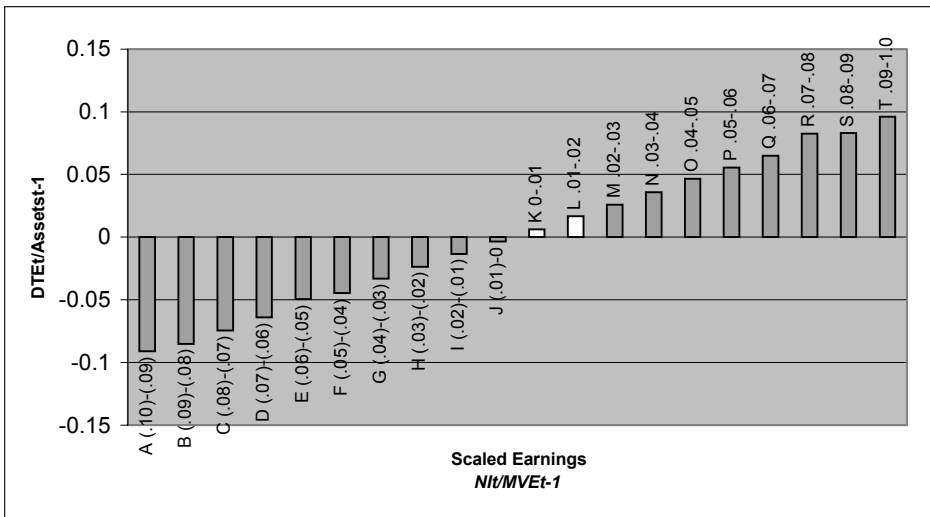

Figure 4.5: Distribution of Deferred Tax Expenses Across Intervals of Scaled Earnings

0.10 to 0.10 ($EM_2 = 1$). Likely due to the tax benefits of losses, the mean deferred tax expense is negative for loss intervals, and becomes positive when earnings are zero or slightly positive. Again, the result is similar to Burgstahler and Dichev (1997) and Phillips et al. (2003).

Descriptive Statistics and Univariate Analysis

Earnings Management to Avoid an Earnings Decline

Table 4.1 presents summary statistics for the comparison of firm-years with zero or slightly positive earnings changes vs. firm-years with slightly negative earnings changes (Hypotheses 1). For the $EM_1 = 1$ sample, the mean deferred tax expense is 0.0014 or 0.14 percent of beginning-of-year total assets (median = 0.0005), with values ranging from -0.68 percent to 1.68 percent of total assets. The mean total accruals (*TAcc*) is 0.0098 or 0.98 percent of the beginning-of-year total assets, and the range is from -15.81 percent to 115.14 percent. However, the mean discretionary accruals (*DAcc*) is positive and higher than mean deferred tax expense i.e. 0.0055 or 0.55 percent of the beginning-of-year total assets. The result is inconsistent with the findings discovered by Phillips et al. (2003). The result implies that the EM_1 sample firms did not utilize deferred tax expense to manage earnings.

Table 4.1: Descriptive Statistics Earnings Management to Avoid an Earnings Decline

$EM_1 = 1$	n	Mean	Std Deviation	Maximum	Minimum
DTE	68	0.0014	0.0042	0.0168	-0.0068
TAcc	68	0.0098	0.1656	1.1514	-0.1581
DAcc	68	0.0055	0.2731	1.8091	-0.5718
ΔCFO	68	0.0038	0.1087	0.3346	-0.6296
$EM_1 = 0$					
DTE	65	0.0010	0.0063	0.0175	-0.0313
TAcc	65	-0.0079	0.0561	0.1543	-0.1423
DAcc	65	-0.0141	0.0892	0.2727	-0.2192
ΔCFO	65	0.0086	0.0806	0.3835	-0.2367

Where,

- $EM_1 = 1$ for zero and slightly positive earnings changes and $EM_1 = 0$ for slightly negative earnings changes;

- $EM_1 = 1$ for firm-years have scaled earnings changes [(Nit – Nit-1)/MVEt-1] of at least 0 and Less than 0.01;

- $EM_1 = 0$ for firm-years have scaled earnings changes of at least –0.01 and less than 0.

Variable definitions:

DTE = Deferred tax expense scaled by the total assets at the end of year $t-1$

$TAcc$ = Total accruals scaled by total assets at the end of year $t-1$, is computed as $EBEI$ less CFO, where $EBEI$ income before extraordinary items and CFO is cash flows from operations.

$DAcc$ = Discretionary accruals computed using the Modified Jones Model (Dechow et al., 1995). It is calculated as the difference between $TAcc$ and normal accruals. Modified Jones Model normal accruals are estimated as $TAcc_{it} = \alpha + \beta_1 (\Delta Sales_{it} - \Delta REC_{it}) + \beta_2 PPE_{it}$ where $\Delta Sales$ is the change in the firm's sales from $t-1$ to year t, and PPE is gross property, plant and equipment. All variables are scaled by total assets at the year end of $t-1$.

CFO = Cash flow from operations from year t, scaled by total assets at the end of year $t-1$.

In the just-missed control sample i.e. $EM_1 = 0$, the mean DTE is 0.0010 (median = 0.0001) and negative means for both total accruals ($TAcc$) and discretionary accruals ($DAcc$) that are -0.0079 (or -0.79 percent) and -0.0141 (or -1.41 percent) respectively, of the beginning-of-year total assets. The result is consistent with Phillips et al. (2003). However, the mean change in cash flow from operation (ΔCFO) is positive 0.0086 or 0.86 percent of the beginning-of-year total assets, which is higher than the mean ΔCFO $EM_1 = 1$, thus, reverse from the results found by Phillips et al. (2003).

Table 4.2 presents the univariate analysis for Hypotheses 1. The statistical test compares the two samples on a univariate basis (p-values are two-tailed). The study expects that if firms manage earnings upward to avoid reporting an earnings decline, then earnings management metrics should reflect this activity. In particular, the study expects greater deferred tax expense and greater accrual values in earnings management firm-years than in control firm-years. The results indicate that the mean deferred tax expense is larger in the $EM_1 = 1$ sample of firm-years that just avoid an earnings decline than in just-missed control sample $EM_1 = 0$. However, the difference is not significant. The study also observes larger mean total accruals ($TAcc$) and discretionary accruals ($DAcc$) for the $EM_1 = 1$ firm-years. This indicates that firms use discretionary accruals ($DAcc$) to avoid an earnings decline. However, the amount is not significant.

Table 4.2: Univariate Analysis Earnings Management to Avoid an Earnings Decline

	$EM_1 = 1$	$EM_1 = 0$		
	Mean	Mean	F-value	P-value
DTE	0.0014	0.0010	0.139	0.710
$TAcc$	0.0098	-0.0079	0.666	0.416
$DAcc$	0.0055	-0.0141	0.304	0.582
ΔCFO	0.0038	0.0086	0.083	0.773

Earnings Management to Avoid a Loss

Table 4.3 and 4.4 present descriptive statistics and univariate analysis for Hypotheses 2, where the study examines whether firms use deferred tax expense to avoid a loss (EM_2). Consistent with deferred tax expense identifying earnings management activity to avoid a loss, the mean deferred tax expense is 0.0118 (median = 0.0114) for the earnings interval of 0 to less than 0.02 of the market value of equity is significantly greater than the mean deferred tax expense -0.0089 (median = -0.0091) for the just-missed control sample. The positive (negative) mean deferred tax expense indicates an average deferred tax expense (benefit), which implies that the average firm in $EM_2 = 1$ earnings levels samples reports book income higher than taxable income. This indicates that Malaysian firms use deferred tax expense to manage earnings. The study also evidences the use of discretionary accruals to avoid a loss.

Table 4.3: Descriptive Statistics Earnings Management to Avoid a Loss

$EM_2=1$	n	Mean	Std Deviation	Maximum	Minimum
DTE	71	0.0118	0.0059	0.0200	0.0012
TAcc	71	-0.0049	0.1011	0.6239	-0.3121
DAcc	71	-0.0097	0.2824	1.1062	-1.3507
CFO	71	0.0058	0.1181	0.7029	-0.3397
$EM_2=0$					
DTE	24	-0.0089	0.0058	0.0007	-0.0172
TAcc	24	-0.0926	0.2529	0.0806	-0.9658
DAcc	24	-0.2989	1.0634	0.0927	-5.2129
CFO	24	0.0003	0.0600	0.1242	-0.1518

Where,

● $EM_2 = 1$ for zero and slightly positive earnings and $EM_2 = 0$ for slightly negative earnings;

● $EM_2 = 1$ for firm-years have scaled earnings [(Nit/MVEt-1)] of at least 0 and less than 0.02 ;

● $EM_2 = 0$ firm-years have scaled earnings of at least –0.02 and less than 0.

Variable definitions:

DTE   =   Deferred tax expense scaled by the total assets at the end of year $t - 1$.

TAcc   =   Total accruals scaled by total assets at the end of year $t - 1$, is computed as *EBEI* less *CFO,* where *EBEI* income before extraordinary items and *CFO* is cash flows from operations.

$DAcc$ = Discretionary accruals computed using the Modified Jones Model (Dechow et al., 1995). It is calculated as the difference between $TAcc$ and normal accruals. Modified Jones Model normal accruals are estimated as $TAcc_{it} = \alpha + \beta_1 (\Delta Sales_{it} - \Delta REC_{it}) + \Delta_2 PPE_{it}$ where $\Delta Sales$ is the change in the firm's sales from $t-1$ to year t, and PPE is gross property, plant and equipment. All variables are scaled by total assets at the year end of $t-1$.

CFO = Cash flow from operations from year t, scaled by total assets at the end of year t.

Table 4.4: Univariate Analysis Earnings Management to Avoid a Loss

	$EM_2 = 1$	$EM_2 = 0$		
	Mean	Mean	t-statistic	P-value
DTE	0.0118	-0.0089	221.594	0.000*
TAcc	-0.0049	-0.0926	5.874	0.017**
DAcc	-0.0097	-0.2989	4.416	0.038**
CFO	0.0058	0.0003	0.048	0.827

* Significant at 0.01
** Significant at 0.05

Conclusions

The study investigates the usefulness of deferred tax expense in detecting earnings management to meet firms' earnings targets: (1) to avoid an earnings decline and (2) to avoid a loss. The results are based on the two sectors (consumer and industrial products) and three years of investigation periods (2001 to 2003). The statistical test results show that firms use deferred tax expense and discretionary accruals to avoid a loss. However, the results do not support that firms use deferred tax expense and discretionary accruals to avoid an earnings decline. This study contributes to earnings management literature and variables that can be used to investigate earnings management activities.

This study also evidenced an increasing trend of deferred tax liabilities reported by firms from 1990 – 2004. This shows a growing gap between book and taxable income, which means that firms are deferring its tax liabilities to the future. Prior studies have also documented a growing gap between book and taxable income since 1990 (Desai 2002, Manzon and Plesko 2002, Hanlon 2002 and Frank et al. 2004). This scenario indicates that firms have undertaken aggressive tax planning strategies by reporting higher income to shareholders and lower taxable income to tax authorities (Frank et al., 2004). This is an important issue that needs to be addressed especially with respect to the degradtion of quality of profit reporting by firms (Hanlon, 2002). Therefore, future studies should investigate and provide evidence in this aspect.

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