

Correlation between Tax Holidays and Earnings Management: An Empirical Study (Korelasi antara Percutian Cukai dengan Pengurusan Perolehan: Satu Analisis Empirikal)

Zinatul Ashiqin Bachek
(Inland Revenue Board of Malaysia)
Norsiah Ahmad
(Faculty of Management and Economics, Universiti Malaysia Terengganu)
Norman Mohd Saleh
(Faculty of Economics and Management, Universiti Kebangsaan Malaysia)

ABSTRACT

This study investigates tax avoidance activities among tax-exempt Malaysian companies. Pioneer status companies enjoy up to 100 percent tax exemption on their statutory income for promoting certain activities or producing certain products. In this context, we explore the tendency of companies to manage earnings by shifting income through certain periods and thereby minimizing tax liabilities. Following the literature, discretionary current accruals are used as proxy for earnings management. A control sample is introduced to identify abnormal accruals induced by the pioneer status of companies. Multiple regression analysis indicates that companies manage their earnings to minimize their tax burden. Specifically, pioneer status companies in Malaysia accelerate revenues to the year prior to the expiration of their tax exemptions to reduce tax liabilities in subsequent years.

ABSTRAK

Kajian ini menyiasat aktiviti pengelakan cukai dalam kalangan syarikat Malaysia yang dikecualikan cukai. Syarikat berstatus perintis menikmati pengecualian cukai sehingga 100 peratus ke atas pendapatan berkanun mereka jika menjalankan aktiviti atau mengeluarkan produk yang digalakkan. Dalam konteks ini, kajian ini meneroka kecenderungan syarikat untuk mengurus perolehan dengan mengalihkan pendapatan mereka melalui tempoh tertentu dan dengan itu mengurangkan liabiliti cukai. Berdasarkan hasil kajian terdahulu, akruan semasa bolehpilih telah digunakan sebagai proksi bagi pengurusan perolehan. Satu sampel kawalan juga telah diperkenalkan untuk mengenal pasti akruan yang tidak normal disebabkan oleh taraf perintis. Keputusan analisis regresi berganda menunjukkan bahawa syarikat menguruskan perolehan untuk mengurangkan beban cukai mereka. Secara khususnya, syarikat-syarikat taraf perintis di Malaysia mempercepatkan keuntungan tahun sebelum habis tempoh taraf perintis bagi mengurangkan liabiliti cukai mereka dalam tempoh pasca perintis.

INTRODUCTION

Similar to other developing countries, Malaysia offers investment tax incentives to encourage development and growth in certain industries, such as manufacturing, agriculture, and tourism. The same mechanism is used to promote development and economic growth in certain less developed geographical areas. Investment tax incentives are designed to provide full or partial relief on income tax for certain companies within a limited period. This limited period of low tax rates provides opportunity for companies to engage in income-shifting activities.

Income-shifting activities, which form part of earnings management, may significantly affect government revenues that are used to finance infrastructure development, socio-economic growth and national security. Healy and Wahlen (1999) define earnings management as activities that occur when managers use judgment in financial reporting and in structuring transactions to alter reported figures to either mislead some stakeholders about the underlying economic performance of companies or influence contractual outcomes that depend on reported accounting figures. This

definition includes the element of fraud, which is defined as one or more intentional acts designed to deceive other persons and cause them financial loss.

This study investigates the impact of the granting of pioneer status on earnings management activities that are designed to reduce company tax liabilities. In their study of the Malaysian tax environment, Adhikari, Chek and Zhang (2005) use effective tax rates to measure earnings management. However, we use current accruals, which are directly related to taxable income (Dechow, Sloan & Sweeney 1995; Guenter 1994; Lin 2006; Roubi & Richardson 1998).

Pioneer status is granted to certain companies in the Malaysian business environment. This study contributes to the literature by examining how pioneer status companies minimize their tax liabilities through earnings management. We complement the study of Lin (2006) on corporate reporting behavior in response to a known schedule of tax-rate increases among foreign investors in China. The investigation of earnings management activities in this study is premised on company awareness of changes in tax rates and the consequent ability of companies to manage

their earnings between periods. We improve the scope of the study by considering both foreign and local investors. Lin (2006) selects only foreign investment companies and does not investigate the universe of companies given tax holiday status. Foreign companies behave differently from local companies because they may have better earnings management knowledge and experience. In addition, they have the option to shift earnings across countries when tax holiday periods end. These differences limit the generalization of Lin's (2006) findings.

This study improves the methodology in the literature by introducing a matching sample of non-pioneer status companies. The use of a matching sample enhances the reliability of inferences from earnings management research; the control sample is not expected to engage in earnings management activities during the tested periods (Kothari, Leone & Wasley 2005). The test sample composed of pioneer status companies is matched to a control sample composed of non-pioneer status companies of the same industry classification, size, and year. Perry and Williams (1994) suggest that companies of similar size in the same industry are exposed to similar economic and competitive factors and thus have the same financial, operational, and investment opportunities. In contrast to other studies that look at economy-wide changes in tax rates, this study focuses on a specific sample of pioneer status companies. This enables us to provide a formal test on the income-shifting incentives of the sample with the use of an improved method.

This paper is organized into four sections. The next section discusses the research background and hypothesis development. The third section explains the research methodology. The fourth discusses the empirical results, and the final section draws some conclusions.

RESEARCH BACKGROUND

PIONEER STATUS AND TAX IMPLICATIONS

Pioneer status is one of the investment incentives granted by the Malaysian government under the Promotion of Investment Act of 1986. The incentive aims to attract foreign and local investors to engage in promoted activities or to produce promoted products. Qualified investors granted pioneer status may benefit from tax exemption up to 100 percent of their statutory income within a limited period, normally five years. Pioneer companies are assumed to be under tax holiday until the period ends.

Companies participating in promoted activities or producing promoted products may select either pioneer status or investment tax allowance as an investment incentive. These incentives are mutually exclusive, and choosing to avail of pioneer status involves certain considerations. First, pioneer status benefits companies only if the projected profit for five years is reliably substantial. Pioneer activities should not be capital intensive. Too much capital investment results in a substantial capital allowance claim that lowers the

amount of tax exempt income. Second, pioneer activities should not incur losses because such losses reduce the amount of tax exempt income during the pioneer period, even if such losses may be carried forward to the period following the expiration of pioneer status. Finally, when manufacturing companies conduct non-pioneer activities along with pioneer activities, losses suffered by the non-pioneer activities in the current year reduce the amount of tax exempt income from the pioneer activities. Given these considerations, companies that are capital intensive or those with small or no projected profits in the early stage should avail of investment tax allowances, which emphasize on qualifying capital expenditure incurred during the tax relief period.

Pioneer status companies enjoy different degrees of tax exemption depending on their types of promoted products/activities and area of operation. For manufacturing promoted products or engaging in promoted activities, companies are granted tax exemption on 70 percent of their statutory income for five years. The remaining 30 percent of their statutory income is taxed at the prevailing corporate tax rate. However, if operations are carried out in promoted areas, companies are granted tax exemption on 85 percent of their statutory income for five years. The remaining 15 percent is taxed at the prevailing corporate tax rate. The promoted areas cover Sabah, Sarawak, the Federal Territory of Labuan, and the designated Eastern Corridor of Peninsular Malaysia which covers Kelantan, Terengganu, Pahang and the district of Mersing in Johor.

The rate of exemption is higher if companies fall under the high-technology category. In this category, companies are granted full tax exemption on their statutory income for five years. Companies may also qualify for full tax exemption when they manufacture promoted products or engage in promoted activities under an approved industrial linkage scheme (SMIS producing intermediate goods), as well as when the involved products or activities are of national and strategic importance. A contract R&D company or a company that provides R&D services in Malaysia to a company other than its related companies may also enjoy full tax exemption on its statutory income for five years.

We view pioneer status companies as operating under three different periods with different tax rates: period before pioneer status, period during pioneer status and period after pioneer status. Changes in tax rates during these periods allow companies to engage in earnings management activities that maximize the benefits enjoyed during pioneer status period where tax rates are low. According to Roubi and Richardson (1998), tax rate reduction at a specific point in time not only results in lower income taxes payable on an ongoing basis but also creates a window of opportunity for a short-term benefit by managing revenues and expenses to defer the payment of income taxes for one or more years.

Differences in tax rates between periods also provide an incentive for companies to shift income and minimize

tax liabilities, especially when impending tax changes are known. In addition, different from cases in other previous studies on tax rate changes, pioneer status is granted for five years with possibility of extension. Hence, different from the case of changes in tax rates between periods, managers are given incentives to manage the companies' earnings well before the tax exemption period ends. Managers are aware of the expiration of the pioneer status period one or two years in advance. Meanwhile, changes in tax rates may be announced during the budget (near the end of an accounting period), leaving limited time for companies to manage their earnings. Thus, this study strengthens the argument that taxation serves as a managerial incentive to shift earnings between periods.

RELATED RESEARCH ON TAX-INDUCED EARNINGS MANAGEMENT

Earnings management in the context of tax changes has been studied since the passage of the Tax Reform Act of 1986 (TRA86) in the United States. The reduction in the tax rate from 46 percent to 34 percent under TRA86 has been widely studied. For example, Scholes, Wilson and Wolfson (1992) observe how companies shift their income from one period to another and defer the recognition of income or accelerate the recognition of expenses when they expect reductions in tax rates.

Income shifting is practiced by companies experiencing profits (Scholes et al. 1992), as well as by companies with operating losses that can be carried back (Maydew 1997). When tax laws allow companies to carry back their operating losses to a maximum of three years or to carry forward their losses up to 15 years, companies with net operating losses carryback enjoy the incentive to increase tax refunds from the past years. In the period following TRA86 (1986-1991), companies had deferred the recognition of operational income and acknowledged the occurrence of losses. These two activities resulted in increased tax refunds from years prior to 1986 when tax rates were higher.

Jacob (1996) acknowledges that multinational companies in the United States manage their earnings through transfer pricing to take advantage of tax differences across jurisdictions. High tax differences between the United States and foreign jurisdictions provide strong incentives for companies to shift their income through transfer pricing. By using a large sample of companies, which include small and less multinational US companies, Conover and Nicholas (2000) discover that small and distressed companies tend to shift income through transfer pricing less often than large companies.

Earnings management activities on account of changes in income tax rates have also been studied in other countries. Roubi and Richardson (1998) review current accruals management by non-manufacturing companies in Canada, Singapore and Malaysia in the years before and after changes in income tax rates. Accordingly, firms may delay acquisition during the year with higher tax rates until the year with lower tax rates. Alternatively,

companies may accelerate expenditures during the year with higher tax rates until the year with lower tax rates. However, findings in the Malaysian context are less significant and weak due to several factors, such as strict anti-avoidance tax rules and cultural factors (Roubi & Richardson 1998).

Different tax rates in tax haven countries also have an impact on corporate earnings management due to low corporate or individual tax rates. Focusing on tax haven countries as medium to transit income, Hines and Rice (1994) show a negative relationship between the levels of pre-tax income and tax rates. In 1982 alone, American companies reported extraordinarily high profit rates on their tax haven investments. US companies acknowledge that American (and foreign) investment in tax havens has an uncertain effect on US tax revenues. Nevertheless, because low tax rates encourage American companies to shift profits out of high-tax foreign countries, low tax rates in foreign countries may still ultimately enhance US tax collections. Thus, an increase in corporate tax rates may cause companies to shift their earnings to other countries with lower rates (Bartelsman & Beetsma 2003). Income-shifting activities result in significant revenue losses for countries with high tax rates. Huizinga and Laeve (2008) discover that many European countries benefit from the shifting of multinational companies from high-tax countries like Germany to low-tax countries.

Expectations of major tax policy changes also affect earnings management activities. In Malaysia, large companies alter their effective tax rates by managing earnings before major tax policy changes (Adhikari, Chek & Zhang 2005). Moreover, large companies in Malaysia with low effective tax rates decrease their reported income prior to a reduction in corporate tax to influence tax policy.

Similarly, to avoid paying higher taxes, companies in China manage their earnings by shifting income to the tax holiday period when they know that higher tax rates will be applied after the period (Lin 2006). Foreign companies in China report higher discretionary current accruals in the years before an increase in tax rates to take advantage of lower tax rates. Stringent laws on tax accounting also affect earnings management activities. According to Goncharov and Zimmerman (2006), strict tax legislation in the Russian Federation leads private companies to reduce tax liabilities by managing earnings. However, public Russian companies are less aggressive because earnings management reduces the quality of financial reporting.

HYPOTHESIS DEVELOPMENT

In Malaysia, pioneer status companies tend to shift income to the tax holiday period to avoid paying high taxes after such period. Consistent with the political cost theory, companies try to minimize the transfer of their wealth to the government. High profit levels attract the attention

of politicians, encouraging them to introduce taxes for public benefit. Thus, companies manage their earnings to reduce income and avoid potential costs associated with high profits. Earnings management occurs when income is shifted from one time period to another or from one place to another. It may be performed by accelerating the recognition of revenue or delaying expenditure.

Compared with changes in accounting methods, changes in income are more difficult to detect due to the lack of information for enforcement agencies to make proper adjustments; accrual management is less visible (Schipper 1989). In addition, accruals are more easily managed within a short time compared to changes in accounting methods or capital structure (Lopez, Reiger & Lee 1998).

Companies may shift accruals from one reporting period to another (Healy 1985). Accruals may be divided into two components: (1) discretionary accruals, which allow managers to shift income between periods; and (2) non-discretionary accruals, which are mandated by accounting standard-setting bodies. Furthermore, accruals may be categorized into non-current and current accruals (Choi, Gramlich & Thomas 1991; Manzon 1992). Non-current accruals are expected to be more visible than current accruals, and are therefore less likely to be used by companies in managing taxable income. In this study, we use only current accruals because we are interested in the management of taxable income.

The focus of this study is tax avoidance, so we use current accruals as defined by Lopez et al. (1998). Our measure of current accruals differs from measures used in previous studies because we include only items commonly susceptible to tax-related earnings management. Current accruals for company i in year t are as follows:

$$CACC_{it} = (\Delta AR_{it} + \Delta INV_{it}) - (\Delta AP_{it} + \Delta AE_{it}) \quad (1)$$

where CACC is current accruals, ΔAR is changes in accounts receivable, ΔINV is changes in inventory, ΔAP is changes in accounts payable, and ΔAE is changes in accrued expenses for company i in period t .

Increasing accounts receivable and inventory to accelerate revenues, or decreasing accounts payable and accrued expenses to defer expenses (or both) lead to positive accruals. Companies are expected to manage their earnings before the known expiration of their pioneer status (tax holiday period). By shifting current accruals to the exemption period, companies can increase their revenues and maximize the advantage of tax exemption. If companies use accrual accounting to accelerate revenues in anticipation of an increase in tax rates (after the expiration of their pioneer status), current accruals in the year immediately prior to the expiration of the exemption period will be highly positive. Therefore, we propose the following hypothesis:

H₁: *Ceteris paribus*, companies report higher positive current accruals for the year immediately preceding the expiration of their pioneer status than for other years.

RESEARCH DESIGN

TEST SAMPLE

We use secondary data obtained from the Companies Commission of Malaysia. By purposive sampling, the sample is selected from the population of manufacturing companies that have enjoyed pioneer status and exemption expired in 2002 to 2006. The sample screening criteria are as follows:

1. Companies have enjoyed a period of five-year tax exemption.
2. Company financial data are available for four consecutive years.
3. Companies are not eligible for continued tax exemption after the exemption period expires.

A total of 216 companies are identified for inclusion in the sample. However, after excluding companies with insufficient data to calculate accruals for the intended testing period, we arrive at a sample of 61 private companies.

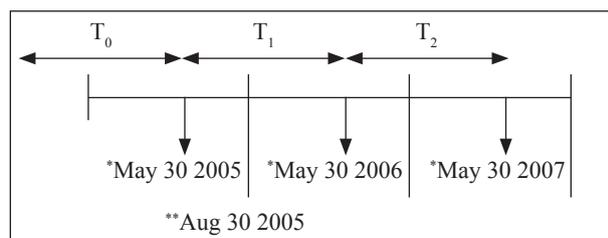
To investigate whether discretionary accruals change in response to tax holiday periods, accruals for three years are calculated for regression analysis. The three years include two years in which there is motivation to manage earnings (accounting period prior to the expiration of pioneer status, T_0 and T_1) and one year in which there is no incentive to manage earnings (period after the expiration of pioneer status, T_2).

Whereas T_0 represents the financial year prior to the expiration of tax exemption, T_1 represents the financial year during which the tax exemption expires. This scheme is adopted because the expiration date of tax exemption is not likely to be the same as the closing date of corporate financial statements. For example, the tax exemption on Product A of Company B will expire on August 30, 2005, but corporate accounting had already closed on May 30, 2005. Company B is expected to have the opportunity to manage earnings during the year ending on May 30, 2005 (the year before the expiration of the pioneer status or T_0). Furthermore, Company B may still engage in earnings management in the remaining three months from May 2005 to August 2005 (date of expiry of the pioneer status) in the year ending on May 30, 2006, which is represented by T_1 .

Figure 1 illustrates the periods T_0 , T_1 , and T_2 for Company B. Table 1 summarizes the number of company years used to calculate three-year accruals for companies in the sample.

CONTROL AND MATCHING SAMPLE

We adopt a control sample composed of non-pioneer status companies within the same industry. Although companies in this sample are likely to qualify for other tax incentives, such as investment tax allowance (ITA) and reinvestment allowance (RA), which encourage the management of financial statements to reduce tax liabilities, the items to



Notes: * Company financial year ended
 ** Company pioneer status period ended

FIGURE 1. Illustration on periods T_0 , T_1 and T_2 for company B

TABLE 1. Summary of company-year for test sample

Total companies	Financial statement years	Total company-year
25	2001, 2002, 2003, 2004	100
18	2002, 2003, 2004, 2005	72
17	2003, 2004, 2005, 2006	68
1	2004, 2005, 2006, 2007	4
Total company-year used in the research		244

be managed do not usually involve accruals. ITA and RA involve income reduction due to capital expenditure on plant and machinery. These incentives do not involve the transfer of income across periods or locations, as in the case of pioneer status as an incentive.

Companies in the control sample are matched to their respective pioneer status companies based on their size and year. Companies of the same size in the same industry are comparable because they are exposed to similar economic and competitive conditions (Perry & Williams 1994). As such, these companies are assumed to have almost the same set of operational, investment and financial opportunities. In the sample matching design, discretionary accruals from pioneer activities observed in the test sample are not observed in the control sample, whereas discretionary accruals arising from other activities are observed in both samples.

MEASUREMENT OF DISCRETIONARY ACCRUALS

The dependent variable used in this study is current accruals. However, we limit current accruals to tax-related items that are at the discretion of management (i.e., discretionary current accruals). According to Jones (1991), discretionary current accruals refer to the difference between reported current accruals and expected current accruals, where expected current accruals are a function of change in sales.

First, we calculate current accruals for both the test and control samples. Current accruals are used because they are expected to be less visible and more likely to be used in influencing taxable income (Dechow et al. 1995; Jones 1991; Lopez et al. 1998). Following Lopez et al. (1998), we calculate current accruals as follows:

$$CACC_{it} = (\Delta AR_{it} + \Delta INV_{it}) - (\Delta AP_{it} + \Delta AE_{it}) \quad (2)$$

where CACC is current accruals, ΔAR is the change in accounts receivable, ΔINV is the change in inventory, ΔAP is the change in accounts payable, and ΔAE is the change in accrued expenses for company i in period t .

Second, to get unbiased estimates of company specific parameters (α and β), we regress tax-related current accruals on the change in sales using the control sample, which is the sample that is not expected to engage in earnings management (Jones 1991; Kothari et al. 2005). Thus, we expect that the resulting coefficients reflect the normal relationship between the dependent and independent variables.

$$CACC_{it}/TA_{t-1} = \alpha(1/TA_{it-1}) + \beta_1(\Delta SALES_{it}/TA_{it-1}) + \epsilon_{it} \quad (3)$$

where CACC is current accruals, $\Delta SALES$ is the change in sales, TA is total asset and α and β_1 are company specific parameters for company i in period t .

Discretionary current accruals scaled to beginning asset form part of current accruals associated with the sales growth of companies and do not depend on management control. A change in trade creditors is deducted from the change in sales to allow for the possibility of credit sales manipulation by companies (Dechow et al. 1995). This adjustment is introduced by Dechow et al. (1995) to recognize that sales growth may be partly influenced by the used of management considerations.

Third, we calculate non-discretionary current accruals for each company using the cross-sectional version of the Modified Jones Model, developed by Dechow et al. (1995) and adopted by Lopez et al. (1998) and Lin (2006). We use company specific parameters obtained from Equation 3. The model may be written as follows:

$$NDA_{it} = \alpha(1/TA_{it-1}) + \beta_1 [(\Delta SALES_{it} - \Delta REC_{it})/TA_{it-1}] \quad (4)$$

where NDA is non-discretionary current accruals, ΔREC is the change in accounts receivable, and α and β_1 are parameters from Equation 2 for company i in period t . The other variables are as defined in Equation 3.

Finally, we calculate discretionary current accruals (DCA_{it}) for each company in both test and control samples as the difference between current accruals and non-discretionary current accruals.

$$DCA_{it} = CACC_{it} - NDA_{it} \quad (5)$$

INDEPENDENT VARIABLE

The independent variable in this study is the period before the expiration of tax exemption. With their pioneer status, companies enjoy tax exemption on their statutory income up to 100 percent. Pioneer status companies need not pay taxes or pay lower taxes. Thus, they tend to manage earnings to take advantage of their tax exemption period.

To test whether changes in discretionary current accruals are positively associated with the period before the expiration of tax exemption, the discretionary current accruals are regressed on a dummy variable that separates

observations based on whether changes occur before or after the exemption period. The exemption period variable (BEFORE) is coded 1 if the observation occurs before the expiration of the exemption period; otherwise, it is coded 0. In the case of pioneer status companies, the expiration date of tax exemptions on pioneer products/activities is not likely to be the same as the closing date of financial statements. Hence, in this study, if the period of exemption before the expiration date is less than six months from the beginning of the year, then the year before the expiration of exemption is assumed to be the year ending on the closing date of the company, and vice versa. For example, the tax exemption on Product A of Company A expires on November 5, 2003, but the company closes its accounts on September 30, 2004. Because the period before the expiration of the exemption is less than six months, the year before the expiration of the exemption is assumed to be the year ending on September 30, 2003. Hence, the exemption period (BEFORE) is represented by T_0 if the period is less than six months and T_1 if the period is more than six months. Table 2 illustrates the period before the expiration of the tax exemption.

TABLE 2. Examples on how to decide the period before the expiry of tax holiday exemption

	Accounting period	Expiry date of pioneer status	The period before
Firm A	1 October 2003 to 30 September 2004	5 November 2003	Year ended 30 September 2003
Firm B	1 August 2003 to 31 July 2004	30 June 2004	Year ended 31 July 2004

CONTROL VARIABLES

To control the effects of company characteristics on earnings management activities, five additional variables are included in the tested model: management ownership (OWNER), company size (SIZE), company auditor (AUDIT), leverage (LEV) and return on assets (ROA). Industry type is not included as a control variable because all the matched samples belong to the manufacturing industry.

Klassen (1997) finds that financial reporting costs associated with reduced taxes are generally lower for companies with high management ownership. The size of management ownership is measured by the percentage of shares held by managers and directors (Guenther 1994). Company size also affects earnings management. Company size is represented by the log of total assets (Lin 2006). Furthermore, small audit clients may choose to report accruals that are higher than what large audit clients report (Becker et al. 1998).

According to Koh (2003), managers tend to use aggressive techniques of earnings management to avoid violations of debt contracts. Leverage is represented by the ratio of long-term debt to beginning total assets (Guenther 1994; Lopez et al. 1998). Return on assets

measures company performance. According to Dechow et al. (1995), company performance is positively related to discretionary current accruals. In this study, ROA is calculated as earnings before taxes and interest during the year divided by beginning total assets.

EMPIRICAL MODEL

The empirical model for testing the hypothesis is as follows:

$$DCA_{it} = \alpha_0 + \alpha_1 \text{BEFORE} + \alpha_2 \text{OWNER} + \alpha_3 \text{SIZE} + \alpha_4 \text{AUDIT} + \alpha_5 \text{LEV} + \alpha_6 \text{ROA} + \varepsilon_{it} \quad (6)$$

where DCA is discretionary current accruals, BEFORE is the period before the expiration of tax exemption, OWNER is management ownership, AUDIT is large audit firm, SIZE is company size, LEV is leverage and ROA is return on assets.

RESULTS AND DISCUSSION

DIFFERENCES BETWEEN TEST AND CONTROL SAMPLES

T-test results show no significant differences between the test and control samples in terms of total sales ($p = 0.410$), total assets ($p = 0.702$) and total revenues ($p = 0.208$), suggesting a similarity between the two samples in terms of company size. Current accrual values for the control and test samples in the three periods (T_0 , T_1 , and T_2) are shown in Tables 3 and 4, respectively. Table 3 presents the means and mean differences of current accruals for the control sample based on Equation 2. The mean value of current accruals is 0.61 percent of total assets for all companies over the three-year period. The mean of current accruals decreases from 0.12 percent in T_0 to -0.73 percent in T_1 , but increases again to 1.08 percent in T_2 . Furthermore, the mean of total assets for the three-year period does not change much from one year to another. There is a higher change in sales in T_1 (4.04 percent) than in T_0 (0.97 percent) and T_2 (0.28 percent). However, t-test results between means show no significant differences in means between periods for current accruals, total assets and change in sales. These results suggest that earnings management activities involving current accruals during the tested periods (if any) are not significantly adopted by companies in the control sample.

Table 4 provides the mean of current accruals for the test sample composed of pioneer status companies. The mean value of current accruals is 5.58 percent of total assets for all companies over the three-year period. The mean value of current accruals is 14.86 percent of total assets for T_0 , 1.76 percent for T_1 and 0.11 percent for T_2 . Test results also show higher mean changes in accounts receivable, inventory and accounts payable in T_0 than in T_1 and T_2 . The change in accrued expenses is higher in T_2 than in T_1 and T_0 . The mean of total assets remains almost the same during the entire three-year period. Mean differences

TABLE 3. Descriptive statistics on current accruals for controlled companies t-test of means differences

	Mean (Standard deviation)				Mean differences (p-value)		
	Pooled	T ₀	T ₁	T ₂	T ₀ and T ₁	T ₀ and T ₂	T ₁ and T ₂
1. Current accruals / total assets	.0016 (0.2115)	0.0012 (0.1513)	-0.0073 (0.1713)	0.0108 (0.2894)	0.0085 (0.771)	-0.0096 (0.798)	-0.0181 (0.637)
2. Log asset	7.4265 (0.6799)	7.4158 (0.6978)	7.4292 (0.6725)	7.4344 (0.6805)	-0.0135 (0.533)	-0.0186 (0.513)	-0.0051 (0.749)
3. Change in sales / total assets	0.0176 (0.3964)	0.0097 (0.3018)	0.0404 (0.4695)	0.0028 (0.4053)	-0.0307 (0.668)	0.3759 (0.570)	0.0069 (0.908)

TABLE 4. Mean values of current accruals for tested sample (pioneer status) and t-test of means differences

	Mean (Standard deviation)				Mean differences (p-value)		
	Pooled	T ₀	T ₁	T ₂	T ₀ and T ₁	T ₀ and T ₂	T ₁ and T ₂
1. Current accruals / total assets	0.0558 (0.4226)	0.1486 (0.6925)	0.0176 (0.1638)	0.0011 (0.1486)	0.1310 (0.201)	0.1475 (0.074)	0.0165 (0.614)
2. Log asset	7.2947 (0.7198)	7.2602 (0.7011)	7.3105 (0.7177)	7.3134 (0.7506)	-0.0503 (0.062)	-0.0531 (0.138)	-0.0028 (0.889)
3. Change in account receivable / total assets	0.0974 (0.7519)	0.2593 (1.2676)	0.0148 (0.1723)	0.0182 (0.1965)	0.2445 (0.145)	0.2411 (0.161)	-0.0034 (0.920)
4. Change in inventory / total asset	0.0140 (0.1024)	0.0285 (0.1217)	0.0045 (0.0959)	0.0090 (0.0863)	0.0240 (0.265)	0.0195 (0.322)	-0.0044 (0.692)
5. Change in account payable / total asset	0.0529 (0.5394)	0.1407 (0.9076)	0.0034 (0.1383)	0.0146 (0.1664)	0.1372 (0.248)	0.1261 (0.344)	-0.0111 (0.676)
6. Change in accrued expenses / total assets	0.0028 (0.0580)	0.0014 (0.0779)	-0.0017 (0.0444)	0.0115 (0.0451)	0.0003 (0.980)	-0.0130 (0.263)	-0.0133 (0.139)

between the year before the expiration of pioneer status and the subsequent years are also presented in Table 4. The t-test results show that the mean of accruals in T₀ (14.86 percent) is significantly higher than in T₂ (0.11 percent) at 10 percent level of significance, suggesting that there are abnormal reported accruals among pioneer status companies in the period prior to the expiration of tax exemptions. However, there are no significant differences among the periods for the rest of the variables.

The results above reveal that earnings management activities designed to influence taxable income through current accruals are not significantly practiced by companies in the control sample. These activities appear to be significantly practiced by pioneer status companies, as proven by high current accruals in the years (T₀ and T₁) prior to the expiration of tax exemptions (T₂).

ESTIMATION OF DISCRETIONARY ACCRUALS

Discretionary current accruals as proxy for earnings management is measured by the difference between current accruals and non-discretionary current accruals for each company. Specific parameters obtained using Equation 3 are used in Equation 4 to estimate non-discretionary current accruals for the sample. Specific parameters obtained from Equation 3 are also estimated by years T₀, T₁, and T₂. We obtain three α and β values to be used in Equation 4, specifically for estimating non-discretionary current accruals for each year.

Equation 6 is used to estimate discretionary current accruals for periods T₀, T₁ and T₂ (Table 5). There is a decrease in discretionary current accruals from 19.83 percent in T₀ to 5.23 percent in T₁ and to -88.07 percent in T₂. There is a significant difference in means at p =

TABLE 5. Descriptive statistics on means of discretionary current accruals before and after pioneer status period

	Mean (p-value ^a)			Mean differences (p-value ^b)		
	T ₀	T ₁	T ₂	T ₀ and T ₁	T ₀ and T ₂	T ₁ and T ₂
Discretionary current accruals (p-value)	0.1983 (0.050)	0.0523 (0.033)	-0.8807 (0.001)	0.1460 (0.194)	1.0791 (0.000)	0.9330 (0.001)

Notes: ^ap-value for one sample t-test.

^bp-value for two sample t-test.

0.001. In support of our research hypothesis, the results indicate that pioneer status companies increase accrued earnings in the period prior to the expiration of their tax exemptions and decrease accrued earnings in the period after the expiration of their tax exemptions.

HYPOTHESIS TESTING

Table 6 presents descriptive statistics for all variables measured in the regression model. The mean value of discretionary current accruals is 0.0471 (range is between -1.8390 and 5.6229). The mean values of the independent variables are as follows: size (7.3038), management ownership (0.1943), leverage (0.0848) and return on assets (0.0906).

On average, 19.43 percent (range is between 0 percent and 100 percent) of company shares are owned by managers and directors. This is higher than the level (around 10 percent) obtained by Mohd Saleh et al. (2005) in a sample of publicly listed companies. Our current sample is composed of private companies, so the higher level of managerial ownership is expected. The level of company leverage as represented by the ratio of long term debt to total assets is at 8.48 percent on average, which is lower than that of Mohd Ali et al. (2007). The average return on assets is 9.06 percent, which is slightly higher than similar statistics in Malaysia obtained by Mohd Saleh et al. (2005) and Mohd Ali et al. (2007). Differences in leverage and performance levels may be due to bias,

driven by the selection of companies with pioneer status. These companies are relatively young, low in leverage and potentially good performing.

The Pearson correlation matrix is presented in Table 7. The correlation among independent variables is less than 0.7; the highest correlation is between company size and company auditor (0.426). The low correlation among independent variables suggests that the problem of multicollinearity is not serious in the data. The period prior to the expiration of tax exemptions is positively correlated to discretionary current accruals at 1 percent level of significance. In addition, management ownership is significantly associated with size, company auditor, leverage and performance at 1 percent level of significance. Finally, company size is significantly correlated ($p = 0.001$) to company auditor and performance.

Results of the regression analysis are presented in Table 8. As predicted, discretionary current accruals are significantly higher in the period prior to the expiration of tax exemptions. Thus, the hypothesis is supported. The results suggest that pioneer status companies manage their earnings by reporting 49.7 percent more discretionary accruals to take advantage of the tax holiday before it ends. The model used for this study is statistically significant at 5 percent level ($F = 2190$, $p = 0.031$). However, the adjusted R^2 for this model is only 3.8 percent.

Overall, the results are consistent with Lin (2006). We record a coefficient higher than that of Lin's (2006) probably because of the self-assessment system practiced

TABLE 6. Descriptive statistics for variables measured in the multiple regression model

Pooled	DCA	OWNER	SIZE	LEV	ROA
Mean	0.0471	0.1943	7.3038	0.0848	0.0906
Median	0.0104	0.0000	7.2283	0.0002	0.0593
Standard deviation	0.5088	0.3510	0.7278	0.2414	0.3443
Minimum value	-1.8390	0.0000	5.5339	0.0000	-0.7896
Maximum value	5.6229	1.0000	9.4865	2.7459	2.3479

Notes: DCA denotes discretionary current accruals, OWNER is management ownership (percentage owned by managers and directors), SIZE is company size (log total assets), LEV is leverage level (Long term debt to total assets), and ROA is return on assets (profit before interest and tax deflated by beginning total assets).

TABLE 7. Pearson Correlation Matrix

VARIABLES	DCA	BEFORE	OWNER	SIZE	AUDIT	LEV	ROA
DCA	1	0.245**	0.038	0.070	0.008	0.057	0.037
BEFORE		1	0.000	0.080	-0.023	0.072	0.074
OWNER			1	-0.342**	-0.332**	0.264**	-0.193**
SIZE				1	0.426**	-0.027	0.181**
AUDIT					1	-0.117	0.089
LEV						1	-0.131
ROA							1

Notes: DCA denotes discretionary current accruals, BEFORE is period before expiry of exemption (dummy variable equals 1 for the period and 0 otherwise), OWNER is management ownership (percentage owned by managers and directors), AUDIT denotes the company is audited by large audit firm (represented as 1 and 0 otherwise), SIZE is company size (log total assets), LEV is leverage level (Long term debt to total assets), and ROA is return on assets (profit before interest and tax deflated by beginning total assets)

* significant at 5 percent.

**significant at 1 percent.

TABLE 8. Regression results

VARIABLES	DCA	BEFORE	OWNER	SIZE	AUDIT	LEV	ROA
Predicted sign		+	+	-	-	+	+
Coefficient	-0.173	0.497	0.086	0.087	-0.001	0.032	0.020
t- statistic		3.284	0.771	1.036	-0.009	0.358	0.261
p-value		0.001**	0.442	0.302	0.993	0.721	0.794
VIF		1.013	1.289	1.326	1.290	1.102	1.073
Statistics: F = 2.190, p = 0.046*, Adjusted R2 = 0.038							

Notes: DCA denotes discretionary current accruals, BEFORE is period before expiry of exemption (dummy variable equals 1 for the period and 0 otherwise), OWNER is management ownership (percentage owned by managers and directors), AUDIT denotes the company is audited by large audit firm (represented as 1 and 0 otherwise), SIZE is company size (log total assets), LEV is leverage level (Long term debt to total assets), and ROA is return on assets (profit before interest and tax deflated by beginning total assets)

* significant at 5 percent.

**significant at 1 percent.

in Malaysia, which widens the space for companies to manage their earnings. While Chan and Mo (2000) find that companies are more tax compliant during tax holiday periods, our results indicate that companies have strong incentives to minimize tax liabilities during their tax exemption periods. The possibility for companies to appeal for an extension of their pioneer status may provide additional incentives for earnings management.

All coefficients on the control variables are consistent with the predicted relationship but not statistically significant, suggesting that companies may not be using accruals to avoid debt violations or to show good performance. It may also be caused by tax management practices employed by companies to reduce tax liabilities.

Overall, the study has predicted discretionary accruals using a performance matching model as suggested by Kothari et al. (2005). Findings show that pioneer status companies record more current accruals compared with non-pioneer status companies. In addition, these companies tend to record higher levels of discretionary accruals in the period prior to the expiration of their pioneer status than in any other periods (after controlling for other possible factors related to discretionary accruals).

CONCLUSION

This paper investigates the impact of tax holidays on earnings management activities that are designed to reduce company tax liabilities. We improve the scope and methodology of the research by including both foreign and local companies, as well as by introducing a matching sample of non-pioneer status companies. The matching sample is used to enhance the reliability of inference; companies in this sample are not expected to engage in earnings management activities during the tested periods.

Consistent with previous studies (e.g., Guenther 1994; Lin 2006; Lopez et al. 1998), we find that pioneer status companies in Malaysia accelerate revenues to the year prior to the expiration of their tax exemptions to reduce tax

liabilities after their tax exemptions expire. The analysis shows that tax exemption periods significantly encourage pioneer status companies to reduce tax liabilities through earnings management.

Evidence from this study may be of interest to tax policymakers in Malaysia. Policymakers must take early steps to ensure that taxpayers enjoying tax holidays act in accordance with pertinent laws. Tax laws designed to prevent abusive tax avoidance, such as aggressive earnings management, should be enforced to avoid loss of public revenues.

The results of this study should be interpreted in light of several limitations. First, we do not perform a comparative study between foreign and local investors due to a limited number of companies. Second, the study sample represents only the manufacturing industry, so the findings may not extend to other industries. Finally, there may be selection bias because only 61 of 216 pioneer status companies with complete data are included in the sample. Future researches may include companies in other industries, such as those in the service and R&D industries, which may also be granted pioneer status.

REFERENCES

- Adhikari, A., Chek Derasik & Zhang, H. 2005. Earnings management to influence tax policy: Evidence from large Malaysian firms. *Journal of International Financial Management and Accounting* 16(2): 142-163.
- Bartelsman, E.J. & Beetsma, R.M.W.J. 2003. Why pay more? Corporate tax avoidance through transfer pricing in OECD countries. *Journal of Public Economics* 87(9/10): 2225-2252.
- Becker, C.L., Defond, M.L., Jiambalvo, J. & Subramanyam, K.R. 1998. The effect of audit quality on earnings management. *Contemporary Accounting Research* 15: 1-24.
- Chan, K.H. & Mo, P.L.L. 2000. Tax holidays and tax noncompliance: An empirical study of corporate tax audits in China's developing economy. *The Accounting Review* 75(4): 469-484.
- Choi, W.W., Gramlich, J.D. & Thomas, J.K. 1991. Earnings management in response to book income adjustment of the corporate alternative minimum tax. Working Paper. Columbia University, August.

- Conover, T.L. & Nicholas, N.B. 2000. A further examination of income shifting through transfer pricing considering firm size and/or distress. *The International Journal of Accounting* 35(2): 189-211.
- Dechow, P.M., Sloan, R. & Sweeney, A. 1995. Detecting earnings management. *The Accounting Review* 70(2): 193-225.
- Goncharov, I. & Zimmerman, J. 2006. Earnings management when incentives compete: The role of tax accounting in Russia. *Journal of International Accounting Research* 5(1): 41-65.
- Guenther, D.A. 1994. Earnings management in response to corporate tax rate changes: Evidence from the 1986 Tax Reform Act. *The Accounting Review* 69(1): 230-243.
- Healy, P.M. 1985. The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics* 7(1-3): 85-107.
- Healy, P.M. & Wahlen, J. 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13(4): 365-383.
- Hines, J.R. & Rice, E.M. 1994. Fiscal paradise: Foreign tax havens and American business. *Quarterly Journal of Economics* 109(1): 149-182.
- Huizinga, H. & Laeve, L. 2008. International profit shifting within multinationals: A multi country perspective. *Journal of Public Economics* 92(5-6): 1164-1182.
- Jacob, J. 1996. Taxes and transfer pricing: Income shifting and the volume of intrafirm transfer. *Journal of Accounting Research* 31(2): 301-312.
- Jones, J.J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29(2): 193-228.
- Klassen, K. 1997. The impact of inside ownership concentration on the trade-off between financial and tax reporting. *The Accounting Review* 72(3): 455-474.
- Koh, P.S. 2003. On the association between institutional ownership and aggressive corporate earnings management in Australia. *The British Accounting Review* 35(2): 105-128.
- Kothari, S.P., Leone, A.J. & Wasley, C.E. 2005. Performance matched discretionary accruals measures. *Journal of Accounting and Economics* 39(1): 163-197.
- Lin, K.Z. 2006. The impact of tax holidays on earning management: An empirical study of corporate reporting behaviour in a developing-economy framework. *The International Journal of Accounting* 41(2): 163-175.
- Lopez, T.J., Reiger, P.R. & Lee, T. 1998. Identifying tax-induced earnings management around TRA 86 as a function of prior tax-aggressive behaviour. *Journal of the American Taxation Association* 20(2): 37-56.
- Maydew, E.L. 1997. Tax-induced earnings management by firms with net operating losses. *Journal of Accounting Research* 35(1): 83-96.
- Manzon, G. 1992. Earnings management of firms subject to alternative minimum tax. *The Journal of American Taxation Association* 14: 86-111.
- Mohd Ali, S., Hassan, M.S. & Mohd Saleh, N. 2007. Block Ownership and Earnings Management in Malaysian Listed Firms. *Corporate Ownership and Control* 5(2): 195-201.
- Mohd Saleh, N., Mohd Iskandar, T. & Rahmat, M.M. 2005. Earnings Management and Board Characteristics: Evidence from Malaysia. *Jurnal Pengurusan* 24: 77-103.
- Perry, S.E. & Williams, T.H. 1994. Earnings management preceding management buyout offers. *Journal of Accounting and Economics* 18(2): 157-179.
- Roubi, R.R. & Richardson, A.W. 1998. Managing discretionary accruals in response to reductions in corporate taxes in Canada, Malaysia and Singapore. *The International Journal of Accounting* 33(4): 455-467.
- Schipper, K. 1989. Commentary on earnings management. *Accounting Horizons* 3(4): 91-102.
- Scholes, M.S., Wilson, G.P. & Wolfson, M.A. 1992. Firm's response to anticipated reductions in tax rates: the Tax Reform Act of 1986. *Journal of Accounting Research* 30(3): 161-185.

Norsiah Ahmad
 Faculty of Management and Economics
 Universiti Malaysia Terengganu
 21030 Kuala Terengganu, Terengganu
 Malaysia
 Email: norsiah@umt.edu.my