TAX FRAUD INDICATORS

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ABSTRACT

This paper examines data of companies subjected to tax investigation during the tax years of 2001 to 2005 to detect the financial ratio associated with tax evasion. Using the financial ratio analysis, the objective of this study is to investigate the possible indicators of fraudulent financial reporting for tax evasion. Six financial ratios applied to a final sample of 73 companies. Univariate and multivariate statistical techniques are used to identify the indicators of fraud financial reporting. Based on the ordinary least square model, this study provides empirical evidence that the ratio of sales, working capital and debts over total assets, are significantly associated with the companies' tax evasion. Hence, the findings imply that these ratios can be used by tax offices in their investigation as a predictor of fraud financial reporting for tax evasion purposes. The results therefore demonstrate that the findings could be of assistance to tax authorities in their effort to identify the possibility of tax evasion.

Keywords: *Tax evasion, Tax fraud indicators and financial statements fraud.*

Introduction

Financial statements serve a fundamental part in computing a company's taxation. The falsified financial statements mainly contain elements of overstatement of sales, assets and profit or understatement

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of liabilities, expenses or losses (Spathis, 2002). In taxation, false financial statements involve overstatement of purchases or under-reporting of income to produce lower overall tax liabilities (Harris, Morck, Slemrod, and Yeung, 1993). If the financial statements no longer represent the true picture of a company's financial position, it will affect the amount of tax collected and government's revenue. Hence, such fraudulent financial statements are of great concern to regulators and legislators such as tax authorities and the Securities and Exchange Commission (SEC).

The detection of fraudulent financial reporting has been the subject of much empirical research. Many efforts have been put by auditors and government regulators over the years to address the issue. Detecting management fraud is however, a difficult task using normal audit procedures. Shortage of knowledge concerning the characteristics of management fraud, lack of experience necessary to detect it and managers' deliberate effort to deceive the auditors are the limitations for fraud detection (Spathis, 2002).

Most tax-induced earnings management research is devoted to publicly traded corporations in developed economies, particularly the United States (Shackelford and Shevlin, 2001). Because of data limitations, there is little research on the effects of tax on corporate reporting of privately held corporations in developing economies. To date, there is no study on tax evasion cases in Malaysia. In order to provide evidence on this issue, a sample of 73 firms which have been investigated by the tax authorities for the tax years 2001 to 2005 are examined. Hence, the findings may assist tax authorities in identifying the potential red flags before conducting tax audit and investigation.

Literature Review

Prior research has indicated that in tax planning strategies, firms are taking advantage of the different regulations between financial reporting and tax reporting to lower their income tax liabilities (Rohaya, Nor'azam, and Barjoyai, 2008). Firms prefer to report higher financial accounting income to shareholders and at the same time report lower taxable income to tax authorities (Frank, Lynch and Rego, 2004). As stated by Mills and Newberry (2001), the underlying assumption in preparing the financial statements is that managers exercise discretion to manage the financial accounting income

upward without increasing the taxable income (earnings management strategy), or reducing the taxable income without lowering the financial accounting income (tax planning strategy). Thus, this strategy will increase the gap between the financial accounting income and taxable income.

False Financial Statements

Rezaee (2002) reported that financial statement fraud includes falsification, alteration, or manipulation of material financial records, material intentional misstatements, omissions, or misrepresentations of events, transactions, deliberate misapplication, and wrongful execution of accounting standards, principles, policies and methods used or the use of aggressive accounting techniques through illegitimate earnings management. Beasley, Carcello and Hermanson (1999) found that more than half of all financial statement frauds involved revenues or accounts receivable. The study also found that many of those fictitious revenues resulted from transactions recorded right at period end (i.e., quarter-end or year-end). In a related study, the author also found that about half of the frauds involved overstating assets by understating allowances for receivables, overstating the value of tangible assets and recording of assets that did not exist. False financial statements involved claims for capital allowances expenses which subsequently reduced the chargeable income. Guenther (1994) also stated that false financial statements were related in minimizing their tax cost, and this tax saving was the factor that drove financial statement fraud within private firms. Generally, firms were expected to reduce income in the year with higher tax rate into the year with lower tax rate. In addition, managers were willing to reduce net income in order to save tax.

While managers may have tax incentives to reduce taxable and accounting income, accounting-based contracts, such as the incentive plan and debt covenants, provide motivations for managers to manipulate their earnings upwards (Ronen and Aharoni, 1989; Matsunaga, Shevlin and Shores, 1992). Another recent study by Badertscher, Phillips, Pincus and Rego, (2006), found that firms generally managed earnings in ways that minimized their current income tax costs, regardless of whether the earnings management seeked to increase or decrease reported earnings. The earnings management would affect the company's financial statement, and subsequently reduce its tax liability burden.

Tax Evasion and Financial Reporting

Firms report different income to shareholders and tax authorities. Desai (2005) reported that American firms kept two sets of financial statements: a financial statement that reported "book profits" to the capital markets and a separate financial statement that reported "tax profits" to the government. The difference between the book and tax profits allowed managers to misclassify the tax savings to capital markets and the profits to tax authorities. This is consistent with Murray (1995) who found that the larger the scale of the firm's operation, as measured by its true gross sales, the greater was the degree of taxpayer under-reporting.

Ho and Lau (1999) in their examination of tax audit suggested that the field audit in Hong Kong has proven to be very fruitful in detecting under-reporting of income and profits and in collecting back taxes and penalties. The tax auditors in this case looked at the audited financial statements of the various possible indicators of income under-reporting and/or irregularities.

Prior studies found that companies altered their financial reporting behavior in response to a known schedule of changes in tax rate (Maydew, 1997; Lopez, Reiger and Lee, 1998; Lin, Hwang and Becker, 2003). Cloyd, Pratt and Stock (1996) provided evidence that tax considerations might affect a firm's financial accounting method for a given level of tax saving. Spathis (2002) also found that firms facing difficulties of low return in relation to sales tried to manipulate the financial statement either by increasing revenue or by reducing expenditure so as to improve the profit. As for tax purposes, the management would manipulate their financial statement either by under-reporting revenues or overstating expenses to produce a lower overall tax liability (Harris, et al., 1993).

Malaysia Tax Legislation

In the Malaysian context, tax evasion includes any person who: (a) makes an incorrect return by omitting or understating any income of which he is required by this Act to make a return on behalf of himself or another person; or (b) gives any incorrect information in relation to any matter affecting his own chargeability to tax or the chargeability to tax of any other person shall, unless he satisfies the court that the incorrect return or incorrect information

was made or given in good faith, be guilty of an offence (Section 113 of the Income Tax Act, 1967).

In addition, Section 114 defined willful evasion as an intention to evade or assist any person to evade tax by: (a) omitting from a return made under this Act any which should be included; (b) making a false statement or entry in a return made under this Act; (c) giving a false answer (orally or in writing) to a question asked or request for information made in pursuance of this Act; (d) preparing or maintaining authorization of false books of accounts or other false records; (e) falsifying or authorizing the falsification the accounts books or other records; or (f) making use or authorizing the use of any fraud, art or contrivance (Section 114 of the Income Tax Act, 1967).

The main objective of tax investigations is to ensure that the tax payers comply with provisions of the tax laws and regulations. The investigation is carried out to deter tax evasion activities. The investigation involves an examination of taxpayer's business books, records and documents. This is to ensure that the correct amount of income has been reported and tax paid in accordance with the tax laws and provisions.

Methodology

Sample

The sample is selected from list of companies subjected to tax investigation for the tax years of 2001 to 2005. Financial data are obtained from the companies' audited financial statements for the period of study. The sample companies are 73 companies from construction, service and trading sectors. A final sample comprises of 111 firms years of companies that evade tax and another 111 firm years with non-evaded tax.

Variables and Hypotheses

The financial ratio variables tested in the model are based on prior work on fraudulent financial reporting. Spathis (2002) and Schilit (2002) provided evidences on the association between financial ratio and fraudulent financial statement. Hence, the current study identifies six financial statement ratios commonly used in prior studies as the independent variables. The selected

variables are sales divided by total assets, financial leverage measured by total liabilities divided by total assets, working capital over total assets, inventory divided by sales, account receivables divided by total sales (Spathis, 2002; Persons, 1995) and effective tax rate (Rohaya et al., 2008). These independent variables are regressed against the dependent variable of tax evasion. Tax evasion is measured in terms of evaded income divided by total assets. The selected ratios form possible tax evasion predictors are discussed in the following section.

Working Capital

Working capital which represents the liquidity of a firm is measured as working capital divided by total assets. Working capital is depicted as the amount of available liquid assets a company has to operate its business. In general, the high value working capital indicates that the company is more successful since it can improve its operations. Spathis (2002) found that a low value of working capital to total assets has been classified as being associated with false financial statements on the public listed companies in Greece. This finding is consistent with that of Kreutzfeldt and Wallace (1986). This indicates that companies with low liquidity may provide an incentive for managers to engage in fraudulent financial reporting since the company has liquidity problems in expanding its operations. The hypothesis is stated as follows:

H_1	There is a significant association between the ratio of working capital of firms subject to tax investigation and tax evasion.

Sales

Sales which represent the firm's revenue is measured as total sales divided by total assets. Higher revenue generated over total assets investment may be associated with higher potential for tax evasion. In tax evasion cases, Murray (1995) provided strong evidence that the larger the scale of a firm's operation, as measured by true gross sales, the greater is the degree of taxpayer under-reporting. This means that the larger the sales generated from operation, the larger the taxes to be evaded. This indicates that managers may overstate deduction against income which is not allowable for deductions under the income tax laws or provisions in order to reduce the liability of tax burdens. Therefore, the following is hypothesized:

H_2	There is a significant association between the ratio of sales over its total assets of firms subject to tax investigation and tax evasion.

Debt

Debt is measured as total assets divided by total liabilities to indicate the firm's leverage. Spathis (2002) and Persons (1995) found a positive association between leverage and fraudulent financial reporting. Given the need to meet certain debt covenants and less ability to obtain additional capital borrowing, the authors suggested that management is motivated to manipulate financial statements. From the point of view of tax evasion, the higher ratio of total debts to total assets may indicate that the managers may probably have the incentives to overstate their liabilities to reduce tax liabilities. Therefore, it is hypothesized that:

H_3	There is a significant association between leverage of firms subject to tax investigation and tax evasion.

Effective Tax Rate

The firm's effective tax rate is to determine its ability in handling income tax burden imposed under the new tax regime. There are numerous types of provision of tax incentives to reduce tax burden such as pioneer status, several allowances, deductions and many other exemptions. Rohaya et al. (2008) found that there is a negative relationship between return on assets and ETRs. They also found that highly leveraged and highly capital intensive firms face lower ETRs. These results suggest the evidence that profitable firms are able to avoid the burden through tax incentives or investments in the tax exempt income activities.

In the current study, the effective tax rate is used to identify the factors associated with tax evasion through illegal activities such as creating fictitious purchases and shifting income among entities to reduce tax liabilities. The effective tax rate is measured as tax payable over net profit before tax. Therefore, the hypothesis is stated as follows:

H_4	There is a significant association between effective tax rate of firms subject to tax investigation and tax evasion.

Inventories

Loebbecke, Eining and William (1989) found that sales account (which involved manipulation in 22 percent of the sample) is by far the most commonly mis-stated account. Meanwhile, manipulation of inventory accounts and receivable accounts occurred in 20 and 14 percent of the sample respectively. In this context, the fraudulent sales would increase account receivables. For inventory accounts, this may relate to obsolete stocks which are not included in the closing stock and subsequently show in a higher cost of goods sold.

Companies with higher inventories related to sales may choose not to record the right amount of closing stock or obsolete stock. Higher cost of sales may produce a low profit margin, and hence a low income will be taxed on the companies. Therefore, inventories ratio can be used as a proxy for manipulation of stock. Hence, the hypothesis is stated as follows:

H_5	There is a significant association between inventories of firms subject to tax investigation and tax evasion.

Account Receivables

The higher value of account receivables ratio would indicate that the company is issuing false financial statements. According to Schilit (2002), the management manipulates the account receivables by recording sales before the earnings and may show an additional account receivable. In the tax evasion activities, higher account receivables to sales may suggest that sales are not properly reported in the related year of assessment, whereby, companies would defer their sales into another accounting period in order to minimize their tax expenses. In the investigation case, the tax authority found that some companies deferred recognized revenues across periods in order to decrease their profit. This ratio would be useful as a proxy for deferment of income tax declaration. In this study, the receivables ratio is measured as account receivables over sales (AR). Therefore, the hypothesis is stated as follows:

H_6	There is a significant association between account receivables of firms subject to tax tax investigation and tax evasion.

Tax evasion on selected financial ratio indicated from prior research is regressed using the following model:

TE = $\beta 0$ + $\beta 1$WC + $\beta 2$SAL + $\beta 3$DEBT + $\beta 3$ETR + $\beta 5$INV + $\beta 6$AR + € ……. (1)

Where:

TE   = Income evasion divided by total assets
WC   = Working capital divided by total assets
SAL   = Total sales divided by total assets
DEBT = Total debt divided by total assets
ETR   = Tax paid divided by net profit
INV   = Inventories divided by sales
AR   = Receivables divided by total sales
€   = Error term

Equation (1) is tested using ordinary least square regression (abbreviated as OLS). Bivariate correlations among the independent variables, eigenvalue and variance inflation factor show no multicollinearity between the independent variables.

Empirical Results

Table 1 presents the mean, standard deviation and t-tests of ratios for tax evasion and non-tax evasion firms for the independent variables. The firm's sales are statistically significant at the 5 % level. This indicates that this ratio may indeed be related to tax evasion. The high value of sales for the tax evaded firms compared to the corresponding ones for non-evaded firms indicate that the firms with higher revenue in relation to assets strategies pay lower taxes. The univariate tests provide valuable information regarding variables which may be related to tax evasion. The univariate results are informative but do not allow detection of interaction effects which multivariate tests may show.

Table 1: Tests for the differences in the Means of Each Group: 2001 - 2005

Variables	Mean		Std deviation		t-test	Sig. (two-tailed)
	Tax evasion N= 111	Non-evasion N= 111	Tax evasion	Non-evasion		
WC	0.207	0.203	0.248	0.210	0.127	0.899
SALES	2.986	1.346	5.637	1.257	2.991	0.003***
DEBT	3.464	0.671	20.737	0.337	1.419	0.157
ETR	0.376	3.143	0.436	18.528	-1.573	0.117
INV	0.097	0.331	0.235	1.332	-1.824	0.071
AR	0.326	0.400	0.709	0.545	-0.861	0.390

*** Significant at the 1% level.

Definitions of variables are as follows:
TE is measured as income evasion divided by total assets; WC is measured as working capital divided by total assets; SAL is measured as sales divided by total assets; DEBT is measured as total liabilities (long-term liabilities and current liabilities) divided by total assets; ETR is measured by current tax payable divided by net profit before tax; INV is measured as closing inventories divided by sales; AR is measured as account receivables divided by sales.

Table 2 presents the results for the least square regression for model (1). The regression was statistically significant at the 1% level (F = 98.93, p= .000) with an adjusted R-squared of 75.6%. The significant positive coefficient for sales suggested that the management's ability to generate sales out of its total investment in assets provided incentives for firms to evade tax in order to reduce tax liabilities. There was a significant positive association between the ratio of sales over total assets and at the 1% level (t-stats = 9.712, p = 0.000). The findings indicated that companies with higher sales may be associated with higher tax evasion. The results were consistent with those of Murray (1995), who found that the larger the firm's operation, the greater the owner or manager will try to evade tax in order to reduce tax liabilities. Persons (1995) in another study found a significant negative association between the ability to generate sales using firms' assets and fraud statement.

The coefficient of *DEBT* was positive and highly significant at the 1% level. This indicated that firms with a high total debt to total assets values had an increased probability of being associated with tax evasion. Financial distress

may provide the motivation for management fraud. This was consistent with that of Persons (1995) and Spathis (2002). Other variables were found to be not significant.

Table 2: Regression Analysis Results 2001-2005

Model:

TE = β0+ β1WC + β2SAL + β3DEBT + β3ETR + β5INV +β6AR + €

Variables	Coefficients	Std. Error	t-stat	p-value
Constant	-0.148	0.037	-3.993	0.000***
WC	0.341	0.090	3.771	0.000***
SAL	0.056	0.006	9.712	0.000***
DEBT	0.023	0.002	10.117	0.000***
ETR	-0.001	0.002	-0.835	0.405
INV	0.014	0.020	0.671	0.503
AR	-0.032	0.046	-0.690	0.491

R^2 (Adjusted R^2)   = 76.4% (75.6%)
F-statistics (p=value) = 98.93 (0.000)
N (Firm-years)   = 111 (222)

***significant at 1% level, **significant at 5% level, *significant at 10% level

Definitions of variables are as follows:
TE is measured as income evasion divided by total assets; WC is measured as working capital divided by total assets; SAL is measured as sales divided by total assets; DEBT is measured as total liabilities (long-term liabilities and current liabilities) divided by total assets; ETR is measured by current tax payable divided by net profit before tax; INV is measured as closing inventories divided by sales; AR is measured as account receivables divided by sales.

Conclusions

This study investigated financial statements used as possible predictors of tax evasion. The data were collected on companies that were subjected to tax investigation during the tax years from 2001 to 2005. The final sample comprised of 73 companies (222 firm-years). Six variables were selected: working capital, sales, debts, effective tax rate, net profit, and inventories and account receivables.

The regression model provided significant results in which 75.6% of the companies that evaded income could be explained by its financial variables. The results provided empirical evidence that sales, working capital and debts were significantly associated with evaded income. Therefore, the findings suggested that while tax evasion schemes explained some of the variation in companies, a larger part of the variation could be explained by these factors: working capital (34.1%), sales (5.6%) and debts (2.3%). Hence, the findings indicated that financially sound companies, with high turnover and highly leverage had greater incentive to evade tax.

Therefore, the empirical results provided valuable information regarding the companies' tax evasion strategies during the new tax regime. The companies probably had incentives to reduce taxable income by not reporting the actual income. Additionally, the companies with higher turnover, not facing liquidity problems and higher debt structure probably planned to utilize the tax evasion schemes in order to reduce its income tax liabilities during the tax years from 2001 to 2005.

The present study provided an insight for tax authorities in their future strategies in detecting tax evasion activities of companies. The findings of this study would facilitate the tax authorities in identifying the potential predictors of tax evasion. Hence, this will enable the tax authorities to arrange strategies in conducting future tax audit and tax investigation. Future research with a larger number of companies will be necessary to validate these results. Future studies should also include other explanatory variables that may have an influence on tax evasion activities for companies in Malaysia.

Acknowledgements

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