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ACCOUNTING IRREGULARITIES AND TAX AGGRESSIVENESS

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ABSTRACT

We examine the association between the incidence of accounting irregularities and aggressive tax reporting. We use Beneish's M-score model to measure accounting irregularities and effective tax rates (ETR) to measure tax aggressiveness. Based on analysis of publicly listed Malaysian firms from 2008 to 2011, we find a positive but not significant relationship between accounting irregularities and tax aggressiveness. Though contrary to prior findings, our study adds to the evidence of the various motivations behind the unethical behavior involving financial reporting and/or taxation decisions. The finding of this study is useful to both financial and tax authorities in understanding the link between financial and tax reporting decisions.

JEL Classification: M41

Key words: Accounting irregularities, Effective tax rates, Tax aggressiveness, Beneish's M-score, Malaysia

1. INTRODUCTION

This study investigates the relationship between accounting irregularities and aggressive tax reporting. Past studies provide contradictory and varied findings on whether firms expressing more financial reporting aggressiveness are also aggressive in their tax reporting (Frank et al., 2009; Heltzer et al., 2012; Lennox et al., 2013). For example, numerous studies have examined the trade-offs between financial and tax reporting decisions, including stock price reactions, compensation, intertemporal income shifting, and, capital structure decisions and report that firms favor reporting higher accounting

income to shareholders and lower taxable income to tax authorities (See Shackelford and Shevlin (2001) for a review).

However, other researchers claim that firms may not necessarily tradeoff financial and tax reporting decisions (Frank et al., 2009). As the firms are subject to differences in purposes of income calculated for financial and tax reporting, the growing book-tax gap has been considered by many viewers as demonstrating an increase in aggressive tax reporting behavior (Manzon and Plesko, 2002). From the perspective of Frank et al. (2009), the increase in book-tax gap may possibly reflect the increase in earnings management rather than tax planning. Additionally, Dhaliwal et al. (2004) state that corporate managers increasingly view tax departments as profit centers responsible for increasing their cash flows through aggressive tax reporting and managing their earnings through judicious estimated tax expense. Therefore, consistent with these views, it can be expected that firms might be aggressive in both their financial and tax reporting (Frank et al., 2009).

This study contributes to existing scholars by extending the scope of previous studies on the accounting irregularities and aggressive tax reporting by considering the business environment in Malaysia where the Self-Assessment System (SAS) has been implemented since 2001. SAS has initiated a new agenda to companies in planning their tax activities. According to Chen et al. (2010), the government receives more than one-third share of a firm's pre-tax profit. Tax aggressiveness, which might reduce the taxes paid by a firm, could have a significant tax implication due to the possibility of tax evasion further resulting in government revenue loss. Moreover, this study contributes to literature by using the Beneish model as a proxy for accounting irregularities in measuring financial aggressiveness rather than earnings management models (e.g., accruals quality and discretionary accruals). Accounting irregularity issues have raised much concern with regard to financial statement reliability in Malaysia (Abdullah et al., 2014). Market sentiment and investor confidence have been dampened by the exposure of such accounting irregularities, for example Transmile Group Berhad and Megan Media Berhad (Hamid et al., 2013). Additionally, this research contributes by addressing the issue related to data analysis. This study uses unbalanced panel data analysis; this method offers an answer to control invariant aspects not controlled for in cross sectional nor time series research and to solve the problem of omitted variables.

This paper hypothesizes a positive relationship between accounting irregularities and aggressive tax reporting. Accounting

irregularities are represented by an index developed using the Beneish (1999) model. We rely on the effective tax rates (ETR) to measure tax aggressiveness. This study employs the panel data method of 692 non-financial firms publicly listed in Bursa Malaysia for the time period from 2008 to 2011. The result, based on fixed effect regression, does not provide any evidence that is consistent with our hypothesis. There is a positive association between accounting irregularities and aggressive tax reporting, but statistically it is not significant. The remainder of the paper is as follows: The next section discusses related literature, followed by sections related to research method and results. The final section concludes this paper.

2. LITERATURE REVIEW

Since the enforcement of the Income Tax Act 1967, Malaysia adopted an Official Assessment System by which IRBM issues the annual tax returns. The taxpayers have to submit the form within 30 days from the issuance date. Beginning in 2001, SAS was applied in Malaysia by companies. It was then followed by businesses, partnerships, co-operatives, associations and also by employment income individuals in 2004. The execution of SAS improves voluntary compliance and minimises tax non-compliance. SAS opened a new agenda to companies in planning their tax activities. Tax planning is regarded as a legal tax avoidance scheme and is permitted within the tax laws in Malaysia (Md. Noor et al., 2010). As a result of the tax reform, the key attention was on the corporate tax system whereby numerous tax incentives were provided to assist companies in Malaysia with their corporate tax payable (Md. Noor et al., 2008, 2010)

Tax aggressiveness refers to the tax planning activities, which may be legal, illegal or fall into a grey area (Chen et al., 2010). Generally, firms disclose a dissimilar measure of income to each audience. According to Shackelford et al. (2011), the financial income reported may vary from taxable income for a number of reasons. First, it relates to different intention of both financial and taxable income reports. While financial statements are designed to reduce information asymmetries through reliable and relevant disclosures, the tax returns on the other hand, reflect policy that balances economic objectives of revenue collection, equity, efficiency, and simplicity as well as political objectives to reward favored constituencies. Second, the financial accounting system is to record the underlying economics of a transaction in an objective and verifiable way, while the tax system is designed to persuade or reward particular behavior. Third, there are

motivations to mislead the financial statements' audience and the tax return's audience about on-going operations.

Several studies have investigated whether firms will report higher tax if it allows them to report better accounting profits. Sometimes, firms are willing to report higher tax with the intention of achieving certain financial accounting goals. For instance, Erickson et al. (2004) indicated that firms are willing to pay taxes on fraudulent profits to reduce the likelihood of their financial statements being identified as fraudulent. They examined 27 firms that restated their financial statements as a consequence of SEC allegations of accounting fraud including reporting non-existent and false revenues, recording fake inventory, and undertaking fraudulent schemes to inflate assets, revenues, and net income from 1996 to 2002. Likewise, Dyreng (2009) revealed that firms make financial reporting choices that result in higher book profits when they faced debt covenant violation. They pay taxes on these overstated profits to avoid the cost associated with violating debt covenants.

Other academic studies have demonstrated the increase in book-tax differences focusing on tax sheltering behavior. For example, Manzon and Plesko (2002) examined financial statements from 1988 to 1999 to show the difference between financial reporting income and taxable income. They found that the difference between financial reporting income and taxable income generally increased over time. Their evidence supports the view that a small number of factors are accountable to explain a significant amount of book-tax differences. Additionally, Desai (2002) specified that an increase in book-tax differences is consistent with an increase in tax shelter activity in the late 1990s, but is also partly because of an increase in depreciable assets, foreign operations, employee stock options, and earnings management activity.

Few studies investigate the relationship between financial and tax reporting aggressiveness. For instance, Frank et al. (2009) examined whether companies engaging in aggressive financial reporting are also involved in aggressive tax reporting. Developing their own proxy to measure tax aggressiveness, they found a significant and positive relation between financial and tax reporting aggressiveness. Using simultaneous relation, they confirmed that firms engaged in aggressive financial reporting are also engaged in aggressive tax reporting. On the other hand, Lennox et al. (2013) provide contrasting evidence. Based on several proxies for tax aggressiveness, they found that tax aggressive firms are less likely to commit accounting fraud in the US. In a different setting, Heltzer et

al. (2012) report no evidence of relationship between aggressive financial reporting and tax reporting. Based on a sample of Houston Arthur Andersen's clients which have a culture of aggressive financial reporting, their results support neither willingness to pay taxes for overstated income nor persistent aggressiveness in tax reporting. Therefore, given the abovementioned arguments and mixed results from previous studies, this study extends prior research by examining the relationship between accounting irregularities and aggressive tax reporting in the Malaysian setting.

While prior studies used the trade-off theory in explaining the financial and tax reporting relationship, we test whether companies involved in aggressive financial reporting are also aggressive in their tax reporting. We expect companies with high possibility of accounting irregularities to have high possibility of tax irregularities. If companies can manipulate their financial reporting decisions, it is also possible for them to manipulate their tax reporting decisions. Hence, the following hypothesis is formulated:

H_1: Other things being equal, there is a positive association between accounting irregularities and tax aggressiveness.

3. METHODOLOGY

3.1 SAMPLE SELECTION

This study uses an unbalanced panel data set, which has multiple observations on the same economic units. Each element has two subscripts, the group identifier *I* (692non-financial firms publicly listed in the main market of Bursa Malaysia) and within the group index denoted by *t*, which identifies time (2008-2011). The total number of observations are 2591, with 612 for the year 2008; 685 for 2009, 686 for 2010, and 608 for 2011.

3.2 PANEL DATA ESTIMATION

This study employs panel data analysis to examine the influence of accounting irregularities on tax aggressiveness. Panel data analysis was adopted by prior accounting studies (e.g., Banker et al., 2002; Bhattacharya, Daouk, and Welker, 2003; Ballesta and Meca, 2007; Ming and Gee, 2008; Schiehll, 2006). These studies approve the usefulness and power of this type of data analysis in terms of making the results applicable more generally and adding to the reliability of estimations. Panel data may have group effects, time effects, or both.

These effects are either fixed or random. A fixed effects model assumes differences in intercepts across groups or time periods whereas a random effects model explores differences in error variances. The main difference between the two models is whether the unobserved effects (the error terms) are correlated with included independent variables (Wooldridge, 2003). For a given observation, an intercept varying over units results in the structure:

$$(1)\quad TA_{it}=a_0+\beta_1 AI_{it}+\beta_2 EARN_{it}+\beta_3 LEV_{it}+\beta_4 SIZE_{it}+\beta_5 INT_{it}+\beta_6 YEAR_{it}+u_i+\varepsilon_{it}$$

where: *i* represents company, *t* time period, *TA* is tax aggressiveness, *AI* accounting irregularities, *EARN* is earnings before extraordinary items, *LEV* is debt, *SIZE* is total asset, *INT* is intangible assets, *YEAR* is time variance, u_i is the individual-level effect, and ε_{it} is the disturbance term. The u_i are either correlated or uncorrelated with predictor variables. The u_i are always assumed to be uncorrelated with ε_{it}. If the u_i are uncorrelated with the predictor variables, it is known as the random effects model, but if the u_i are correlated with the predictor variables, it is known as the fixed effects model. The Hausman test is used to differentiate between the fixed effects model and the random effects model. This test uses the difference between the two estimated covariance matrices (which is not guaranteed to be positively definite) to weigh the difference between the fixed effects model and the random effects model vectors of slope coefficients.

3.3 MEASUREMENTOF THE VARIABLES

The dependent variable of this study is tax aggressiveness (*TA*) measured as effective tax rates. This measurement was used in previous accounting literature as an appropriate measure for tax aggressiveness (Callihan 1994; Chen et al. 2010; Phillips et al. 2003). *TA* is computed as the ratio of tax expense to pre-tax income. Lower effective tax rates reflect higher tax aggressiveness (Ariff and Hashim, 2014; Chen et al., 2010). The independent variable is the accounting irregularities index (*AI*). We employ the Beneish model, originally derived from Beneish (1999), to develop the measure for accounting irregularities. *AI*, which is formed from eight financial ratios, describes the degree of earnings manipulation. The rationale behind the variable is that the probability of earnings manipulation is greater with unusual increases in receivables, deteriorating gross margins,

decreasing asset quality, slowing sales growth, and increasing accruals. More specifically, *AI* is developed from the following calculation:

$$(2)\ AI = -4.840 + (DSRI + GMI + AQI + SGI + DEPI + SGAI + LVGI + TATA)$$

where:
DSRI = Days Sales Receivable Index
GMI = Gross Margin Index
AQI = Asset Quality Index
SGI = Sales Growth Index
DEPI = Depreciation Index
SGAI = Selling General and Administrative Expense Index
LVGI = Leverage Index
TATA = Total Accruals to Total Assets
For more details of variable definition, please refer to Appendix 1.

Other independent variables in the model are financial information, which served as control variables. They are profitability (*EARN*), leverage (*LEV*), size (*SIZE*), and growth (*INT*). *EARN* is earnings before extraordinary items, and *LEV* is measured by debt to equity value. *SIZE* is represented by total asset whereas *INT* refers to intangible assets. We also include control for year (*YEAR*) to control for the possibility that the results are influenced by year differences in the data.

4. RESULTS AND DISCUSSION

4.1 DESCRIPTIVE ANALYSIS

Table 1 illustrates the mean, standard deviations, minimum, and maximum of all variables used in this study (excluding year dummy variable). Table 1 shows that the average value of tax aggressiveness (*TA*) is 1.1747, with maximum and minimum values of 735.32 and -563.28, respectively, and standard deviation of 38.670. The average amount of accounting irregularities (*AI*) of sample is -1.7968, with maximum and minimum values of 55.924 and -52.194, respectively, and standard deviation of 5.3221. On average, the sampled firms have earnings before extraordinary items (*EARN*) of RM62.532 million. The maximum, minimum and standard deviation value of *EARN* is RM3663.1, RM-1481.5, RM267.28 million, respectively. The average amount of leverage (*LEV*) is RM398.85 million, with maximum and

minimum amount of RM28445 million and RM0, respectively. The standard deviation of *LEV* is RM1999.4 million. The sample has an average amount of total asset (*SIZE*) of RM1387.8 million, with maximum, minimum and standard deviation value of total assets being RM74611, RM2.5970, RM5294.5 million, respectively. Descriptive statistics for intangible assets (*INT*) show an average value of RM116.89 million and maximum, minimum value of RM11060 million and RM0 respectively. The standard deviation of intangible assets is RM746.84 million.

Table 1
Descriptive Statistics

Variables	N	Mean	Std. Deviation	Minimum	Maximum
TA	2591	1.1747	38.670	-563.28	735.32
AI	2591	-1.7968	5.3221	-52.194	55.924
EARN	2591	62.532	267.28	-1481.5	3663.1
LEV	2591	398.85	1999.4	0.0000	28445
SIZE	2591	1387.8	5294.5	2.5970	74611
INT	2591	116.89	746.84	0.0000	11060

Note: TA is tax aggressiveness of firm *j* for the fiscal year. AI is accounting irregularities index of firm *j* for the fiscal year. EARN is earnings before extraordinary items of firm *j* for the fiscal year. LEV is debt of firm *j* for the fiscal year. SIZE is total asset of firm *j* for the fiscal year. INT is intangible assets of firm *j* for the fiscal year.

4.2 REGRESSION ANALYSIS

As shown in Table 2, the result of the Hausman test is < 0.05 (i.e., significant). The Hausman test indicates that the fixed effects model is preferred. Based on the fixed effects model, similar with Heltzer et al. (2012), the results reveal that the relationship between accounting irregularities and tax aggressiveness is statistically not significant. This indicates that accounting irregularities have no impact on tax aggressiveness. Therefore, H_1 is not supported. A few possible explanations are offered for this result. First, there exists a complexity in the body of research on accounting irregularities and tax aggressiveness. Various motivations lie behind these two activities, with mixed empirical evidence on the effect of being involved in accounting irregularities and/or tax aggressiveness (e.g., Abdul Wahab and Holland, 2012; Ariff and Hashim, 2014; Desai and Dharmapala, 2009). Second, our assumption that companies are

aggressive in both accounting and tax practices may not hold as it is difficult for companies to report higher book income to investors and lower taxable income to tax authorities. Such practices are generally unlikely as large book-tax differences will trigger greater scrutiny from regulatory authorities (Frank et al., 2009; Lennox et al., 2012). Third, this study might suffer from measurement issues as the effect of taxes on 'real' corporate decisions are hard to document (Hanlon and Heitzman, 2010). While understanding the 'real' corporate decision on taxes and how it affects financial reporting decision is crucial, limitation in data availability hamper development of such research approach. Fourth, corporate governance system plays a significant role in mitigating financial reporting and/or tax irregularities (Abdullah et al., 2014; Ariff and Hashim, 2014), hence it is possible that corporate governance systems mediate/moderate the relationship between accounting irregularities and tax aggressiveness.

TABLE 2
Fixed Effect Model

	Prediction	Coefficient	*t*-statistic
AI	+/-	0.1013	0.71
EARN	-	0.0683	10.62***
LEV	+	0.0048	1.57
SIZE	-	-0.0065	-3.95***
INT	-	0.0021	0.71
YEAR		included	included
Constant		-0.9118	-0.45
R-squared		0.061	
F-Statistic		15.18***	
N		2591	
Hausman Test		223.00***	

Note: *, **, and *** denote significant at the 10%, 5%, and 1% level, respectively (1-tailed). Refer Table 1 for description of variables. Year is a dummy variable by assigning a value of one for specific year, and zero otherwise.

Table 2 also shows that the coefficient of earning is significant and negative at the 1% level ($p < 0.001$). In addition, the result shows that the effect of total assets on tax aggressiveness is negative and significant at the 1% level ($p < 0.001$). However, Table 2 shows that the influence of leverage and intangible assets on tax aggressiveness is statistically not significant. In addition, by controlling time variance to tax aggressiveness, the result shows that the coefficient of Year

2009 and Year 2010 is significant and positive at the 5% level ($p < 0.05$).

5. CONCLUSION

This study aimed at investigating the association between accounting irregularities and aggressive tax reporting. This study extends the scope of previous studies on accounting irregularities and aggressive tax reporting by considering the business environment in Malaysia where the Self-Assessment system is employed for taxation. The system, which makes companies responsible for computing their own tax, is said to provide more flexibility for tax planning activities. While tax planning is legal, to some extent it can also be used as a tool for unethical conduct. Further, rather than looking at the trade-off theory that is commonly used in explaining the relationship between financial reporting and taxation irregularities, we test whether companies having high possibility of accounting irregularities also show high possibility of tax irregularities. This argument is advanced based on the view that unethical behavior is a 'cancer' within a company. If one can manage to manipulate a financial reporting decision, it is possible that one can also do it with the tax reporting decision. It is also possible that manipulations have to be done for both the reports as part of the 'cover-up' needed to avoid detection for the misconduct.

The sample of this study involved 2,591 observations based on an unbalanced panel data set for 692 non-financial firms publicly listed in the main market of Bursa Malaysia over the period of 4 years starting from 2008 to 2011. The empirical result, which is based on the fixed effect model suggested by the Hausman test, reveals that no significant relationship exists between accounting irregularities and tax aggressiveness. Though contrary to prior findings, our study adds to the mixed evidence on the association between financial and tax reporting aggressiveness. The findings are important to both financial and tax authorities, and other capital market participants interested in understanding the relationship between financial and tax reporting decisions.

This study, with the insignificant findings on the relationship between accounting irregularities and aggressive tax reporting, offers several implications. Firstly, our study adds to the evidence involving the possibility that manipulation of financial reporting may be related to the manipulation of taxation reporting. The insignificant findings of this study imply that companies may have various motives behind the unethical behavior involving financial reporting and/or taxation decisions. Thus, those two important corporate decisions may or may

not be correlated, and even if they are, the correlation may not necessarily be linear. Secondly, our study adds to both the research in financial reporting and taxation, especially by linking together the two reporting domains that have commonly been investigated independently by many of the prior studies. Findings of this study suggest that a comprehensive analysis involving financial reporting shall include the taxation perspectives, and vice versa. Despite the fact that both may differ in terms of purpose and target users, financial reporting and taxation decisions are related in a way that tax affects the bottom line (profit) and the cash balance (asset) of a company. Thirdly, our study is among the first to link between financial and tax reporting aggressiveness in the context of a developing country, such as Malaysia. In doing so, we utilize the setting of the Malaysian business system especially by considering that the Self-Assessment System can potentially be a tool for manipulation. For the policy makers in both financial reporting and taxation domains, knowledge from other domains is necessary as 'red flags' for unethical behavior could arise from beyond their own domain.

Overcoming several limitations of this study may benefit future researchers in financial reporting and taxation. Firstly, our measures for both accounting irregularities and tax aggressiveness, while carefully developed, can be improved by using a more accurate and relevant data set. For example, real cases of public reprimand can be a better proxy for accounting irregularities while tax shelter can represent tax aggressiveness more accurately. Secondly, future research can consider the influence of company governance structure on accounting irregularities and/or tax aggressiveness. Utilizing the unique features of firms in Malaysia, such as institutional ownership and government-linked status, can enhance understanding of Malaysian corporate practices. Finally, this study can be further extended by using data from other countries, especially Asian countries. Doing so would allow for comparison across the countries and provide evidence from the perspective of the Asian region as a whole. Using cross-country data allows exploration of the role played by country institutional features, such as political and legal systems, in the context of international accounting and taxation quality.

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APPENDIX 1
Definition of Variables of Equation (2)

$$DSRI = \frac{NR_t/Sales_t}{NR_{t-1}/Sales_{t-1}}$$

where *NR* is Net Receviables.

$$GMI = \frac{Sales_{t-1} - Cost\ of\ Goods\ Sold_{t-1}/Sales_{t-1}}{Sales_t - Cost\ of\ Goods\ Sold_t/Sales_t}$$

$$AQI = \frac{[1 - (CA_t + PPE_t + Securities_t)]/TAS_t}{[1 - (CA_{t-1} + PPE_{t-1} + Securities_{t-1})]/TAS_{t-1}}$$

where *CA* is Current Asset, *PPE* is Plant, Property & Equipment, and *TAS* is Total Assets.

$$SGI = \frac{Sales_t}{Sales_{t-1}}$$

$$DEPI = \frac{Depreciation_{t-1}/(PPE_{t-1} + Depreciation_{t-1})}{Depreciation_t/(PPE_t + Depreciation_t)}$$

$$SGAI = \frac{SGAE_t/Sales_t}{SGAE_{t-1}/Sales_{t-1}}$$

where *SGAE* is Selling General & Administrative Expense.

$$LVGI = \frac{(CL_t + TLTD_t)/TAS_t}{(CL_{t-1} + TLTD_{t-1})/TAS_{t-1}}$$

where *CL* is Current Liability, *TLTD* is Total Long Term Debt, and *TAS* is Total Assets.

$$TATA = \frac{IFCO_t - CFFO_t}{TAS_t}$$

where *IFCO* is Income from Continuing Operations, *CFFO* is Cash Flows from Operations, and *TAS* is Total Assets.