Analysis of Book-Tax Conformity, Tax Avoidance, and Earnings Persistence

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ABSTRACT

This study aims to test empirically book-tax conformity strengthens the negative effect of tax avoidance on earnings persistence. Book-tax conformity denotes a relationship between accounting standards and tax rule in a country. Tax avoidance is measured using abnormal book-tax difference. The data used samples of listed firms in six Asian countries from 2001 through 2014, with an unbalanced panel of 8,207 firms-years, analyzed using generalized method of moments approach. The results showed that book-tax conformity increases the earning persistence on the effect of tax avoidance measures on earnings persistence.

Introduction

Taxes are a burden of companies, which significantly reducing net income by more than a third (Graham et al., 2012) and potentially reducing shareholder wealth (Jensen & Meckling, 1976). The accounting income generated from the accounting process is not necessarily the income basis for the imposition of corporate income tax, since the accounting rules underlying accounting reporting do not sufficient in presenting relevant information of corporate tax liability (Hanlon, 2005).

The difference of accounting and tax purposes resulted in different accounting income and taxable income (i.e. book-tax difference) (Manzon & Plesko, 2002 ; Hanlon & Shevlin, 2005). Company stakeholders are interested in this information for the following reasons. First, book-tax difference relates to the companies' present and future earnings and cash flow, which are important input in determining current decisions (Klassen, 1997; Hanlon, Laplante, & Shevlin, 2005). Second, profit is a measure of performance for a company aiming to increase shareholder wealth (Jensen & Meckling, 1976). The book-tax difference has been a concern, because it allows firms to report a small income to tax authorities while reporting a substantial income to shareholders (Whitaker, 2005; Tang & Firth, 2012), where these relate to a decrease in the quality of earning information (Desai, 2005; Blaylock, 2017) and income smoothing practice (Lassaad & Khamoussi, 2016), the sources and impacts of book-tax differences (Ayers & Laplante, 2009; Blaylock et al., 2012), and the benefits, losses, and impacts of book-tax conformity (Hanlon & Shevlin, 2005; Atwood et al., 2010).

Book-tax conformity shows the relationship between the two legal rules of financial reporting and corporate taxation. The information required by the tax authority is different from that required by the other party, such as investor. Book-tax conformity impacts investors' assessment of future earnings persistence in a country (Ali & Hwang, 2000; Atwood et al., 2010, 2012). The tax regulation is stricter because it aims to increase state revenues. While, within accounting incomes, because the aim is to reduce the information gap between managers and stakeholders, hence providing flexibility to managers in delivering financial information. (Hanlon, 2005). Futhermore, between one country and another, there are different accounting income and taxable income relationships, in accordance with accounting policies and tax regulations that prevail in each country.

This research extends previous studies of Hanlon (2005) and Tang & Firth (2012). Hanlon (2005) used the book-tax differences to test its effect on earnings persistence, while Tang & Firth (2012) developed a measurement of book-tax differences by using the abnormal book-tax difference. This study uses Hanlon's model to examine the influence of book-tax difference (as a measure of tax avoidance) on earnings persistence. However, the measurement of tax avoidance uses abnormal book-tax differences developed by Tang & Firth (2012). As Ayers & Laplante (2009), Blaylock et al. (2012), and Tang & Firth (2012) suggest that the book-tax difference can be caused by earnings management, tax avoidance, and other reasons, so that measurements developed by Tang & Firth (2012) still assume that the differences are caused by earnings management, tax avoidance, or an interaction of both. This research will add earnings management as control variable in the measurement model, thereby increasing the precision of abnormal book-tax differences as a measure of tax avoidance.

Referring to Blaylock et al. (2015) and Tang (2015), who state that increasing the book-tax conformity will reduce earnings management and tax avoidance, this research examines the book-tax conformity that allegedly strengthen the negative effect of tax avoidance on earnings persistence. The allegation is that a higher book-tax conformity means

less flexibility for the company to report a taxable income that is different from its accounting income. A large degree of the flexibility provides a greater opportunity for tax avoidance and is related to the low quality of earnings. Thus, the goal is to know how different accounting rules and tax regulations in each country can strengthen or weaken the effect of tax avoidance on corporate earnings quality. Research framework is as follows:
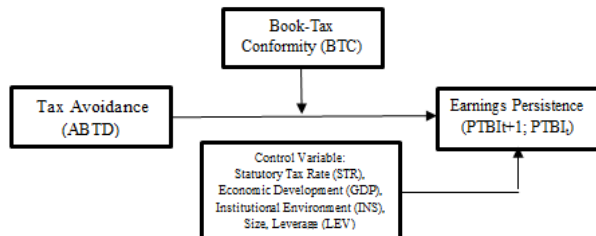
Picture 1 Research Framework

Literature Review

Tax Avoidance

Understanding tax avoidance cannot be separated from tax planning. There are many terminologies found in tax planning and tax avoidance activity. Tax planning is a general term in corporate activities fulfilling the obligation to pay taxes, including tax avoidance and tax evasion. According to Santoso & Rahayu (2013), tax avoidance and tax evasion are part of tax management activities aimed at minimising the tax burden. Tax avoidance is a tax management effort in utilising the weaknesses (loopholes) of applicable tax laws. Tax avoidance activities are official, within tax regulations, utilise the weakness of the regulations, have the legitimacy of the foundation of tax laws, and are acceptable. Tax evasion leads to actions outside the provisions of the tax laws. Tax evasion activities are unlawful, has no legitimacy within tax laws, and is unacceptable.

Several previous studies using various tax planning terminologies, include Dyreng et al. (2008), use the term 'tax avoidance' and define it as 'the ability to make low cash income taxes (as opposed to the income tax expense) relative to pre-tax earnings'. Another definition (Slemrod, 2004), states that tax avoidance is tax selfishness to disclose corporate tax reporting, including evasion and abusive avoidance behaviour, and is difficult to distinguish between tax evasion and tax avoidance. It also used tax noncompliance, which is legally payable but not reported or paid. Slemrod (2004) explain that aggressive tax reporting encompasses various transactions whose primary purpose is to lower tax liabilities without disrupting the activities of the company.

Frank et al. (2009) define the tax reporting aggressiveness as engineering lowering taxable income through tax planning that may or may not be considered a tax avoidance violation. Hanlon & Slemrod (2009) use the terms 'tax aggressiveness' and 'tax shelters' to show the many transactions that companies use to gain a significant tax advantage without breaking the tax rules, although there is a potential for detection by the tax authority.

This study uses the term tax avoidance, referring to the definitions developed by Slemrod (2004); Frank et al. (2009); Hanlon & Slemrod (2009); and Santoso & Rahayu (2013). It reflects a very broad activity in corporate transactions while aiming to minimise the obligation to pay taxes through legal tax planning activities, although there is a risk of detection by the tax authorities, without disrupting the economic activity of the company. The goal is to maximise corporate value.

Book-Tax Conformity

Hanlon & Shevlin (2005) examine the issues surrounding the conformation of accounting income and taxable income and policies relating to what should be done regarding the differences between accounting income and taxable income. Proponents and opponents arise regarding the benefits and losses resulting from the increased book-tax conformity and the quality of earnings.

The issue of conformation of accounting income and taxable income arises because of the same accounting and tax reporting periods (Guenther et al. 1997). Because there are differences in the objectives of accounting reporting and tax reporting, reporting policy makers face the choice of whether to arrange regulations that are close to accounting goals or tax purposes. (Whitaker, 2005; Desai, 2005). Taxable income are for the purposes of receiving government income, economic incentives, and other social objectives. Accounting income provides a company's financial performance for the benefit of economic decision-making for shareholders and investors.

Proponents of book-tax conformity believe that increasing the book-tax conformity may provide some benefits (Hanlon & Shevlin, 2005; Whitaker, 2005). First, the book-tax conformity will reduce the cost of compliance in the preparation of financial statements. Second, the book-tax conformity reduces or eliminates misinformation in accounting and tax reporting. Third, the book-tax conformity can avoid aggressive financial and tax reporting. The tax authority will have additional control of company behaviour in performing its tax obligations. There is no concern about the occurrence of a higher or lower presentation of earnings that raises lower or higher tax payments and over-performance reporting to shareholders.

However, the opposite opinion states that the book-tax conformity will lead to a loss of useful information for shareholders and investors regarding the performance of companies. The earnings report to the tax authority has different purpose from the earnings report to the shareholder; thus higher conformity lower the quality of earnings (Whitaker, 2005; Desai, 2005; Atwood et al., 2010; Nguyen et al., 2015).

The country book-tax conformity indicates the relationship between two legal rules of financial reporting and corporate taxation. In the high book-tax conformity condition, reported income is used as the basis for calculating corporate taxes, in turn creating earnings management to reduce the payment of tax obligations (Atwood et al., 2010). There are different accounting and taxable income relationships from one country to another, according to the accounting and tax policies. A higher required book-tax

conformity will degrade quality of information available to investors (Atwood et al., 2010).

Earnings Persistence

Earnings contain information important in assessing the performance of the company, which shows the accounting calculation of the profit and loss of business activities. Earnings represent an accounting measure of changes in the value of the company to shareholders in an accounting period (Nichols & Wahlen, 2004). Income attracts much attention from shareholders and potential investors because it is considered indicative of the company's performance. The earnings report is needed to assess changes in economic resources and their allocations in the future, and are used for economic decision-making (Desai, 2005). Tax authorities use earnings reports as a basis for calculating income tax liabilities.

It is interesting to know how companies report earnings to shareholders and tax authorities, in relation with earning quality. Different reporting to shareholders and to the tax authorities may raises earnings management and tax avoidance (Desai, 2005), causing distrust of shareholders and investors regarding the quality of earnings. It also leads to the suspicion of tax authorities regarding the payment of corporate income tax liabilities.

Dechow et al. (2010) show that high earnings quality provides more information about corporate finance. An earning is said to be high quality when the earnings information is relevant to the decision made. Furthermore, Bellovary et al. (2005) explain that the quality of earnings shows the reported profitability in reflecting actual company earnings and stability, persistence, and low variation in reported earnings. Jonas & Blanchet (2000) stated that the earnings persistence is an explanation of the predictive ability of the earnings in determining the quality of earnings. Thus, in the concept of earnings persistence, investors can predict earnings performance of the company in the future through the current earnings performance information. In large accounting income and taxable income differences, investors can expect that managers use discretion in calculating taxable income or accounting income to achieve different goals with shareholder objectives, thus lower earning quality.

Hypotheses Development

Tax avoidance is the micro terminology that firms use to minimise tax payment obligations through legal corporate economic activities, with the goal of maximising corporate value. Therefore, the definition of tax avoidance refers more to the behaviour undertaken by the company. According to Hanlon (2005), firms with significant large book-tax differences have lower accounting earnings persistence rather than slight differences. The large book-tax difference can be an indicator of the existence of tax avoidance to reduce taxable income or earnings management to improve accounting income. This supports previous research stating that the book-tax difference can be used as a measure of earnings quality through earnings persistence; that is, how earnings of the current year may reflect expected earnings in the future (Penman, 2003).

Book-tax differences lowered the current earnings information, based on the Lev & Nissim (2004) study that found that the tax-to-book income ratio could predict the change in the next five years' earnings and there are an increase in the taxable income information on future earnings. (Chen, Dhaliwal, & Trombley (2012)) finds consistency of book-tax differences, as a combined impact of earnings management and tax planning, related to the persistence of accounting income and taxable income, and has an additional impact on information content for accounting income and taxable income. Tang & Firth (2012) find that firms with large positive book-tax differences show less earnings persistence compared to firms with small book-tax differences.

Previous research revealed that book-tax differences indicate low earnings quality (Lev & Nissim, 2004; Hanlon, 2005; Hanlon, Laplante, & Shevlin, 2005; Schmidt, 2006; Tang & Firth, 2012). Companies that have large book-tax differences can be attributed to earnings management aimed at increasing income for the interest of investors, or due to tax evasion to minimise tax liabilities (Blaylock et al., 2012). This management action is considered negative by investors, as it is reported using accounting income that is not actual or faces the risk of an additional tax burden because of reporting a lower tax liability. Hanlon (2005) found that firms that have large book-tax differences have lower earnings persistence than firms with small book-tax differences. Tang & Firth (2012) documented the existence of lower persistence in companies that have large abnormal book-tax differences than normal.

The country's book-tax conformity shows the relationship between tax and accounting rules at the country level each year. Hanlon & Shevlin (2005) reveal the potential loss of quality earnings information in the stock market when accounting income matches taxable income. Atwood et al. (2010) found that higher book-tax conformity will reduce the quality of earnings. Substantially, the information required by shareholders is different from the information required by the tax authorities. In addition, when the taxable income matches the accounting income, the legislature, as the regulatory authority, will dominate the rules of preparation of financial statements. So, the book-tax conformity will decrease the earnings informativeness required by different interested parties (Hanlon & Shevlin, 2005; Atwood et al., 2010; Nguyen et al., 2015) and associated with higher earnings management (Blaylock et al., 2015). Consequently, the country book-tax conformity, or the degree of flexibility of firms in reporting taxable income different from the accounting income, relates to the low quality of earnings, so the country book-tax conformity may strengthen the tax avoidance relationship with earnings quality.

This research focuses on the role of country book-tax conformity as a country-level variable. Since tax avoidance negatively affects earnings persistence, a high degree of flexibility of taxable income statements different from accounting earnings is associated with low earnings persistence. This study examine whether country book-tax conformity can strengthen the effect of tax avoidance on earnings persistence. Thus, the developed hypothesis is that book-tax conformity strengthens the negative effect of tax avoidance on earnings persistence.

Research Method

Sample Selection

This study uses secondary data of quantitative data taken from DataStream Thomson Reuters. Observed data from 2001 to 2014 are capital market data available in ASEAN countries. The countries are Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam, or as many as six countries. For Vietnam, available data are from 2013 to 2014. The data is selected to meet the criteria of variables in fulfilling the book-tax conformity approach, that is, removing the value of pre-tax book income and the value of the current tax expense that has zero or negative amount. From this process, 11,731 firms-years are collected. Furthermore, the amount is reduced by the unavailability of data to meet the calculation of tax avoidance model and earning persistence model, so that the selection process succeed in collecting 8,207 firms-years. Meanwhile, control variables such as statutory tax rates, public institutional environment, and economic development, data were obtained from yearly global competitiveness report of world economic forum (Report, Schwab, & Forum, 2001-2014).

Observed companies are grouped into industry types based on the Global Industry Classification Standard (GICS) (MSCI & SP, 2002). The industrial sector do not include in this study is the industrial sector with a specific regulation in taxation to perform tax obligation or do not calculate taxable income to meet the tax obligation, such as energy, financial, mining, and constructions.

Book-Tax Conformity Measurement

The measurement of the variable of book-tax conformity is done by referring to the model developed by Atwood et al. (2010) that defines book-tax conformity as a flexibility in which a company may report a different taxable income from the accounting income. With a certain level of accounting income, firms in a country can report different ranges of taxable income variations. Different taxable income variations from these accounting earnings may have large or small ranges.

This different range of flexibility is thought to arise from the existence of a policy that the company should report its income for two purposes; that is, an income to shareholders and an income to tax authorities (Hanlon & Shevlin, 2005). Companies have incentives to report a high income to shareholders and a low income to tax authorities to save on tax burdens. The reported taxable income is a variation in taxable income reflecting the book-tax conformity. Atwood et al. (2010) developed a model to calculate the level of book-tax conformity through the current tax expense estimate (CTE) regression of pre-tax accounting income (PTBI). The current tax burden variation is obtained from the residual value of the equation after calculating the square root value of the mean square error (RMSE). The equation model is the run regression per year for each country to calculate the value of book-tax conformity per year per country. The equation model is as follows:

$$CTE_t = a_0 + a_1 PTBI_t + a_2 ForPTBI_t + a_3 DIV_t + e_t \qquad (1)$$

where CTE is current tax expense, PTBI is pre-tax book income, ForPTBI is foreign pre-tax book income, and DIV is total dividend. Dividend is used to control management engaged in reducing tax expenses related to the distribution of the dividend. Corporate income is already taxed at the corporate level, but it will be taxed again when distributed as dividends to shareholders.

The reported taxable income variation is reflected by the variation in the size of CTE at a given PTBI level, and the magnitude of the CTE variation can be calculated through residuals of the above equation. The value of book-tax conformity is derived from the root mean-squared error (RMSE) value of the equation regression.

The calculation of RMSE, to obtain the value of book-tax conformity, is done per year per country; the book-tax conformity represents the relationship between the accounting rules and tax regulations in a country. A small RMSE value indicates a high book-tax conformity, meaning that the accounting income is close to the taxable income. Thus, firms have little flexibility in reporting the taxable income different from the accounting income. A small RMSE value indicates a high book-tax conformity, meaning the accounting income is close to the taxable income. Thus, firms have little flexibility in reporting the taxable income different from the accounting income.

The value of the book-tax conformity level is scaled by sorting the RMSE value annually from all countries from the largest to the smallest. The largest RMSE score was assigned a score of 0, and the smallest RMSE score was given an n-1 score (n is the number of years in all countries used in this study sample). Then, the score was divided by n-1, so that the value of book-tax conformity of each year for each country had a range between zero (0) and one (1).

Tax Avoidance Measurement

This study uses the tax avoidance variable using the method of the abnormal book-tax difference developed by Tang & Firth (2012). Book-tax differences can be distinguished as normal and abnormal, and prove that the abnormal book-tax difference more strongly explains the company's objectives in the conduct of earnings management and tax avoidance, while the normal book-tax difference does not. Measurements using this abnormal book-tax difference are considered better because first, compared to the effective tax rate, these measurements can accommodate temporary book-tax differences; and second, the use of residual values can reveal a strong motivation of tax avoidance activities that cannot be measured through the variables contained in the book-tax difference model. The calculation of the abnormal book-tax difference (ABTD) is derived from the residuals from the equation developed by Tang & Firth (2012), which in this study has been added control variable of earnings management. Ayers & Laplante (2009) and Blaylock et al. (2012) explain that the book-tax difference may be caused by earning management, tax avoidance, or both. The book-tax difference model developed by Tang & Firth (2012) only mentions the abnormal book-tax differences and does not explicitly explain the source of the difference, whether derived from earnings management, tax avoidance, or a combination of both. This study uses the model as a tax avoidance measure, so, to improve the

accuracy of the measurement, the model is controlled by the earnings management variable. It is expected to reinforce the explanation that the residual value obtained has a stronger tax avoidance objective.

Since this study calculates the value of the book-tax conformity, the sample does not include firms with accounting income and current tax expenses less than zero. The use of zero current tax expenses or less cannot meet the expected taxable income, so the book-tax difference becomes equal to the accounting income. This made bias in the analysis. Thus, it is not necessary to include the accounting loss (TL) and compensated tax loss (TLU) in Tang & Firth's model. The Tax_Diff variable also cannot be applied in this research because it is a special taxation policy in the form of tax rate reduction existing in Tang & Firth's country sample, but not in this research.

According to Tang & Firth (2012), investment changes, income changes, and book-tax differences in the previous year that affected the current book-tax difference indicate a normal book-tax difference. However, the equation cannot account for any stronger action of earnings management and tax avoidance from book-tax differences. This can be explained by the residual value of the equation above, called abnormal book-tax differences.

The equation for measuring tax evasion is as follows:

$$BTD_t = \theta_0 + \theta_1 \Delta INV_t + \theta_2 \Delta REV_t + \theta_3 BTD_{t-1} + \theta_4 EM_t + \varepsilon_t \quad \text{......... (2)}$$

where BTD is book-tax difference, ΔINV is changes in the gross investment value of fixed assets and intangible assets, ΔREV is changes in net income, and EM is earning management. Except for EM, all variables are scaled by total assets to resolve the intercompany scale differences. To obtain the residual value of each firm, regression is applied per industry type per country. The residual value is measurement of tax avoidance.

The earning management is based on discretionary accrual, calculated using the Modified Jones model developed by Dechow et al. (2010), in which accrual is a function of sales growth minus receivables and gross fixed asset value as a reflection of firm value. The model is as follow:

$$ACR_t = \alpha_0 + \alpha_1(\Delta REV_t - \Delta REC_t) + \alpha_2 PPE_t + \varepsilon_t \quad \text{...................... (3)}$$

Which ACR is total accruals, are calculated with pre-tax income minus the net cash flow from operations, ΔREV is income growth, ΔREC is increase in trade receivable, PPE is gross fixed assets value. The value of the discretionary accrual is the residual value performed per industry type.

Research Model

The model used to test the hypothesis is:

$$PTBI_{it+1} = \delta_0 + \delta_1 PTBI_{it} + \delta_2 ABTD_{it} + \delta_3 BTC_{it} + \delta_4 PTBI_{it}*ABTD_{it} + \delta_5 PTBI_{it}*BTC_{it} + \delta_6 PTBI_{it}*ABTD_{it}*BTC_{it} + \delta_7 STR_{it} + \delta_8 GDP_{it} + \delta_9 INS_{it} + \delta_{10} SIZE_{it} + \delta_{11} LEV_{it} + \delta_{12} STR_{it}* PTBI_{it} + \delta_{13} GDP_{it}* PTBI_{it} + \delta_{14} INS_{it}* PTBI_{it} + \delta_{15} SIZE_{it}* PTBI_{it} + \delta_{16} LEV_{it}* PTBI_{it} + \varepsilon_{it} \quad \text{.. (4)}$$

where $PTBI_{it+1}$ is the next-year pre-tax income scaled by total asset, $PTBI_{it}$ is the current pre-tax income scaled by total asset, $ABTD_{it}$ is the tax avoidance calculated with residual value of estimation of abnormal book-tax difference, BTC_{it} is the yearly country book-tax conformity, STR_{it} is the statutory tax rate in a country, GDP_{it} is the economic development in a country measured by the log gross domestic product for the year, INS_{it} is an index of public institutional governance environment in a country, LEV_{it} is the level of capital structure measured by the ratio of total debt to total assets, and $SIZE_{it}$ is the company size measured by the log of the total asset. The research hypothesis is analyzed through coefficient δ_6 which is the coefficient of the interaction of book-tax conformity at the effect of tax avoidance on earnings persistence

The use of panel data, which is a combination of time series and cross section models, is believed to improve the accuracy of regression analysis compared using only series models or cross section. The endogeneity problem, when estimated by fixed effect and random effect approach, can be overcome using the Generalized Method of Moments (GMM) approach (Arellano & Bond, 1991). In the dynamic panel, data models or linear autoregressive models ($Y_{it+1} = Y_{it} + X_{it} + e_{it}$) are substantially different from static panel data because they contain endogeneity; the dependent variable Y_{it+1} is a function of error and the independent variable Y_{it} is also a function of error. So, there will be a correlation between the Y_t regression variable and the error, resulting in a biased and inconsistent estimate.

Results And Discussions

Descriptive statistics

Table 1 shows the descriptive statistics of each variable of earnings persistence research model. Descriptive statistics were conducted on 8,207 firm-years from 2001 to 2014 in six countries, which were samples of earnings persistence models in this study. Panel A shows the statistical description of the variables used in this study, including the mean, standard deviation, minimum value, and maximum value.

The research variables used are next year pre-tax income, current pre-tax income, tax avoidance, and book-tax conformity. From the table, the next year pre-tax income ($PTBI_{t+1}$) has a positive value. It shows that only the profit for a company is used as sample in this study, including, similarly, the current pre-tax income ($PTBI_t$).

Table 1 Descriptive Statistics

Panel A : Descriptive Statistics (N=8,207)				
	Mean	Std. Dev.	Min	Max
PTBI1	0.0885	0.0722	0.0025	0.4200
PTBI	0.0913	0.0723	0.0028	0.4075
ABTD	-0.0004	0.0409	-0.0945	0.1484
BTC	0.3632	0.2654	0.0000	1.0000
Panel B : Correlation (N=8,207)				
	PTBI1	PTBI	ABTD	
PTBI	0.7095*			
ABTD	0.2186*	0.4062*		
BTC	0.0587*	0.0164	0.0017	

Variable definition: PTBI1=next year pre-tax income, PTBI= current pre-tax income, ABTD=abnormal book-tax difference as tax avoidance measure, BTC=book-tax conformity

* Correlation is significant at the 0.05 level (2-tailed)

The tax avoidance variable (ABTD) have an average value of -0.0004, a minimum value of -0.0945, and a maximum value of 0.1484. This suggests that this study uses positive tax avoidance and negative tax avoidance data, relatively, in the same amount. So, companies with either a positive or negative book-tax difference do tax avoidance action.

Panel B shows the correlation between variables. The variable of book-tax conformity (BTC) has significant correlation with future pre-tax income ($PTBI_{t+1}$) of 5.87% and has no significant correlation with current pre-tax income ($PTBI_t$). The book-tax conformity (BTC) is also not significantly correlated with tax avoidance (ABTD).

Analysis of Model Estimation

Table 2 presents the results of the earnings persistence estimation model using Dynamic Panel Data System Generalized Method of Moment (GMM) to test the book-tax conformity strengthening the negative effect of tax avoidance on earnings persistence. The panel data included in this study numbered 4,405 useable samples, from 8,207 samples collected. The data is reduced after engage a serial correlation test and model validity test, as a requirement using the GMM estimation model. In this test a valid model is obtained in lag 3 conditions. Then, when iterations process are performed, there are 4,405 data collected that meet at least 3 periods.

Table 2 Result of Earning Persistence Estimation Model

$PTBI_{it+1} = \delta_0 + \delta_1 PTBI_{it} + \delta_2 ABTD_{it} + \delta_3 BTC_{it} + \delta_4 PTBI_{it}*ABTD_{it} + \delta_5 PTBI_{it}*BTC_{it} + \delta_6 PTBI_{it}*ABTD_{it}*BTC_{it} + \delta_7 STR_{it} + \delta_8 GDP_{it} + \delta_9 INS_{it} + \delta_{10} SIZE_{it} + \delta_{11} LEV_{it} + \delta_{12} STR_{it}* PTBI_{it} + \delta_{13} GDP_{it}* PTBI_{it} + \delta_{14} INS_{it}* PTBI_{it} + \delta_{15} SIZE_{it}* PTBI_{it} + \delta_{16} LEV_{it}* PTBI_{it} + \varepsilon_{it}$

Variables	Sign	No –interaction			With Interaction		
		Koef.	Sig.		Koef.	Sig.	
PTBI	+	3.0924	0.0480	*)	1.3952	0.2095	
ABTD	-	-1.6845	0.0000	*)	-1.6547	0.0000	*)
BTC	-	-0.0213	0.2050		0.0068	0.4085	
PTBIxABTD	-	2.4913	0.0900	**)	1.9907	0.1125	
PTBIxBTC	-	0.2455	0.2045		-0.3169	0.4650	
PTBIxABTDxBTC	-	-	-		0.8502	0.0060	*)
STR	-	-0.0807	0.3750		-0.2358	0.1525	
GDP	-	-0.0094	0.3885		-0.0204	0.2500	
INS	-	-0.0003	0.4840		-0.0038	0.2965	
SIZE	+	0.0126	0.0015	*)	0.0051	0.1050	
LEV	-	0.0823	0.0005	*)	0.0786	0.0010	*)
STRxPTBI	-	-0.3868	0.4335		1.2491	0.2770	
GDPxPTBI	-	-0.1907	0.2770		-0.0606	0.4190	
INSxPTBI	-	0.1059	0.0705	**)	0.1550	0.0160	*)
SIZExPTBI	+	-0.1586	0.0005	*)	-0.0688	0.0630	**)
LEVxPTBI	-	-0.1695	0.0000	*)	-1.0827	0.0005	*)
P-F(Stat)		0.0000			0.0000		
N		4.405			4.405		

Variable definition: PTBI=pre-tax income. ABTD=abnormal book-tax difference, calculate as residual of Tang & Firth (2012) model, controlled by earning management, as tax avoidance measurement. BTC=book-tax conformity, a rootm-mean square error from residual of equation Atwood et al. (2010)

*) significant at the 0.05 level (2-tailed)   **) significant at the 0.10 level (2-tailed)

The variable of tax avoidance on earning persistence (PTBIxABTD) has a significant positive p-value (δ_4) at 10% level. That is, tax avoidance variables (without interaction variable) have a positive effect on earnings persistence. The higher the tax avoidance, the higher the earnings persistence. Tax avoidance activities are considered to improve earning quality because of lowering tax obligations, thus increasing shareholders welfare. This result is different from previous studies which found that tax avoidance decreases earnings persistence. The variable of book-tax conformity on earning persistence (PTBIxBTC) no-significant p-value (δ_5). Thus, book-tax conformity (without interaction variable) does not affect the earnings persistence. Whereas, previous research found that book-tax conformity decreases earnings persistence. Meanwhile, the interaction of the book-tax conformity on the effect of tax avoidance on earnings persistence (PTBIxABTDxBTC) has a significant positive p-value (δ_6) at the 5% level. It shows that variable of book-tax conformity strengthens the positive effect of tax avoidance on earnings persistence.

The above results are different from previous studies. In addition, in the previous study there was a distinction in book-tax difference based on large-small and positive-negative as definition of aggressive reporting. Therefore, this study will conduct additional testing of positive ABTD values as a high tax avoidance measure. Different from the results of the whole ABTD sample, the additional test using the positive tax avoidance variable in Table 3, shows the effect of tax avoidance on earnings persistence (PTBIxABTD) has a significant negative p-value at the 5% level. Thus, the tax avoidance variables (without interaction variable) negatively affect earnings persistence. The higher the level of tax avoidance the lower the earnings persistence, and vice versa. Meanwhile, the interaction of book-tax conformity on the negative effect of tax avoidance on earnings persistence (PTBIxABTDxBTC) has a significant positive p-value at the 5% level. It shows that the book-tax conformity weakens the negative effect of tax avoidance on earnings persistence.

Table 3 Result of Estimation of Positive Tax Avoidance Variable

Variable	Sign	No-Interaction			With Interaction		
		Koef.	Sig.		Koef.	Sig.	
PTBI	+	5.0070	0.0025	*)	3.7051	0.0150	*)
ABTD	-	-0.4109	0.0775	**)	-0.4895	0.0395	*)
BTC	-	0.0397	0.0530	**)	0.0611	0.0220	*)
PTBIxABTD	-	-3.1838	0.0070	*)	-3.3014	0.0090	*)
PTBIxBTC	-	-0.3417	0.0515	**)	-0.7537	0.0110	*)
PTBIxABTDxBTC	-	-	-		5.3499	0.0110	*)
P-F(stat)		0.000			0.000		
N		793			793		

Variable definition: PTBI1=next year pre-tax income, PTBI= current pre-tax income, ABTD=abnormal book-tax difference as tax avoidance measure, BTC=book-tax conformity. *) Correlation is significant at the 0.05 level (2-tailed)

As shown in Table 2, of the total sample of tax avoidance, including both of positive and negative tax avoidance, the results does not support our hypothesis. However, the statistical result of the effect of book-tax conformity on relationship between tax avoidance and earnings persistence show a significant positive result. Meanwhile, tax avoidance variables that predicted a negative effect on earnings persistence have a positive effect

on earnings persistence. This concludes that the book-tax conformity strengthens the positive effect of tax avoidance on earnings persistence. That is, the higher the book-tax conformity, the higher the earnings persistence in companies that carry out tax avoidance actions.

The results are different from previous research, where Hanlon (2005) find that a greater book-tax difference will show lower earnings persistence. This is because the book-tax differences raise investors' perceptions of the low quality of earnings, thereby decreasing investor expectations of future earnings. Tang & Firth (2012) also found that the abnormal book-tax difference, both positive and negative, affects lower earnings persistence. Investors consider a tax regulation allowing tax avoidance actions are opportunistically aimed at management interests rather than investors. Thus, there is lower confidence in the future earnings persistence.

The results show that tax avoidance actions positively influence earnings persistence, with a higher tax avoidance hence showing higher earnings persistence. This result is consistent with Blaylock et al. (2012), that tax avoidance shows high earnings persistence. This can be explained in that the purpose of accounting is to assess the performance of the company. Meanwhile, tax avoidance is considered to improve the performance of the company when the company managed to lower tax payments. Although there is a risk of detection by the tax authorities that may lead to a correction of tax liabilities, tax avoidance is an act that is still within the corridor of tax regulations. Thus, investors asses that tax avoidance is a policy that aims to improve the performance of the company over the interests of the managers. This supports (Chen et al., 2012), who stated that tax avoidance improves earnings quality because it can provide additional information on the accounting income.

Nevertheless, in the positive book-tax difference sample with an accounting income greater than the taxable income, the statistical test shows that tax avoidance negatively affects the earnings persistence. This result support Hanlon (2005) and Tang & Firth (2012), who found that the book-tax difference is associated with low earnings persistence. This result is different from the overall sample tax avoidance, positive tax avoidance is considered as a high tax avoidance measure. Positive tax avoidance is considered negative by investors because it is a management action aimed solely to lower tax liabilities. This increases the hazard of detection by the tax authorities, risking incurring additional tax burden because reported tax burdens are too low.

The result on the effect of book-tax conformity on earnings persistence (whole sample ABTD) is insignificant. That is, book-tax conformity is not related to the increase or decrease in earnings quality. This result is different from Atwood et al. (2010), who found that high book-tax conformity is associated with low earnings persistence, so a higher level of book-tax conformity will decrease the quality of earnings. Meanwhile, in the sample with a positive book-tax difference, or an accounting income greater than a taxable income, the test result show that book-tax conformity negatively affects earnings persistence. These results support the research of Atwood et al. (2010).

The statistical test result of the effect of book-tax conformity on relationship between tax avoidance and earnings

persistence show a significant positive result. That is, in the total sample, the book-tax conformity strengthens the positive effect of tax avoidance on earnings persistence. A higher book-tax conformity will increase earnings persistence when there is a positive effect of tax avoidance on earnings persistence. Meanwhile, in the positive tax avoidance value sample, the interaction of book-tax conformity also showed significant positive results. That is, the book-tax conformity weakens the negative effect of tax avoidance on earnings persistence. A higher book-tax conformity will increase earnings persistence when there is a negative effect of tax avoidance on earnings persistence.

The findings support that increasing book-tax conformity will improving earnings quality (Desai, 2005; Whitaker, 2005). High book-tax conformity indicates the small flexibility of firms in reporting taxable income differing from accounting income, thus limiting management to aggressive financial and tax reporting. It also improves the tax revenue reporting control by tax authorities, reducing tax avoidance and shareholder monitoring on corporate tax liabilities. Thus, it gets a positive response from investors to improve the quality of earnings. A country still maintains different tax rules with accounting rules because of differences in accounting objectives and tax purposes. Accounting aims to report the performance of management to shareholders, while the tax aims to provide certain tax obligations payable in relation to state revenue.

Conclusions

Our study aims to provide empirically evidence book-tax conformity strengthens the negative effect of tax avoidance on earnings persistence. The results of this study indicate that, in the total sample, the book-tax conformity strengthens the positive effect of tax avoidance on earnings persistence. That is, book-tax conformity increase earnings persistence where there positive effect of tax avoidance on earnings persistence. Meanwhile, in the sample of positive tax avoidance, the interaction of book-tax conformity showed significant positive results. That is, the book-tax conformity weakens the negative effect of tax avoidance on earnings persistence. A higher book-tax conformity will increase the earnings persistence when there is a negative effect of tax avoidance on earnings persistence. Both results prove that the book-tax conformity increases the earnings persistence on the effect of tax avoidance on earnings persistence.

The results of this study are expected to be useful for investors, that the relationship of accounting rules and tax regulations of a country can be a consideration in assessing the quality of financial statement information. For regulators, this can be a means of supervision of the fulfilment of corporate tax obligations, through details of the differences contained in the accounting rules and tax regulations as an analytical tool for the tax authorities.

The limitations of this study are, 1) in the data collected; although using a prolonged period from 2001 to 2014, based on exploratory research data mapping, more than 50% of data only have three periods and different year ranges. Thus, this information is less than optimal in observing the data in a prolonged period. 2) Measurements of tax avoidance and book-tax conformity use numbers that are part of the publication of financial statements. Thus, the measurement is an assumption that is built on a model, not from the actual occurrence of the process of tax avoidance and book-tax conformity. It is recommended to use the actual data of tax avoidance actions and book-tax conformity, such as whether there is a tax planning function and a comparison of accounting and taxation regulations.

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