

# Impact on Book-tax Conformity and Leverage: A Moderating Role of Outside Blockholding after New Regulations

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## ABSTRACT

This study investigates the link between book-tax conformity and the corporate decision for leverage after the new transfer pricing audit regulations in 2005. This study finds that book-tax conformity and leverage have a significantly positive relationship in the five-year pooled sample, specifically, in the year immediately after the new regulations lending support to the hypothesis. Our results are robust to alternative specifications of leverage. The hypothesis on the monitoring role of outside blockholding over the relationship between the leverage and book-tax conformity is not supported, likely due to the influence of the insiders. An extended analysis demonstrates that the interaction of insiders with leverage is significantly positive. This supports higher book-tax conformity and shows that moderating impact of insiders is significant, likely caused by an advantage of information asymmetry insiders hold, thus rendering the outside blockholders ineffective.

Keywords: Book-tax conformity; Leverage; Outside blockholding.

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## 1. INTRODUCTION

A growing book-tax gap is proposed to be resolved through book-tax conformity (BTC). The BTC is described as the flexibility of the amount allowed for tax reporting to differ from financial reporting. The BTC is expected to lower the cost of maintaining records, mitigate aggressive tax reporting, and enrich accounting information and quality earnings. The results of the studies on BTC are mixed.

Few studies are conducted on how BTC relates to other corporate decisions. A study on the effect of BTC on the choice of capital funding reveals that BTC is positively related to leverage (LEV) over equity. However, more LEV brings in stringent lender monitoring which may burden firms' management to meet the terms of the debt contracts. This study examines how LEV affects BTC and hypothesizes that as firms engage for additional LEV, the book income conforms to taxable income, thus, a positive relationship between BTC and LEV is expected.

As components of capital structure, greater LEV leaves a low level of equity which may lead to the shirking of shareholders who take on functions beneficial to all shareholders such as monitoring. Shareholders may perform monitoring over the management when strong shareholder protection laws are in place. When the protection law is weak, shareholders likely form a block. Blockholding is motivated by the rewards of greater returns and the benefits of control. Blockholders and institutions make an overall positive impact on the firm's performance in Germany and insignificant relationships in the United States (U.S.) and Japan. On the contrary, blockholders and institutions make a largely negative impact in the United Kingdom. This finding suggests that the local regulations of a country matter.

The outside blockholders, who are not connected with the management of the firm, exercise voting power and control corresponding with the levels of their ownership. They may serve as an effective external monitoring mechanism. However, the results of studies related to the monitoring role of outside blockholding are mixed. This study tests whether outside blockholders moderate the relationship between BTC and LEV.

This study covers one country to preserve the institutional factors for the five years under study. Given the underlying forces in an emerging market associated with the dynamic mix of market participants, corporate governance, and financial and tax reporting in the country, Taiwan offers a research environment. The implementation of the Transfer Pricing Assessment Audit Regulations in 2005 motivates this study to determine the moderating role of outside blockholding over the relationship between leverage and BTC over the five years. The firm sample is composed of large firms, with average returns, and growth opportunities, that engage in LEV at a level below the median. This study finds that BTC and LEV have a significantly positive relationship in the five-year pooled sample, specifically, in the year immediately after the new audit regulations. This suggests that more LEV result in high BTC, thereby lending support to the hypothesis. The hypothesis on the monitoring role of outside blockholding over the relationship between the LEV and BTC is not supported. This is likely due to the influence of the insiders. The analysis is extended to the insiders as alternative moderators.

We enrich the literature with new evidence on the significant effect of leverage on BTC in the five-year pooled sample, specifically, in the year immediately after the implementation of transfer pricing audit regulations. Further, the results enrich the understanding of the non-monitoring role of outside blockholding with the introduction of new audit regulations. An extended analysis shows that the impact of the positive interaction of leverage and insiders as alternative moderators is significant. This is likely caused by an advantage of information asymmetry insiders hold, thus rendering the outside blockholders ineffective. This finding suggests that the monitoring roles of insiders and outside blockholders seem to be playing in a mutually exclusive pattern. The results of this study benefit the foreign and domestic shareholders, stock market and tax regulators, researchers, and academia.

This paper is prepared as follows: Section 2 offers a literature review on book-tax conformity, leverage, and outside blockholding, Section 3 shows the research methodology, Section 4 discusses the results and Section 5 concludes.

## **2. PRIOR LITERATURE AND HYPOTHESES DEVELOPMENT**

### **2.1 Institutional background**

The U.S. Treasury Department estimates the rising book-tax difference is generated by managing earnings (Hanlon and Shevlin, 2005), engaging in tax shelters (Wilson, 2009),

or being suspected of manipulating either book and or tax income(s) (Chen and Gavious, 2017). The book-tax differences have permanent and temporary components. While a temporary difference arises from timing recognition which can be eliminated over time, a permanent difference is never eliminated because of the recognition rules between accounting and tax laws on revenues and expenditures (Chan *et al.*, 2010). In a study on book-tax differences and effective tax rates, Romdhon *et al.* (2019) find that amortization and depreciation are the influential components of correction for the temporary differences. Whereas the non-deductible expense and non-taxable income and income subject to final income tax are the leading components of correction for permanent differences.

Hanlon and Shevlin (2005) cite three proposals presented to address the book-tax differences, namely, disclosure of entire tax returns, disclosure of selected tax return items, and BTC. With the unavailability of tax information, BTC is a feasible choice. Atwood *et al.* (2010) describe BTC as the flexibility of the amount allowed for tax reporting to differ from financial reporting. Changes under the Tax Reform Act of 1986 of the U.S. have been introduced such as lower tax rates, elimination of investment tax credits, broadening of the tax base, and the use of accrual-basis tax accounting and financial reporting (Blaylock *et al.*, 2017; Chan *et al.*, 2010) to pave for BTC. Gains from BTC are expected to have fewer costs in maintaining records, mitigate incentives in aggressive tax reporting (Chan *et al.*, 2010; Blaylock *et al.*, 2017); reduce tax avoidance (Blaylock *et al.*, 2017); enrich accounting information and better-quality earnings (Atwood *et al.*, 2010), lessen aggressive financial reporting, lower compliance costs, and curb abusive tax sheltering (Desai, 2005; Whitaker, 2006). Yet results of studies find that BTC is connected with the loss of book income information (Hanlon and Shevlin, 2005), reduced earnings informativeness (Ali and Huang, 2000; Hanlon *et al.*, 2005; Hanlon *et al.*, 2006; Hanlon *et al.*, 2008), and lower value relevance (Ali and Hwang, 2000). The BTC causes firms to change their reporting behavior for deferment of more income (Guenther *et al.*, 1997) and to modify their accounting procedures to reduce taxes (Hanlon *et al.*, 2005).

More studies on how BTC relates to other corporate decisions are called for (Hanlon and Heitzman, 2010; Blaylock *et al.*, 2017). As components of the capital structure, LEV and equity attract financial suppliers. A study on BTC and choice of financing reveals that BTC is positively related to LEV likely due to an increasing cost of equity and no change in the cost of debt (Blaylock *et al.* (2017). More LEV usher heavy lender monitoring which may burden firms to meet the debt agreements (Watts and Zimmerman, 1986). However, a high level of LEV may inspire the shirking of shareholders. Shareholders develop an incentive for high returns if they own a substantial shareholding (Jensen & Meckling, 1976), suggesting shareholders with small ownership may collectively form a block to exercise influence and enjoy the benefits of controls. When shareholders protection law is weak, shareholders likely form a block to enable monitoring functions over the management. Blockholders are shareholders who own 5% or more of outstanding common shares with voting rights. Firms in Asia are required to report disclosure on shareholders including the percentage of ownership (OECD, 2016). Blockholding conveys a degree of voting power, motivation, and incentive to pursue benefits of control that enable shareholders to influence the firm (Wang, 2015). Reciprocally, the firm requires higher investments for higher returns and benefits of controls (Shleifer and Vishny, 1997; Holderness, 2003). Blockholders and institutions make an overall positive impact on the firm's performance in Germany and insignificant relationships in the United States (U.S.) and Japan. On the contrary, blockholders and

institutions make a largely negative impact in the United Kingdom. This finding suggests that the local regulations and governance mechanisms of a country matter (Seifert *et al.*, 2005).

Outside blockholders are blockholders not associated with the management of the firm (Choi, 1991). Mehran (1995) find that outside blockholding is composed of individuals (23%), corporations (23%), and institutions (54%). While Field and Sheehan (2004) and Zhong *et al.* (2007) exclude individuals and trusts. Park *et al.* (2008) and Peck (2014) distinguish outside blockholders according to a goal such as activist, financial, or strategic block. On the other hand, Kim *et al.* (2009) describe them either as a passive, foreign, or domestic block. Activist blocks expressly disclose their intention to influence firm policies; financial blocks are made up of financial institutions, and the strategic blocks strike a strategic alliance with management as part of the deal (Park *et al.*, 2008; Peck, 2014). The presence of outside blockholding is associated with the choice of bank debt over public debt (Liao, 2015). A favorable market reaction is noted because the target price response is significantly positive about the period of the announcement on 5% blockholding ownership and is more pronounced when activist block measures are declared (Kim *et al.*, 2009). Outside blockholders stay long term to avoid potential downward effects on stock price (Zhong *et al.*, 2007) or when the capital market is illiquid. Consequently, they accumulate information useful to monitor management (Park *et al.*, 2008). Institutional blockholders have the potential to collectively serve as an effective external monitoring mechanism (Park *et al.*, 2008). The results of studies related to the monitoring role of outside blockholding are varied. Evidence on cumulative abnormal returns on activist outside block purchases is significant, suggesting a monitoring role (Park *et al.*, 2008). The market views the affiliated outside blockholders as ineffective monitors relative to the unaffiliated outside blockholders (Borokhovich *et al.*, 2006). In another study, new outside blockholders do not play a substantial role in improving the independence and effectiveness of the board because a majority of them sold their block within a year (Peck, 2014). The domestic shareholders in Taiwanese firms are unable to take on a monitoring role independently (Huang and Shiu, 2009).

We are unaware of any existing studies in the English language on how LEV affects BTC in Taiwan-listed firms with the effects of cumulative percentage of ownership of outside blockholding as a moderator. This study responds to the gap in the literature and uses a unique set of the level of BTC before and after the transfer pricing audit regulations in 2005. The study chooses a setting of a single country to preserve institutional factors such as legal enforcement, corporate governance, and financial and tax reporting, with the underlying forces in the Taiwan Stock Exchange Corporation (TSEC) stock market and market participants. We contribute to the discussion on the effect of leverage on BTC after the transfer pricing audit regulations and enrich the understanding of the monitoring role of outside blockholders. The results of this study benefit the foreign and domestic shareholders, stock market and tax regulators, researchers, and academia.

## 2.2 Hypotheses

Better firm performance and favorable announcements send promising signals to investors; accordingly, the share value of the firm increases, and thus, the value of the equity shareholding improves. As such, raising capital may be feasible through the issuance of equity shares. However, this approach does not offer a tax shield to the issuing firm on the distribution of return of investments to shareholders, moreover, the controlling shareholders of the firm face the risk of diluted shareholding or shared control with new shareholders. On the other hand, raising capital through LEV offers a tax shield for the

deductible interest expense of the borrowing. However, more LEV would bring in heavier creditor monitoring and greater pressure to satisfy liability commitment. The incentive to engage for additional LEV to benefit from tax shields is strong when the firms face changes in tax incentives such as the implementation of Taiwan's transfer pricing audit regulations in 2005. Using a U.S. sample to test the relationship between capital structure and BTC, Blaylock *et al.* (2017) find that BTC is positively connected to LEV, likely in response to a higher cost of equity while the cost of debt is unchanged.

This study hypothesizes that firms engage in additional LEV as book income conforms to taxable income, thus, a positive relationship between BTC and LEV is expected. The hypothesis is as follows:

Hypothesis 1. *Firms with more leverage are more likely to exhibit book-tax conformity.*

Corresponding to levels of cumulative percentage of ownership, outside blockholders may be able to exercise voting power and control over the management of the firm; and thus, may serve as an effective external monitoring mechanism (Park *et al.*, 2008). Consistent with an exacerbating view, the effects of the cumulative percentage of ownership of outside blockholding produce extra pressure on managers to achieve better firm performance. However, an alleviating view posits that the effects of the cumulative percentage of ownership of outside blockholding reduce the management's incentive over aggressive financial reporting or tax planning. This study hypothesizes that outside blockholders through the effects of their cumulative percentage of ownership impact the relationship between BTC and LEV.

Hypothesis 2. *The relationship between book-tax conformity and leverage differs with the effects of the cumulative percentage of ownership by outside blockholders.*

### 3. RESEARCH METHODOLOGY

#### 3.1 The book-tax conformity measure

Drawing upon Atwood *et al.*'s (2010) approach, this study uses the following model to measure BTC:

$$CTE = \beta_0 + \beta_1 PTBI + \beta_2 DIV + e \quad (1)$$

where CTE is the current tax expense; PTBI is the pre-tax measure of book income; DIV is the total dividends for the period, and e is an error term. The variables CTE, PTBI, and DIV are divided by average total assets.

The standard error of Eq. (1) is represented by its root mean squared error (RMSE) using the n-1 method for low-to-high RMSEs to obtain descending BTCs. It corresponds to the flexibility allowed by a country's tax authority for taxable income to differ from its pre-tax book income which Atwood *et al.* (2010) define as book-tax conformity. Therefore higher(lower) RMSE designates a lower(higher) BTC. The Atwood *et al.* (2010) model is utilized for changes in tax rates and BTC over time within a country and across countries. The versatility of this measure is useful for this study of one country covering 27 sectors under the Taiwan Stock Exchange (TSE) market. The original model includes another independent variable ForPTBI, the estimated foreign portion of the pre-tax measure of book income, which Atwood *et al.* (2010) recognize as a limitation of the model. The PTBI is not segregated into foreign and local components in the Taiwan Economic Journal database. The ForPTBI is deemed part of the PTBI in Eq. (1).

#### 3.2 Tests for the effect of leverage on book-tax conformity

To test hypothesis 1, this study uses Eq. (2) model to estimate the effect of leverage on BTC:

$$BTC = \alpha + \beta_1 LEV + \sum \beta_2 Controls + \varepsilon \quad (2)$$

where: BTC is derived from a scaled descending rank of the root-mean-squared error from Eq. (1), and LEV is total debt divided by total assets. Drawing from Blaylock *et al.* (2017), this study uses size (SIZE), return on assets (ROA), book-to-market (BM), and net property, plant, and equipment (PPE) as control variables for extraneous effect. The IND and YEAR are variables used to control the industry-and year-fixed effects.

Leverage, measured by the debt-to-equity ratio, is used as one of the control variables in a study on the role of company characteristics and corporate governance in tax planning and is found to be insignificant (Pratama & Padjadjaran, 2017). The firm size serves as a proxy for the value of assets as collateral in borrowings. It is positively related to a higher effective tax rate (Pratama & Padjadjaran, 2017). The return on assets is a proxy for performance prerequisite to the decision to seek financing and Pratama & Padjadjaran (2017) use it as a proxy for profitability which is found to be negatively related to a higher effective tax rate. Blaylock *et al.* (2017) find ROA has a significantly negative effect on LEV. Book-to-market serves as a proxy for growth opportunities requiring funds. Blaylock *et al.* (2017) find BM has a positive but insignificant effect on LEV. The net property, plant, and equipment serve as a proxy for a non-debt tax shield. Blaylock *et al.* (2017) find PPE has a positive effect on LEV.

The coefficient of interest is  $\beta_1$ . A positive  $\beta_1$  indicates higher leverage is associated with BTC.

### 3.3 Tests for the impact of cumulative percentage of ownership of outside blockholding on the relationship between book-tax conformity and leverage

To test hypothesis 2, this study uses Eq. (3) model to estimate the effects of the cumulative percentage of ownership of outside blockholders on the link between BTC and LEV:

$$BTC = \alpha + \beta_1 LEV + \beta_2 BLOCK + \beta_3 LEV \times BLOCK + \sum \beta_4 Controls + \varepsilon \quad (3)$$

where: BTC, LEV, and control variables have been discussed earlier. The BLOCK denotes the cumulative percentage of ownership by all outside blockholders, and LEV x BLOCK denotes an interaction term that indicates the extent to which the cumulative percentage of ownership of all outside blockholders affects LEV.

This study captures the outside blockholding effects following Zhong *et al.* (2007) and Field and Sheehan (2004). The measure, BLOCK, is a continuous variable representing the cumulative percentage of the outstanding common stocks held by outside blockholders. The coefficient of interest is  $\beta_3$ , an interaction of LEV and the cumulative percentage of ownership of outside blockholders. A positive  $\beta_3$  indicates an interaction of the cumulative percentage of ownership of all outside blockholders with LEV supporting higher BTC.

The coefficients are estimated by ordinary least squares using EViews. All regression results use standard errors clustered by the firm to account for autocorrelation and heteroscedasticity. Table 1 describes the variables in the study.

## 4. RESULTS AND DISCUSSION

### 4.1 Sample selection

The TSEC welcomes Qualified Foreign Institutional Investors (QFIIs) in 1991 (Lin and Shiu, 2003). Many Taiwanese firms serve as original equipment manufacturers or original design manufacturers for brand products owned by U.S. firms. In turn, U.S. investors comprise the largest share of QFIIs (Lin and Shiu, 2003). The linkage between U.S. investments and Taiwanese firms is relevant for the study on BTC in the latter's

experience as an emerging market attracting QFIIs. Secondly, BTC is an ongoing issue related to the findings of large book-tax differences by the U.S. Treasury Department (Hanlon and Shevlin, 2005).

Table 1. Definition of variables used

Variables	Definition
BTC	Refers to book-tax conformity derived from the scaled descending rank of the root-mean-squared error from Equation 1.
CTE	Refers to total current tax expense in NT\$.
PTBI	Refers to the pre-tax measure of book income for the period in NT\$.
DIV	Refers to total dividends for the period in NT\$.
LEV	Refers to total debts divided by total assets in NT\$.
SIZE	Denotes the natural logarithm of the firm's total assets.
BM	Denotes book value of equity divided by the market value of equity in NT\$.
PPE	Denotes net property, plant, and equipment divided by the market value of assets in NT\$.
ROA	Is the return on assets for continuing operations.
BLOCK	denotes the cumulative percentage of ownership by all outside blockholders.
LEV x BLOCK	Denotes an interaction term that indicates the extent to which the cumulative percentage of ownership of all outside blockholders affects leverage.
IND	Is a variable used to control the industry's fixed effects.
YEAR	Is a variable used to control year-fixed effects.
LEV <sub>mv</sub>	Refers to total debts divided by the market value of total assets in NT\$.
SIZE <sub>mv</sub>	Refers to the inverse of the market value of total assets in NT\$.
INSIDER	Denotes the cumulative percentage of ownership by all managers.
LEV x INSIDER	Denotes an interaction term that indicates the extent to which the cumulative percentage of ownership of all managers affects leverage.

This study covers one country to preserve the institutional factors for the five years of the institutional factors such as economic direction, legal origin, law enforcement, accounting disclosure and recognition policies, and the local generally accepted accounting principles for tax reporting. Taiwan offers a conducive research environment for a single country. The domestic individual and institutional shareholders in Taiwanese firms are unable to take on monitoring roles independently (Huang and Shiu, 2009). For one, individual shareholders are dominant in Taiwanese firms in terms of percentage of ownership (66%) and do not put resources into research (Huang and Shiu, 2009). Secondly, controlling owners are identified with the firms (Yeh *et al.*, 2012). Thirdly, the implementation of the Transfer Pricing Assessment Rules in line with the Organization for Economic Cooperation and Development Guidelines was implemented in 2005 (Chang *et al.*, 2013). With these underlying forces in the TSEC stock market associated with the market participants, corporate governance in Taiwanese firms, and the financial

and tax reporting in the country (Huang and Shiu, 2009), this study explores whether LEV affects BTC from 2003 to 2007, with 2005 as the central point of the study.

We collect our data from the Taiwan Economic Journal database, a data vendor covering all Taiwanese firms. This study uses the following selection criteria to restrict the firm sample: 1. We exclude financial companies because they are heavily regulated with rules which do not apply to the other industries, 2. We exclude firms with unconsolidated financial reports, 3. New firms must be listed in the exchange for at least six months. New firms listed for at least six months in the year have designated a value of one and zero for the new firms listed for less than six months in the year, 4. Drawing from Atwood *et al.* (2010), firm observations with negative pre-tax book income or with negative current tax expense are excluded because there is no implication for the computation to obtain BTC using Eq. (1), and 5. To minimize the influence of outliers, CTE and PTBI variables are adjusted with the winsorized method for extreme values at the bottom and top one percent of the distribution. A final sample at the firm level is 362 firms for 2005. The sample selection process used for the 2005 sample is extended for the samples in 2003, 2004, 2006, and 2007. The results represent 44% (249), 45% (265), 66% (401), and 67% (432) of the TSE market, respectively. There are 1,709 firm observations for the five years under the study.

#### 4.2 Descriptive statistics

Drawing from Hwang *et al.* (2013), Table 2 presents the BTC in 2005 sample for the high-tech and non-high-tech sectors for a better understanding of the profile of the sectors in the exchange-listed stock market, sorted by the level of BTC. Sectors 8 and 30 have the highest BTC for the non-high tech and the high-tech sectors, respectively.

Table 2. Book-tax conformity measures

Sector	TSE Industry	Non-high-tech	High-tech	BTC
8	M1800 Glass & Ceramics	o		1.00
9	M1900 Pulp/Paper	o		0.96
30	M2330 Information Service		o	0.92
23	M9700 Gas & Electricity	o		0.88
6	M1600 Elec. Appliance & Cab	o		0.85
10	M2000 Iron & Steel	o		0.81
1	M1100 Cement	o		0.77
21	M1721 Chemical	o		0.73
3	M1300 Plastics	o		0.69
29	M2329 Elec. Products Dist.		o	0.65
11	M2100 Rubber	o		0.62
14	M2500 Building Material	o		0.58
18	M2900 Trading & Cons.	o		0.54
5	M1500 Electric & Machinery	o		0.50
2	M1200 Foods	o		0.46
4	M1400 Textiles	o		0.42
22	M1722 Biotech. & Medical	o		0.38
28	M2328 Elec. Parts & Comp.		o	0.35



12	M2200 Automobile	o		0.31
24	M2324 Semiconductor		o	0.27
20	M9900 Others	o		0.23
27	M2327 Comm. & Internet		o	0.19
25	M2325 Computer & Peripheral		o	0.15
26	M2326 Optoelectronic		o	0.12
15	M2600 Shipping & Trans.	o		0.08
31	M2331 Other Electronic		o	0.04
16	M2700 Tourism	o		0.00

Panel A of Table 3 presents the mean values of the variables in the 2005 sample. The mean of BTC is the result of the n-1 method to the proportional ranking of RMSEs by the Atwood *et al.* (2010) model. The firms are large, with high growth opportunities, invest moderately in fixed assets, engage in book LEV at a level below the median, and generate moderate returns on assets. Panel B of Table 3 shows the mean of the main variables for the other four years. The results show that the LEV is declining from the 2004 level but reverses in 2007. The BTC is continuously declining from the 2004 level while the BLOCK has been picking up since 2004.

Table 3. Descriptive statistics

2005 sample				
Panel A	Mean	Standard deviation	Median	Maximum
BTC	0.41	0.25	0.35	1.00
LEV	43.76	15.91	44.35	93.3
SIZE	15.95	1.20	15.74	19.76
BM	0.75	0.44	0.65	3.00
PPE	7,441,291	22,609,354	1,710,720	221,000,000
ROA	0.05	0.03	0.05	0.13
BLOCK	12.16	10.01	9.97	47.82
	2003	2004	2006	2007
Panel B	Mean			
BTC	0.40	0.45	0.40	0.36
LEV	43.68	46.01	41.85	42.71
BLOCK	12.27	11.31	12.16	12.48

Table 4 reports the Pearson Product Moment correlation for the sample. No correlation coefficients among the variables are extremely high, thus, multicollinearity is not an issue in this study.

Table 4. Pearson Product Moment Correlation

Variable	BTC	LEV	SIZE	BM	PPE	ROA
BTC	1.00					
LEV	0.05	1.00				
SIZE	0.01	0.32	1.00			
BM	0.38	0.15	(0.03)	1.00		
PPE	(0.06)	0.14	0.59	(0.02)	1.00	

ROA	(0.14)	(0.39)	(0.20)	(0.47)	(0.13)	1.00
BLOCK	(0.10)	(0.06)	(0.08)	(0.17)	(0.08)	0.16

#### 4.3 Results and discussions from tests of the effects of leverage on book-tax conformity and the moderating role of outside blockholding

Table 5 presents the results of the tests to determine the effects of leverage on book-tax conformity, and the monitoring role of outside blockholding through the effects of its cumulative percentage of ownership in the 2005 sample.

The firms have LEV below the average level as previously presented in Panel A of Table 3. Model 1 of Table 5 shows the results of the test on the effects of leverage on BTC using Eq. (2). The LEV does not affect BTC in the year of implementation likely due to the uncertainty of the impact of the new regulations. This finding does not support the hypothesis that LEV has an influential effect on BTC in the year of the implementation of the new audit regulations.

Ninety-six percent of the firms in the 2005 sample attracted outside blockholders whose mean value of cumulative percentage of ownership is at a level higher than average as previously presented in Panel A of Table 3. Model 2 of Table 5 presents the results of the test on the monitoring role of outside blockholding through the effects of its cumulative percentage of ownership using Eq. (3). The coefficient of LEV is positive and insignificant, consistent with the results of Model 1 of Table 5. The coefficients of BLOCK and its interaction with LEV are insignificant suggesting that BLOCK plays no monitoring role, thus, the hypothesis that outside blockholders impact the BTC-LEV relationship is not supported in the year of the implementation of the new audit regulations.

The BM is positive and significant in both models, indicating the growth opportunity has a reasonable influence on firms to engage in more LEV. This is contrary to the findings of Blaylock *et al.* (2017) of BM with a positive but insignificant effect on LEV. The PPE is significantly negative in both models, indicating a non-debt tax shield impact to engage in lesser LEV. This finding is inconsistent with the findings of Blaylock *et al.* (2017) of PPE with a positive effect on LEV.

Table 5. Book-tax conformity, leverage, and outside blockholding (2005 sample)

	Model 1		Model 2	
	Coefficient	t-Statistic	Coefficient	t-Statistic
C	0.09	0.46	0.08	0.38
LEV	0.00	0.51	0.00	0.72
SIZE	0.01	0.67	0.01	0.68
BM	0.20	6.62 ***	0.20	6.50***
PPE	(0.00)	(1.77) **	(0.00)	(1.82) *
ROA	0.57	1.22	0.57	1.21
BLOCK			0.00	0.26
LEV x BLOCK			(0.00)	(0.50)
IND	Yes		Yes	
Adjusted R <sup>2</sup>	0.24		0.24	
N	362		362	

\*, \*\*, \*\*\* indicates significant at the p<0.10, 0.05, 0.01 level.

Panel B of Table 3 shows that LEV is declining from the 2004 level but reverses in 2007 while the BTC is continuously declining from the 2004 level. Table 6 presents the results of the test to determine the effects of leverage on book-tax conformity in the five-year pooled sample and the annual samples using Eq. (2). The coefficient of LEV is positive and significant in the five-year pooled sample. The test in annual samples shows that LEV is significantly positive in the 2003 and 2006 samples. This finding indicates that the implementation of transfer pricing audit regulations might cause the change in the observed BTC-LEV relationship in 2006, rendering LEV significant in the five-year pooled sample, specifically, in the year immediately after the implementation of the new audit regulations in support of the hypothesis. This result is consistent with the findings of Blaylock *et al.* (2017) that firms tend to engage in more debt as conformity increases.

The BM is significantly positive from 2003 to 2006, contrary to the findings of Blaylock *et al.* (2017) of BM a positive but has an insignificant effect on LEV. The ROA is significantly negative in 2004, consistent with the findings of Blaylock *et al.* (2017) of ROA with a significantly negative effect on LEV.

The new transfer pricing audit regulations in 2005 have likely restricted some transactions that are deemed to reflect transfer pricing with effects on taxes at the year of implementation. The restrictions may lead to seeking alternative solutions to reduce the tax burden. The firms likely shift from transfer pricing transactions to engage in higher LEV (after a lag of one year) that brings in a corresponding tax shield in the form of tax-deductible interest expense with an effect of lower book income, lower taxable income, and lower tax. Aside from these financial reporting effects and tax savings, greater LEV draws financing inflows for operating and investment activities to meet growth opportunities. In an environment where costs are constantly increasing, the consumption of LEV draws an advantage of a higher purchasing power of the present value of money and payment in the future at a face value with less purchasing power. A significantly positive BTC-LEV relationship is observed in the year immediately after the new regulations.

Table 6. The book-tax conformity and leverage in multiple periods

	5-year pooled sample	2003	2004	2006	2007
C	0.49	0.27	0.81	0.27	0.46
t-Statistic	4.81***	0.81	3.12***	1.26*	2.37 **
LEV	0.00	0.00	(0.00)	0.00	0.00
t-Statistic	2.32**	1.27*	(0.20)	1.52*	0.90
SIZE	(0.01)	(0.01)	(0.02)	0.00	(0.01)
t-Statistic	(0.95)	(0.24)	(1.00)	0.06	(0.55)
BM	0.00	0.17	0.04	0.10	(0.00)
t-Statistic	1.01	3.33** *	1.59*	2.32**	(0.16)
PPE	(0.00)	(0.00)	(0.00)	(0.00)	0.00
t-Statistic	(1.32) *	0.38	(0.51)	(1.04)	0.24
ROA	(0.58)	0.50	(1.82)	0.12	(0.30)
t-Statistic	(2.40) **	0.59	(3.07) ***	0.22	(0.62)
IND	Yes	Yes	Yes	Yes	Yes
YEAR	Yes				

Adjusted $R^2$	0.11	0.06	0.16	0.08	0.12
N	1,709	249	265	401	432

\*, \*\*, \*\*\* indicates significant at the  $p < 0.10, 0.05, 0.01$  level.

Panel B of Table 3 shows that BLOCK has been increasing since 2004. To determine whether the effects of the cumulative percentage of ownership of outside blockholding impact the BTC-LEV relationship in multiple periods, Table 7 presents the results of the tests on the annual samples and pooled five-year sample using Eq. (3). The coefficient of LEV is significantly positive for the five-year pooled sample, however, the results of tests on the annual samples present that LEV is significantly positive on 2003 at 10%. The coefficients for BLOCK and its interaction with LEV are consistently insignificant in all samples, thus, this finding does not provide support for the hypothesis that outside blockholding plays a monitoring role in the BTC-LEV relationship. This finding indicates that the implementation of transfer pricing audit regulations in 2005 does not impact the observed BTC-LEV relationship and observed BLOCK and its interaction with LEV on the 2003 to 2007 samples using Eq. (3), with the results on 2005 previously presented in Model 2 of Table 5.

Table 7. Book-tax conformity, leverage, and outside blockholding in multiple periods

	5-year pooled sample	2003	2004	2006	2007
C	0.47	0.19	0.70	0.28	0.44
t-Statistic	4.50***	0.58	2.59**	1.29	2.17**
LEV	0.00	0.00	0.00	0.00	0.00
t-Statistic	2.55**	1.78*	0.77	1.01	1.15
SIZE	(0.01)	(0.01)	(0.02)	0.00	(0.01)
t-Statistic	(0.98)	(0.34)	(0.92)	0.06	(0.53)
BM	0.00	0.17	0.05	0.09	(0.00)
t-Statistic	0.96	3.32***	1.61	2.18	(0.20)
PPE	(0.00)	(0.00)	(0.00)	(0.00)	0.00
t-Statistic	(1.30)	0.39	(0.54)	(1.02)	0.25
ROA	(0.57)	0.49	(1.86)	0.13	(0.27)
t-Statistic	(2.36) **	0.58	(3.13)	0.23	(0.57)
BLOCK	0.00	0.01	0.01	(0.00)	0.00
t-Statistic	0.94	1.41	1.30	(0.18)	0.47
LEV x BLOCK	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
t-Statistic	(1.34)	(1.30)	(1.16)	(0.04)	(0.71)
IND	Yes	Yes	Yes	Yes	Yes
YEAR	Yes				
Adjusted $R^2$	0.11	0.06	0.16	0.08	0.11
N	1,709	249	265	401	432

\*, \*\*, \*\*\* indicates significant at the  $p < 0.10, 0.05, 0.01$  level.

The result of a White test for heteroskedasticity indicates there is no evidence of heteroscedasticity. For brevity, the industry-and year-fixed effects are not reported.

#### 4.4 Additional Analysis

Additional tests are conducted to determine the robustness of the results of this study using alternative specifications of LEV. Further, we extend our analysis using inside blockholding as an alternative moderator.

The study of Blaylock *et al.* (2017) employs market LEV as scaled by the market value of assets (LEV<sub>mv</sub>), and finds that their results are not operated by changes in the market value of assets. On the other hand, this study employs the book LEV as scaled by total assets. To test the robustness of the result of this study, additional analysis is conducted using Eq. (2) to test the effects of LEV on BTC in 2005 and the 5-year pooled samples using LEV<sub>mv</sub> as alternative specifications of LEV following Blaylock *et al.* (2017). Moreover, a corresponding control variable, SIZE<sub>mv</sub>, as the inverse of the market value of assets, is used to be consistent with Blaylock *et al.* (2017).

Columns 2 and 3 of Table 8 present the results of the test on the 2005 sample. The coefficient of LEV<sub>mv</sub> is positive and insignificant, consistent with the results using LEV scaled by total assets as previously presented in Model 1 of Table 5. Columns 4 and 5 of Table 8 present the results of the test on the five-year pooled sample. The coefficient of LEV<sub>mv</sub> is positive and significant, consistent with the results using LEV scaled by total assets as previously presented in column 2 of Table 6. The findings of the additional analysis show that the results of this study using LEV scaled by total assets are robust.

Table 8. Book-tax conformity and alternative specifications of leverage

	2005 sample		5-year pooled sample	
	Coefficient	t-Statistic	Coefficient	t-Statistic
C	10.19	3.67***	0.32	14.22***
LEV <sub>mv</sub>	0.12	1.23	0.24	6.11***
SIZE <sub>mv</sub>	(11,759.83)	(0.16)	64,892.92	1.94**
BM	0.19	4.70	(0.00)	(0.02)
PPE	(0.00)	(1.41) ***	(0.00)	(1.82) **
ROA	0.50	1.02*	0.04	0.15
IND	Yes		Yes	
YEAR			Yes	
Adjusted R <sup>2</sup>	0.16		0.12	
N	362		1,709	

\*, \*\*, \*\*\* indicates significant at the p<0.10, 0.05, 0.01 level.

Taiwanese firms are identified with controlling owners (Yeh *et al.*, 2012). Officers and directors with substantial shares are considered to be inside blockholders. With access to information and involvement with decision-making, they may have the incentive or capability to deter the monitoring efforts of outside blockholding. Due to the potential impact of their actions, the firms in Asia are required a reporting disclosure on officers and directors regardless of ownership (OECD, 2016). The presence of institutional blockholders may serve as effective external monitoring (Park *et al.*, 2008) coupled with a note of the effectiveness of external monitoring on firms without insiders (Shleifer and Vishny, 1986; Zhong *et al.*, 2007), tend to suggest that insiders may play a role different or mutually exclusive from those of outside blockholding.

We extend our analysis to determine whether insiders make an impact on the BTC-LEV relationship using Eq. (3). Table 9 presents the results of the test using the effects of the cumulative percentage of ownership of all managers (INSIDER) as an alternative moderator on the annual samples and the five-year pooled sample. The coefficients of LEV are insignificant indicating there is no BTC-LEV relationship. This finding suggests that the implementation of transfer pricing audit regulation in 2005 does not impact the observed BTC-LEV relationship in the 2003 to 2007 samples.

The coefficients of INSIDER are significantly negative on the five-year pooled sample and in the years 2006 and 2007. The interactions of INSIDER with LEV are significantly positive in the five-year sample and in 2006 in support of higher BTC. This finding indicates that the implementation of the transfer pricing audit regulation in 2005 might cause a change in the observed INSIDER and its interaction with LEV rendering the interaction significant in the year immediately after the implementation of the new regulations.

Relative to the results of insignificant BLOCK and its insignificant interaction with LEV as previously presented in Model 2 of Table 5 and Table 7, the significant interaction of INSIDER with LEV in 2006 as presented in column 6 of Table 9 is strong. This indicates that it is likely caused by the advantage of information asymmetry insiders hold and the effects of the cumulative percentage of ownership of all managers. The finding suggests mutually exclusive roles played by insiders and outsiders, as initially suggested by Shleifer and Vishny (1986) and Zhong *et al.* (2007) on the effectiveness of institutional blockholders as external monitoring on firms without insiders.

Table 9. The book-tax conformity, leverage, and insiders in multiple periods

	5-year sample	2003	2004	2005	2006	2007
C	0.59	0.39	0.84	0.17	0.39	0.54
t-Statistic	5.69 ***	1.17	3.17 ***	0.80	1.78 **	2.78 **
LEV	0.00	0.00	(0.00)	0.00	(0.00)	0.00
t-Statistic	0.74	0.80	(0.38)	0.19	(0.01)	0.06
SIZE	(0.01)	(0.01)	(0.02)	0.01	(0.00)	(0.01)
t-Statistic	(1.46)	(0.47)	(1.03)	0.42	(0.15)	(0.73)
BM	0.00	0.16	0.05	0.19	0.09	(0.00)
t-Statistic	0.89	3.12 ***	1.59 *	6.38 ***	2.18 **	(0.24)
PPE	(0.00)	0.00	(0.00)	(0.00)	(0.00)	0.00
t-Statistic	(1.30) *	0.40	(0.50)	(1.73) *	(0.99)	0.18
ROA	(0.55)	0.59	(1.82)	0.55	(0.02)	(0.24)
t-Statistic	(2.30) **	0.69	(3.03) ***	1.17	(0.04)	(0.50)
INSIDER	(0.03)	(0.03)	(0.01)	(0.01)	(0.04)	(0.03)
t-Statistic	(4.18) ***	(1.43)	(0.63)	(1.02)	(2.64) **	(2.50) **

LEV x INSIDER	0.00	0.00	0.00	0.00	0.00	0.00
t-Statistic	2.77 **	0.86	0.52	0.60	2.36 **	1.58
IND	Yes	Yes	Yes	Yes	Yes	Yes
YEAR	Yes					
Adjusted R <sup>2</sup>		0.07	0.16	0.24	0.09	0.13
N	1709	249	265	362	401	432

\*, \*\*, \*\*\* indicates significant at the  $p < 0.10, 0.05, 0.01$  level.

## 5. CONCLUSION

We test for the effects of leverage on book-tax conformity over the five years covering two years before and after the implementation of new transfer pricing audit regulations in 2005. This study finds that book-tax conformity and leverage have a significantly positive relationship in the five-year pooled sample, specifically, in the year immediately after the implementation of transfer pricing audit regulations suggesting that increases in leverage affect higher book-tax conformity. This finding supports the hypothesis. Our results are robust to alternative specifications of leverage.

The hypothesis on the monitoring role of outside blockholding through the effects of its cumulative percentage of ownership over the relationship between the leverage and book-tax conformity is not supported, likely due to the influence of the insiders. The additional analysis demonstrates that the insiders negatively moderate any BTC-LEV relationship and positively interact with leverage to support higher book-tax conformity in the year immediately after the new audit regulations, hence, likely rendering the outside blockholders ineffective. This finding also suggests a mutually exclusive role by insiders and outsiders.

The results of this study contribute to the literature on the significant effect of leverage on BTC in the five-year pooled sample, specifically, in the year immediately after the implementation of transfer pricing audit regulations. The LEV does not affect BTC in the year of implementation likely due to the uncertainty of the impact of the new regulations or the shift from transfer pricing transactions to engaging in leverage. Further, the results enrich the understanding of the non-monitoring role of outside blockholding with the introduction of new audit regulations. An extended analysis shows that the impact of the positive interaction of leverage and insiders as alternative moderators is significant. This is likely caused by an advantage of information asymmetry insiders hold, thus rendering the outside blockholders ineffective. This finding suggests that the monitoring roles of insiders and outside blockholders seem to be playing in a mutually exclusive pattern. The results of this study benefit the foreign and domestic shareholders, stock market and tax regulators, researchers, and academia.

The tests used in this study are limited to an aggregate annual sample for five years. Future research may consider tests of the sample by firm size, levels of ownership, or industry. The results on small, medium-sized, and large firms, low and high ownership, and by industry may show different outcomes.

## REFERENCES

- [1] Ali, A., & Hwang, L. (2000), Country-Specific Factors Related to Financial Reporting
- [2] and the Value Relevance of Accounting Data. *Journal of Accounting Research*, 38(1),
- [3] 1-21.
- [4] Atwood, T., Drake, M. S., & Myers, L. A. (2010), Book-tax conformity, earnings
- [5] persistence and the association between earnings and future cash flows. *Journal of Accounting and Economics*, 50, 111-125. doi:10.1016/j.jacceco.2009.11.001
- [6] Blaylock, B., Gaertner, F. B., & Shevlin, T. (2017), Book-tax conformity and capital structure. *Review of Accounting Studies*, 22, 903-932. doi:10.1007/s11142-017-9386-2
- [7] Borokhovich, K., Harman, Y. S., Brunarski, K., & Parrino, R. (2006), Variation in the monitoring incentives of outside stockholders. *Journal of Law and Economics*, 49, 651-680.
- [8] Chan, K., Lin, K. Z., & Mo, P. L. (2010), Will a departure from tax-based accounting
- [9] encourage tax noncompliance? Archival evidence from a transition economy. *Journal of Accounting and Economics*, 50, 58-73. doi:10.1016/j.jacceco.2010.02.001
- [10] Chang, L.-L., Hsiao, F. D., & Tsai, Y.-C. (2013), Earnings, institutional investors, tax avoidance, and firm value: Evidence from Taiwan. *Journal of International Accounting, Auditing and Taxation*, 22, 98-108. doi:10.1016/j.intaccudtax.2013.07.001
- [11] Chen, E., & Gaviious, I. (2017), The roles of book-tax conformity and tax enforcement in regulating tax reporting behavior following International Financial Reporting Standards adoption. *Accounting and Finance*, 57, 681-699. doi:10.1111/acfi.12172
- [12] Choi, D. (1991), Toehold acquisitions, shareholder wealth, and the market for corporate control. *Journal of Financial and Quantitative Analysis*, 26(3), 391-407.
- [13] Desai, M. A. (2005), The Degradation of Reported Corporate Profits. *Journal of Economic Perspectives*, 19(4), 171-192.
- [14] Field, L. C., & Sheehan, D. P. (2004), IPO underpricing and outside blockholdings. *Journal of Corporate Finance*, 10, 263-280. doi:10.1016/S0929-1199(03)00057-9
- [15] Guenther, D., Maydew, E. L., & Nutter, S. E. (1997). Financial reporting, tax costs, and book-tax conformity. *Journal of Accounting and Economics*, 23, 225-248.
- [16] Hanlon, M., & Heitzman, S. (2010), A review of tax research. *Journal of Accounting and Economics*, 50, 127-178.
- [17] Hanlon, M., & Shevlin, T. (2005), Book-tax Conformity for Corporate Income: An Introduction to the Issues. *Tax policy and economy* (19), 101-134.
- [18] Hanlon, M., Laplante, S. K., & Shevlin, T. (2005), Evidence for the possible information loss of conforming book income and taxable income. *Journal of Law and Economics*, 48, 407-442.
- [19] Hanlon, M., Maydew, E. L., & Shevlin, T. (2006), *Book-Tax Conformity and the Information Content of Earnings Working Paper*. Ross School of Business.
- [20] Hanlon, M., Maydew, E. L., & Shevlin, T. (2008), An unintended consequence of book-tax conformity: A loss of earnings informativeness. *Journal of Accounting and Economics*, 46, 294-311. doi:10.1016/j.jacceco.2008.09.003



- [21] Holderness, C. (2003), A survey of blockholders and corporate control. *FRBNY Economic Policy Review*, 1-14.
- [22] Huang, R. D., & Shiu, C.-Y. (2009), Local effects of foreign ownership in an emerging financial market: Evidence from qualified foreign institutional investors in Taiwan. *Financial Management*, 567-602.
- [23] Hwang, N.-C. R., Chiou, J.-R., & Wang, Y.-C. (2013), Effect of disclosure regulation on earnings management through related-party transactions: Evidence from Taiwanese firms operating in China. *Journal of Accounting and Public Policy*, 32, 292-313. doi:10.1016/j.jaccpubpol.2013.04.003
- [24] Jensen, M. C., & Meckling, W. H. (1976), Theory of the Firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.
- [25] Kim, W., Kim, W., & Kwon, K.-S. (2009), Value of outside blockholder activism: Evidence from the switchers. *Journal of Corporate Finance*, 15, 505-522. doi:10.1016/j.jcorpfin.2009.04.002
- [26] Liao, S. (2015), Outside blockholders' monitoring of management and debt financing. *Contemporary Accounting Research*, 32(4), 1373-1404. doi:10.1111/1911-3846.12138
- [27] Lin, C. H., & Shiu, C.-Y. (2003), Foreign ownership in the Taiwan stock market - an empirical analysis. *Journal of Multinational Financial Management*, 13, 19-41.
- [28] Mehran, H. (1995), Executive compensation structure, ownership, and firm performance. *Journal of Financial Economics*, 38, 163-184.
- [29] OECD. (2016), *Disclosure of Beneficial Ownership and Control in Listed Companies in Asia*. Retrieved from The Organisation of Economic Co-operation and Development (OECD): [www.oecd.org](http://www.oecd.org)
- [30] Park, Y. W., Selvili, Z., & Song, M. H. (2008), Large outside blockholders as monitors: Evidence from partial acquisitions. *International Review of Economics and Finance*, 17, 529-545. doi:10.1016/j.iref.2007.05.006
- [31] Peck, S. W. (2004), Do outside blockholders influence corporate government practices? *Corporate Governance*, 1-39. DOI:10.1016/S1569-3732(04)09004-8
- [32] Pratama, A. & Padjadjaran, U. (2017), Company characteristics, corporate governance and aggressive tax avoidance practice: A study of Indonesian companies. *Review of Integrative Business and Economics Research*, 6(4), 70-81.
- [33] Romdhon, M., Pansuri, C.H., & Rahayu, R. (2019), Effective tax rate and book-tax difference based on industrial sectors companies on the Indonesia stock exchange. *Review of Integrative Business and Economics Research*, 8, Supplementary Issue 4, 325-332.
- [34] Seifert, B., Gonenc, H., & Wright, J. (2005), The international evidence on performance and equity ownership by insiders, blockholders, and institutions. *Journal of Multinational Financial Management*, 15, 171-191.
- [35] Shleifer, A., & Robert, V. (1986), Large shareholders and corporate control. *Journal of Political Economy*, 94(3), 461-487.
- [36] Shleifer, A., & Vishny, R. W. (1997), A survey of corporate governance. *The Journal of Finance*, 52(2), 737-783.
- [37] Wang, Z. H. (2015), On the impact of outside blockholders' voting power. *Corporate governance*, 16(2), 330-346. doi:10.1108/CG-05-2015-0074
- [38] Watts, R. L., & Zimmerman, J. L. (1986), Positive Accounting Theory. In R. L. Watts, & J. L. Zimmerman, *POSITIVE ACCOUNTING THEORY*. Prentice-Hall Inc. Retrieved from <https://ssrn.com/abstract=928677>

- [39] Wilson, R.J. (2009), An examination of corporate tax shelter participants. *The Accounting Review*, 84(3), 969-999. DOI: 10.2308/accr.2009.84.4.969
- [40] Whitaker, C. (2006), How to build a bridge: Eliminating the book-tax accounting gap. *The Tax Lawyer*, 59(4), 981-1020.
- [41] Yeh, Y.-H., Shu, P.-G., & Su, Y.-H. (2012), Related-party transactions and corporate governance: The evidence from the Taiwan stock market. *Pacific-Basin Finance Journal*, 20, 755-776. doi:10.1016/j.pacfin.2012.02.003
- [42] Zhong, K., Gribbin, D. W., & Zheng, X. (2007), The effect of monitoring by outside blockholders on earnings management. *Quarterly Journal of Business and Economics*, 37-59.