

Impact of Foreign Shareholders on Book-Tax Conformity and Related Party Transactions after International Financial Reporting Standards Adoption

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Abstract

We test for the effect of related party transactions on book-tax conformity examining the moderating role of foreign shareholders. This study uses a unique set of levels of book-tax conformity from 2012 to 2014 in Taiwanese firms. All regression results are estimated by ordinary least squares. This study finds that lower related party transactions are associated with higher book-tax conformity in the year of IFRS adoption supporting the hypothesis. The hypothesis of the moderating role of foreign shareholders through higher effects of its cumulative percentage of ownership is not supported because the negative relationship between related party transactions and book-tax conformity is moderated with significantly lower effects of cumulative percentage of ownership by all foreign shareholders. The latter registers a positive association with related party transactions and generates a net negative effect on book-tax conformity which should alert the stakeholders. The IFRS adoption might cause a significant decline in the number of firms with foreign shareholders, observed relationship between book-tax conformity and related party transactions, and the moderating role of foreign shareholders, rendering the related party transactions, cumulative percentage of ownership by all foreign shareholders, and its interaction with related party transactions significant in the year of the adoption. The result of our study is robust to the alternative constructions.

Keywords: Foreign Shareholders, Book-Tax Conformity, Related Party Transactions

JEL Classifications: G32, H20, M41

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1. Introduction

The International Financial Reporting Standards (IFRS) foster clarity of financial statements for general users across countries. However, the IFRS allows management greater flexibility in the use of accounting methods such as related party transactions (RPT) because it offers no detailed guide on its implementation. The use of RPTs is subject to the International Accounting Standards (IAS) 24 to avoid deception and protect minority shareholders. The RPT facilitates trading and exchanges to save costs. However, RPTs are vulnerable to conflict of interest when controlling parties with expropriation behavior extract private benefits, and when the arm-length approach is disregarded. Using RPTs in aggressive financial reporting or tax planning, or the divergent objectives between standards for financial and tax reporting generates book-tax difference (BTD). Consequently, book-tax conformity (BTC) is promoted to address BTD.

While management faces greater options on the use of accounting methods to fairly present the firm's operations with the IFRS adoption, they are sensitive to the responses of foreign shareholders. Foreign shareholders may introduce new approaches and improved structures. The Taiwan stock exchange (TSE) market's focus on foreign investments may offer the foreign shareholders an influence on the management amid ineffective governance and insufficient shareholder protection, suggesting a potential role as a monitor. The monitoring role is critically wanting because the individual and institutional domestic investors are unreliable to check the management's interest. Results of studies on the impact of foreign ownership are unclear and few, thus, more research on the monitoring role of foreign stockholders and on how BTC is related to corporate decisions are called for.

To address this gap in the literature, we test the effects of RPTs on BTC examining the moderating role of foreign shareholders. We use a unique set of the BTC for the period from 2012 to 2014 in a single country, with the IFRS adoption in 2013 as the focal point of the study. This research on Taiwan as an emerging market is very relevant. Secondly, the study is important because engagement in RPTs is common in Taiwanese firms. Furthermore, requirements by IAS for companies to disclose RPTs show how vital the result of this study is for the stakeholders. We hypothesize that the lower RPTs are associated with higher BTC; further, the foreign shareholders moderate the RPT-BTC relationship through the higher effects of ForSHARE after the IFRS adoption. ForSHARE refers to the cumulative percentage of ownership by all foreign shareholders. This study confirms the hypothesis that lower RPTs are associated with higher BTC in the year of IFRS adoption supporting the hypothesis. The hypothesis on moderation through the higher effects of ForSHARE is not supported. Instead, the negative RPT-BTC relationship is moderated with significantly lower effects of ForSHARE. The ForSHARE records a positive association with RPT and generates a net negative effect on BTC which should draw the attention of the stakeholders. The IFRS adoption might cause a substantial decrease in the number of firms with foreign shareholders, observed BTC-RPT relationship, and the moderating role of ForSHARE, rendering the RPT, ForSHARE, and its

interaction with RPT significant in the year of the adoption. The result of our study is robust to the alternative constructions. All regression results are estimated by ordinary least squares. We contribute to the discussions on how the BTC is significantly linked with RPTs after the IFRS adoption, reinforce the literature on foreign shareholders as an external governance mechanism, and demonstrate a new method of obtaining BTC as a modification of the Atwood et al. (2010) model.

This paper is structured as follows. Section 2 offers a brief literature review on IFRS, RPT, BTC, and foreign shareholders. Section 3 shows the research methodology. The results and the discussion are covered in Section 4 and section 5 concludes.

2. Prior Literature and Hypotheses Development

2.1. Institutional background

The IFRS aims for uniformity in the construction and arrangement of general-purpose financial statements thereby fostering easier assessment for economic decisions (Kumar, 2018) and benefit from the international markets. It is formulated based on principles (Nakao and Gray, 2018) and provides no detailed guides for implementation, consequently, allowing greater flexibility in the choice of accounting methods (Chan et al., 2010) such as the use of RPTs. Using an international sample, the IFRS adoption has an impact on more aggressiveness of accruals and non-accruals (Braga, 2017) and has a positive consequence on book-tax aggressiveness in selected ASEAN countries (Damayanti, 2019). On the other hand, firms that engage in RPTs comply with the IAS 24 Related Party Disclosures to promote transparency and protection of the minority shareholders by revealing the ultimate beneficial owners, related party relationships, and RPTs within a business group. The IAS 24 defines the parties as related to reporting party if one party or a close member of that party's family solely or jointly controls the operating, financial, or investment decisions of the reporting party (DTTL, 2022). Consistent with an efficient transaction view, the RPTs facilitate exchanges of goods and services among related parties including the allocation of resources and responsibilities regardless of price, saving taxes and transaction costs, and maximizing the utility of limited capital (McCahery and Vermeulen, 2011; Pizzo, 2013). About 96% of Taiwanese firms engage in RPTs (Lin et al., 2010) with a major portion (75%) in related sales (Yeh et al., 2012), reasonably, related sales and related purchases drive the RPTs effects (Wang et al., 2020).

The RPTs created after a related party obtained an influential position are identified as ex-post RPTs (Ryngaert and Thomas, 2012), hence, characterize a conflict of interest. The conflict of interest view posits that parties gain benefits due to non-observance of arm's length transactions at market prices or on the perceived propensity of the agent or controlling party to extract private benefits of control (Kohlbeck and Mayhew, 2017; McCahery and Vermeulen, 2011). The RPTs can be abused to benefit select persons or entities at the expense of another in an agency relationship such as between shareholders as principal and management as agent or between controlling parties and minority shareholders. The RPTs are employed to project abnormal levels of sales volume which is prevalent within Chinese state-owned firms (Jian and Wong, 2010). Due to no independent monitoring, the

firms with RPTs are linked with weaker governance structures or regions (Chen et al., 2011; Jian and Wong, 2010) and are found to negatively affect the firm value among Spanish-listed firms (Bona-Sánchez et al., 2017).

The IFRS and a country's standards for tax accounting have independent objectives which likely differ (Braga, 2017; Chan et al., 2010). The divergence may allow firms to manage tax income with few consequences on book income (Chan et al., 2010) resulting in BTD. A study of China firms from the years 1996 to 2003 with diversified standards between financial and tax reporting reveals that higher BTD is associated with higher tax noncompliance, thus, suggesting that a narrow BTD can lessen the motivations for tax noncompliance (Chan et al., 2010). The BTD may be temporary or permanent. While the former occurs mainly due to different timing of recognition and can be reconciled with time, the latter refers to items that are reflected in financial reporting but may never be included in tax reporting and cannot be eliminated. A study of the United States (U.S.) data shows a growing BTD which is speculated to be caused by the management of earnings or tax avoidance through tax shelters (Blaylock et al., 2017) or by manipulation of either the book or tax income, or both incomes (Chen and Gavius, 2017). Subsequently, the U.S. Tax Reform Act of 1986 (TRA 86) was introduced (Blaylock et al., 2017) to resolve a rising BTD. Correspondingly, the BTC where the book and tax incomes are a close match is promoted. Atwood et al. (2010) define BTC as the flexibility allowed by a country's tax authority to report taxable income that is different from its pre-tax book income. The BTC simplifies government monitoring, consequently, benefits stakeholders with improved accounting information and earnings (Atwood et al., 2010), less aggressive financial reporting, lower compliance costs, to restrict abusive tax sheltering (Desai, 2005; Whitaker, 2006), and bring in tax incomes (Blaylock et al., 2017). However, studies on BTC have varied results. Firms with higher BTC change their reporting behavior to defer more income (Guenther et al., 1997), avoid taxes (Hanlon et al., 2005), and engage more in tax avoidance using accruals and non-accruals after IFRS adoption (Braga, 2017). On the contrary, Chan et al. (2010) suggest that higher BTC can lessen the incentive for tax noncompliance. In combining increased tax enforcement with a decreased BTC after IFRS adoption in their study, Chen and Gavius (2017) find a significant decline in tax avoidance in Israeli firms. Therefore, Hanlon and Heitzman (2010) and Blaylock et al. (2017) suggest more studies on how BTC is linked to other corporate decisions.

While the management faces greater discretion with the IFRS adoption and the diversity between standards for financial reporting and tax filing, they are susceptible to the reactions of foreign shareholders (Kim et al., 2009). Foreign investors become significant financial providers for Taiwanese firms after the Taiwan Stock Exchange Corporation (TSEC) welcomes direct investment from qualified foreign institutional investors (QFIIs) and foreign individual investors effective 1991 and 1996, respectively (Lin and Shiu, 2003). The market's emphasis on foreign investments (Huang and Shiu, 2009) signals the leverage of foreign shareholders over management. Trained and experienced foreign shareholders may bring innovative management approaches and internal control systems (Chan et al., 2006). They demonstrate better investment strategy from the high performance

of their portfolios in TSE (Lin and Chen, 2006), influence the market prices (Lin and Shiu, 2003), and are positively associated with the voluntary disclosure of Taiwanese firms (Liang et al., 2012). The domestic individual investors who dominate the market (Lin and Shiu, 2003) trade at worse prices (Chiang et al., 2012), hence, they track the foreign investors' investment selections (Lin and Chen, 2006) to benefit from their research and experience. Undoubtedly, foreign shareholders impact the trading choices of investors and the actions of management. Accordingly, foreign shareholders may have the potential to serve as an effective external monitoring mechanism. A desirable level of shareholdings may be needed to play a significant role because Phung & Le (2013) note that unconcentrated foreign shareholdings impede a monitoring role in Vietnamese firms. Chen et al. (2018) find effective monitoring of QFIIs related to financial misreporting but has weakened after a change of composition of investors in the TSEC post-deregulation period. Seifert et al. (2005) suggest more research on the monitoring role of foreign shareholders after they find that foreign shareholders made a positive impact on the Japanese firms' performance.

We are unaware of any previous studies in the English language that address how RPTs relate to BTC in Taiwanese firms examining the moderating role of foreign shareholders. Yeh et al. (2012) examine the relationship between RPTs and controlling ownership in Taiwanese firms for the period 1996 to 2008, however, the period was before IFRS adoption. To address this gap in the literature, we examine the effect of RPTs on BTC with the moderating role of foreign shareholders after IFRS adoption. We use a unique set of the level of BTC from the three years covering the year leading up to the year immediately after the IFRS adoption in a single country. By fixing on a single country, we preserve established factors such as legal origin, the level of law enforcement, accounting disclosure, and recognition rules in the period across exchange-listed firms. Taking into consideration of the dynamic forces in the TSE market, agency problems, market participants, and financial and tax reporting environment, this research on Taiwan as an emerging market is very relevant. Secondly, it is important because engagement in RPTs is common in Taiwanese-listed firms (Lin et al., 2010). Furthermore, disclosure requirements by IAS for companies show how vital the result of this study is to the stakeholders.

2.2. Hypotheses

The adoption of IFRS and the diverse rules between dissimilar standards used for financial and tax reporting are two causes that may offer the management greater flexibility in the application of accounting methods or incidence of BTD. Management discretion coupled with shareholder expropriation increases engagement in RPTs. Consistent with the conflict of interest view, shareholder expropriation happens when an insider, management, officers and directors, or controlling shareholders who exhibit opportunistic behavior (Bona-Sánchez et al., 2017) encourage abusive RPTs. Likewise, we expect an increase in engagement in RPTs when the RPTs are completed without observing an arm's length principle (Kohlbeck and Mayhew, 2017; McCahery and Vermeulen, 2011) suggesting that under(over)statement of values may be extraction of personal benefits of control. On the other hand, the RPTs facilitate transactions within a business group

consistent with an efficient transactions view (Gordon et al., 2004) which we expect an increase in engagement in RPTs. However, the required disclosure of RPTs may likely discourage abusive transactions and we expect a decrease in engagement in RPTs. Abusive RPTs may be employed for aggressive financial reporting for upward earnings or tax planning leading to reduced taxes. This may widen the disparity between book and tax incomes, hence, huge BTD. The huge BTD parallels low BTC. Chan et al. (2010) illustrate the association of narrow BTD (high BTC) to lower tax noncompliance. In contrast, high BTC motivates firms to avoid taxes (Hanlon et al., 2005), and to engage more in tax avoidance using accruals and non-accruals after IFRS adoption (Braga, 2017). Therefore, the connection between the RPTs and BTC is an empirical question. We hypothesize that lower RPTs are related to higher book-tax conformity. We formally state the hypotheses as follows.

Hypothesis 1. Firms with fewer related party transactions are likely to exhibit higher book-tax conformity

As an outcome of their professional training, research, and experience, the foreign shareholders demonstrate better investment strategy from the high performance of their portfolios in TSE (Lin and Chen, 2006) and may bring in new management approaches and internal control systems (Chan et al., 2006). They influence the market prices (Lin and Shiu, 2003), the trading behavior of domestic individual investors (Lin and Chen, 2006), and management's action for voluntary disclosure (Liang et al., 2012). Moreover, the market's focus on foreign investments (Huang and Shiu, 2009) signals their importance. Effective monitoring of QFIIs related to financial misreporting is observed during the TSEC pre-deregulation period although it weakens due to a change in the composition of investors (Chen et al., 2018). Likewise, monitoring by foreign shareholders exercises a positive impact on Japanese firms' performance (Seifert et al., 2005). Consequently, foreign shareholders may have the potential to serve as an effective external monitoring mechanism.

An exacerbating view posits that higher effects of ForSHARE after the IFRS adoption may burden management to manage earnings or aggressive tax planning, thus, increases in engagement in RPTs may result. Alternatively, an exacerbating view hypothesizes that lower effects of ForSHARE reduce the management's incentive over aggressive financial reporting or tax planning, accordingly, decreases in engagement in RPTs may happen.

However, an alleviating view suggests that higher effects of ForSHARE after the IFRS adoption reduce the management's incentive over aggressive financial reporting or tax planning, hence, decreases in engagement in RPTs may occur. Alternatively, an alleviating view theorizes that lower effects of ForSHARE encourage the management for aggressive financial reporting or tax planning, thus, increases in engagement in RPTs may ensue. Therefore, a moderating role of ForSHARE after the adoption of IFRS on the RPT-BTC relationship is an empirical question. We formally state the hypotheses as follows.

Hypothesis 2. Firms with book-tax conformity and related party transactions relationship are likely to have higher effects of the cumulative percentage of shareholding by foreign shareholders.

3. Research Method

3.1. The measure of book-tax conformity

We measure the BTC using the root-mean-squared error (RMSE) following Atwood et al. (2010) model:

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

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. Data for this study are gathered from the Taiwan Economic Journal (TEJ) database, a data vendor for all Taiwanese firms. The original model includes a variable foreign pre-tax measure of book income (ForPTBI). The TEJ does not segregate the foreign pre-tax measure of book income, hence, the ForPTBI is part of PTBI in Eq. (1). The standard error of Eq. 1 is represented by its RMSE. The RMSEs are sorted serially from low value to high value. The n-1 method is used to translate RMSEs to BTCs by assigning a fixed value of one to the lowest RMSE which corresponds to the highest BTC and assigning zero to the highest RMSE which corresponds to the lowest BTC. The model allows for changes in tax rates and BTC over time, within a country, and across countries, hereafter, is suitable for our study of one country covering several sectors for a relevant period leading to and after the adoption of IFRS.

However, the n-1 method does not consider the magnitude of the interval between RMSEs. To extract the impact of the differences between RMSEs which may affect the values of BTCs, this study explores a modification of the model using the natural logarithm of the inverse of the RMSEs to replace the use of the n-1 method. This new method does not assign a fixed value of one or zero to RMSE, yet remains consistent with the outcome for a lower(higher) RMSE corresponding to a higher(lower) BTC of the Atwood et al. (2010) model.

3.2 Tests for the effect of related party transactions on book-tax conformity

We examine the effect of RPTs on BTC using the following equation to test hypothesis 1:

$$\text{BTC} = \alpha + \beta_1 \text{RPT} + \sum \beta_2 \text{Controls} + \varepsilon \quad (2)$$

where: BTC is the root-mean-squared error of Equation (1) computed using the new method; RPT is the sum of the ratio of related sales divided by total sales (Aryotama and Firmansyah, 2020; Wang et al., 2020) and the ratio of related purchases divided by operating costs (Wang et al., 2020). The control variables are: LN denotes the size using the natural logarithm of a firm's total assets; AGE refers to the number of years listed in the exchange; CR is the current ratio of current assets to current liabilities; DEBT is total liabilities divided by its total assets, and ROA is the return on assets.

The LN is positively and significantly connected with related sales (Yeh et al., 2012). Firms with cash management concerns may likely are motivated to utilize RPTs and we employ CR as a proxy for liquidity. Highly leveraged-firms subject to lender monitoring is more likely to use methods for upward income (Watts and Zimmerman, 1986) to satisfy the terms of the debt contracts. We use DEBT to measure the level of leverage. Managers of poorly performing firms are more likely to use measures to rise income (Burgstahler and Dichev, 1997). We use ROA as a proxy for profitability. The coefficient of interest is β_1 , the level of RPTs. A positive β_1 indicates that higher RPTs are associated with higher book-tax conformity.

3.3. *Tests for the impact of foreign shareholders on the relationship between book-tax conformity and related party transactions*

We examine the effect of RPTs on BTC with foreign shareholders as moderators using the following equation to test hypothesis 2:

$$\text{BTC} = \alpha + \beta_1 \text{RPT} + \beta_2 \text{ForSHARE} + \beta_3 \text{RPT} \times \text{ForSHARE} + \sum \beta_4 \text{controls} + \varepsilon \quad (3)$$

where: BTC, RPT, and control variables have been discussed earlier. The ForSHARE denotes the cumulative percentage of ownership by all foreign shareholders as a proxy for moderating role; RPT * ForSHARE denotes an interaction term that indicates the extent to which the cumulative percentage of ownership by all foreign shareholders affects RPTs. Foreign investor ownership is strongly correlated with firm size (Lin and Shiu, 2003). The coefficient of interest is β_3 , an interaction of RPT and ForSHARE. A positive β_3 indicates that the effects of ForSHARE interact with RPTs supporting higher BTC.

All regression results are estimated by ordinary least squares with EViews and use standard errors clustered by the firm to account for autocorrelation and heteroscedasticity. Table 1 presents the definition of variables.

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 using a new method.
CTE	Refers to current tax expense in New Taiwan Dollar (NT\$).
PTBI	Refers to pre-tax measure of book income in NT\$.
DIV	Refers to the total dividends in NT\$.
RPT	Refers to a sum of the ratio of related sales divided by total sales and the ratio of related purchases divided by operating costs in NT\$.
LN	Denotes the size using the natural logarithm of the firm's total assets in NT\$.
AGE	Refers to the number of years the firm has been listed.
CR	Is the current ratio of current assets to current liabilities in NT\$.
DEBT	Denotes the total liabilities divided by its total assets in NT\$.
ROA	Is the return on assets.
ForSHARE	Denotes the cumulative percentage of ownership by all foreign shareholders.
RPT x ForSHARE	Denotes an interaction term that indicates the extent to which the cumulative percentage of ownership by all foreign shareholders affects the related party transactions.
IND	Is a variable used to control the industry fixed effect.
YEAR	Is a variable used to control the year-fixed effect.

4. Results and Discussion

4.1. Sample selection

Foreign investors influence the market prices of Taiwan firms (Lin and Shiu, 2003) as evidenced by the higher investment performance of QFIIs' trading behavior during the post-liberalization period (Lin and Chen, 2006). Hence, domestic individual investors follow the investment movements of foreign investors to benefit from their professional training, research, and experience (Lin and Chen, 2006). With the influence of foreign shareholders in the market and on the trading behavior of investors, foreign shareholders may serve as effective monitors. An effective monitor is an external mechanism critically needed in our research environment. Firstly, the TSE shareholders bear inadequate shareholder protection while the Taiwanese firms remain weak in corporate governance (Huang and Shiu, 2009). Secondly, the domestic individual and institutional shareholders in Taiwanese firms are unreliable in restraining management's interest (Huang and Shiu, 2009). Given these underlying conditions, the unique set of Taiwanese listed firms offers a conducive research subject for this study. Our study covers the period from 2012 to 2014, setting 2013 when the IFRS was adopted (Wang et al., 2020) as the focal point of the study. Some Taiwanese firms supply U.S. firms as original equipment manufacturers or original design manufacturers (Lin and Shiu, 2003), incidentally, the largest portion of QFIIs comes from the U. S. (Lin and Shiu, 2003), thus, this study is relevant, especially to U.S. investors because the BTC is developed in an attempt to resolve the upward BTD in the U.S. (Blaylock et al., 2017).

We use selection criteria to restrict our sample. We exclude financial companies because they follow separate regulations; firms with unconsolidated financial reports; firms with negative pre-tax book income or with negative current tax expense following Atwood et al. (2010); and firms listed in the exchange for less than six months. The CTE and PTBI variables are adjusted with the winsorized method for extreme values at the bottom and top one percent of the distribution following Atwood et al. (2010). However, firms are included in the sample regardless of engagement in RPTs (Bona-Sánchez et al., 2017). We obtained 501, 535, and 587 firms representing 65%, 67%, and 72% of the listed companies under the TSE market for 2012, 2013, and 2014, respectively, for a total sample of 1,623 firm observations for the three years.

4.2. Descriptive statistics

Table 2 displays the BTC in the 2013 sample sorted by the level of conformity derived from the scaled descending rank of the RMSE from Equation 1 using a new method. Among the 25 sectors, Sector 6 shows the highest BTC while Sector 20 has the lowest BTC.

Table 2. Book-tax conformity measures

Sector	TSE Industry	BTC	Sector	TSE Industry	BTC
6	M1600 Elec. Appliance & Cab	6.27	16	M2700 Tourism	5.26
29	M2329 Elec. Products Dist.	6.05	5	M1500 Electric & Machinery	5.24
23	M9700 Gas & Electricity	5.98	2	M1200 Foods	5.05
1	M1100 Cement	5.81	18	M2900 Trading & Cons.	5.03
21	M1721 Chemical	5.73	3	M1300 Plastics	5.03
22	M1722 Biotech. & Medical	5.68	28	M2328 Elec. Parts & Comp.	4.97
15	M2600 Shipping & Trans.	5.59	14	M2500 Building Material	4.90
10	M2000 Iron & Steel	5.56	25	M2325 Computer & Peripheral	4.83
12	M2200 Automobile	5.55	11	M2100 Rubber	4.73
4	M1400 Textiles	5.52	24	M2324 Semiconductor	4.60
27	M2327 Comm. & Internet	5.45	26	M2326 Optoelectronic	4.55
30	M2330 Information Service	5.38	20	M9900 Others	4.47
31	M2331 Other Electronic	5.33			

Table 3 displays the mean values of the variables in the 2013 sample. The mean of BTC, 5.14, is the result of a new method used in this study. There are ten (40%) sectors in Table 2 whose BTC is below the mean value of 5.14. The remaining 15 (60%) sectors register BTC higher than the mean. Lin et al. (2010) find that about 96% of the Taiwanese firms engage in RPTs from the period 1996 to 2006, however, our study finds that 72% (375 firms) in the 2013 sample engage in RPTs at the mean percentage of 6.29. The mean RPT is higher than the median of 0.25, indicating that the engagements in RPT tend to be large percentages. The sample is composed of large firms, that have been listed in the TSE for more than a decade, with high liquidity and returns on assets, and holding average borrowing. Except for the level of leverage, the firm characteristics of the firm sample are consistent

with the preference of foreign investors (Dahlquist and Robertsson, 2001). Table 4 reports the correlations in the 2013 sample. No correlation coefficients among the variables are extremely high, thus, multicollinearity is not a serious issue in this study.

Table 3. Descriptive statistics

Variable	Mean	Standard deviation	Median	Maximum
BTC	5.14	0.45	5.03	6.27
RPT	6.29	17.74	0.25	232.44
LN	16.21	1.29	16.04	20.39
AGE	14.30	10.21	12.00	51.00
CR	243.59	198.11	185.46	2,047.86
DEBT	42.38	16.73	41.79	96.87
ROA	6.59	5.13	5.18	30.43
ForSHARE	0.56	5.00	0.00	77.65

Table 4. Pearson Product Moment (below) and Spearman Rank (above) Correlations

Variable	BTC	RPT	LN	AGE	CR	DEBT	ROA	ForSHARE
BTC	1.00	0.04	(0.04)	0.16	(0.10)	0.06	(0.17)	(0.05)
RPT	(0.07)	1.00	0.24	0.15	(0.15)	0.09	(0.06)	0.04
LN	(0.05)	0.09	1.00	0.29	(0.40)	0.44	(0.04)	0.07
AGE	0.15	0.00	0.32	1.00	(0.13)	0.08	(0.24)	0.02
CR	(0.12)	(0.04)	(0.25)	(0.06)	1.00	(0.74)	0.22	0.04
DEBT	0.08	0.06	0.46	0.08	(0.50)	1.00	(0.24)	(0.04)
ROA	(0.18)	0.04	(0.10)	(0.21)	0.18	(0.28)	1.00	0.00
ForSHARE	(0.07)	(0.02)	0.15	0.02	(0.01)	(0.02)	0.04	1.00

4.3. Results and discussions from the tests of the effect of related party transactions on book-tax conformity and the moderating role of foreign shareholders after the IFRS adoption

To determine the relationship between BTC-RPT after the IFRS adoption, Panel A of Table 5 presents the results of the test of the effect of RPTs on BTC in the three-year pooled sample and the annual samples using Eq. (2). To determine the impact of the moderating role of foreign shareholders on the BTC-RPT relationship after the IFRS adoption, Panel B of Table 5 shows the results of the test on the moderating role of foreign shareholders in the three-year pooled sample and the annual samples using Eq. (3). The rear portion of Panel B lists the number of firms with foreign shareholders for the three years. All firms in the 2012 and 2014 samples have foreign shareholders. However, the number of firms with foreign shareholders decreases in 2013 and may offer insights into the mean of 0.56 for ForSHARE in Table 3. 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 presented.

Panel A of Table 5 illustrates that the coefficient of RPT is significantly negative albeit minute extent as presented in Table 6 in the three-year pooled sample. The test on annual samples points to the significance of the RPT in the 2013 and 2014 samples. This finding supports hypothesis 1 and is

likely the impact of the required disclosure on RPTs. For all samples, the coefficients of AGE are consistently positive and significant indicating that firms with long years in the market are associated with higher BTC. The coefficients of CR are consistently negative and significant, indicating that firms with cash management issues are associated with lower BTC. The LN is significantly negative in the three-year pooled, 2013, and 2014 samples, with BTC, indicating that small firms are associated with higher BTC. The signs and significance of LN and RPT are consistently similar, the same as the findings of Yeh et al. (2012). The ROA is significantly negative, indicating that less profitable firms are associated with higher BTC. The DEBT is consistently insignificant, indicating no association with BTC.

Panel B of Table 5 displays that the RPT has a significantly negative relationship, albeit minute extent as presented in Table 6 with the BTC in the 2013 sample, and is moderated with significantly lower effects of ForSHARE. The relationship between RPT and BTC is consistent with the results in Panel A of Table 5. However, the IFRS adoption might cause foreign shareholders to significantly lower their monitoring which may be linked to a significantly small number of firms with foreign shareholders in 2013. The finding is consistent with our alternative exacerbating view that lower effects of ForSHARE reduce the management's incentive over aggressive financial reporting or tax planning, accordingly, decreases in engagement in RPTs may happen. Thus, the hypothesis on the moderating through higher effects of ForSHARE on the RPT-BTC relationship is not supported.

Panel B reflects a secondary result of a positive association between RPT and ForSHARE because the coefficients of RPT and ForSHARE are both significantly negative in the 2013 sample. Consequently, both variables dampen BTC. Moreover, Panel B shows a third aspect of the test, a significantly positive interaction of ForSHARE with RPT supporting higher BTC. However, Table 6 presents that the coefficients (0.008) of ForSHARE and the interaction term of RPT and ForSHARE of 0.002 generate a net effect of (0.006) supporting lower BTC. The combination of a positive RPT-ForSHARE association and the net negative effect of ForSHARE on BTC should alert the stakeholders for a close observation because an upsurge of ForSHARE is related to the growth of RPTs which is expected to have a lower effect on BTC. The IFRS adoption might cause a change in the observed BTC-RPT relationship and the moderating role of ForSHARE, rendering the RPT, ForSHARE, and its interaction with RPT significant in the year of the adoption. The LN and ForSHARE are both significantly negative in the three-year pooled sample and the 2013 sample, indicating a positive relationship consistent with the findings of Lin and Shiu (2003). The signs and significance of the control variables are consistent with the findings in Panel A of Table 5. The results of variables in Panels A and B of Table 5 with coefficients of 0.00 are presented in reporting resolution of 0.001 in Table 6 for the precision of measurement.

Table 5. Book-tax conformity, related party transactions, and foreign shareholders

	Three-year pooled sample	2012	2013	2014
Panel A	Coefficient	Coefficient	Coefficient	Coefficient
C	5.82	5.40	6.03	5.98
t-Statistic	27.96***	10.30***	22.72***	22.47***
RPT	(0.00)	(0.00)	(0.00)	(0.00)
t-Statistic	(1.43) *	(0.31)	(1.27) *	(1.29) *
LN	(0.04)	(0.02)	(0.06)	(0.04)
t-Statistic	(2.74) ***	(0.50)	(3.19) ***	(2.16) **
AGE	0.01	0.02	0.01	0.01
t-Statistic	7.01***	4.25***	3.57***	4.67***
CR	(0.00)	(0.00)	(0.00)	(0.00)
t-Statistic	(2.68) ***	(1.41) *	(2.00) **	(1.88) **
DEBT	0.00	0.00	0.00	(0.00)
t-Statistic	0.47	0.74	1.06	(0.97)
ROA	(0.00)	0.01	(0.01)	(0.01)
t-Statistic	(1.59) *	0.81	(2.92) ***	(1.86) **
IND	Yes	Yes	Yes	Yes
YEAR	Yes			
Adjusted R^2	0.04	0.04	0.06	0.07
N	1,623	501	535	587
Panel B	Coefficient	Coefficient	Coefficient	Coefficient
C	5.94	4.81	5.98	5.83
t-Statistic	26.79***	8.00***	22.27***	19.37***
RPT	(0.00)	0.00	(0.00)	(0.00)
t-Statistic	(1.04)	0.63	(1.50) *	(1.23)
LN	(0.05)	0.02	(0.05)	(0.03)
t-Statistic	(3.16) ***	0.57	(2.94) ***	(1.34) **
AGE	0.01	0.02	0.01	0.01
t-Statistic	7.17***	3.94***	3.47***	4.35***
CR	(0.00)	(0.00)	(0.00)	(0.00)
t-Statistic	(2.65) ***	(1.51) *	(2.19) **	(1.86) **
DEBT	0.00	0.00	0.00	(0.00)
t-Statistic	0.65	0.41	0.96	(1.08)
ROA	(0.01)	0.01	(0.01)	(0.01)
t-Statistic	(1.76) **	1.03	(2.79) ***	(1.58) **
ForSHARE	0.00	(0.00)	(0.01)	(0.00)
t-Statistic	1.71**	(1.06)	(1.67) **	(1.03)
RPT x ForSHARE	(0.00)	(0.00)	0.00	0.00
t-Statistic	(0.27)	(1.61) *	1.38*	0.17*
IND	Yes	Yes	Yes	Yes
YEAR	Yes			
Adjusted R^2	0.04	0.04	0.07	0.07
N	1,623	501	535	587
Firms with foreign shareholders		501	13	587
Percentage		100.00	2.42	100.00

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

Table 6. Selected variables in Table 5

	Three-year pooled sample	2012	2013	2014
Panel A	Coefficient	Coefficient	Coefficient	Coefficient
RPT	(0.001)*	(0.001)	(0.001)*	(0.001)*
CR	(0.000)***	(0.000)*	(0.000)**	(0.000)**
DEBT	0.001	0.002	0.002	(0.001)
Panel B	Coefficient	Coefficient	Coefficient	Coefficient
RPT	(0.001)	0.002	(0.002)*	(0.002)
CR	(0.001)***	(0.000)*	(0.000)**	(0.000)**
DEBT	0.001	0.001	0.001	(0.002)
ForSHARE	0.002**	(0.003)	(0.008)**	(0.001)
RPT x ForSHARE	(0.000)	(0.000)*	0.002*	0.000*

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

4.4. Additional Analysis

To test the robustness of the result of this study, we conduct additional analysis using an alternative book-tax conformity measure. Secondly, analysis is extended to determine whether the effects of the cumulative percentage of ownership by all outside blockholding can replace the foreign shareholders as an alternative monitoring mechanism in this study. For brevity, the presentation of the detailed results is not reported. Table 7 presents the additional variables used.

Table 7. Definition of additional variables used

Variables	Definition
BTC2	Refers to an alternative book-tax conformity measure derived from the scaled descending rank of the root-mean-squared error from Equation 1 using the Atwood et al. (2010) model.
BLOCK	Denotes the cumulative percentage of ownership by all outside blockholding.
RPT x BLOCK	Denotes an interaction term that indicates the extent to which the cumulative percentage of ownership by all outside blockholding affects the related party transactions.

We conduct additional analysis using an alternative book-tax conformity measure to determine whether the dependent variable derived from a new method, BTC, is robust. The alternative dependent variable, BTC2, is computed using Eq. (1) following the n-1 method of the Atwood et al. (2010) model. The ranking of BTC2 for the 25 sectors is consistent with the ranking of BTC as previously presented in Table 2. Eq. (2) and (3) are rerun using BTC2 as a dependent variable in the 2013 sample. The results show that the coefficients of RPT are insignificant under both Eq. (2) and (3) indicating no BTC-RPT relationship. The ForSHARE is significantly negative, and its interaction with RPT is significantly positive consistent with the results previously presented under Panel B of Table 5. The finding of the additional analysis supports the strength of a new method used to compute

the BTC in Table 5, therefore, the result of this study previously presented in Panels A and B of Table 5 are robust.

Extended analysis is conducted to determine whether the effects of the cumulative percentage of ownership by all outside blockholding can replace the foreign shareholders as an alternative monitoring mechanism in this study. Foreign shareholders in Taiwanese firms are likely outsiders and do not hold management functions in the firm. Another type of shareholder who is an outsider and holds no management functions is outside blockholding (Choi, 1991). The outside blockholding comprised corporate blockholders who hold at least 5% of the voting common stock. Park et al. (2008) suggest that the presence of institutional blockholding may aid as an effective external monitoring mechanism. Primarily based on the characteristics of being outsiders and holding no management functions, we explore the possibility that the effects of BLOCK can substitute for the effects of ForSHARE notwithstanding that the foreign shareholders and outside blockholding may differ on the concentration of shareholdings they keep or are allowed to keep by the TSEC. The measure of BLOCK is the cumulative percentage of ownership by all outside blockholding following Zhong et al. (2007) and Field and Sheehan (2004). We rerun Eq. (3) using BTC as a dependent variable and the effects of BLOCK as an alternative monitoring mechanism in the 2013 sample. The results show that the coefficient of RPT is significant. However, the BLOCK is insignificant, indicating no impact on the RPT-BTC relationship. The finding of the extended analysis strengthens foreign shareholders as monitors. Therefore, the result of this study previously presented in Panel B of Table 5 is robust.

5. Conclusion and Future Directions

We test for the effect of RPTs on BTC examining the moderating role of foreign shareholders. This study uses a unique set of BTC resulting from the period leading to and immediately after the IFRS adoption in Taiwanese firms. All regression results are estimated by ordinary least squares. This study finds that lower RPTs are associated with higher BTC in the year of IFRS adoption supporting the hypothesis. The RPT has a significantly negative relationship with the BTC in the year of IFRS adoption and is moderated with significantly lower effects of ForSHARE, consistent with our alternative exacerbating view, hence, the hypothesis on the moderating role of foreign shareholders through higher effects of its cumulative percentage of ownership is not supported. The ForSHARE registers a positive association with RPT and generates a net negative effect on BTC. This combination should alert the stakeholders because a surge of ForSHARE is related to the growth of RPT with an expected lower effect on BTC. The adoption of IFRS might cause a significant reduction in the number of firms with foreign shareholders, a change in the observed BTC-RPT relationship, and the moderating role of ForSHARE, rendering the RPT, ForSHARE, and its interaction with RPT significant in the year of the adoption. The result of our study is robust to the alternative constructions.

The results of this study enrich the literature to benefit to the users and advocates of IFRS, shareholders, potential investors, auditors, market and tax regulators, researchers, and academia. First, an evidence of a significant link between BTC and RPTs after the IFRS adoption is established. Second, foreign shareholders as an external governance mechanism are strengthened. Third, a new method of obtaining BTC as a modification of the Atwood et al. (2010) model is demonstrated. This study is limited to the three years leading to and after the adoption of the IFRS in a single country. Future research may consider expanding into a longitudinal study after the adoption of IFRS to assess the impact of the moderation of foreign shareholders over the engagement in RPT and its effect on the level of BTC.

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