The Moderating Effect of Ownership Concentration on the Book-Tax Conformity-Earnings Persistence Relationship

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ABSTRACT

There have been extensive debates of the potential costs and benefits deriving from the increased level of required book-tax conformity. We add to this debate by exploring the required book-tax conformity-earnings persistence relationship and testing the moderating effect of ownership concentration. Our sample consists of 31 countries and a total of 286,314 firm-year observations for the period of 1992-2005. We find a negative and significant relationship between book-tax conformity and earnings persistence. Furthermore, this relationship is positively and significantly strengthened with the ownership concentration moderator. Although our results show a positive direct link between ownership concentration and earnings persistence, this relationship was not shown to be significant.

Introduction

The debate of the potential costs and benefits deriving from increased required book-tax conformity has been argued extensively throughout literature (Atwood et al. 2010). The proponents for increased book tax-conformity argue that the benefits of book-tax conformity would include reduced "aggressive financial reporting", compliance costs, and "abusive tax sheltering "(e.g. Desai 2005, Whitaker 2006). Desai (2005) believed that increased book-tax conformity would synergize the resources of capital market participants and tax authorities, allowing tax authorities to better match up against the "considerable resources [and capabilities] of the corporate tax planning departments" (Desai 2005).

Those that oppose such conformity argue that this would reduce the informativeness of earnings by possibly introducing downwards biases and noise (Hanlon et al. 2005; 2008). Instead of reporting an earnings number that truly reflect the private information of the firm, managers will report an earnings number that will minimize taxes, thus resulting in lower earnings quality (Hanlon et al. 2008). The information that is required by tax authorities is much more different than the information that stakeholders want and need. With high book-tax conformity, this would cause inefficiency and information asymmetry that would decrease the informativeness and quality of accounting earnings.

Atwood et al. (2010) shed light on this debate by providing empirical evidence that suggests that higher book-tax conformity is associated with lower earnings persistence. In their model, they controlled for a number of variables, one of which was ownership concentration. Extant accounting literature has suggested that ownership structure directly affect quality and informativeness of earnings (Warfield et al. 1995, Watts and Zimmerman. 1986; 1990). The purpose of this paper is to extend Atwood et al.'s (2005) findings by examining the moderating effect of ownership concentration on the book-tax conformity-earnings persistence relationship. To date, we have found no studies examining this effect or the direct effect of ownership concentration on earnings persistence.

We use La Porta et al.'s (1998) computed ownership concentration variables to measure ownership structure. In addition, we adopt Atwood et al.'s (2010) measure of country-wide required book-tax conformity to examine its effects with one-year ahead earnings persistence when moderated by ownership concentration. Our sample consists of 31 countries and a total of 286,314 firm-year observations. The relevant data is obtained from Compustat Global and Compustat North America for the period of 1992-2005.

The organization of this paper is as follows. In the next section we review extant literature, with a particular attention to Atwood et al.'s (2010) empirical findings. In section 3 we develop our hypotheses. In section 4 we discuss our research methodology and design, including variables measurements, sample selection and empirical tests. The 5th section presents our empirical results and lastly, section 6 concludes the study.

Literature Review

The debate on the effects of book-tax conformity

There are two main sides to the debate on the potential benefits and costs of required book-tax conformity. The argument centers around the assessment on whether the degree of book-tax conformity affects the amount and quality of the information that is conveyed by accounting earnings (Atwood et al. 2010). More specifically, the proponents for conformity argue that accounting information will be enriched and accounting earnings will improve as the required book-tax conformity increases (Atwood et al. 2010). On the other end of the spectrum, the opponents argue that the quality and/or informativeness of accounting will decline with a higher required degree of conformity.

Among those for book-tax conformity, Desai (2005) argues that the lower book-tax conformity requirements contribute to "the simultaneous degradation of profit reporting to capital markets and tax authorities." The basis of his argument was the example of American firms. Currently, American firms are capable of simultaneously "inflating profits" reported to shareholders and capital markets, as well as understating profits reported to tax authorities. This "double-dip" is afforded to managers because these American firms keep two separate and distinct sets of financial statements. On one hand, they show inflated earnings to the financial market and the investors to boost their firm value; and on the other, they purposely manipulate and deflate reported earnings and profits to the tax authorities in order to minimize and avoid tax payments. This is "evidenced by the growing gap between accounting earnings and taxable income" (Atwood et al. 2010). Other proponents assert that an increase in book-tax conformity will provide incentives for firms to want to reduce tax payments, resulting in less aggressive earnings reporting and a higher overall earnings quality (Yin 2001; Whitaker 2006).

Opponents of increased required conformity argue that high book-tax conformity contribute to lower quality and less informative accounting earnings (Hanlon and Shevlin 2005; Plesko 2006; Shakelford 2006). They argue that inefficiencies arise because the information required by tax authorities greatly differs from that of the investors and stakeholders in the capital markets. Hanlon et al. (2008) provided empirical evidence that supports this notion. They argue that "increased conformity reduces the informative-ness of earnings because managers rather than reporting an earnings number that reflects their private information will report earnings to minimize taxes." This action causes downward bias and noise, and dilutes the informativeness and quality of reported accounting earnings.

Atwood et al. (2010) developed a comprehensive book-tax conformity measure to analyze the relationship between earnings persistence and book-tax conformity. More specifically, they examined 33 countries and assessed whether the required level of book-tax conformity in a country affects one-year-ahead earnings persistence (Atwood et al. 2010). They found that earnings persistence and book-tax conformity had a negative relationship. After controlling for differences in legal systems, investor rights, and ownership concentration, they conclude that earnings persistence is lower when the level of required book-tax conformity is higher.

Ownership Concentration

We define ownership concentration as the degree of ownership shares owned by the top shareholders in an organization. More specifically, we account for the ownership concentration by accounting for the three largest shareholders in terms of ownership stake (La Porta et al. 1998).

As previously stated, the purpose of this paper is to examine the moderating effect that ownership concentration has on the relationship between earnings persistence and book-tax conformity. Although we have not come across a study that has examined this effect, there have been a number of studies examining the effects that ownership concentration has on earnings informativeness (e.g. Jensen and Meckling 1976; Warfield et al. 1995; Fan and Wong 2002).

The accounting literature on the relationship between ownership structure and earnings informativeness have yielded inconclusive results. Fan and Wong (2002) examined 977 organizations in seven Eastern Asian countries and found evidence that suggests that lower ownership concentration is associated with low earnings informativeness. This is a consequence that supports the Agency-problem theory in that conflicts arise between controlling owners and outside investors due to misalignment of goals. "Controlling owners are perceived to report accounting information for self-interested purposes, causing the reported earnings to lose credibility to outside investors" (Fan and Wong 2002). However, Warfield et al. (1995) found evidence that earnings are more informative when managerial ownership is more concentrated. Their sample consisted of 1600 observations for a three-year period from 1988-1990. They argue that their results are consistent with The Theory of the Firm, in that the separation of ownership and control causes manager-owner incentive problems. With a higher ownership concentration, the accounting procedure application and selection are jointly determined with the owners. This relationship would yield more predictable effects on corporate performance measures, making earnings more consistent and informative for outside investors.

Hypotheses Development

Book-tax conformity has a negative effect on Earnings Persistence

Although the debate on the alleged effects of book-tax conformity is still argued in recent accounting literature, (e.g. Desai 2005, Whitaker 2006, Hanlon et al. 2005, Hanlon et al. 2008) we use Atwood et al.'s (2010) evidence to make our arguments and develop our hypothesis. In their analyses, they found that the level of book-tax conformity had an inverse effect on one-year-ahead earnings persistence. First, they ran a correlation between book-tax conformity and one-year-ahead earnings persistence and found that there was a negative correlation between the two variables. They conducted an additional test by adding country-level control variables and found that the negative relationship holds true. The relationships in both analyses are shown to be significant at the 1% level.

We support Atwood et al. (2010)'s findings and evidence with our hypothesis. We believe that financial statements are meant for the investors and the reported items are critical for decisions in the financial marketplace. If the required book-tax conformity is higher, then the government and the tax authorities would take precedence over the investors. Instead of reporting the information that may be crucial for investors, managers are catering their financial reports to meet the standards of the tax regulations. Tax regulations are ever-changing and this would lead managers to find loopholes each year in order to minimize tax payments, resulting in lower earnings persistence.

H1: Book-tax conformity has a negative effect on Earnings Persistence

The level of ownership concentration has a positive effect on earnings persistence

The level of ownership concentration will positively influence the book-tax conformity-earnings persistence relationship

The agency problem arises when there is a conflict of interest between management and the stockholders. From this perspective, we believe that the higher level ownership concentrated a firm, the more persistent the reported earnings will be. If the majority stakeholders are making the accounting decisions, the reported earnings are more predictable over time and the investors know what to expect from annual figures.

H2a: The level of ownership concentration has a significant positive effect of earnings persistence

H2b: The level of ownership concentration will significantly and positively influence the book-tax conformity-earnings persistence relationship

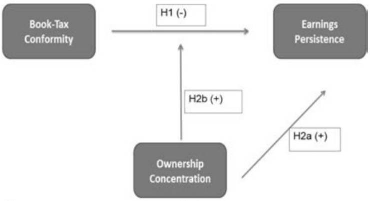

Figure 1: Conceptual model

Research Methodology

Measurements

Book-tax conformity measure

Consistent with Atwood et al.'s (2010), we define book tax conformity as the allowed "flexibility that a firm has to report taxable income (TI) and its difference from pre-tax book income (PTBI)." Because "reported TI is generally not publicly available information, we factor in current tax expense (CTE)." In sum, we adopt Atwood et al.'s (2010) model for book tax conformity measurement:

$$CTE_t = \theta_0 + \theta_1 PTBI_t + \theta_2 ForPTBI_t + \theta 3 DIV_t + e_t$$

CTE is the current tax expense; t year indicator; PTBI the pre-book tax income; For PTBI the estimated foreign pre-tax book income; DIV the total dividends; and e the error term. This measurement's main purpose is to assess the level of required book-tax conformity in various countries (Atwood et al. 2010). Conveniently, this has been calculated by Atwood et al. (2010).

Table 1: *Book Tax Conformity by country*

Country	N (years)	Average RMSE
Canada	13	0.017
South Africa	7	0.016
Germany	13	0.016
USA	13	0.015
India	12	0.014
Greece	7	0.014
Belgium	9	0.014
Indonesia	8	0.013
Mexico	6	0.013
Norway	12	0.013
New Zealand	5	0.013
Australia	13	0.012
Sweden	13	0.012
Thailand	13	0.012
Philippines	6	0.011
Brazil	10	0.011
Denmark	13	0.010
UK	13	0.010
Italy	11	0.010
Finland	8	0.010
Malaysia	13	0.010
Netherlands	13	0.009
Taiwan	7	0.009
Austria	7	0.009
Singapore	13	0.008
France	13	0.008
Spain	13	0.008
Switzerland	13	0.008
Japan	11	0.008
Hong Kong	10	0.007
Chile	7	0.006

The previous model was utilized to estimate the changes in tax-rates and book-tax conformity across the different countries, over time. Average RMSE is the root average mean-squared from the model. A lower RMSE indicates higher book-tax conformity, and vice-versa. Consistent with his methodology, the scaled rank of RMSE is also used in our analysis. The scale ranges, from 0 to 1, and the results (AVG RMSE as shown above) will indicate the level of required book-tax conformity in the regression.

Earnings Persistence

Earnings persistence is basically a measure of earnings volatility and earnings predictability over time (Dichev and Tang 2009, Frankel and Litov 2009). Consistent with Atwood et al. (2010), we use one-year-ahead earnings persistence. It is computed as the difference of earnings in one year relative to the year before, and the degree of consistency in the differences of earnings over time.

Ownership Concentration

The measurement for ownership concentration is adopted using the variables and measurements from La Porta et al. (1998). For our purpose, we will use the available measurements that La Porta et al. (1998) computed for each of the countries.

They assembled a database of the top 10 largest (in terms of market capitalization) nonfinancial, domestic, publicly trade, non-governmental owned firms in each of the countries to construct measurement scores of ownership concentration. For each of the organizations, they collected data on the three largest shareholders and computed the combined ownership stake of the shareholders, in terms of cash flow. They provide median and mean scores of ownership concentration. In our analysis, we are utilizing the mean ownership concentration scores, as shown in Table 2 (next page).

Country Level Control Variables

We control for two variables in our analysis: legal tradition and investor rights. We use La Porta et al.'s code versus common law indicator variable to control for legal tradition. This control variable is justified in Ball et al. (2000). The study found evidence that the influence of politics on accounting methods are much stronger in code-law countries, while common-law countries' accounting practices are typically determined by the organization itself. We also use La Porta et al's (2008) investor rights proxy to control for the cross-country differences in investor protection. All things equal, strong investor rights reduce management's ability to exercise discretion over reported earnings (Atwood et al. 2010, La Porta et al. 1998, Hung 2001, Pincus et al. 2007). This results in investor rights potentially having an effect on earnings persistence.

Table 2: Sample and Ownership Concentration

Country	Mean Ownership Concentration	Country	Mean Ownership Concentration	Country	Mean Ownership Concentration	Country	Mean Ownership Concentration
Australia	0.28	Germany	0.48	Netherlands	0.39	Taiwan	0.28
Austria	0.58	Greece	0.67	New Zealand	0.48	Thailand	0.41
Belgium	0.54	Hong Kong	0.54	Norway	0.36	United Kingdom	0.18
Brazil	0.57	India	0.4	Phillipines	0.57	United States	0.47
Canada	0.4	Indonesia	0.58	Singapore	0.49		0.19
Chile	0.45	Italy	0.58	South Africa	0.52		0.2
Denmark	0.45	Japan	0.18	Spain	0.51		
Finland	0.37	Malaysia	0.54	Sweden	0.28		
France	0.34	Mexico	0.64	Switzerland	0.51		

Sample Selection

La Porta et al.'s (1998) constructed ownership concentration measures for 45 different countries. Our sample consists of the 31 countries highlighted in Table 2 above. Because we are using the scaled book-tax conformity coefficients as given by Atwood et al. (2010), we will stay consistent with his sample years, 1992-2005. Our total firm-year observations are 286,314.

Table 3 Sample : *Countries Examined*

Country	Mean Ownership Concentration	Country	Mean Ownership Concentration	Country	Mean Ownership Concentration	Country	Mean Ownership Concentration
Australia	0.28	Germany	0.48	Netherlands	0.39	Taiwan	0.28
Austria	0.58	Greece	0.67	New Zealand	0.48	Thailand	0.41
Belgium	0.54	Hong Kong	0.54	Norway	0.36	United Kingdom	0.18
Brazil	0.57	India	0.4	Phillipines	0.57	United States	0.47
Canada	0.4	Indonesia	0.58	Singapore	0.49		0.19
Chile	0.45	Italy	0.58	South Africa	0.52		0.2
Denmark	0.45	Japan	0.18	Spain	0.51		
Finland	0.37	Malaysia	0.54	Sweden	0.28		
France	0.34	Mexico	0.64	Switzerland	0.51		

Empirical Test

To analyze the relationship, we use STATA 13 to run an OLS regression. The independent variable is book-tax conformity, using the Atwood et al.'s (2010) measurement model and ownership concentration using La Porta et al.'s (1998) variables. The interaction term will be ownership (concentration * level of required book-tax conformity) and the dependent variable is one-year-ahead earnings persistence. Refer to Table 4 for the descriptive statistics.

Table 4: *Descriptive Statistics*

Variable	Observations	Mean	Std. Dev.	Mean	Max
Earnings Persistence	226007	97.250	70016.84	-1.35e+07	1.12e+07
Law	286314	0.731	.443	0	1
Investor Rights	286314	4.358	1.075	0	5
Ownership Concentration	286314	.267	.1245	18	.67
B-TaxC	286314	.013	.022	.006	.016
(Ownership x B-TaxC)	286314	.003	.00156	.001	.009

Results

Refer to Table 5 for the regression results. The R^2 is 0.37, explaining 37% of the variance in our regression. Our hypotheses 1 and 2b were fully supported. The coefficient of the book-tax conformity showed a negative and significant ($p<.01$) effect on earnings persistence. The moderating effect of ownership concentration was also positive and significant at the 1% level. Our hypothesis 2b was only partially supported, as the results showed a relationship, but the effect is not significant.

Table 5: *Regression Results*

one-year ahead earnings persistence	Coefficient	t-stats
Law	-0.016***	-3.44
Investor rights	-0.010**	-2.01
Ownership concentration	0.01	1.01
BTaxc	-0.013***	-10.56
Ownership x Btaxc	0.023***	11.95
R^2	.37	

Note: *, **, *** sig at p<0.10, 0.05, 0.01

Conclusion

The main purpose of this study is to analyze the relationship of level or required book-tax conformity and ownership concentration on one-year ahead earnings persistence. We use Atwood et al.'s (2010) model to measure the degree of required book-tax conformity by country, and for ownership structure, we use La Porta et al.'s (1998) variables to account for ownership concentration. Our sample consists of 286,314 firm-year observations from 31 different countries. We use Compustat North America and Global to extract relevant information for our computations.

Our first hypothesis is supported as we found that the level of book-tax conformity is negatively and significantly associated with earnings persistence. This relationship showed significance at the 1% level. This finding supports Atwood et al.'s (2010) results. The direct link between ownership concentration and earnings persistence was positive, but this did not show significance, thus our hypothesis 2a is only partially supported. Finally, our hypothesis 2b was also supported as the interaction of book-tax conformity and ownership concentration show a significant ($p<.01$) and positive effect on the relationship between book-tax conformity and earnings persistence.

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